UNIVERSITY OF CALIFORNIA

Los Angeles

The Morphosyntax of Nominalizations: A Case Study

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor

of Philosophy in Linguistics

by

Dimitrios Ntelitheos

2006

UMI Number: 3247445

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.
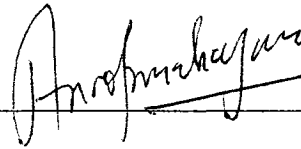
UMI®
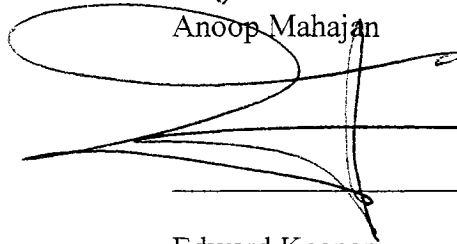
© Copyright by

Dimitrios Ntelitheos

2006

The dissertation of Dimitrios Ntelitheos is approved.

Anoop Mahajan

Edward Keenan

Maria Polinsky

Hilda Koopman, Committee Chair

University of California, Los Angeles

2006

ii

To Rachel, Alexi, and Luka

TABLE OF CONTENTS

CHAPTER 3: *f-* NOMINALIZATIONS

CHAPTER 4: CLAUSAL NOMINALIZATIONS

CHAPTER 5: PARTICIPANT NOMINALIZATIONS AS (REDUCED) HEADLESS RELATIVE CLAUSES

vii

viii

LIST OF ABBREVIATIONS

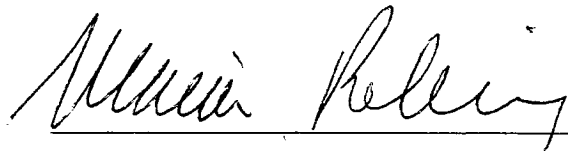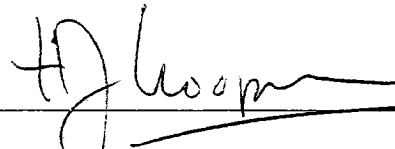|			
D	Determiner	FUT	Future Tense
DEM	Demonstrative	IRR	Irrealis Mood
SG	Singular	NML	Nominalizer
PL	Plural	FOC	Focus Marker
EXCL	Exclusive	TOP	Topic Marker
INCL	Inclusive	C	Complementizer
1	1st Person		
2	2nd Person		
3	3rd Person		
NOM	Nominative		
GEN	Genitive		
ACC	Accusative		
LOC	Oblique/prepositional case		
AT	Actor trigger		
TT	Theme trigger		
CT	Circumstantial trigger		
ASP	Aspectual marker		
LNK	Linker		
PST	Past tense		

AKNOWLEDGMENTS

This dissertation would not be completed without the invaluable help of a number of people. First I would like to thank my committee chair Hilda Koopman for her constructive criticism and suppor. She never refused her assistance during the stressful period of writing the dissertation even when I persistently asked for it on short notice. I would also like to thank the other members of my dissertation committee Anoop Mahajan and Masha Polinsky for their comments and suggestions on the finer theoretical aspects of the work involved. This dissertation would not be possible without the guidance of Ed Keenan, who never tired of explaining to me the fine points of Malagasy. Finally, I am grateful to the growing group of scholars who are working on Malagasy, for comments on various parts of this work, which were presented in a number of conferences. I would particularly like to thank Matt Pearson, Ileana Paul, Eric Potsdam, Joachim Sabel, Paul Law, and Lisa Travis for their help before, during, and after my fieldwork in Madagascar, during the summer of 2005. I am also deeply indebted to Randriamihamina Hasina, Rajaonarison Hery, Rasorofodrainibe Mamy, Razanajatovo Rado, and Felantsoa Lovamanitra, in Madagascar and Ramahatafandry Noro in Los Angeles for providing the data for this work. Finally, I am grateful for the input of my fellow graduate students and professors at the Department of Linguistics, UCLA, for valuable feedback on presentations I made in the Syntax and Semantics Seminar at UCLA. Finally, I would like to thank my wife Rachel for standing by me during this stressful journey and for her direct involvement in making this dissertation readable.

1969	Born, Patra, Greece.
1986-1989	Teachers' Training College Of Tripoli, Greece: Degree in Primary School Education
1997	University of Wales, Swansea, UK: Certificate in Teaching English as a Foreign Language to Adults
1999-2001	University Of Hong Kong, Hong Kong: MA in English Studies

PUBLICATIONS

Ntelitheos Dimitrios (2006) Default Pronouns and Root Infinitives in Malagasy Acquisition (With Cecile Manorohanta). In Deen, K.U., J. Nomura, B. Schulz and B.D. Schwartz (eds.), *The Proceedings of the Inaugural Conference on Generative Approaches to Language Acquisition*–North America, Honolulu, HI. University of Connecticut Occasional Papers in Linguistics, 4, 249-260.

Ntelitheos Dimitrios (2005) Root Infinitives in Malagasy. In J. Heinz & D. Ntelitheos (eds.) *UCLA Working Papers in Linguistics, no. 12: Proceedings of the Twelfth Annual Conference of the Austronesian Formal Linguistics Association* (AFLA XII). UCLA Department of Linguistics. 329-342.

Ntelitheos Dimitrios (2005) Malagasy Participant Nominalizations: A Structural Account. In J. Heinz & D. Ntelitheos (eds.) *UCLA Working Papers in Linguistics, no. 12: Proceedings of the Twelfth Annual Conference of the Austronesian Formal Linguistics Association* (AFLA XII). UCLA Department of Linguistics. 313-327.

Ntelitheos Dimitrios (2005) The Acquisition of Nominal Ellipsis in Greek (With Eleni Christodoulou). In R. Okabe and K. Nielsen (eds.) *UCLA Working Papers in Linguistics 13: Papers in Psycholinguistics 2*, Department of Linguistics, UCLA, 14-33.

Ntelitheos Dimitrios (2003) The Syntax of Emphasis: Split DPs and Nominal Ellipsis. *Proceedings of the 6th International Conference of Greek Linguistics*, Department of Philology, University of Crete, Rethymno, Greece.

ABSTRACT OF THE DISSERTATION

The Morphosyntax of Nominalizations: A Case Study

by

Dimitrios Ntelitheos

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 2006

Professor Hilda Koopman, Chair

This dissertation discusses the morphosyntactic properties of nominalizations, based on data from Malagasy (Austronesian). It is proposed that nominalizations are derived through syntactic means and that their internal syntactic structure contains a verbal core and possibly additional clausal functional projections. The variation in morphosyntactic and distributional properties that different nominalization exhibit are attributed to the height of attachment of the nominalizer. It is proposed that the nominalizer in Malagasy attaches at different heights in the clausal structure, defining CP domains, in which aspectual projections play the role of lower tense heads. These projections are phases (in the sense of Chomsky 2001), with specific phonological, aspectual, and interpretive proerties. As a consequence, participant (and action) nominalizations are viewed as

xiii

reduced headless relative clauses, whose nominal status and semantic interpretation is derived by raising a null generic NP to the specifier of the projection headed by the nominalizer. Support for the proposal is provided from the distribution of voice morphology in Malagasy (and Austronesian in general), the application of binding principles and observation of A' effects in participant nominalizations, and from crosslinguistic data which shows a strong connection between participant nominalizations and headless relative clauses.

CHAPTER 1

Theoretical Assumptions

1.0 Introduction

This dissertation will discuss a variety of issues that arise from the interaction of different grammatical components, and in particular the syntax-morphology and syntax-lexicon (i.e. argument structure) interfaces. It focuses on the formation of nominalizations and headless relative clauses in Malagasy and explores the possibility that the underlying syntactic structure of the two types of constructions is essentially the same. Following the idea that derivational processes such as nominalizations are syntactic in nature it is proposed that the syntactic mechanism involved in the formation of relative clauses is also implemented in the formation of participant nominals.

Malagasy provides the input for a particularly interesting case study because of its rich and transparent morphology in the verbal domain. Morphosyntactic strings in the language are interpreted compositionally, they are very productive, they are mostly acquired in the early developmental stages, and they do not usually exhibit idiosyncratic properties (except maybe in the domain of phonology).

1

This chapter will lay out the theoretical assumptions underlying the proposed analyses and preview the issues to be addressed in subsequent chapters. The main approach that will be adopted in dealing with the empirical facts is a decompositional syntactic approach, following work in Distributed Morphology (Halle & Marantz 1993; Marantz 1995, 1997a); the 'cartographic' research program (Rizzi 1997; Cinque 1999, 2002; Belletti 2002); and Kayne's antisymmetry theory (Kayne 1994 and subsequent work). I will start with a discussion of the syntax morphology interface and in particular the domain of nominalizations, offering a brief historical background and a detailed discussion of recent approaches. I will then move to more general theoretical assumptions about how the syntactic component operates, and how it can capture morphological processes. The chapter ends with a summary of the main proposals that will be presented here.

1.1 Morphology and Lexicon

Research in the syntax-morphology interface forms one of the core areas of research in syntactic theory as it relates to issues of great importance for the advancement of the theory, while sparking constant controversy and confusion. A number of groundbreaking papers have followed two diametrically opposed directions with numerous other proposals situated at different intermediate positions. Under the lexicalist view (Chomsky 1970), which is an umbrella term for a number of non-syntactic approaches to

inflectional/derivational processes including the 'Lexical Integrity Hypothesis[1] (Lapointe 1980; Bresnan & Mchombo 1995), the 'Atomicity Thesis[2] (DiSciullo and Williams 1987), 'A-morphous Morphology[3] (Anderson 1992), and others, the inventory of syntactic operations fails to explain morphological processes.

The work of Baker (1985; 1988) provides an influential competing approach which assumes that at least some complex words are formed by syntactic operations and in particular head movement. Most notable is his *Mirror Principle* which imposes that morphemes appearing closest to the verb root are structurally lower than those appearing further from it. Other approaches that follow the same direction include Borer's (1988) Parallel Morphology and more notably the Distributed Morphology framework (Halle & Marantz 1993; Marantz 1997a; Alexiadou 2001a; Embick & Noyer 2001; and others) in which the basic assumption is that the syntactic component manipulates bundles of morphosyntactic features which are assigned phonological content at the interface with phonology, called Spell-Out, where phonological expressions, called Vocabulary Items, are inserted. These phonological expressions need not be fully specified for the syntactic positions where they can be inserted. In other words, the phonological pieces that correspond to a syntactic string do not necessarily supply the morphosyntactic features of

---

[1] Syntactic principles do not apply to morphemic structures. Morpheme order is fixed, even when syntactic word order is free; the directionality of 'headedness' of sublexical structures may differ from supralexical structures; and the internal structure of words is opaque to certain syntactic processes. (Bresnan & Mchombo 1995:181f)

[2] Words are 'atomic' at the level of phrasal syntax i.e. even though they have features they do not have structure. In other words the relation of word features to the internal composition of words is not relevant for the syntactic component (DiSciullo and Williams 1987:47).

[3] *"Word structure is built up through modifications to a basic stem, including affixation as one among several formal possibilities. Once an affix is associated with a stem, however, the result is not presumed to have internal structure of a non-phonological sort."* (Anderson 2005:198).

3

that string. Thus, Vocabulary Items can be default signals inserted where no more specific form is available.

In both Parallel and Distributed Morphology frameworks some sort of morphological principles operating independently are assumed. I adopt a number of insights that have been gained from work in these frameworks but will assume that there is no need for any independent morphological component and that Spell-out is at the interface between syntax and phonology. I further depart from Distributed Morphology and especially work that assumes movement after syntax or insertion of heads after syntax (case affixes etc) and in general the notion of narrow syntax (see for example Embick & Noyer 2001). I assume that linear ordering of syntactic atoms (including affixes) reflects hierarchical order in accordance with the Linear Correspondence Axiom (LCA, Kayne 1994; see Section 1.3). As a consequence, Baker's Mirror Principle is derived from hierarchy of structure and what types of movement operations are possible ('local' movements only). Such a system will also allow for cases where the Mirror Principle seems to be violated.

I will follow this direction in assuming that word formation is also subject to phrasal movement operations (c.f. also Koopman & Szabolcsi 2000; Koopman 2004; Julien 2003; Buell 2005). If morphological processes are in fact syntactic processes they must be subject to the assumed syntactic operations: merge, phrasal movement and specifier-head agreement (see Section 1.3). Thus, prefixation will predominately be derived by a functional head and a lexical complex (root plus one or more affixes) staying in situ (as in

(1.a)) where a prefix forms part of the same spell-out domain with its complement YP or its specifier (XP) or any other specifier embedded in XP, as long as it is linearly adjacent to the prefix. Suffixation, on the other hand, will predominately require a lexical complex moving to the specifier of the projection headed by the functional element (1.b):

1.   a.   PrefixP   b.   SuffixP

                                              YP

            Prefix   YP   Suffix

                  XP
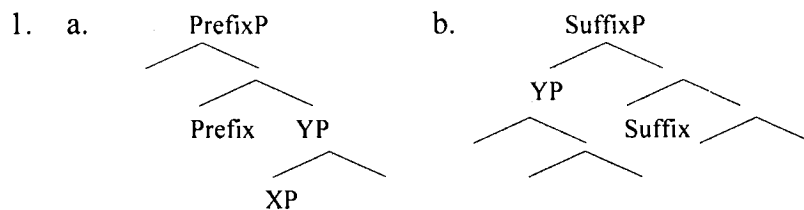
The above structures are compatible with an antisymmetric view of morphology and entail a syntactic asymmetry between prefixes and suffixes that may explain other syntactic and phonological asymmetries (c.f. Bobaljik and Wurmbrand 2002).

Summarizing then, it is assumed that word formation takes place in the syntactic component. Syntax manipulates morphosyntactic features which are assigned phonological values at Spell-out. The syntax-phonology interface provides the mechanism that fixes the correspondence of phonological values to morphemes (one-to-one; one-to-many; many-to-one; and so on). Therefore, morphological irregularities (such as suppletion, syncretism, and so on) are not problematic for a syntactic approach to morphological processes such as derivation. They are rather phonological irregularities, i.e. are manifestations of irregular phonological values that specific sets of features are assigned at Spell-out.

5

1.2 Nominalizations

The study of nominalizations from different points of view (morphosyntactic, semantic, typological, and so on) has been at the forefront of linguistic research since the early stages of generative grammar. This is not surprising given the theoretical and empirical issues that are involved as well as the major impact Chomksy's (1970) 'Remarks on Nominalizations' has had on shaping the field. Most nominalizations crosslinguistically exhibit mixed verbal and nominal properties that challenge assumptions about categorial status, extended projection, phrase structure, the realization of arguments, and so on. The main research goal that dominates the study of derived nominals entails determining their categorial status in terms of internal structure and external distribution as well as dealing with listedness (i.e. idiosyncratic forms with phonological and/or semantic idiosyncrasies) and the issue of spell out. The choice of what properties of nominalizations are syntactic in nature and what properties are the effect of phonological operations or the lexicon is crucial for the advancement of grammatical theory as it weighs on the decision on where the division of labor between lexicon and syntax should be located and the position of morphology in the module. The broader research agenda then is to find a suitable level of abstraction that can capture a description of sentences and nominalizations while accounting for the range of data and for both systematic and idiosyncratic properties.

6

1.2.1 A Historical Perspective

In early generative work the intuition was that nominalizations were derived by some underlying representation that contained a sentential component (Lees 1960; Vendler 1968; Fraser 1970; Newmeyer 1970; Levi 1978). This involved both action nominalizations (with an underlying sentential component) and participant nominalizations (with an underlying relative clause). There were two main reasons for this intuitive approach: firstly, the derived nominalizations maintained (possibly only partially) the propositional content/meaning of the underlying sentences; and secondly, such an account solved the problem of the verbal properties of nominalizations while preserving a 'distributional' definition of the notion of grammatical category. If nominalizations contain a verbal component then their verbal properties are explained straightforwardly (see Marantz 1997a:213). Thus in Lees (1960) action nominalizations are derived from an underlying structure that contains a sentential component while in Vendler (1968:26); McCawley (1988); and Bach (1968), participant nominalizations are derived from an underlying structure that contains a restrictive relative clause.

Chomsky (1970) was a reaction to the explosion of the transformational component of the grammar. He lists a number of properties that derived nominals share with common nouns, and indicate that the former are listed in the lexicon, in contrast to gerundive –*ing* nominals that are assumed to be derived in the syntactic component:

- derived nominals are not productive (i.e. there are verbal roots that do not form derived nominals while all verbs form gerundives e.g. (*militate-militating-*militation*)

- derived nominals have an idiosyncratic semantic relation to the base verb while gerundives have transparent semantics (e.g. *reside-residing-residence*);

- derived nominals have the internal structure of a noun phrase, while gerunds do not (e.g. *the destruction of the city* vs. **the destroying the city*) or '*complete (*completely) destruction of the city* vs. (**complete*) *completely destroying the city*).

Beyond the differences, Chomsky acknowledges the fact that there are obvious similarities between verbal bases and derived nominals. Firstly, the derived nominal is formally related to the base verb (usually with the addition of a morpheme) and most derived nominals maintain the subcategorization/thematic properties of the corresponding verbs. Secondly, both nominal and verbal domains present isomorphic structures in terms of expressing available arguments. These similarities need to be explained in an independent way if transformational rules are not available. The first similarity forced Chomsky to assume Lexical Redundancy Rules that entail a lexical relationship between the verb and the derived nominal, while the second gave rise to X'-syntax, i.e. a novel uniform schema that is not category-specific for representing phrase structure rules.

8

1.2.2 Current Approaches

A return to previous ideas on the syntax of nominalizations (following major developments in syntactic and morphological theory) marked work in the late 80s-early 90s. The idea that derivations are syntactic in nature is explored mainly within the Distributed Morphology framework (Halle & Marantz 1993; Marantz 1995, 1997a). Distributed Morphology assumes that there is no Lexicon as such and that syntax manipulates abstract categories defined by universal features. Traditional lexical categories (noun, verb, and so on) are reinterpreted as category-neutral roots contained within category-assigning functional layers. Thus, in Marantz (1997), a category-neutral root followed by a *v*P layer creates a verbal domain, while a DP layer creates a nominal domain. In later work (Marantz 1999) however, a nominalizing affix situated to *n*P (parallel to *v*P) is assumed to provide a nominal categorial label to the projection. In other work (c.f. Alexiadou 2001a) Number is considered responsible for nominalizing a categorially neutral structure. Furthermore, in Distributed Morphology a (reduced) morphological component is retained and is responsible for readjustment rules. For example, one such rule determines that the nominal counterpart of *destroy* will be pronounced *destruct*. An additional rule requires that *–ion* (and not for example *–ity*) will be added to *destruct* to form the final nominalization.

In the domain of nominalizations there have been a number of approaches that assume that nominalizations are formed from a string that has no categorial label through the addition of nominal functional layers (Alexiadou 2001a; see also Picallo 1991; Borer

9

2003 for somewhat different approaches in the same direction). A different route has been followed by approaches that assume that nominalization applies on strings that have already acquired verbal categorial label (see Lebaux 1986; Baker 1988; Murasugi 1990; Hazout 1991; Valois 1991; Borer 1991, 1999; Fu 1994; Fu et al 2001; Ntelitheos 2005, 2006 and others). In such approaches the argument structure that is present in (some) deverbal nominals is not due to lexical redundancy rules (i.e. a lexical relationship between the verb and the derived nominal) but rather to the presence of the verbal thematic domain within the nominalized string.

A parallel issue that has been in the focus of morphosyntactic analyses of nominalizations has to do with the licensing and encoding of arguments within the nominalized structure. The apparent optionality of arguments in derived nominals led a number of researchers to the conclusion that nouns, although semantically related to verbs, do not take arguments (see for example Anderson 1983; Higginbotham 1983; Dowty 1989; and others). However, Grimshaw's (1990) seminal work has shown that the situation is somewhat more complex than initially thought. Grimshaw (1990) argues that deverbal nominals in English fall within three distinct classes. These include Complex Event Nominals, which describe an action or an activity that can be modified by aspectual modifiers (c.f.2.a), Simple Event Nominals, which cannot (2.d), and Result Nominals, which denote the 'output' of an action (2.b-2.c). There are numerous diagnostic tests that have been established in the literature for distinguishing between these different types of nominals

10

(see Alexiadou 2005 for detailed discussion of all diagnostics). Some of the properties that will be relevant for the discussion of the Malagasy data are discussed below.

Complex Event Nominals take internal arguments obligatorily (2.a), while Result Nominals cannot appear with expressed internal arguments(2.b-2.c) (all examples from Alexiadou (forthcoming):

2. a. The examination *(of the patient) for an hour annoyed the nurse.
    b. * The exam of the patient is on the table.
    c. The exam is on the table.
    d. * The examination for an hour annoyed the nurse.

Complex Event Nominals can be modified by aspectual modifiers while Result Nominals cannot:

3. a. The examination of the patient for an hour/in an hour annoyed the nurse.
    b. * The exam for an hour/in an hour is on the table.

Prenominal genitives in English are interpreted obligatorily as agents with Complex Event Nominals but has the modifier reading that we find with concrete nouns in Result Nominals:

4. a. The vet's examination of the cat took a long time.
    b. The vet's examination was long.

11

In (4.a) the pronominal possessor is interpreted as the agent of the action denoted by the nominal while in (4.b) it can be either the author or the taker of the exam. As a consequence, Complex Event Nominals allow for agent-oriented modifiers while Result Nominals do not:

5. a. The vet's intentional examination of the cat took a long time.
    b. * The vet's intentional examination was long.

Finally, Result Nominals (referring to entities) can be pluralized while Complex Event Nominals (referring to events) cannot:

6. a. * The/some a lot of examinations of the cat ...
    b. one exam; two exams

Table (7) summarizes some of these diagnostics[4]:

7.   Diagnostics for Complex Event Nominals and Result Nominals

	CENs	RNs
Obligatory internal arguments	YES	NO
Aspectual Modifiers (singular Ns)	YES	NO
Genitives as agents	YES	NO
Agent-oriented modifiers	YES	NO
Able to appear in plural	NO	YES

In both verbal-core accounts and category-neutral accounts the distribution of Complex Event Nominals and Result Nominals needs to be captured. One way is to assume that

---

[4] To simplify the discussion we will concentrate here in the distinction between Complex Event Nominals and Result Nominals. Alexiadou (2005) provides a detailed discussion of the properties of all three types of nominals.

12

Result Nominals are formed in the lexicon (through some morphological process) and enter the syntax as such, while Complex Event Nominals are formed in the syntactic component. An alternative is to assume that the appearance or not of arguments in nominalizations of different types has to do with whether functional layers that license such arguments are available in the nominalized structure.
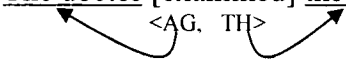
Summarizing, research within frameworks that assume syntactic derivations of nominalizations has focused on two major issues: what exactly is the structure of derived nominals crosslinguistically (e.g. whether there is a verbal core or whether nominalizations are formed from categorially-neutral roots plus functional projections) and how does this structure interact with the expression of arguments. In the following two sections of this chapter I will present my assumptions on both of these issues.

1.2.3 The VP within Nominalizations

A number of proposals assume that nominalizations of different types are derived in the syntactic component through a derivation that merges a nominal head with a VP or some larger projection (i.e. including some arbitrary number of verbal functional projections) (see Lebaux 1986; Baker 1988; Murasugi 1990; Hazout 1991; Valois 1991; Borer 1991, 1999; Fu 1994; Borsley and Kornfilt 2000; Fu et al 2001, and others).

The most significant consequence of such an approach is that there is no need for further stipulations to account for the fact that derived nominals may have the same argument

13

structure as the verbs they are derived from. Borer (1993) for example argues that the argument structure that appears with event nominals is projected by the verbal head inside the nominalization and not by the derived nominal:

8. a.   The doctor [examined] the patient yesterday morning.
         <AG, TH>

    b.   The doctor's [examin] ation of the patient yesterday morning lasted three hours.
         <AG, TH>

In later approaches, and specifically within the framework of Distributed Morphology (c.f. Halle & Marantz 1993; Marantz 1997a; Alexiadou 2001a), the presence of a lower VP level is not necessary. Structures start form a lower root level which is unspecified for categorical features. Syntactic category, and consequently distribution, is determined by functional layers added above the root level. For example, addition of little v will result in a verbal string while addition of Num(ber) will result in a nominal string. It is not clear however how this can be implemented. The functional head Number is related to singularity/plurality not only of entities but also of events (see for example Lasersohn 1995, for a discussion of 'pluractional markers', i.e. markers of plurality in the verbal domain, or, in the domain of events and event times). I adopt the assumption that lexical items enter the derivation unspecified for category (i.e. as roots) and that addition of functional layers determines categorial status. Contra Alexiadou (2001a) (and following Marantz 1999) I assume that the label of a structure is projected by a categorial head (call it vP for verbal projections, nP for nominal ones, aP for adjectival ones, and so on). Thus

14

anything above *v*P belongs to the verbal extended projection and the presence of a nominalizer (overt or null) changes this verbal core to nominal.

If nominalizations do contain a verbal core, and the projection changes from verbal to nominal through some nominal category projecting head, then we would expect to find some exclusively verbal properties in nominalizations. Such properties, supporting the existence of a *v*p/VP core inside nominalizations of different sorts include the possibility for accusative case marking of internal arguments (c.f. Hebrew (Hazout 1991); Malagasy (Ntelitheos 2005)); adverbial modification available within nominalized strings (Hebrew (Hazout 1991), Greek (Alexiadou 2001a), English (Fu et al 2001), Malagasy (Ntelitheos 2005)); case assignment differences between French process nominals and ordinary NPs (Valois 1991); differences in constituent structure between Chinese process nominals and ordinary DPs (Fu 1994); the availability of focus particles on arguments inside process nominals in German (Kleemann, 2006); the possibility for *do-so* ellipsis in derived nominals in English (Fu et al 2001); and frozen phenomena observed with verbal nouns in Japanese (Kamiya 2005).

Let us consider some examples:

9. a. Harisat   ha-cava et   ha-kfar be-axzariyut   HEBREW
      destruction D-army ACC D-village P-cruelly   (Hazout, 1995)
      'The army's destroying the village cruelly...'

As we can see in the Hebrew example of (9), the nominalized string is modified by a prepositional adverbial and assigns accusative case to the internal argument. Hazout (1991) and Borer (1993) conclude that there must be a VP within these nominals since the verbal properties of adverbial modification and accusative case assignment are still available[5].

Fu et al (2001) provide further evidence that adverbials are available within process nominals in English and additional support for the VP-within-nominalizations approach, from *do-so* ellipsis. *Do-so* ellipsis is a property of verbal projections in English and is not available with common noun phrases:

10. a.   Sam [$_{VP}$ gave a version of the event] and Bill did so too.
    b. * Sam's [$_{NP}$ version of the event] and Bill's doing so were surprising.

Event nominals in English seem to pattern with VPs and not with NPs:

11. a.   Sam's [destruction of his documents this morning] was preceded by Bill's
         doing so.

Further evidence is drawn from the placement of focus particles in German (Kleemann, 2006). In German focus particles like *nur* 'only' are usually adjoined to the VP in the clausal structure or to non-argument projections within the DP. However, event nominals

---

[5] But see Siloni (1997) for a different approach. Siloni proposes that the accusative case inside derived nominals is not structural case but inherent (in the sense of Chomsky 1986a).

allow for *nur* to adjoin to arguments which is not possible for genitive possessors or prepositional complements of common nouns or result nominals. This seems to indicate that a VP is accessible within event nominals:

12. a. weil Mary den   FRÜHEN Termin   nur absagt
        as   Mary the.ACC early   appointment only cancels
        'as Mary cancels only the early appointment.'

    b. die Absage   des   FRÜHEN Termins   nur ist nicht möglich
        the cancellation the.GEN early   appointment.GEN only is not   possible
        'The cancellation of only the early appointment is not possible.'

    c. * das Programm nur des   FRÜHEN Termin-s   fehlt
        the agenda   only the.GEN early.GEN appointment.GEN lacks
        'The agenda of only the early appointment is missing.'

However, not all of the above properties are available for all the different types of nominalizations. There is variation not only crosslinguistically but also within a single language as to the properties that different nominalizations exhibit. The space of individual grammars is large enough to accommodate minimal departures from mainstream patterns with respect to the availability of certain syntactic configurations. Thus the following English examples exhibit strong dialectal and individual speaker variation in their acceptability (c.f. Schueller 2004):

13. % I was worried about John's probably being a spy.
     % Mary's certainly being pregnant worries me.

Thus for some speakers sentential adverbs are fine with gerundive nominals of the mixed type, while for others they are not. A successful theory of nominalizations will have to be

17

able to account for both crosslinguistic as well as intra-linguistic variation. The interesting empirical generalization drawn from typological studies of nominalized strings (c.f. Koptjevskaja-Tamm 1993; Comrie 1976; Comrie & Thompson 1985) is that patterns of crosslinguistic differences (i.e. different types of nominalizatons with different properties) also appear within the same languages. Intra-linguistic variation does not deviate from crosslinguistic variation in wild ways (c.f. Kayne 2005). Similarly, we expect observed patterns and gaps in intra-linguistic distribution of different nominalizers to also appear in crosslinguistic studies. The question that needs to be asked is whether we can capture this intra- and crosslinguistic variation in a formal way that makes use of the syntactic structures involved and of the way the different atoms available in individual languages combine to built the syntactic structure. The following section addresses this issue in detail.

1.2.4 Variation in Attachment Height

Leaving aside at the moment the question concerning the categorial status of nominalizers, another important question that needs to be addressed concerns the attachment height for nominalizers intra- and crosslinguistically. This is not a trivial question as a number of typological studies of nominalizations have shown (Koptjevskaja-Tamm 1993; Comrie 1976; Comrie & Thompson 1985; Noonan 1985; Malchukov 2004). What is observed crosslinguistically is that during any nominalization derivation there are two processes that may be involved: a process of loss of verbal properties, i.e. verbal functional layers in structural terms; and a process of acquisition of

18

nominal properties. (see for example Givon 1990; Croft 1991, Lehmann 1988). An example from English can be seen in the -*ing* nominalizations of (14):

14. a. He played the violin beautifully.
    b. [Him playing the violin beautifully] surprised everyone.
    c. [His playing the violin beautifully] surprised everyone.
    d. [His beautiful playing of the violin] lasted for three hours.

The finite clause in (14.a) is replaced by an -*ing* nominalization in (14.b), which retains all the verbal properties of (14.a), including accusative marking on the theme argument (detectible if the DP is replaced by a pronoun) and adverbial modification, but excluding nominative marking of the subject. In (14.c) the accusative case of the subject has been replaced by genitive, which crosslinguistically is assumed to be a nominal case[6], while the rest of the verbal properties remain intact. Finally, in (14.d), the accusative case of the internal argument is replaced by prepositional marking and adverbial modification is replaced by adjectival, completing the nominal properties of the resulting nominalization. It is clear that even though the suffix –*ing* nominalizes the clause in all these nominalizations, the number of verbal/nominal properties exhibited varies.

In order to account for this variation, a number of approaches have taken nominalizing morphemes such as gerundive –*ing* in English to attach at different levels in the syntactic

---

[6] Genitive is a case mainly associated with the nominal domain (Chomsky 1986a; 1994:114) local to the determiner head (Abney 1987: 48-52), or a number projection (Valois 1991, Ritter 1991, Rouveret 1994; c.f. also Alexiadou 2001a) or some special agreement projection within the DP (Szabolcsi 1994). It usually marks internal or external nominal arguments and possessors. Crosslinguistically, at least one of the arguments of verbs is usually marked with some sort of genitive when the verb appears nominalized (Noonan, 1985:60; Comrie & Thompson 1985:370-384; Koptjevskaja-Tamm 1993:61).

structure. For example, Abney (1987) assumes that -*ing* is unspecified for bar-level, and adjoins to projections (IP, VP, V) changing them to nominal projections (DP, NP, N respectively). This approach has been formalized further in Schueller (2004) where the nominalizing morphology has the function of changing the verbal extended projection (in the sense of Grimshaw (2000)) to that of a nominal. In this approach, verbal layers parallel nominal ones (i.e. CP is parallel to DP , TP to NumP, and VP to NP). What -*ing* does is interrupt the verbal extended projection at the level where it merges projecting the equivalent nominal projection. Consider for example (14.c). According to Schueller (2004), these nominalizations are formed with -*ing* merging above TP and projecting a the nominal category equivalent to T, i.e. Number. As a result, these nominalizations can be modified by adverbs and license accusative marked internal arguments (c.f. 14.c), but can also trigger plural agreement (since they project NumP):

15. a. Mary's drinking a beer and Bill's eating a sandwich usually **last** about 30 seconds.
    b. ?? Mary's drinking a beer and Bill's eating a sandwich usually **lasts** about 30 seconds.

On the other hand, in an example like (14.d), -*ing* merges above VP and projects an NP. Therefore the resulting nominalization will have all the properties of NPs including *of*-licensed internal arguments and adjectival modification. Thus, allowing for the same syntactic atom to merge at different levels in the derivation, we obtain an elegant account for the different distributional/structural properties that these nominalizations exhibit.

20

Similar analyses have been proposed for deverbal nominalizations of different sorts in a variety of languages. Alexiadou (2001a) proposes that category formation processes such as nominalization do not involve any specific nominalizing projection, but rather that the behavior and distribution of nominals follows from general processes operating in specific syntactic structures, and is linked to the presence or absence of functional layers (T, D, Aspect, v). To capture both intralinguistic and crosslinguistic variation in verbal/nominal properties that nominalizations exhibit, Alexiadou (2001a) proposes that nominalizations may differ as to whether or not they contain the whole set of projections, and whether they involve the same feature specification. Presence or absence of specific functional layers within a structure is detectable by a number of criteria, including adverbial distribution and specific morphosyntactic reflexes. Assuming a hierarchical structure of functional projections (Cinque 1999), which host adverbs in their specifiers, the possibility of adverbial modification from specific adverbs can offer an indication of how "high" the structure within the nominalization stretches. Consider the following examples from Greek (from Alexiadou (2001a: 47f.):

16. a. i   katastrofi   ton egrafon   prosektika   GREEK
         D destruction D documents.GEN   carefully

    b. i katastrofi   ton egrafon   kathimerina
        D destruction D documents.GEN   daily

    c. * i katastrofi   ton stihion   pithanos/ilikrina
         D destruction D evidence.GEN   possibly/frankly

(16.a-16.c) show that manner and frequency adverbs are acceptable within complex event nominalizations in Greek, while modal and speaker-oriented adverbs are not. The incompatibility of the latter is not due to semantic reasons, as an adjectival modifier with a similar meaning is possible:

17. a.   i   pithani   katastrofi   ton stihion
           D possible destruction D evidence.GEN
           'the possible destruction of the evidence'

Examples (16.a-16.c) test is the amount of structure included inside the complex event nominal. Assuming that Cinques's hierarchy is correct (at least as a valid crosslinguistic empirical generalization) then (16.a-16.c) show that the nominalization contains at least the functional projections that host manner and frequentive adverbs but it may not contain the modal projection that hosts 'possibility' modifiers. Given that the projection changes from verbal to nominal somewhere between these projections (18), 'possibility' modifiers are still accessible, but only in adjectival and not in adverbial form (c.f. 17.a):

18.   ... [Mod$_{POSSIBILITY}$ ... [NML ... [Asp$_{FREQUENTATIVE}$ ...[Manner ...[vP]]]]]
                   Nominal domain (AP)   Verbal Domain (AdvP)

Another way to test height of attachment for the nominalizer is to examine the kind of morphology included within the nominalization. Assuming for example that valency, voice, aspectual, and tense morphology merge above the verbal core, the presence of such morphemes within the nominalized form provides evidence for how 'large' the structure

contained in the nominalized string is. Consider the following example from Turkish (Alexiadou 2001a:50):

19. a. Mektub yaz. il. di
       letter write.PASS.PST
       'The letter was written'

   b. mektub.un yaz.il.ma.si
      letter.GEN write PASS.NML.3SG/GEN
      'the writing of the letter'

As we can see the voice morpheme –il– in the finite clause of (19.a) is retained within the nominalization in (19.b). This indicates that the nominalizer attaches at least as high as VoiceP, the projection where passive voice morphology merges.

Two additional diagnostics for measuring structure contained within nominalizations concern argument licensing and event structure/interpretation. I refer to these two together because in a number of recent approaches they have been assumed to be connected (Tenny 1994; Borer 1994; Travis 1991, 1994; van Hout 1996; Van Hout and Roeper 1998). Van Hout and Roeper (1998) following van Hout (1996), for example, assume that TP closes off the event variable, giving the event entailment, while a separate Asp(ect)P controls telicity and hosts the object in its specifier position. Finally, Voice/EventP contains voice features and creates a syntactic position for the Agent of the event in its specifier position. Van Hout and Roeper (1998) claim that compounds that contain a nominalization, such as *lawn-mower* in English, are formed by attaching the nominalizer *–er* above VP. This VP hosts an internal argument to the right of the head (a

position designated for particles and clitics (Keyser & Roeper 1992), which incorporates

obligatorily into V. The V-clitic complex subsequently incorporates into the nominal

head (the nominalizing affix –er), resulting in the surface order [[lown-mow] er].

20.

```
              N'
           ___/\___
          N        VP
          △      __/\___
       Nj+Vi N  Spec    V'
       lawn-mow –er    _/\_
                      V    N
                      ti   tj
```
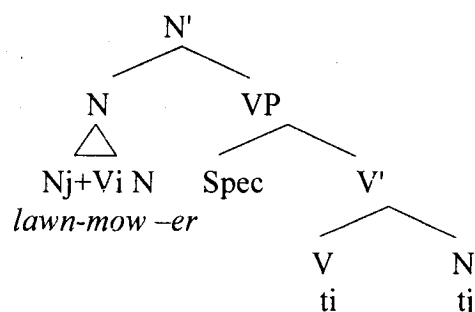
Since the nominalizer attaches above VP, there is no AspP available and thus the internal

argument cannot surface with accusative or nominal (with the insertion of 'of') case.

Furthermore, lack of an Event/VoiceP results in these nominalizations lacking an event

interpretation:

21. a.   The lawn-mower just walked in.
          (no mowing event is entailed)

On the other hand, in a nominalization like *the mower of the lawn*, the internal argument

is expressed as a DP case-marked by *of*, while an event of mowing is implied. Van Hout

and Roeper (1998) take this to indicate that a null nominalizer merges above TP in these

cases, while –er merges in spec-VoiceP carrying the Actor theta role. Consequently,

AspP is available, allowing for the internal argument to appear as a case-licensed DP.

24

Thus variation in attachment height for the nominalizer can explain the event interpretation and case marking properties of the arguments within these nominalizations. Van Hout and Roeper's (1998) analysis faces a number of problems and most notably the fact that –er receives NP/DP categorial status in agentive nominalizations (e.g. 'the mower of the lawn') but is simply a nominalizing head in instrumental nominalizations (e.g. 'the lawn-mower') and in other types of nominalizations (as in 'the New Yorker'). This will be discussed in more detail in Chapter 5 where it will be argued that –er always materializes an argument phrase.

Summarizing, typological studies have shown that there is a gradual loss of verbal projections and an acquisition of nominal projections in nominalizations crosslinguistically. Generative approaches have formally expressed this pattern as the result of the nominalizing morpheme attaching at different levels of the derivation changing the extended projection from verbal to nominal.

1.3 Syntax

The discussion of nominalizations in the previous sections entails a decompositional syntactic approach which is implicit in a number of research projects, and most notably in Distributed Morphology (Halle & Marantz 1993; Marantz 1995, 1997a); the 'cartographic' research program (Rizzi 1997; Cinque 1999, 2002; Belletti 2002); 'strict' locality of selection (Sportiche 2005); and Kayne's antisymmetry theory (Kayne 1994 and subsequent work). In this section I discuss these issues in more detail.

Syntax includes mechanisms (external and internal merge) that manipulate morphosyntactic features and structures on which these mechanisms operate. Merge is the structure-building operation in the Minimalist Program (Chomsky 1995). It takes two syntactic atoms, combines them and assigns a label to the structure formed through some label assigning algorithm (Chomsky 2005). Movement (or internal merge) is the process that reorders constituents and it is also triggered by the need to check features, as we will see in Chapter 3 (Kayne 1998; Williams 2003; Müller 2000; Koopman & Szabolcsi 2000). Movement operates in a cyclic repetitive fashion, pied-piping material to higher projections and thus creating gradually larger structures. Repetitive movement of this sort seems warranted for Malagasy. In order to get the predicate-initial order and the sub-clausal constituency right, one must assume a series of movements which, historically speaking, do not seem necessary to account for English syntax (see discussion in Chapter 2, Section 2.1.3).

Textbooks introduce head-movement as one of the possible syntactic operations. Baker (1988) assumes a head movement approach to complex word formation. The idea is further developed in subsequent work in which inflectional morphology is built into syntax and is subject to syntactic operations (Pollock 1989; Belleti 1990; Chomsky 1995). With the emergence of the cartographic approaches and the clear existence of remnant movement, it becomes difficult to tease apart derivations involving head movement or remnant movement. At the very least this implies a reduction of the role of

26

head movement, and maybe its non-existence (c.f. Koopman & Szabolcsi 2000; Mahajan 2000; Muller 2004). Theoretical problems related to head movement have to do with the fact that head movement is a counter-cyclic operation (not compatible with the Strict Cycle Condition (Chomsky 1993)); it violates the c-command condition on movement (which requires readjustment of the definition of c-command as in Baker 1988); and finally it does not affect meaning (Chomsky 1999:30-31). On the empirical side Koopman & Szabolcsi (2000) show that head movement is not involved in the derivation of the verbal complex in Hungarian, while Koopman (2005c) shows that a phrasal-movement account provides a better analysis of complex morphological strings in Japanese. Finally, phrasal movement is an adequate mechanism to generate the Malagasy structures that I will discuss in this work (c.f. Chapters 4 and 5; see also Pearson 2001, 2005). I will not discuss in detail every trigger for movement (EPP, feature-driven, and so on). The general assumptions adopted here, will drive me to assume certain derivations which are supported by classical syntactic arguments about constituency, c-comamnd etc. The movement operation that is predominantly implemented in Malagasy is of the following type: Assuming a head X dominates a projection YP (e.g. as a result of the Merge operation), then the only possible movement operations would involve: (a) movement of the complement of Y (ZP in (22.a)) to the specifier of XP; or (b) movement of the specifier of ZP (WP in (22.b)) to spec-YP, followed by (a) (c.f. Kayne 2005)[7]:

---

[7] This leaves open the option of specifier to specifier movement (e.g. WP moving from spec-ZP to spec-YP, to spec-XP in (22.b). This type of movement may also be available but will not discuss it here as it is not part of the structure-building mechanisms under discussion.

22. a.   XP   b.   XP

        ZP   ZP
         X   YP   X   YP
                                  t_{WP}
                                                        WP
                  Y t_{ZP} Y t_{ZP}
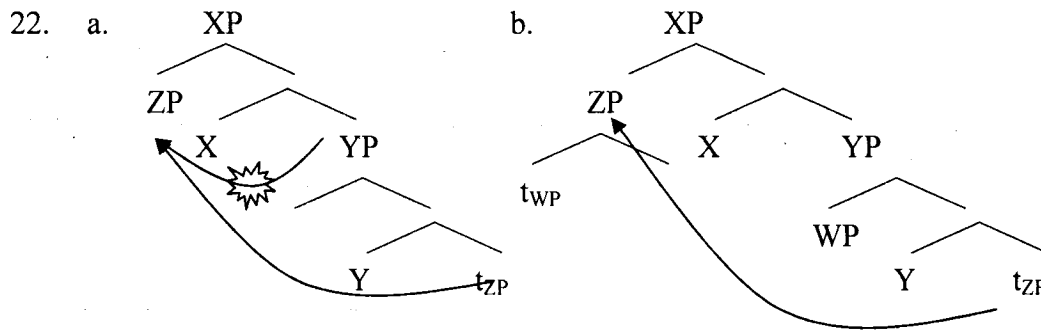
As Kayne (2005) notes, movement of YP to spec-XP in (22.a) is not possible because merger of X and YP results in checking the maximal set of features between the two under merge (and therefore there is no need for further movement of YP to spec-XP). ZP (or its specifier) are the next closest phrasal projections and thus any type of locality restrictions would require ZP or WP to move to spec-XP rather than any of the projections lower (and further away) in the structure (c.f. Kayne 2005). A particular case of the type of movement illustrated in (22.b) has been used frequently in syntactic analyses of functional elements such as prepositions and complementizers (Kayne 2000, 2002; Cinque 2002) and involves predicate inversion (c.f. also Kayne 1994; denDikken 2006). This type is manifested across the board in Malagasy (as we will see shortly in Chapter 2) and proceeds as follows: a functional head X dominates a case projection (i.e. a projection that hosts a DP on the surface, and which I will refer to as KP following current practice), which in turn dominates a predicate ZP with a subject WP in its specifier. The subject WP is attracted to spec YP in order to be (case-)licensed, with subsequent predicate inversion of the remnant ZP to spec-XP. Let us consider an example:

28

23.   ny   trano.n'   ny   olona
      D   house.LNK'   D   person
      'The people's house..'

Assuming that the possessor merges in the nominal domain, presumably as an argument or modifier of the noun, then the underlying structure should be as in (24.a):

24. a.   PossP   b.   LnkP
           ╱   ╲   ╱   ╲
      ny olona   ╱╲   PossP   ╱╲
      'the person' NP   ╱   ╲ *n*   KP
                   ╱╲   t_olona ╱╲   ╱   ╲
                     ╱╲   NP *ny olona* ╱╲
                  trano   ╱╲ 'the person' K   t_PossP
                  'house'   *trano*
                                        'house'
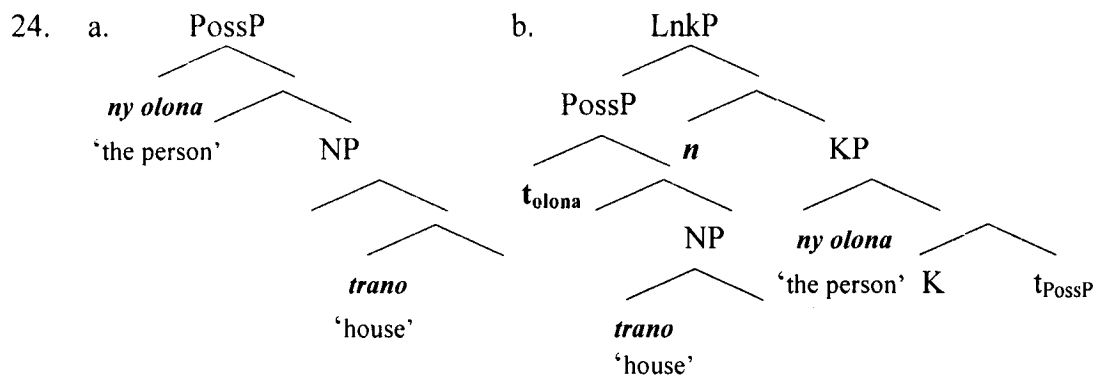
The analysis is compatible with theories of possession that assume that the possessee is the subject of a prepositional small clause with a null dative preposition selecting the possessor as its complement. In this case the possessor raises to spec-KP to check case and the remnant PP moves to spec-LnkP. The precise internal structure of PossP is not relevant to the discussion. In (24.b) the possessor moves to spec-KP in order to be licensed while PossP inverts over the possessor, landing in the specifier of LnkP and deriving surface word order as illustrated in (23). Both movements are cases of the general movement mechanism described in (22). Kayne argues that this type of movement is relevant in a number of constructions, starting in Kayne (1994) with the

29

English prepositional complementizer *of* (in postnominal genitives), and extending to the Romance prepositional complementizers (e.g. *de*; Kayne 1998), with further extensions to French dative *a* (in French Causatives; Kayne 2005), and to non-prepositional complementizers (e.g. English *to* and *that*; Kayne 2003). Cinque (2005) extends the analysis to other prepositions. Finally, den Dikken (2006) generalizes the mechanism of predicate inversion (i.e. inversion of a nominal predicate over an intervening subject) to a number of different structures. I will use the same mechanism in Chapter 2 to account for all types of linking structures in Malagasy(and possibly other Austronesian languages). These are structures that involve a linking element, most productively manifested as (-*n(y)*)[8], and include possessors (as in (25.a), c.f. also (23)), predicate-internal actors (25.b), and adjectival (25.c) and prepositional (25.d) complements (see Section 2.1.3 for detailed discussion):

25. a. lehibe   ny trano.**n**-dRabe
       big   D house.**LNK**-Rabe
       'Rabe's house is big.'

    b. n.an.orat.a.**n**-dRabe   ilay   penisily vaovao
       PST.AT.write.CT/**LNK**-Rabe   DEM   pencil   new
       'This new pencil, Rabe wrote (with it).'

    c. jamba.**n**'   ny vola
       blind.**LNK**' D money
       'Blinded by money'

    d. n.an.apaka mofo t.ami.**n**'   ny antsy Rabe

---

[8] The linker, when present, is manifested as a nasal segment. In some dictionaries (e.g. Hallanger 1973), prepositions listed with the linker end in –y, e.g. *aminy*, *any*, and so on). Therefore, I represent the linker as -*n(y)*, even though I know of no cases where it appears with this final vowel. In Paul (1996b) it is noted that the linker emerges as –*na* in some cases: *trano*/ 'house' + *hazo*/ 'wood' → *tranon-kazo* or *tranona hazo*. However, this seems like addition of an epenthetic final [a], as happens with the TT and CT suffixes –in(a) and –an(a) when appearing without a linked actor.

PST.AT.cut   bread PST.with.LNK' D   knife Rabe
'Rabe cut bread with the knife.'

An additional syntactic process that often has visible effects on the expression of morphosyntactic features is Agreement, the process of copying features from a trigger to a target which are subsequently projected to the target's maximal projection. The exact mechanism of how this copying is established varies in different theories but there is widespread agreement that this process is local in some sense. Here it will be assumed that this configuration is that of specifier/head (Koopman 1996), understood as left-to-right merge in Koopman (2005c). This contrasts with Chomsky (2005) and the majority of work in current minimalist approaches, where a separate mechanism of Agree facilitates transmission of features from a trigger to a c-commanded target (see also Zwart (2006) for a somewhat different approach on locality in agreement under sisterhood of phrases):

26. If Y agrees with XP, XP is merged with YP, or XP is merged with ZP which is merged with YP (or XP is merged with WP, which is merged with ZP which is merged with YP, etc)

27.   a.   YP   b.   YP
           /\   /\
        XP   YP   ZP   YP
                /\   /\   /\
               Y   XP   ZP Y
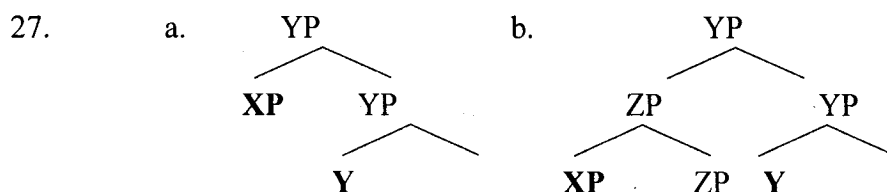
Apart from cases with morphological agreement (e.g. for some phi-feature) Koopman (2005c) shows that the spec-head configuration may be responsible for agreement in

31

category between a specifier and a head. For example, in the formation of Japanese

adjectival and verbal gerunds, it is the leftmost element that determines the categorial

label of the gerundive complex:

28. a. tabe.nai.de   *Verbal Gerund*
       eat.NEG/COP.GER

    b. tabe.naku.te   *Adjectival Gerund*
       eat.NEG.GER

The category of the gerund must be determined by the lexical element that it contains

(adjective or verb), but this is the leftmost element in the gerundive complex. Koopman

shows that this follows straightforwardly if we assume that the adjective/verb occupies

the specifier of a specifier of the complex XP:

29.   a.   teP $_{[+V]}$ b.   teP$_{[+A]}$

              NegP$_{[+V]}$ de $_{[+V]}$ NegP$_{[+A]}$ te$_{[+A]}$

        VP$_{[+V]}$ Neg$_{[+V]}$ Y   AP$_{[+A]}$ Neg$_{[+A]}$

        tabe   nai   tabe   naku
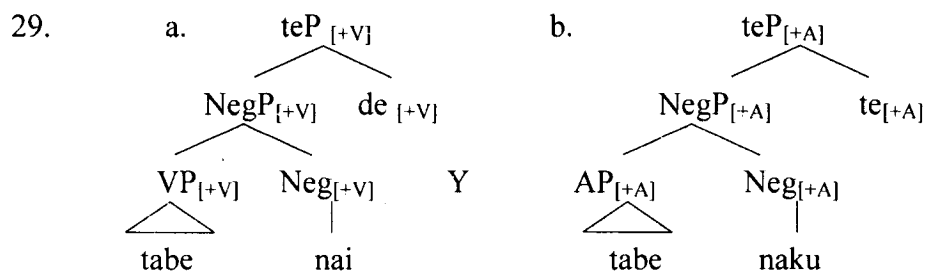
In each of the trees in (29) the feature related to the categorial label of the string as a

whole is transmitted via spec-head agreement and feature projection from the embedded

specifier that contains the VP or AP (i.e. agreement under pied-piping). I will use a

similar configuration to argue for the nominal status of headless relative clauses in

Malagasy in Chapters 4 and 5. In particular, I will argue that the nominal status of

32

participant nominalizations (and headless relative clauses in general) is due to the nominal that occupies the specifier of the relative CP and is achieved through the mechanism of agreement as discussed above.

Turning now to the structures on which syntactic processes operate, it will be assumed (following Kayne 1994) that c-command is mapped to linear order of terminal nodes. Kayne's proposal is formally expressed as the Linear Correspondence Axiom (LCA):

30.   d(A) is a linearization

where d(A) is the superset of all ordered sets of terminals $<x,y>$ dominated by non-terminal nodes $<X,Y>$ in a syntactic tree, such that X asymmetrically c-commands Y. Thus, if a non-terminal category X asymmetrically c-commands a non-terminal category Y, then all terminal nodes dominated by X are linearly ordered before all terminal nodes dominated by Y:

31.   a.   YP   b.   *   YP
            XP   XP
                 Y   ZP   ZP   Y
         x y z z y x
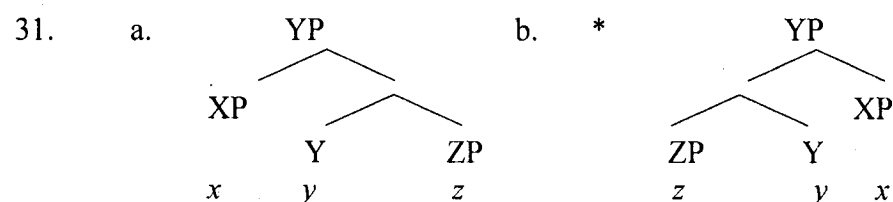
The structure in (31.a) is licit because the left-hand specifier of Y^0, asymmetrically c-commands both Y^0 and ZP, and that the terminal node dominated by XP (x) precedes the terminal nodes dominated by Y^0 (y) and ZP (z), exactly as LCA dictates. On the other

33

hand, the structure in (31.b) is illicit because a right-hand specifier (XP), asymmetrically c-commands ZP and Y^0, and, according to the assumed mapping, all terminal nodes dominated by XP (x) must precede all terminal nodes dominated by ZP (z) and Y^0 (y), but the opposite linear order obtains.

The LCA has far-reaching consequences on the way elements in a syntactic structure combine. Direct consequences include, for example, a universal specifier-head-complement order (as represented in (31.a)) but also no rightward movement. This is because moved terms leave traces which are interpreted as variables bound by the moved term and therefore must be c-commanded by the term. As a result, terms can only move to c-commanding positions, and given that specifiers are linearized to the left and movement is always to a specifier position, it will proceed leftwards. Other consequences of the LCA are that specifiers and adjuncts are not structurally distinguished (they are both sisters to XP), and there can be only one specifier or adjunct per projection[9].

In addition, I will assume following recent developments in syntactic theory that linearization is implemented cyclically. That is, syntactic structure is constructed in cycles and at the end of each cycle the structure is spelled-out. Bresnan 1971 observed that some phonological processes seemed to apply at the end of each transformational cycle. This insight has been followed under different rubrics in approaches that assume

---

[9] For detailed discussion on how these results are drawn from the implementation of the LCA see Kayne 1994. I will not fully label trees in the following sections but it should be noted that each specifier merges with an XP (i.e. no X' level is assumed).

34

that subclausal syntactic structures are sent to the interface with PF at different levels of the derivation (Epstein and Seely 2002; Uriagereka 1999; Chomsky 1998, 2001, 2005; Franks and Bošković 2001). However, there is disagreement as to the levels where spell-out takes place. Chomsky's phase theory (Chomsky 2001, 2005) assumes that CPs and v^*Ps are phases (and possibly DPs but crucially not TPs). In other approaches phases are equated with specific clausal subdomains (e.g. 'prolific peripheries' including the thematic, functional and discourse domains, in Grohmann 2003) or thematic domains (i.e. verbal 'cycles' or 'shells' that contain the predicate, one argument and one or more aspectual/functional projections (encoded in the structures proposed by Sportiche 2005; Hallman 1997; see also Butler 2004 and Carnie & Barss (to appear)). It may eventually become necessary to assume that each phrase (or projection) is a phase of some sort (see Epstein & Seely 2002 and Bošković 2005 for work in this direction).

In the framework adopted here, the clausal structure is built by repetitive cycles that contain CP-like domains. Each cycle/layer contains a voice projection which dominates an aspectual projection that licenses a specific verbal argument. In this respect, a voice projection determines a C-domain with the aspectual projection understood as a lower TP. If this is on the right track then each voice/aspectual layer forms a CP domain and thus a 'phase'. Thus, it is not vP but rather AspP that forms a low phase and provides the space for the internal argument to be licensed. This is a necessary adjustment as the framework adopted here does not allow for multiple specifiers. Thus, anything escaping the vP-phase must land on a different projection. AspP provides this projection and it

35

additionally provides the semantic requirement that triggers movement to the edge of the phase in Chomsky's (2001) analysis. More specifically, Chomsky (2001) argues that object shift occurs as the result of an EPP-feature on *v*. This feature is available only when it has an effect on semantic outcome, for example when the XP landing at the edge of the *v*P is assigned a specific interpretation (while elements within the phase are assigned nonspecific interpretations) (see Rackowski and Richards (2005) for an analysis of Tagalog clausal structure as derived from movement to the phase edge and extraction following the above reasoning). In the analysis followed here AspP is by definition the projection where internal arguments are quanticized (see discussion in Chapter 2) and thus the semantic requirement for movement of the internal argument is independently motivated. Similar arguments hold for the higher aspectual projection EventP that is related to quanticization of the external argument. The proposal in Chapter 3 that nominalizers merge in these aspectual projections has the desired consequence that nominalized strings are opaque for further extraction if what they attach to is also a phase. An alternative way to think about this is that aspectual projections form small D/CPs (i.e. with a separate projection that encodes definiteness and a lower case projection that licenses a verbal argument). If this is true then the view of aspectual projections such as AspP and EventP as phases converges with Chomsky's (2001) view of CPs as strong phases.

A relevant issue that will become important in the discussion of nominalizations has to do with the exact properties of selection, i.e. the structural configurations into which a

36

predicate and its arguments enter. I will assume here that selection is 'strictly' local, in the sense of Sportiche (2005). This means that predicates select for bare NPs and that subsequent nominal layers (case, number, quantification) project outside the thematic domain and trigger movement of the argument NP to VP-external positions. Thus a VP-internal argument is selected by the verb as an NP. It subsequently raises to number, case and D projections outside the VP shell (these projections have been grouped together under the umbrella-term AspP here). The evidence that Sportiche (2005) provides for such a claim is drawn from reconstruction effects. Consider for example the following:

32.   In 1986, no integer had been proved to falsify Fermat's theorem

Under current assumptions the underlying structure for (32) would be something like (33):

33.   In 1986, had been proved [no integer falsify Fermat's theorem]

This structure should give rise to two different interpretations (depending on the scope of the determiner *no* with respect to the main predicate):

34. a.   In 1986, no integer x, it had been proved that x falsifies Fermat's theorem
    b.   In 1986, it had been proved that no integer falsifies Fermat's theorem

However, the second interpretation is not possible, which means that the quantifier does not reconstruct in its base position. This is what leads to the common claim in the

literatrure than A-movement does not reconstruct. Paradoxically though, there are cases where reconstruction is possible (from Sportiche 2005):

35. a.   A southerner is predicted to win every senate race
     a'. *It is predicted that for every senate race, there is a (possibly different) southerner who will win it*
     a''. *For every senate race, there is a (different) southerner who is predicted to win it*
     a'''. *For every senate race, it is predicted that there is a (different) southerner who will win it*

Abstracting away from the other interpretations in (35.a''-35.a''') which impose individual predictions for each senate race, (35.a') shows that the sentence in (35.a) can have a reading of a unique global prediction where *every senate race* can outscope *a southerner* with both of them in the scope of the verb *predict*. Therefore, one input for scope computation must be (36.a):

36. a.   is predicted [a southerner to win every senate race]
     b.   a southerner will win every senate race

Within a single clause *every senate race* can outscope *a southerner* (as the most natural reading of (36b) shows). Therefore, there are cases where reconstruction under A-movement takes place for scope computation.

Assuming that there is always reconstruction when there is a movement operation, Sportiche (2005) concludes that (33) is not an accurate underlying representation for (32), and it should change to (37):

38

37.   No ......prove ...[embedded clause integer falsify...]

Thus surface structure is derived by movement of the NP *integer* to the projection that hosts the quantifier in order to be quanticized. Since this is not movement of the DP but rather movement of the NP, reconstruction is not possible and the paradox is explained straightforwardly.

Sportiche (2005) argues for a layered partitioning of the thematic structure in little CP-layers that contain a verb shell with an argument and a series of functional projections that trigger movement of the argument in order to check number, case and definiteness features (the split-D hypothesis; Sportiche 2005):

38. $[D_1 \, Case_1 \, Num_1 \, V_1 \, NP_{ACTOR} \, [D_2 \, Case_2 \, Num_2 \, V_2 \, NP_{THEME}]]$

This way of envisioning clausal structure is compatible with assumptions in Koopman and Sportiche (1991) on accusative case being assigned below the position of the external argument/thematic subject, or the claim in Travis (1991, 1994) that AspP (which licenses the internal argument) is below the specifier that the external argument merges; c.f. also Collins and Thrainsson 1996. I will assume, following Sportiche (2005) that Ds and Number properties merge outside the verbal domain but will adopt a different partitioning of the clause in which thematic relations are established in a lower level, followed by number, case, and definiteness, relations, as in the following diagram:

39

39. $[D_1 ... D_2 [Case_1 ... Case_2 [Num_1 .... Num_2 [V_1 NP_{ACTOR} ...[V_2 NP_{THEME}]]]]]$

In other words the external argument of the verb is introduced lower than the highest position that the object occupies. The type of layering in (39) is compatible with theories that assume that thematic, functional, and discourse related properties of the clause are licensed in different domains (roughly [Comp[Infl[VP]], as in Chomsky 1986a; Grohmann 2003), which may be isomorphic in terms of structural and linearization properties (Williams 2003).

The reason for assuming such a partitioning has to do with the existence of synthetic compounds of the type *lawn-mower*, *football-player*, and so on. In these cases, as Sportiche (2005) observes, the predicate appears with the internal argument position saturated by a NP. This provides further support for the 'strict' selection hypothesis but argues against a layered structure of the sort in (38). Consider for example the strings in (40):

40. a.   the lawn-mower
     b. *to lawn-mow

In verbal clauses (as in (40.b)), the projection where the internal argument is licensed is available and thus the argument cannot stay within the predicate forming a synthetic compound. However, a nominalizer interrupts the verbal projection and makes the projection where internal arguments are licensed unavailable. The argument then can

40

remain in situ, forming a synthetic compound. This analysis explains why these compounds are possible only in nominalizations and not with verbal predicates. The problem is that the external argument is also present in the compound (in the form of the nominalizing affix –er). Thus the external argument must be present in the structure below the projection where the internal argument is quanticized, supporting the assumption that a structure like (39) is on the right track.

Another important assumption about the structural organization of overt/covert material (in both the nominal and verbal domains) follows work in the "cartographic" research program (Rizzi 1997; Cinque 1999, 2002; Belletti 2002). The cartographic project aims at reconstructing a map of functional projections in the structure of the clause. One of the basic assumptions behind the program is that functional structure is highly articulated and contains projections that are hierarchically ordered (i.e. have the same respective order) across languages. This means that in addition to the core projections usually assumed in current minimalist approaches (CP, TP, vP, VP, ...) there are numerous other projections that host functional elements related to aspect, voice, mood, discourse functions such as focus, topic, finiteness, and so on. This has the consequence that syntactic structures are much more articulated than initially hypothesized. However, the consequence that will mostly be of use in the discussion here is that certain functional elements are associated with specific heights in the clausal spine. This is more obvious in the case of adverbs, where the semantic contribution of an adverbial modifier is assumed to be related to syntactic height (and thus manner adverbs are structurally quite low with respect to

41

frequentative adverbs which in turn merge lower than subject-oriented modifiers, and so on). As we will see in Section 1.2.4, this can be used as a diagnostic for establishing how much structure is enclosed within a nominalization.

Summarizing then, the following assumptions are embraced:

- Syntactic atoms are bundles of morphosyntactic features that are assigned phonological values at the syntax-phonology interface (Spell-Out).

- Syntactic operations include projection (universally specifier-head-complement with unique specifiers), merger, (phrasal, overt) movement, spec-head agreement

- Operations are triggered by strict locality of selection (feature checking) either under external or under internal merge

- Structures are large, with ordered functional projections, and organized in subdomains

- Spell-out takes place throughout structure building at specified levels that encode specific aspectual properties

1.4   Proposals and Outline

Following the discussion in the previous sections I adopt the following hypotheses:

1. Derivational morphemes do not have 'fixed' subcategorization properties. They attach at different heights resulting in strings with diverse morphosyntactic properties.

2. The projections where nominalizers attach are phase-boundaries, where phase is understood more broadly than Chomsky (2001, 2005) as any reduced CP-like

42

aspectual domain that licenses verbal arguments outside the thematic domain (AspP for the theme, VoiceP for the causer, and so on, up to CP_{CLAUSE}).

Hypothesis (1) provides a syntactic approach to the different morphosyntactic properties of nominalizations cross- and intra- linguistically. Lexical approaches would have to translate the variation in these properties to sets of ordered features, with the nominalizer intervening in different orders. Attaching the nominalizer at different heights and capturing the diversity in a straightforward way is an option that only syntactic approaches can provide. The higher the attachment site the more 'verbal' properties a nominalization exhibits. Cross- and intra-linguistic variation then is determined by the attachment sites permitted in individual languages.

Hypothesis (2) restricts the type of projections to which nominalizers attach. Nominalizations involve selection of a (reduced) CP by a D (c.f. Chapter 5), and the C head defines a phase domain. Each of these phase domains contains an aspectual projection that is understood as a lower TP. Such an analysis provides a straightforward explanation as to why nominalizers appear crosslinguistically to "encode" certain aspectual properties (habituality, imperfective aspect, results, events, and so on). This is because each nominalizer is associated with the aspectual projection of the CP that it contains.

The Hypotheses in (1)-(2) are clearly incompatible with a framework that espouses an independent morphological grammatical component, at least not without duplication and

redundancy. In most such approaches a derivational affix, in contrast to a free morpheme, imposes morphological selectional properties to its host (m-selection). In other words it selects for elements that belong to a fixed grammatical category and needs to attach to phonologically 'stable' elements (a phonological selectional property). For example the nominalizer *–ing* can only attach to elements of the category Verb at the X^o level. In a morphological approach this happens before the syntactic component and therefore it becomes difficult to capture distributional and interpretational differences in the different nominalizations that *–ing* forms (c.f. examples in 14). A syntactic approach avoids these problems by allowing *–ing* to attach at different heights (thus straightforwardly deriving the differences), while final order can be achieved by independently motivated additional operations, for example phrasal movement (as assumed here) or some sort of post-syntactic head movement (as in Embick & Noyer 2001).

The third main proposal of the thesis is spelled-out in (3):

3. Participant nominalizations (agentive/subjective, instrumental, locative, manner, and so on) have the structure of reduced headless relative clauses.

Because participant nominalziations are assumed in numerous accounts to be part of the morphological component, syntactic research on their properties or on how to capture their properties has not been in the center of interest. (3) aims to capture the earlier intuitions about the transformational derivation of participant nominalizations from underlying strings that contain a relative clause (as discussed in Section 1.2.1). In

44

addition it incorporates the evidence from typological studies that shows a strong connection between participant nominals and (headless) relative clauses in terms of both morphological marking (the existence of nominalizers/relativizers, the similarities in voice marking on the verb, etc.) and syntactic properties such as the application of binding principles.

The thesis is organized as follows: Chapter 2 presents a detailed overview of Malagasy morphosyntax in both the verbal and nominal domains. I briefly discuss two main generative approaches to Malagasy clausal structure and the status of the rightmost prominent argument (an A-moved 'subject' in Guilfoyle et al 1992; an A'-moved 'topic' in Pearson 2001, 2005) and conclude that a slightly modified A'-movement approach better accounts for the empirical facts.

Chapter 3 discusses Malagasy nominalizations formed by attaching the prefix *f-* to a verbal stem. I provide morphosyntactic evidence that supports a syntactic analysis of these nominalizations and show how their properties are straightforwardly explained if we assume hypotheses (1)-(2). I turn then in Chapter 4 to a discussion of nominalized clauses formed by attaching the definite determiner *ny* to a clausal string. I show that these strings form two different types of clausal nominals: headless relative clauses and sentential nominalizations. The existence of the first type is supported by its exhibiting relative clause properties, including obeying A'-movement constraints. The second type is briefly discussed only to show its nominal character and its bearing on issues of how

45

finiteness is encoded in the language. The more general properties of sentential nominalizations have been discussed in detail elsewhere (see for example Polinsky & Potsdam 2002, 2003, 2005).

Finally, in Chapter 5 I provide a unifying account for both headless relative clauses and participant nominalizations by showing that the latter have an identical structure to the former, albeit reduced in some sense (i.e. specific functional layers are missing). This is not a surprising assumption given the tendency of relative clauses (especially of the prenominal type to appear reduced crosslinguistically (c.f. Keenan 1985)). I provide support for this claim from the distribution of voice morphology in Malagasy (and Austronesian in general), as well as from the application of binding principles and other A' effects in participant nominalizations. The chapter concludes with a typological analysis of nominalizers and relativizers which, however, is somewhat limited in scope and data. I provide some insights into a possible typology of participant nominals and patterns expected to emerge given the proposed structures, as well as patterns actually attested. This is not meant to be a detailed typological analysis but rather a brief sketch that provides support to the theoretical assumptions adopted throughout the chapter. Chapter 6 presents my concluding remarks and a list of issues that remain to be answered in future research.

CHAPTER 2

Malagasy Morphosyntax

2.0 Introduction

2.0.1 Malagasy

Malagasy is spoken by approximately 15 million people on the island of Madagascar, off

the coast of East Africa. It is genetically a member of the Western Malayo-Polynesian

branch of the Austronesian family. Malagasy is closely related to the languages of the

Southeast Barito subgroup of southern Borneo and shares a number of morphosyntactic

properties with Ma'anyan of south Borneo (Kalimantan, Indonesia) (Dahl 1991). It is a

verb-initial (and in general predicate-initial) language, and the main word order in clauses

is traditionally characterized as VOS, a typologically uncommon type. The language

shares an elaborate voicing system with most of the languages of the Western Malayo-

Polynesian branch and especially the Philippine languages such as Tagalog.

A number of dialects can be identified in the language but there seems to be no generally

accepted classification for these dialects. The eastern dialect of *Merina,* spoken in and

around the capital Antananarivo, has formed the basis for Standard Malagasy, which is

47

the language used in written and broadcasted media, schools, and official documents. The data used in this thesis are based on Standard Malagasy/Merina as spoken in the capital Antananarivo and surrounding areas and are drawn from a variety of sources. Most of the data come from fieldwork in the Los Angeles area and in Madagascar (during the summer of 2005). The consultants are 6 native speakers of Malagasy (ages ranging from 25 to 35 years old). One of the speakers has been living away from Madagascar for a number of years and her recent dominant language has been English. The other five speakers live in the capital of Madagascar, Antananarivo. Two of them are high school graduates while the other three have a university degree or certificate. They are all fluent in English and speak French as a second language. Three speak only the Merina dialect while the other three have different levels of fluency in other Malagasy dialects, including *Betsileo* and *Androy*. Additional data has been drawn from Malagasy novels (mainly *Ilay Kintara Mamirapiratra*), as well as elementary school readers (for example Giambrone 1987), and online versions of Malagasy newspapers and magazines. Finally, data are drawn from the published literature on Malagasy. All additional data have been checked with the native speakers, and the sources for each of the examples are referenced in the text.

There is a fair amount of grammars and morphological sketches of the language by native speakers of Malagasy and French linguists in the desctriptive tradition (Rahajarizafy, 1966; Rajemisa-Raolison, 1971; Rajaona, 1972; Rabenilaina 1983). Typological and theoretic-oriented work in the unique properties of the grammatical system of Malagasy

was initiated by Keenan (1972, 1976, 1995, 2005; Keenan and Polinsky 1998; Keenan & Ralalaoherivony 2000; Keenan & Razafimamonjy 2004). His work was followed by an impressive number of syntacticians and theoretical linguists, forming a wonderful community working on different aspects of Malagasy morphosyntax. Some of this work includes Guilfoyle et al 1992; Pearson & Paul (eds.) 1996; Pearson 2001, 2005; Paul (ed.) 1998; Paul 1999, 2001a, 2001b, 2003, 2004, 2006; Law 1995; Phillips 2000; Polinsky & Potsdam 2002, 2003, 2005; Potsdam 2004; Sabel 2002; Travis 2000, 2005a, 2005b; Rackowski & Travis 2000; Koopman 2005b; Ntelitheos 2005, 2006; and others.

Since the main subject of inquiry on this thesis are the properties of different nominalizations in Malagasy, including nominals derived from verbal stems by affixing the prefix *f-* (Chapter 3), as well as clausal nominalizations (Chapter 4), this chapter will present in more detail the general blueprint of Malagasy clausal structure. In order to better understand the morphosyntactic processes involved in the formation of derived nominals it is essential to have a general understanding of the different morphosyntactic atoms participating in the structure-building mechanisms that the language operates. I will start with a brief discussion of declarative clauses in Malagasy and the status of the rightmost prominent DP. This DP encodes the highest argument (actor, experiencer, and so on) in active voices (1.a), and the theme (1.b) or an additional verbal dependent (1.c) in non-active voices (Section 2.0.2):

1. a. n.i.vídy   boky   ho an'ny   mpianatra   ny   mpampianatra.
        PST.AT.buy   books   for' D   student   D   teacher
        'The teacher bought books for the student.'

b. no.vid.in'   ny   mpampianatra ho an'ny   mpianatra   <u>ny boky</u>.
   PST.buy.TT/LNK' D   teacher   for 'D   student   D books
   'The teacher bought books for the student.'

c. n.i.vidian.an'   ny   mpampianatra ny boky   <u>ny   mpianatra</u>.
   PST.AT.buy.CT/LNK'   D   teacher   D books D   student
   'The teacher bought books for the student.'

As can be seen in the examples in (1), the type of the DP occupying this rightmost prominent position is related to specific voice morphology on the verb. The question of how voice morphology relates to the status of this DP (as an A-moved or A'-moved element) has been at the forefront of research in Malagasy clausal structure and its analysis determines all subsequent analyses of the different aspects of Malagasy morphosyntax. I will present arguments from syntax and language acquisition to show that a view of the rightmost DP as an A'-element is on the right track (c.f. Pearson 2001; 2005). I will then move on to a description and analysis of the different units that are involved in building Malagasy verbal forms (Section 2.1.1). To the extend that our current understanding of these morphosyntactic atoms allows it, I will provide indications for the projections where they merge in the structure and explain their semantic contribution to the overall semantics of the verbal complex.

Nominalizations exhibit mixed verbal and nominal properties and therefore proving that a string is a nominalization necessarily involves showing that the string has nominal properties in addition to verbal properties. This in turn requires a basic knowledge of the properties of Malagasy noun phrases and I illustrate some of these properties in Section

2.1.2. In Section 2.1.3, I provide a somewhat more detailed discussion of 'linking', i.e. a process that 'links' a dependant to a predicate through some overt morphological element (the linker) in the verbal domain (the actor is 'linked' to the predicate in non-active voices) as well as the nominal domain (the possessor is linked to the possessee):

2. a. lehibe   ny trano.n-dRabe
        big   D house.LNK-Rabe
        'Rabe's house is big.'

    b. n.an.orat.an-dRabe   ilay penisily vaovao
        PST.AT.write.CT/LNK-Rabe   DEM   pencil   new
        'This new pencil, Rabe wrote (with it).'

As seen in (2.a-2.b), the linker for both nominal and verbal domains is the same (the suffix –*n*). This creates potential ambiguity in the domain of nominalizations as the status of a linked element in derived nominals (i.e. a predicate-internal actor or a possessor) is not clear on first sight. Consider the following instrumental nominalization:

3. a. ny f.an.doah.an-dRabe   dia   ilay fantsika
        D NML.AT.drill.CT/LNK-Rabe   TOP   DEM   nail
        'Rabe's (instrument for) drilling is this nail.'   *or*
        'The (instrument for) Rabe's drilling is this nail.'

As is clear from the English glosses, in an instrumental nominalization in Malagasy, the DP that appears linked to the derived nominal can be interpreted as the actor argument of the base verb, or as the possessor of the instrumental nominal. I show that there is at least one diagnostic that can disambiguate the status of the linked element in derived nominals.

51

If an indefinite theme of the base verb is present, then possessors appear obligatorily following this indefinite theme (which pseudo-incorporates to the verb, see discussion in section 2.1.3) Predicate-internal actors, on the other hand, do not allow such pseudo-incorporation and must precede the indefinite theme. The importance of this test will become clear in Chapter 3 where the issue of determining how much clausal structure is included in f-nominals will be discussed.

Finally, in Section 2.1.4, I provide a very short discussion of how verb-initial order is achieved in Malagasy clausal structure, and the well-known issue of extraction asymmetries in the language (Keenan 1972), and show how these asymmetries, in correlation with the symmetry in verbal/nominal linking structures discussed in the previous section, indicate that fully inflected verbal stems (Pls in Keenan's 2005 terminology) have a nominal (possibly participial) character.

2.0.2 Clausal Structure

There is extensive literature on how final word order of V-initial (and more generally predicate-initial) languages in Austronesian is achieved (see for example Guilfoyle et al 1992; Massam & Smallwood 1997; Chung 1998; Pearson 2001, 2005; Rackowski & Travis 2000; and others). A number of approaches are incompatible with several fundamental assumptions in the approach adopted here and will not be discussed in detail. For example, the subject-lowering approach in Chung 1998 is not compatible with an antisymmetric view of clausal architecture (Kayne 1994) and a number of the

arguments against head-movement of V to higher projections that it implores do not pose serious challenges for the phrasal movement approach that is adopted here (see Travis 200b, for a critique of the subject-lowering proposal and alternative analyses). I will concentrate on two of the views that are focused on Malagasy, while acknowledging that there is a much richer literature that is directly relevant within Austronesian studies.

In Malagasy there is a well-known relation between voice morphology and clausal structure/word order, a common characteristic of most languages in the Western Malayo-Polynesian subgroup. The structure of declarative clauses is bipartite with an initial complex string containing an inflected verb, any adverbial modifiers and predicate-internal verbal argument (P1 in Keenan's terminology) and a final prominent argument of which the verb is predicated and which I will call 'trigger' following theory-neutral terminology (Pearson 2005; c.f. Schachter 1987 for Tagalog). In the following examples the predicate is bracketed and the trigger is underlined[1]:

4. a. [n.i.vídy   boky   ho an'ny   mpianatra] ny   mpampianatra.
        PST.AT.buy books   for' D   student   D   teacher
        'The teacher bought books for the student.'

    b. [no.vid.in'   ny   mpampianatra ho an'ny   mpianatra] ny boky.
        PST.buy.TT/LNK·   D   teacher   for · D   student   D books
        'The teacher bought books for the student.'

---

[1] Examples of the type in (4.b) are often translated with a passive, or an active with a topicalized object. I will follow the practice of using the same translation for all voices, indicating that active and non-active clauses in Malagasy are logically equivalent when the participating DPs refer to the same entities (c.f. Keenan 2005).

This bipartite structure is strongly supported by a number of empirical facts and widely accepted as fact in the relevant literature (Keenan 1976, 1995; Dahl 1996; Pearson 2001; 2005; Paul 1999; and others). For example, constituency tests such as coordination show that two coordinated predicates can be predicated of a single trigger[2]:

5. a. [[n.am.aky   ny   boky] sy [n.an.oratra   ny taratasy]]   ny ankizy
        PST.AT.read   D   book and [PST.AT.write D   letter]   D child
        'The child read the book and wrote the letter.'

    b. [[no.sorat.an-dRabe]   sy   [no.vak.in-Rasoa]]   ny taratasy
        PST.write.TT/LNK-Rabe and   PST.read.TT/LNK-Rasoa D   letter
        'The letter, Rabe wrote (it) and Rasoa read (it).'

Furthermore, certain particles such as the yes/no question particle *ve*, and the negative polarity item *intsony* 'no longer; anymore' mark the predicate boundary, always appearing between the predicate and the trigger (examples from Paul 1999:9):

6. a. [m.i.vidy   mofo ho an'ny ankizy] **ve** i Bakoly?
        ASP.AT.buy bread for ACC'D   child   Q D Bakoly
        'Does Bakoly buy bread for the children?'

    b. [tsy m.i.vidy   mofo ho an'ny   ankizy] **intsony**   i Bakoly.
        NEG ASP.AT.buy bread for ACC'D   child   anymore   D Bakoly
        'Bakoly does not buy bread for the children anymore.'

---

[2] As Pearson (2001) observes, the fact that the conjunction *sy* which coordinates any constituent smaller than a clause is used, suggests that we are dealing with conjoined PredPs sharing a single trigger—rather than, say, conjoined clauses where the trigger of the first clause has been deleted under coreference with the trigger of the second clause. In the latter case we would expect the clausal conjunction *ary* to be used.

54

Word order in Malagasy has been traditionally characterized as VOS and thus the clause-final DP corresponds to the highest argument of the verb, i.e. the 'subject' of the clause. Consider the following examples:

7.   a.   n.i.vídy   boky   ho an'ny   mpianatra <u>ny   mpampianatra</u>.
            PST.AT.buy books   for' D   student   D   teacher
            'The teacher bought books for the student.'

    b.   no.vid.in'   ny   mpampianatra ho an'ny   mpianatra <u>ny boky</u>.
            PST.buy.TT/LNK· D   teacher   for· D   student   D books
            'The teacher bought books for the student.'

    c.   n.i.vidi.ana.n'   ny   mpampianatra boky   <u>ny mpianatra</u>.
            PST.PFX.buy.CT/LNK· D   teacher   books   D student
            'The teacher bought books for the student.'

In (7.a) the external argument of the verb is promoted to trigger and the verb shows Actor Trigger[3] (AT) morphology realized as the prefix *i-*. In (7.b) the theme argument occupies the rightmost prominent position and the verb exhibits Theme Trigger (TT) morphology, realized as the suffix *-in*. Finally, in (7.c) the Benefactor is promoted and the verb has Circumstantial Trigger (CT) morphology realized as the suffix *–an* (the form also maintains the AT prefix *i-*). There are phonological processes that are also involved in the formation of voice forms (e.g. stress-shift in the suffixed CT and TT forms), but I will abstract away from this in the following discussion. For a detailed description and analysis of the affixes involved in the formation of voiced verbs see Section 2.1.1.1.

---

[3] I will use the term Actor Trigger (AT) even though it is misleading – in fact the promotion of any external argument (Agent, Experiencer, and so on) corresponds to this specific morphology on the verb.

While the connection of voice morphology to the choice of trigger is in general accepted, there is no consensus as to how this connection can be formally analyzed. In some approaches the trigger is considered a sentential subject similar to subjects in more familiar European languages (Rajemisa-Raolison 1971; Keenan 1976; Guilfoyle et al 1992; Paul 1999). In other approaches the trigger is a topic, i.e. occupying an A' position in the left periphery (as in Germanic languages) (Pearson 2001; 2005; see also Richards 2000). I will not discuss the approaches that treat non-active voices in Malagasy on a par with passive voice in Indo-European languages (c.f. Rajemisa-Raolison 1971). The data clearly indicate that these are not passives in the traditional sense (see discussion in Keenan & Manorohanta 2001). For example, contrary to passive forms in English, Malagasy non-active verbs can participate in the formation of imperatives (c.f. Koopman 2005b). In fact the non-active imperatives are very frequent and are acquired earlier than the imperatives of active forms (Hyams, Ntelitheos and Manorohanta, to appear). It is clear then that TT and CT forms in Malagasy are not passives (see Pearson 2001; 2005 for more arguments supporting this claim).

Turning now to the trigger and its status in the Malagasy clause, there have been two major approaches within generative grammar: one that treats the trigger as an A-element (syntactic subject occupying spec-IP (Guilfoyle et al 1992)) and one that treats the trigger as a left-peripheral element with topic properties (Pearson 2001, 2005; c.f. also Richards 2000). The choice of one or the other approach has deep consequences on any subsequent treatment of Malagasy syntactic phenomena as it fixes the view one has on the basic

building mechanism of clausal structure in the language. Each of the two views has to address fundamental issues related to:

- How voice morphology relates to the distribution of verbal arguments and adjuncts in the clausal structure;

- How word order relates to hierarchical structure and the issue of whether heads can project rightmost specifiers;

- How the linker (i.e. the nasal –*n* which links a predicate-internal actor to the verb in non-active voices) figures into the structure; and most importantly how an account of the morphosyntactic status of the linker can explain some surprising constituency facts in non-active voice structures;

- Finally, and most importantly, the position the trigger occupies in the clause, including any A or A' properties that the trigger exhibits, and what drives movement to the trigger position.

Guilfoyle et al (1992) acknowledge earlier approaches that attribute subject properties to the trigger (Rajemisa-Raolison 1971; Keenan 1976). These subject properties (based on a list of subject properties in Philippine languages provided by Schachter 1976) include extraction restrictions (only the subject extracts) and quantifier float (targets only the subject). They note however that other tests such as reflexivization and equi-NP deletion/control seem to target the predicate-internal actor in non-active structures. They take this split in subject properties to indicate that the Malagasy clause has two subject

57

positions: a vP^4-internal subject position (in the specifier of vP) hosting the internal agent

which is case-marked by the TT voice affix/linker in I^0, and the usual spec-IP subject

position which is the locus of nominative case assignment. The following trees represent

the structures corresponding to the AT form of (7.a), the TT form of (7.b), and CT form

of (7.c), respectively:

8.
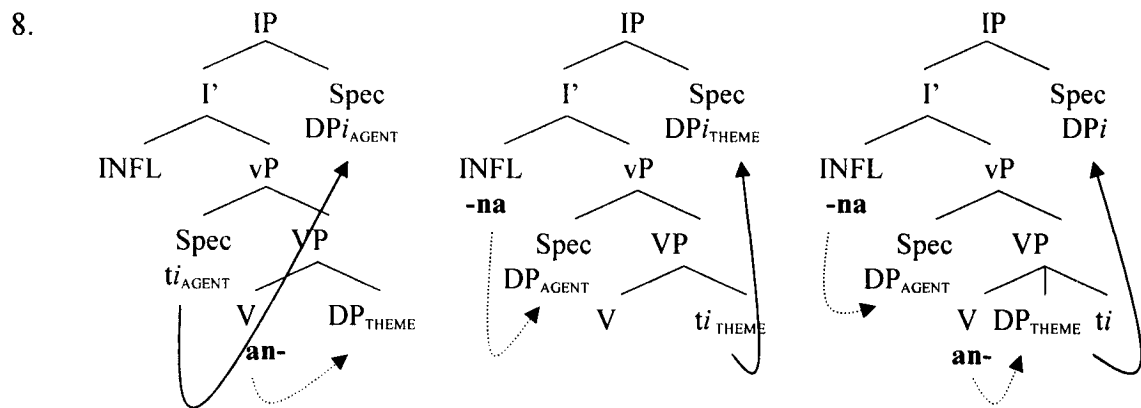
In Guilfoyle et al's account, the structure building mechanism is case driven, and case is

decomposed from the theta structure. The voice affixes are case assigners that license all

but one of the verb's dependents inside the vP. The remaining argument must therefore

raise to spec-IP (projected to the right of I^0) to check nominative case (in modern terms

this would be required by 'attract closest'). In AT clauses the AT voice morphology

assigns case to the theme in situ (indicated by a dotted line in (8.a) and the actor raises to

spec-IP where nominative case is checked (indicated by a solid line in (8.a)). In TT

clauses TT voice (merging in I^0) assigns case to the actor in situ (in the spec-vP position)

---

[4] Guilfoyle et al's structures do not contain VP-shells and arguments are presented as NPs. I have altered
their labeling slightly to present their proposed structures within more recent assumptions of the clausal
design.

58

and the theme is forced to raise to spec-IP to check nominative case (c.f. (8.b)). The circumstantial has two case assigning affixes, and hence the theme and actor are both assigned case within vP. The oblique argument raises to Spec IP where it is assigned nominative case (c.f. (8.c)). Thus, in TT/CT clauses there are in fact two subjects: the actor in spec-vP and the theme or other argument/adjunct in spec-IP. Binding and control, which are assumed to be theta-sensitive, are connected with the internal subject position (the predicate-internal actor). Quantifier float and *wh*-extraction, which are structurally restricted, are associated with spec-IP. Thus the split in subject properties is explained in terms of structural configuration with respect to where the verbal arguments are case-licensed.

Even though Guilfoyle et al (1992) capture nicely the split in subject properties, there are a number of problems with their analysis. The basic idea behind their proposal is that promotion to trigger involves movement for case reasons, i.e. a type of A-movement such as subject raising. One of the basic properties of A-movement is that it forms structures that do not seem to exhibit reconstruction effects with respect to binding. Reconstruction is a property of chains and therefore it applies only to elements generated by movement (c.f. Chomsky 1993; Hornstein 1984; Fox 1998, 1999; Sportiche 2005, and others). While structures formed by A'-movement readily exhibit reconstruction effects with respect to anaphor binding, structures that involve A-movement do not. Consider the following examples:

9. a. * It seems to **himself***i* that **he***i* is t*i* smart.
    b. **He***i* seems to **himself***i* t*i* to be smart

10.   [Which story about **himself***j*]*i* does **he***j* like t*i*?

In (9.a) the subject of the adjectival small clause remains in spec-TP of the embedded clause, and the reflexive that acts as the dative experiencer c-commands it. Since the reflexive has no local antecedent, Condition A is violated and the sentence is ungrammatical. A-movement of the subject over the reflexive and the raising verb to spec-TP of the matrix clause (as in (9.b)) creates a configuration where Condition A is satisfied, as the anaphor now has a local c-commanding antecedent[5]. Therefore, A-movement may feed the level where binding principles apply. On the other hand, in (10), the surface structure contains a reflexive which is not bound in its domain as the only possible antecedent does not c-command it and is not local to the anaphor. However, the sentence is grammatical, which seems to indicate that the anaphor *himself* can be bound by the DP *he*. This can be explained if the constituent containing the anaphor is reconstructed (i.e. is returned to its base position prior to the operation of binding condition A). Sportiche (2005) presents a convincing proposal that assumes reconstruction in all types of movement. Apparent reconstruction paradoxes with A-movement (i.e. cases where no reconstruction is observed for scope computation or computation of binding principles) are explained as cases where movement of something smaller than a DP (i.e. an NP) has taken place. In other words, these are cases where the

---

[5] However, it creates the problem of moving over an intervening experiencer (see Collins 2005a for a smuggling approach to raising construction involving an intervening dative experience in English).

verbal complement NP has moved to a VP (or CP)-external D-projection (in order to check referential properties). For the examples in (9) this means that the nominal layer of the pronominal merges in the adjectival small clause and subsequently moves cyclically to specTP of the embedded clause and finally to a D projection that is higher than the matrix verb (*seem*). Therefore, reconstruction (i.e. interpretation of some element in some lower position in the derivation) is not possible since the D-layer is not available in that position. This analysis maintains the validity of reconstruction as a test for diagnosing A vs. A' constructions. A-structures are not expected to exhibit reconstruction effects with respect to binding simply because what moves is smaller than a DP.

Returning to Malagasy, Pearson (2001) shows that a predicate-internal actor c-commands an internal theme:

11. a. * n.am.ono.an'ny tena.ny$_i$ ny lehilahy$_i$ ny   zana.ny$_i$
       PST.AT.kill.CT/LNK'D self.3GEN   D   man   D   child.3GEN
       'The man killed himself for his children.'

   b.   n.am.ono.an'ny lehilahy$_i$ ny tena.ny$_i$ ny zana.ny$_i$
       PST.AT.kill.CT/LNK' D man D   self.3GEN   D   child.3GEN
       'The man killed himself for his children.'

In (11.a) we have a reflexive internal actor and an R-expression theme and the sentence is ungrammatical. On the other hand in (11.b) the internal actor is an R-expression and the theme is a coindexed reflexive, and the sentence is grammatical. This shows that the

61

position of the internal actor also c-commands the theme in non active voices. Consider now the following example:

12. a.* amp.i.anar.in'   ny tena.ny$_i$ t$_i$ Rabe$_i$
      CAUS.AT.study.TT/LNK' D self.3GEN   Rabe
      'Rabe teaches himself.'

The reflexive merges in a spec-vP, and is licensed in the linking structure. In this position it c-commands the internal theme (c.f. (11.a-11.b)). The theme moves from its underlying position (i.e. the position it occupies in (11.b)) to the trigger position. In this position the theme c-commands the predicate-internal actor (the reflexive *ny tenany*) and Condition A is satisfied in surface structure. The ungrammaticality of the sentence seems to indicate that the anaphor must have an antecedent in the vP phase. In this sense the trigger position behaves unlike spec-IP in English, and like an A' position (as movement to an A' position does not create new binding possibilities for anaphors).

A further argument against an A-movement account for trigger promotion in Malagasy comes from language development studies (Hyams, Ntelitheos & Manorohanta, to appear; Ntelitheos & Manorohanta 2006). Language acquisition studies have shown that A-chain formation of the sort associated with passives, over an intervening external argument, is a relatively late development (Bever 1970; Maratsos et al. 1985; Borer & Wexler 1987). This is true not only for English but also for languages such as German (Mills 1985), Dutch (Verrips 1996) and Japanese (Sugisaki 1997). On the other hand structures that involve A'-movement (like topicalization in Germanic languages) appear

62

in early stages (de Haan & Tuijnman 1986; Haegeman 1995; Poeppel & Wexler 1993). Hyams et al (to appear) show that Malagasy TT forms are acquired at the very early stages of language development in Malagasy (at 18 months children produce TT forms very frequently) just like topicalization structures. Given the crosslinguistic pattern of late acquisition of passives, the Malagasy data seems to indicate that the derivation of TT sentences does not involve A-movement.

Pearson (2001; 2005; see also Richards 2000) shows that the trigger in Malagasy shares important structural properties with clause-initial topics in V2 languages like German, and proposes an A'-movement account of promotion to trigger. One of the most important topic-like properties of the trigger is that it has to be specific, i.e. it can be a proper name, definite pronoun, or common noun with a demonstrative or definite article, but not a bare noun phrase (Keenan 1976:252-254; Paul 1999, Pearson 2001:19-20):

13.　* n.i.vídy　　boky　　ho an'ny　　mpianatra　mpampianatra
　　　PST.AT.buy　books　for' D　　　student　　teacher
　　　'A/some teacher(s) bought books for the student(s).'

The only way to express indefiniteness of an external argument in the active voice in Malagasy is to use an existential construction with the verb *misy/* 'exist', as in the following example:

14.　　m.isy　　mpampianatra n.i.vídy　　boky　　ho an'ny　　mpianatra
　　　ASP.exist teacher　　　　PST.AT.buy　books　for' D　　　student
　　　'There is/are a/some teacher(s) (who) bought books for the student(s).'

A second topic-like property of the trigger is that it can form topic-chains, i.e. it can be dropped in subsequent clauses when established in previous discourse. Crucially, only the trigger can be dropped and only when the antecedent is also a trigger[6]:

15. a. m.am.angy   an'i   Tenda (izy)
        ASP.AT.visit ACC'D Tenda 3NOM
        'He is visiting Tenda.'

    c. m.am.angy   *(azy) i Naivo
        ASP.AT.visit 3ACC   D Naivo
        'Naivo is visiting him.'

Again, acquisition data provides further support for treating the omitted trigger as topic-drop and not a null subject as in pro-drop languages. A feature of pro-drop language development is that children do not in general omit subjects in non-finite contexts, i.e. pro-drop languages do not have a root infinitive stage (see Hyams et al, to appear, and references therein). However, acquisition data seems to indicate that Malagasy does have a root infinitive analogue which puts the language in the same category as topic drop languages of the Germanic group (see discussion in Hyams et al to appear; Ntelitheos and Manorohanta 2006).

Summarizing, syntactic and acquisition studies show that the trigger in Malagasy shows A'/topic properties including specificity, reconstruction effects, early development, and

---

[6] Travis (2005a) notes that for some speakers omission of predicate-internal arguments is also possible (her VP-ellipsis data is based on one speaker). For most speakers however, the only way to omit an argument that has been established in the previous discourse, is to make this argument the trigger (by adjusting voice morphology) and then drop it from trigger position.

64

formation of topic chains. Pearson (2001; 2005) shares with Guilfoyle et al (1992) the idea that voice morphology on the verb is related to case features, but he assumes that these are features of an A'-chain rather than an A-chain. This makes the operation of promotion to trigger analogous to *wh*-agreement in Chamorro and related languages (c.f. Chung 1998). The difference between Malagasy and Chamorro is that the former contains an A'-position which must be filled (presumably due to an EPP feature), explaining why voice is not confined to the usual A'-chains such as *wh*-movement and relative clause formation. Evidence for the claim comes from the fact that voice and *wh*-agreement behave similarly in long-distance dependencies. Movement of a trigger in Malagasy or a *wh*-phrase in Chamorro from an embedded clause triggers agreement to the embedded verb, while the agreement/voice on the matrix verb is fixed by the function of the embedded clause as a whole (for further discussion see Pearson 2005:409-412).

Pearson (2005) treats voice affixes as functional heads associated with case-checking that emerge overtly only when the specifier of the projection they head is null (i.e. a trace of a null operator coindexed with the left-peripheral trigger). The AT prefix *m-* spells out the nominative case-checking head, the TT suffix *-in* spells out the accusative case-checking head, while *-an* (found on the CT form and certain TT forms) is treated as an applicative morpheme associated with the higher V head. The following tree presents the underlying structure assumed in Pearson (2005; see discussion following the tree for an explanation of the different labels):

16.

```
                        TopP
                      /      \
                  WhP      . DPi_TRIGGER
                 /    \
              Opi     TP
                     /   \
                    EP
                  /    \
               m-      vP
               -ny    /   \
                    ApplP
                   /     \
                 -an     AspP
                        /    \
                      -in     VP
                     an-; i-
```
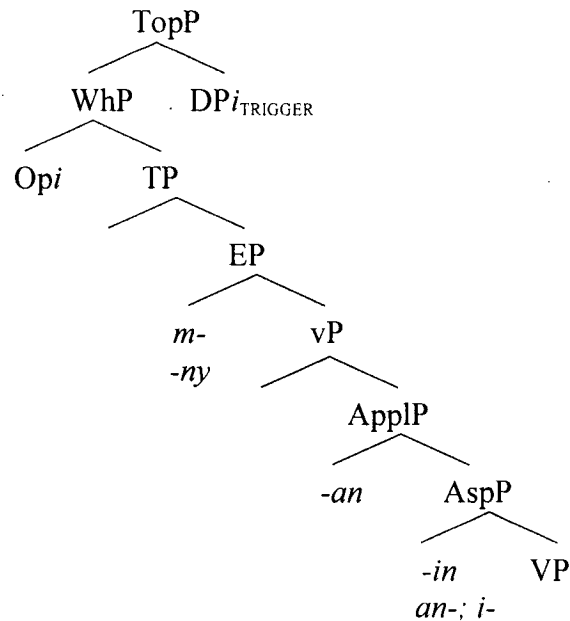
The prefixes *an-*; *i-* and the TT suffix *–in*, merge in AspP (a lower aspectual projection associated with transitivity/telicity) and are assumed to license accusative case. The prefixes have a weak feature that licenses the theme in situ assigning accusative case (case under Agree in Chomsky's (1995) terms). The TT suffix *-in* has a strong feature which requires movement of a null operator to spec-AspP where it is assigned (abstract) accusative case (in later theoretical terms this movement may be triggered by an EPP feature on AspP which attracts the highest DP). The operator subsequently moves to spec-WhP (the left peripheral projection that is the locus of the [wh] feature). Movement is triggered by the need of the operator to check a *wh* feature. The trigger is base-generated in spec-TopP and is formally licensed by coindexation with the moved operator in spec-WhP (which explains the reconstruction effects observed in (12)). Spec-TopP projects to the right of the head as in Guilfoyle et al in order to derive final word order.

However, Pearson (2001) espouses an antisymmetric structure, with a left specifier in TopP and additional movement of the predicate to some clause-initial position.

In a similar fashion, the CT suffix *an-* licenses a null operator that encodes an instrument, location, or other oblique. The oblique null operator is case-licensed in a low ApplP, the locus of CT morphology, and the rest of the derivation proceeds as before. EP (or EventP), a higher aspectual projection associated with the event-initiator, hosts the linker *-n(y)* or the AT prefix *m-*. As with AspP, the way the derivation proceeds is related to the features encoded in EP. The linker has a weak feature that allows for the agent to be case-licensed in situ, while the prefix *m-* has a strong feature that attracts the agent null operator with subsequent movement to spec-WhP. The correspondence of specific voice affixes with triggers encoding specific thematic roles is attributed to an interplay of case licensing in situ or in case licensing positions and the weak/strong distinction on the featural content of voice morphology and the linker. The fact that certain surface structures are not possible (for example a strong *m-* prefix with an overt element in its specifier or the applicative suffix *-an* with an overt oblique) is attributed to a generalized version of the doubly-filled comp filter (Koopman 1996; Koopman and Szabolcsi 2000) which states that when a feature is expressed by a head H^0 or a phrase XP in spec-HP, H^0 and XP cannot both carry overt material at the end of the derivation. The mechanism that Pearson implements for the structure-building mechanism in Malagasy clauses treats voice morphology as a type of wh-agreement of the sort found for example in Chamorro (c.f. Chung 1998).

As discussed in Chapter 1, no covert movement is assumed in the framework adopted here and therefore the analysis in terms of weak/strong features proposed by Pearson cannot be adopted. Furthermore, certain constituency problems discussed in detail in Section 2.1.3 force a somewhat different view of phrase structure than the tree in (16) represents. I will discuss these issues and return to a fine tuning of Pearson's analysis, after introducing a more detailed description of Malagasy morphosyntax in both the verbal and nominal domains.

2.1 Malagasy Morphology

2.1.1 The Verbal Domain

In order to understand better how voice morphology works, it is essential to discuss in more detail the properties of the different morphosyntactic atoms that are involved in the proposed derivations. Malagasy has a rich inventory of mainly prefixal verbal morphology that has transparent semantics in that the semantic contribution of each morpheme is easily accessible within the verbal complex. However, views of the exact contribution of each morpheme diverge in different approaches, and different labels have been used in traditional grammars and later theoretical studies to pinpoint the categorial label of each morpheme. In the following section I will attempt to provide a categorization of the different morphemes and try to isolate their individual lexical properties in order to facilitate the subsequent discussion.

68

2.1.1.1 Voice

A central aspect of the Malagasy morphological inventory is the voice system. As we have seen, Guilfoyle et al (1992) and Pearson (2001; 2005) (c.f. also Paul 1999) take voice morphology to be related to the formation of case chains of the A or A' type. In other accounts voice morphology has a verbalizing function, i.e. makes a root verbal (c.f. Keenan 2005, where affixation of voice morphemes is effected by a morphological function which maps roots to verbs) or the opposite function of nominalizing verbal roots and deriving equational clauses (i.e. Starostra et al 1982). In the approach adopted here, verbalization takes place lower in the structure, through null or overt verbalizers (see discussion below on the status of the prefix *a-* in AT verbal forms). Voice heads are related to licensing of particular verbal dependants (arguments or obliques). However, the idea that some part of the Malagasy clause has nominal properties will also be explored but will be attributed to higher linking elements and not to voice morphology (as in Starostra et al 1982).

The traditionally termed 'active voice' in Malagasy is formed by attaching one of three overt or one null prefixes to a root, followed by secondary prefixation of aspectual/tense prefixes. This morphology corresponds to promotion of the external argument (actor/experiencer) to trigger and is labeled Actor Trigger (AT) morphology. The overt voice prefixes are *an-*, *i-*, and *a-*. The latter seems to have a straightforward distribution – it attaches to nominal roots and derives stative verbs that are interpreted roughly as 'BE in state NP':

69

17.

ROOT	GLOSS	AT-FORM	GLOSS
loto	'dirt; filthiness'	m.a.loto	'be dirty; lit. *be in dirt*'
rary	*ill	m.a.rary	'be sick'
tahotra	'fear; terror'	m.a.tahotra	'be afraid'
rofy	'illness'	m.a.rofy	'be ill'
rikoriko	*nausea	m.a.rikoriko	'be disgusted'
ratra	'wound; injury'	m.a.ratra	'be wounded'

Most of these stative verbs double as predicative adjectives, either modifying a noun phrase as in (18.a) or as predicates in a copular structure (18.b) (with variable tense specification in both cases). In this function they behave formally like relative clauses (as the gloss of (18.a) indicates; see also Chapter 4):

18. a. hita.ko   ny ankizy   n.a.ratra
         see/TT.1SG/GEN   D children PST.AT.injury
         'I saw the previously injured children. (lit. *'I saw the children (who were)*
         injured. ')

    b. n.a.ratra   ny ankizy   omaly
        PST.AT.injury   D children yesterday
        'The children were injured yesterday.'

Thus, *a-* acts as a head which verbalizes a nominal predicate, allowing it to combine with aspectual and tense morphology. This can be represented in the following derivation, (following a raising analysis of relative clauses as in Kayne 1994):

70

19.

```
                    DP
                  /    \
               ny       CP
              'the'    /   \
                     DP     TP
                   ankizy  /  \
                 'children'  /  \
                          n-    ...vP
                        [PAST]  /  \
                              /      \
                            a-      XP = STATE
                                   /    \
                                 t_DP    /  \
                                       NP
                                      ratra
                                     'injury'
```
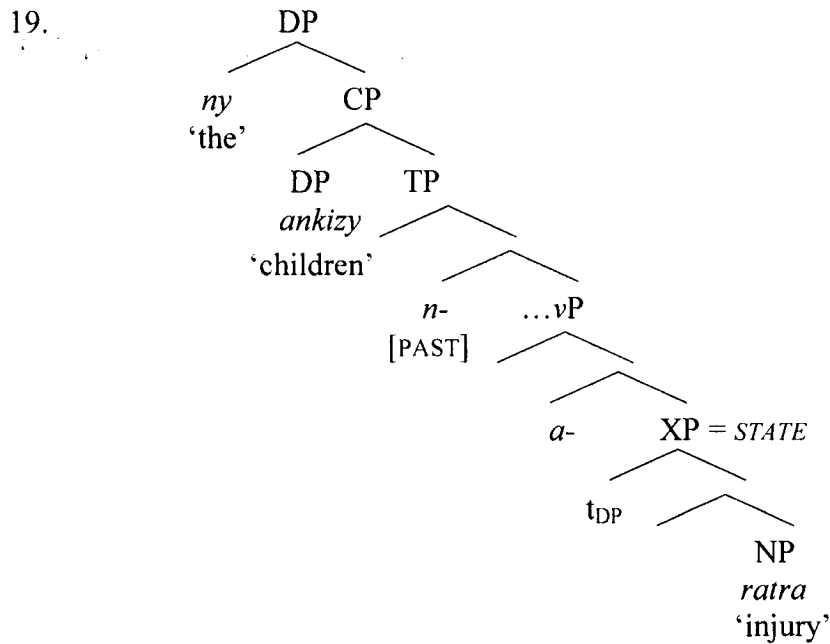
In (19), a nominal predicate is selected by the verbalizer *a-* to form a stative predicate that can subsequently be selected by tense morphology to form an inflected verb. The subject of the small clause moves to the specifier of a CP, which is selected by D, forming a relative clause structure.

The null AT morpheme appears with vowel initial roots (so this seems to be a listed property), as in the following examples:

20.

Root	AT-form	Gloss
ety	m.Ø.ety	'to agree'
isy	m.Ø.isy	'to exist'
ody	m.Ø.ody	'to go home'
onina	m.Ø.onina	'to reside'

One can argue here that these forms have AT prefixes that are deleted because the root starts with identical vowels. For example *misy* may be formed by adding the AT prefix *i-*

71

to the root and subsequently deleting it to avoid the hiatus. I believe that this is not the case for two reasons. First of all, such a hiatus is not in general forbidden in the language. The TT prefix *a-* can be added to an [a]-initial root and not be deleted: *a-* + *akatra* (go up) → *aakatra* (be gone up) (c.f. Keenan and Polinsky 1998: 587). Secondly, there are some roots that contain initial vowels which are different from the AT prefixes (e.g. *monina, mety*) and they still take aspectual/tense prefixes directly. Therefore we can assume that there is no intermediate step of adding AT morphology with subsequent phonological deletion. A more plausible explanation (assumed in traditional and later literature (c.f. Keenan & Polinsky 1998: 598), is that there is in fact an AT morpheme in these roots, but it is null. Or, put differently, the syntactic node that carries the relevant feature has no overt phonological item assigned to it at spell-out. This is in agreement with assumptions in the Distributed Morphology framework (Halle & Marantz 1993), that take certain roots (or stems) to cooccur obligatorily with a node that has no vocabulary item inserted at spell-out. For example, certain verbs in English select for null tense (e.g. the verb *hit* forms the past tense as *hit* with no overt tense morphology). These roots are listed and they have to be learned by the child in the acquisition process. The Malagasy forms of (20) will become relevant in the discussion of *f*-nominals with respect to the possible heights in structure at which the nominalizer can attach (Section 3.8).

The remaining two AT prefixes have received considerable attention in morphosyntactic studies of Malagasy (see especially Keenan and Polinsky 1998). While *a-* and Ø select for a closed class of roots with no overlapping distribution, *an-* and *i-* select for sets of

roots that intersect. The interesting generalization is that when *an-* and *i-* both attach to the same root, the stem formed by prefixation of *an-* almost[7] always has greater valency than the stem formed by prefixation of *i-*. Some examples are provided in (21):

21.

ROOT	GLOSS	i-FORM	GLOSS	AN-FORM	GLOSS
latsaka	'dirt; filthiness'	m.i.latsaka	'fall'	m.an.datsaka	'drop'
sasa	*ill	m.i.sasa	'wash oneself'	m.an.asa	'wash sthing'
seho	'fear; terror'	m.i.seho	'appear'	m.an.eho	'show'
petraka	'illness'	m.i.petraka	'sit'	m.am.etraka	'put'

In general *an-*prefixed roots are transitive – all ditransitive verbs are formed by prefixing an-: *ome* → *manome* 'give'; *tolotra* → *manolotra* 'offer'; *solo* → *manolo* 'substitute'; and so on. Examples of other transitives include *hataka* → *mangataka* 'ask for'; *vono* → *mamono* 'hit, kill'; *aikitra* → *manaikitra* 'bites'; and so on. On the other hand *i-*prefixed verbs are predominately intransitive: *tsiky* → *mitsiky* 'smile'; *joro* → *mijoro* 'stand up'; *poaka* → *mipoaka* 'explode'; *fono* → *mifono* 'apologize'. This is not however a full empirical generalization. There are numerous cases of *an-*prefixed unaccusative and unergative intransitive and *i-*prefixed transitive verbs: *leha* → *mandeha* 'go'; *dihy* → *mandihy* 'dance'; *lainga* → *mandainga* 'lie'; *hetaheta* → *mangetaheta* 'be thirsty'; *fidy* → *mifidy* 'choose'; *vidy* → *mividy* 'buy'; *kapoka* → *mikapoka* 'beat'; and so on. Given the above variation in the distribution of the two affixes, an approach in which they encode exclusively transitivity distinctions cannot be maintained. In other words, *an-*

---

[7] There are some roots that form stems with equal valency with both *an-* and *i-* prefixes , with somewhat idiosyncratic meanings. Some examples include *tsongo* → *mitsongo* 'pick (e.g. flowers)', *manongo* 'pinch (e.g. people)'; *tendry* → *mitendry* 'pluck (e.g. a guitar)', *manendry* 'point out; designate'; *sidina* → *misidina*, *manidina* 'fly through the air'; *tsiry* → *mitsiry* 'produce offshoots', *maniry* 'grow (of plants)'.

cannot be assumed to head a projection related to causativity/transitivity, especially given the fact that unaccusative verbs such as *maniry/* 'grow' (of plants), are formed with *an-*.

Prefixation of *an-* to an adjectival root seems to add an extra argument to the structure of the verbal complex and thus it seems to be related somehow to causation (examples from Pearson 2001):

22. a. feno ny tavoahangy
         full D bottle
         'The bottle is full.'

    b. m.am.eno   ny tavoahangy ny lehilahy
        ASP.AT.fill D bottle   D man
        'The man is filling the bottle.'

The situation is further complicated by the fact (observed in Keenan 2005) that prefixation of *an-* triggers phonological alternations to the initial segments of the root (most prominently deletion of stops or mutation and nasalization of other segments; see Keenan & Razafimamonjy 1996 for details). On the other hand, addition of *i-* has no phonological effect on the root and thus derives stems that are more easily recoverable phonologically by the speaker/learner. This points towards a preference to form new stems using *i-* rather than *an-*, a preference that is manifested in the fact that borrowings are productively formed by using the *i-* prefix[8]: e.g. *miparticiper* 'participates'; *mipipi* 'do pipi'; *mikaka* 'do kaka'; and so on. This in turn points towards *i-* as the elsewhere (i.e. default) choice.

---

[8] Thanks to Hilda Koopman for pointing this out to me; c.f. also Keenan 2005.

74

I propose that the two affixes spell out the head of a Voice projection which licenses the highest (present) argument of the verb. In cases of causative/transitive verbs this is the external argument. In cases of unaccusatives this is the sole argument of the verb. The structure then is built as follows: a free root is selected by a light verb/verbalizer (heading vP) that alters the categorial status of the root. This verbalizer can be overt (as in the case of the prefix *a-*), or null as in the cases of *an-*, *i-* and *Ø* prefixation. The resulting string is selected by one of the AT prefixes *an-*, *i-* or *Ø*, and forms a stem that can be additionally inflected for aspect, and tense. The highest argument of the verbalized string moves to spec-VoiceP$_{AT}$ (or alternatively an additional argument (i.e. a Causer) merges in this position):

23.
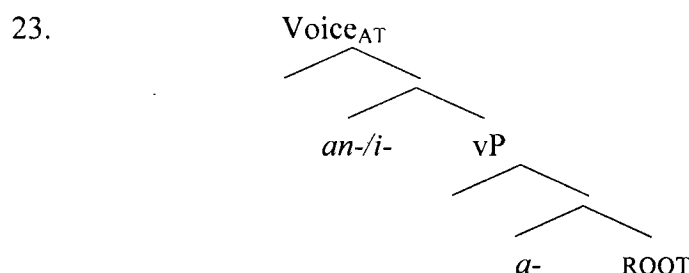
Under this proposal, *an-*, *i-*, and *a-* do not spell out the same head, as assumed in traditional grammars, where they are all treated as AT prefixes (c.f. also Keenan and Polinsky 1998), but define a finer region of the verbal domain, in 'cartography' terms. The choice of head in VoiceP$_{AT}$ is lexically determined in most cases, but spell-out as *i-* or *an-* may be associated with a number of features (for example [±CAUSE], [±ANIMATE])

75

in Voice$_{AT}$, or in a proximate separate functional head[9]. The claim that *an-/i-* and *a-* head different projections is supported by the fact that the two heads can co-occur. Take for example the nominal root *lemy/* 'softness; the soft part'. This can be verbalized by adding the prefix *a-*, yielding *malemy/* 'be soft'. If we want to make this stative verb into a transitive (by adding a causer argument), we need to add the Voice$_{AT}$ prefix *an-* (as we have seen in the example in (22)). Thus we have *manalemy* / 'to soften/weaken; to cause to be soft'. Direct selection of the nominal root by the Voice$_{AT}$ prefix is impossible: **mandemy*. Thus, there is clear evidence that *an-* and *a-* head different projections since they can co-occur.

The fact that *i-* and *an-* spell-out a Voice head with different featural content (i.e. *i-* does not have a [+CAUSE] feature), is supported by the following fact. Malagasy verbal morphology includes a reciprocal prefix *if-* that attaches outside AT morphology but below aspect/tense morphology and adds a reciprocal meaning to the interpretation of the verb, binding a silent argument as in the following examples (c.f. Keenan & Razafimamonjy 2004):

---

[9] The idiosyncratic selection of AT prefixes is supported by the fact that certain roots select for one or the other. As we have seen in the few cases that both can be selected, *an-* usually (but not always) signals transitivity. There may be other factors that determine which of the two is used such as animacy (for example from the pairs of forms that are formed by either *an-* or *i-* and have the same valency (c.f. footnote 5), *an-* predominately denotes an action initiated or directed to [+animate] participants. The pattern (or lack of) brings to mind the parallel idiosyncratic choice of the Tagalog AT affixes *mag-* and *–um-*. In some cases *mag-* signals transitivity while *-um-* intransitivity: e.g. *init* 'hot' → *um.init* 'be/become hot'; *mag.init* 'heat'. In other cases *mag-* adds a causer as in *bili* → *b.um.ili* 'buy'; *mag.bili* 'sell'. But in numerous other cases *mag-* simply indicates greater frequency or intensity of the action denoted by the verb, as in *basa* → *b.um.asa* 'read'; *mag.basa* 'read regularly, study'; and so on (data from Himmelmann 2005a).

24. a.　m.an.enjika　　an-dRabe　Rakoto
　　　　ASP.AT.chase　ACC-Rabe　Rakoto
　　　　'Rakoto is chasing Rabe.'

　　 b.　m.if.an.enjika　　　Rabe sy　Rakoto.
　　　　ASP.REC.AT.chase　Rabe and　Rakoto
　　　　'Rabe and Rakoto are chasing each other.'

As we can see in (24.b) the reciprocal prefix *if-* may co-occur with the AT prefix *an-*.

However, when a reciprocal is formed on a stem that has the *i-* prefix, an additional

prefix *amp-* must be inserted between the AT prefix and the reciprocal, as in the

following example:

25. a.　m.i.jery　　　azy　　　aho.
　　　　ASP.AT.look　3SG/ACC 1SG/NOM
　　　　'I am looking at him.'

　　 b. * m.if.i.jery　　　isika.
　　　　ASP.REC.AT.look　1PL(INCL)/NOM
　　　　'We (you and I) are looking at each other.'

　　 c.　m.ifamp.i.jery　　isika.
　　　　ASP.REC.AT.look　1PL(INCL)/NOM
　　　　'We (you and I) are looking at each other.'

This is very surprising, given that the reciprocal can attach to a verb prefixed with *an-*.

There seems to be no immediate reason for why verbs prefixed with *i-* should resist

attachment of reciprocal morphology directly. This seems to be a case of 'selection' – i.e.

whatever heads participate in the reciprocal morphology must require the prefix *an-* in

their local environment. In other words, *i*-prefixed verbs do not have what is minimally

required to form a reciprocal.

Reciprocal morphology entails the manifestation of two sub-events in the event structure of the verbal complex: the first sub-event involves some action or experience initiated by a duplet of 'event originators' or actors, while the second sub-event indicates that the action or experience affects the same two actors/experiencers. Thus, the first sub-event must contain a [+CAUSE] feature. This is provided directly by the prefix an- in the example of (24.b) but is missing in the *i*-prefixed verb of (25.b). Therefore, some additional layer, providing the missing cauation has to be provided. Given that *amp-* is an independent causative morpheme, the natural assumption is that *i*-prefixed verbs must first be selected by a causative head. The causative prefix *amp-* can be decomposed as the Voice$_{AT}$ head *an-* plus the nominalizer *f-* (c.f. Hung 1988; Travis 2000; Paul 1996a; see detailed discussion and supporting arguments in Section 3.3.2). This causative is used in all cases where additional causers are introduced in the structure (i.e. sequences of two Voice$_{AT}$ heads without intervention of the nominalizer *f-* are not allowed: **manangalatra/* 'cause to steal' (c.f. *mampangalatra*)). If this is on the right track, the reciprocal affix always selects for VoiceP$_{AT}$, headed by *an-*, which introduces a [+CAUSE] sub-event. The assumption is further supported by the fact that *a*-prefixed stems (i.e. stative stems), which take the alternative causative *ank-*, also require *ank-* before the addition of the reciprocal (where *ank-* can again be decomposed to the VoiceP$_{AT}$ prefix *an-* plus the nominalizer *h-* that selects productively for stative, *a*-prefixed stems) :

26. a.   n.a.hita   an-dRabe   Rakoto.
         ASP.AT.see   ACC-Rabe   Rakoto

78

'Rakoto saw Rabe.'

b. n.ifank.a.hita   Rabe sy Rakoto
ASP.REC.AT.see   Rabe and Rakoto
'Rabe and Rakoto saw each other.'

Let us assume then that *an-* and *i-* head VoicePs with different flavors: *an-* heads a VoiceP with a [+CAUSE] feature while *i-* simply heads a VoiceP as the elsewhere case.

Non-AT voices in Malagasy are mainly formed by suffixation of *–an* or *–in*[10], or prefixation of *a-* (Keenan & Polinsky 1998; Paul 1999; Pearson 2001, 2005). The suffix *–in*, and sometimes *–an*, form Theme Trigger (TT) stems which correspond to the promotion of the theme to trigger. More productively, *-an* forms Circumstantial Trigger (CT) stems that correspond to the promotion of additional arguments (instrumental, benefactor, locatives) to trigger, or promotion of obliques/adjuncts (manner, reason, time) to other A' positions (focus, topic, and so on). I will follow Pearson (2001, 2005) in assuming that *–an* licenses these additional arguments, but following the theoretical assumptions fleshed out in Chapter 1, I will assume that *–an* merges above VoiceP$_{AT}$ in a voice projection that I will call VoiceP$_{CT}$. This is supported by the fact that the head of VoiceP$_{CT}$ is always *–an*, irrespective of the root, while the head of VoiceP$_{AT}$ is determined by the root. For example from the root *vidy/* 'price; value' we can derive *m.i.vidy/* 'to buy', but not **mamidy* (*m.an.vidy*). Consequently, the CT form of the verb is

---

[10] In traditional grammars these suffixes are listed as *–ina* and *–ana*. I will follow here Erwin (1996), who treats the final [a] as an epenthetic vowel which is nonmoraic for purposes of stress assignment (and thus addition of the suffixes triggers stress shift on the verbal stem).

ividiana and not **amidiana* (*an.vidi.an*). Thus, by compositionality the structure must be [[VoicePₐₜ ROOT] VoiceP_CT].

The function of VoiceP_CT is to provide a case position (KP) for the oblique. This is in agreement with the standard assumption in both Guilfoyle et al (1992) and Pearson (2001, 2005) where voice morphology case-licenses verbal dependents. However, the structural configuration where case is assigned is somewhat different from the above approaches and in accordance with Kayne (1994, 2000) and Cinque (2002). In the structure assumed here, the DP merges in a VP-shell in the thematic domain and then moves to spec-KP_CT, which is immediately dominated by VoiceP_CT. VoicePₐₜ is stripped by the rest of its arguments which move to licensing positions (LP(xp) in Koopman and Szabolcsi 2000)) and it subsequently moves to the specifier of VoiceP_CT:

27.
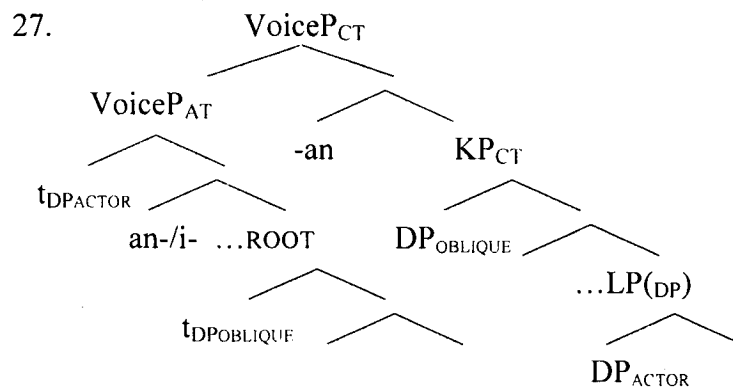
The structure in (27) is a sub-case of the general predicate-inversion mechanism discussed in Chapter 1 and complies with the assumptions in Chapter 1 about the organization of affixal morphology in the syntactic component. The VoiceₐT prefix *an-/i-*

80

remains in preverbal position while movement of VoiceP$_{AT}$ to spec-VoiceP$_{CT}$ brings the CT suffix –*an* to postverbal position. Thus, the linear order of the syntactic atoms is read directly from the structure, in accordance with the Linear Correspondence Axiom (Kayne 1994). Clearly this results in more complex structures than a head-movement account would derive but the advantage is a transparent interface with the phonological component. Linear order is fixed in the syntactic component and phonology simply assigns phonological values to the terminal nodes at Spell-out. The structure in (27) is further selected by the linker, which fixes the case requirements of the stranded actor (see Section 2.1.3 for details).

Notice that when Voice morphology is not present the argument is licensed in a similar structural configuration by a prepositional complementizer (in the sense of Kayne 2000; Cinque 2002). That is, the preposition occupies the same position as VoiceP$_{CT}$ and provides a case position for the oblique:

28.

VoiceP$_{AT}$

t$_{DP_{ACTOR}}$

an-/i- ...ROOT

t$_{DP_{OBLIQUE}}$

amin

KP$_{PP}$

DP$_{OBLIQUE}$

...LP$_{(DP)}$

DP$_{ACTOR}$

PP
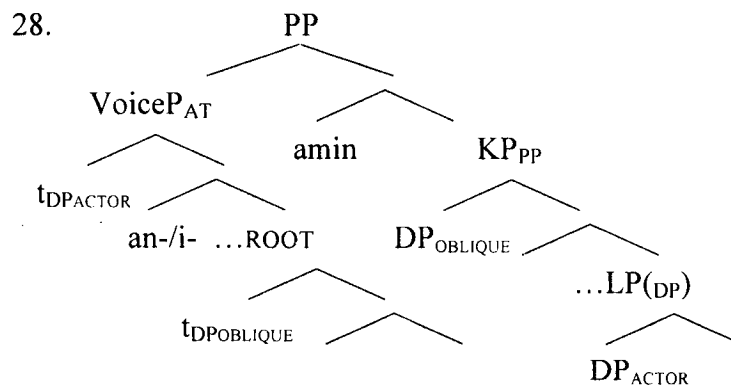
The difference is that after inversion over the preposition, VoiceP$_{AT}$ moves to higher projections and does not pied-pipe PP. Such an analysis views circumstantial voice morphology as a type of 'incorporation' of the preposition to the verbal complex (see also Pearson 2001 for a similar idea).

Turning now to the Theme Trigger voice suffix –*in*, in Guilfoyle at al (1992) it enters the derivation as high as I(nfl)P and case marks the internal actor in situ (in spec VP (*v*P)). Pearson (2001; 2005), on the other hand, adheres to the fact that the AT prefixes and the TT suffix –*in* are in complementary distribution, and positions –*in* in AspectP, below vP. However, complementary distribution by itself is not a sufficient argument for assuming single functional heads for distinct morphosyntactic atoms. Furthermore, there is an empirical problem with Pearson's assumption. Certain TT forms are formed by suffixing –*in* to a verb stem that already contains an AT prefix. For example the root *halatra* 'steal', forms the AT voice via attachment of the AT prefix *an-* (*angalatra*). The TT form is derived via affixation of –*in* to the AT stem (*angalarina*). This is also true for ady → *miady* 'to fight' → *iadina*; *hataka* → *mangataka* 'asks' → *angatahina*. It must be therefore, that the TT voice suffix merges higher than the AT prefixes and at least as high as VoicePCT but that it selects for a VoiceP with a null AT affix (but in a handful of cases allows for an overt AT affix to appear). Let us call this projection VoicePTT and assume for the moment that it merges at the same level as VoicePCT (the complementary distribution argument works better here as there are absolutely no cases where the two

82

suffixes *–in* and *–an* appear together on the same stem). This gives us the following linear order of heads for the different voice affixes (c.f. also Koopman 2005b):

29.   Actor Trigger (AT):   Voice$_{AT}$ v/VP ....
        Theme Trigger (TT)   Voice$_{TT}$ v/VP ....
        Circumstantial Trigger (CT): Voice$_{CT}$ Voice$_{AT}$ v/VP ....

I will not discuss here the remaining TT affixes – the prefix *a-* and the aspectual affixes *voa-* and *tafa-* but will provide some details of their distribution when they become relevant for the discussion of *f*-nominalizations (see Section 3.1.3). A more detailed discussion can be found in (Keenan & Polinsky 1998; Travis 2005b).

2.1.1.2 Tense and the status of the prefix *m-*

Traditional Malagasy grammars (e.g. Rajaona1972; Rajemisa-Raolison 1971) list three tense prefixes for the language: *m-* (allomorph Ø) for present tense, *n* (allomorph *no-*) for past tense, and *h-* (allomorph *ho-*) for future/irrealis. They are illustrated in the following examples:

30. a. **m**.amp.i.anatra   teny   gasy   an-dRasoa Rabe
        ASP.CAUS.AT.study   language Malagasy   ACC.Rasoa Rabe
        'Rabe teaches/is teaching Malagasy to Rasoa'.

    b. **n**.amp.i.anatra   teny   gasy   an-dRasoa Rabe
        PST.CAUS.AT.study   language Malagasy   ACC.Rasoa Rabe
        'Rabe taught Malagasy to Rasoa'.

    c. **h**.amp.i.anatra   teny   gasy   an-dRasoa Rabe
        FUT.CAUS.AT.study   language Malagasy   ACC.Rasoa Rabe
        'Rabe will teach Malagasy to Rasoa'.

83

31. a. vid.in-dRabe   ny boky vaovao
       buy.TT/LNK-Rabe D book new
       'Rabe is buying the new book.'

    b. **no**.vid.in-dRabe   ny boky vaovao
       PST.buy.TT/LNK-Rabe D book new
       'Rabe bought the new book.'

    c. **ho**.vid.in-dRabe   ny boky vaovao
       FUT.buy.TT/LNK-Rabe D book new
       'Rabe will buy the new book.'

In (30.a-30.c) the vowel-initial AT stems take *m-*, *n-*, and *h-* to form present (habitual or imperfective), past and future forms respectively. In (31.a-31.c), with a consonant-initial TT form the equivalent prefixes are Ø, *no-* and *ho-*. While the allomorphy between *n-/no-* and *h-/ho-* is phonologically determined (depending on whether the first segment of the stem is a vowel or a consonant), the alternation between *m-* and Ø for present tense is peculiar. As far as I know, crosslinguistically there seem to be no tense morphology alternations conditioned by voice morphology on the verb[11]. The alternation cannot be determined by phonological requirements because in CT clauses the present tense is also marked with Ø, even though the stem-initial segment is a vowel:

32. a. anoratran-dRabe   ny taratasy ny penisily vaovao
       AT.write.CT/LNK-Rabe D letter   D pencil   new
       'Rabe is writing the letter with the new pencil.'

The obvious argument for treating *m-* as a present tense marker is the fact that it is in complementary distribution with the other two tense markers in AT verbal stems.

---

[11] This would predict the existence of a language that always marks, for example, passive voice with past tense and active voice with present tense.

84

However, the peculiarities noticed above seem to suggest that present tense is marked with Ø in all cases and that the morphosyntactic/semantic status of *m-* must be non-tense related (Builles 1988; Travis 2000; Pearson 2001, 2005). A further argument for this comes from the fact that, while tense morphology in general does not appear in the formation of imperative forms of the verb (in neither active nor non-active voices), *m-* appears obligatorily when the AT imperative form is derived (c.f. Koopman 2005b):

33. a. m.am.aky   boky   izy   b.   m.am.aki.a   boky
        ASP.AT.read   book   3/NOM   ASP.AT.read.IMP   book
        'She is reading/reads a book'   'Read a book!

    c. no.vak.in-dRabe   ny boky   b.   vaki.o   ny   boky
        PST.read.TT/LNK-Rabe   D book   read.TT/IMP   the   book
        'Rabe read the book.'   'Read the book.'

Since tense is impossible with imperatives (c.f. (33.d), and since the imperative of AT forms is derived by attaching the suffix –*a* at the end of the verb stem (plus stress shift rightwards – see Koopman 2005b), the co-occurrence of *m-* with the AT imperative cannot be explained if *m-* is a tense marker.

The question that arises then is what the status of *m-* is in the syntactic structure and what its semantic contribution is. Keenan & Polinsky (1998:592) observe, the tendency of traditional grammarians to represent AT prefixes with the *m-* attached to the Voice$_{AT}$ prefix (i.e. *mi-*, *man-*, *ma-*, and *m-*) and take this as evidence of the speakers' intuitions that *m-* constitutes part of AT morphology. However, the fact that *m-* is missing from CT forms while the rest of AT morphology (i.e. the prefixes *an-/i-/a-*) are present indicates

85

that we are dealing with two different syntactic heads. An alternative would be to assume that *m-* is an aspectual/participial head (possibly similar to English present participle suffix *-ing*). This would entail that addition of *m-* to a VoiceP_AT, would attract the external argument to the specifier of the projection headed by *m-*. English present participles are always interpreted as agentive (e.g. *kicking man* = 'man (who) kicks' and not '*man (who) is kicked'). The participial character of *m-* is supported by a number of facts. Firstly, *m-*prefixed verbs are naturally translated as verbs with progressive aspect in English. Secondly, predicates prefixed with *m-* are used naturally to modify noun phrases, and thus have a similar function to *-ing* participles in English (example from *Ilay Kintara Mamirapiratra*, Rajohanesa 1963):

34. a. indro nisy   lehilahy m.i.satroka volotsangana sady m.an.ao
        here PST.be   man   ASP.AT.hat bamboo   and ASP.AT.have
        palitao fotsy sy   pataloha mainty, ary m.i.kiraro   mainty
        coat   white and pants   black, and   ASP.AT.shoe   black
        'There was a man wearing a bamboo hat (lit. *hatted bamboo*), and having white coat and black pants, and black shoes (lit. *shoed black*).'

Notice in (34.a), that while the main existential verb is marked with past tense, the modifying clauses (arguably reduced relative clauses) contain verbs marked with the aspectual marker *m-*, and not the past tense marker *n-*. In fact, introducing verbs in the past tense would result in ungrammaticality. This distribution of *m-*strings converges with the fact that they productively form clausal nominalizations and headless relative clauses (as discussed in detail in Chapter 4).

Summing up, the data seems to indicate that *m-* is not a tense marker but rather an aspectual marker (like the English suffix *–ing*), which introduces a type of participial clause (arguably a reduced relative). The function of *m-* is to provide a specifier for the external argument. This explains why *m-* is present only in AT clauses, in which the external argument is promoted to the trigger position. The analysis predicts a complementary distribution between *m-* and the linker *–n* (c.f. Pearson 2001, 2005). This is because both morphosyntactic atoms are related to the licensing of the external argument. The linker *–n* co-occurs with non-active voice heads (VoiceP$_{CT}$ (which contains VoiceP$_{AT}$) and VoiceP$_{TT}$) and provides a case projection for the external argument. On the other head, *m-* co-occurs strictly with VoiceP$_{AT}$ and licenses the external argument in its specifier. This, resembles the system of linkers and relators in the work of den Diken (2006).

I will assume that *m-* acts as a linker, in the sense of den Dikken (2006), i.e. like a special type of complementizer that appears with subject extraction. In den Dikken (2006) linkers/relators can function in one of two ways: they can license the subject of a predicate in their specifier or they can trigger predicate inversion over the subject:

35. a. [$_{LnkP}$ SUBJECT [LINKER [t$_{SUBJECT}$ [PREDICATE]]]]
    b. [$_{LnkP}$ PREDICATE [LINKER [SUBJECT [t$_{predicate}$]]]]

Under the analysis adopted here *m-* falls under the configuration in (35.a). It attracts the actor from spec-VoiceP$_{AT}$ in its specifier while the predicate remains in situ. The actor

subsequently moves to the left periphery to check a [+TOPIC] feature with the TP raising over it to a clause initial position, resulting in final V-O-Trigger order (see Section 2.1.4 for a discussion of how final word order is achieved). In den Dikken's approach linkers are purely functional elements without semantic contribution. I argue here that *m-* is in fact an aspectual head. Pearson (2001, 2005), following Travis (2000), argues that *m-* heads EventP, i.e. the projection which closes off the event variable and which case-licenses the external argument in its specifier. I will follow this line of thought assuming that *m-* heads a projection that licenses volitional entities. In other words, m- is present when the entity promoted to trigger has some sort of control over the event. In other words LnkP is related to the initiation of the event, and therefore the actor/originator of the event (in Borer 1994 an equivalent projection is labeled Asp*OR*P, where *OR* stands for "originator"). In Cinque's (1999) hierarchy of functional projections this could be 'Mod-Volitional', the projection that hosts adverbs like *willingly* in English or functional (restructuring) verbs like *want*. Support for this assumption comes from the fact that when *m*+AT morphology appear on the verb in Malagasy, the trigger is predominately [+ANIMATE]. The only exception to this are intermediary instruments (or tools), i.e. instruments that '*are able to perform the action in some sense autonomously*' (Levin & Rappaport, 1988). Compare for example the intermediary instrument of (36.a) to the facilitating instrument of (36.b):

36. a. m.am.oha   an'i   Koto ny lakolosy
        ASP.AT.wake   ACC' D   Koto D bell
        'The bell is waking Koto.'

88

b. * m.an.ondraka tsara ny voninkazo ny rano
   ASP.AT.water good D flower   D water
   'Water waters flowers well.'

Thus, *m-* licenses either [+ANIMATE] arguments or arguments that can act autonomously (in some sense) and thus may be construed as event-initiators.

Returning to the structures in (35), the configuration in (35.b) is also available in Malagasy (with some additional structure, containing an additional case (KP) projection as discussed in section 1.1.1). I will discuss this configuration in more detail in Section 2.1.3 where it will be claimed that it also forms a type of participial clause. However, it is necessary first to explore nominal morphology in some detail as it will be important in the discussion of nominalizations.

2.1.2 The Nominal Domain

Compared to the rich morphology of the verbal domain, the nominal domain appears morphologically impoverished in the language. There is no overt morphology on common nouns (apart for a few exceptions with proper names) or agreement morphology on nominal modifiers that encodes distinctions in gender, case, or number features. Similarly, there is no phi-feature agreement between the verb and its nominal arguments. The only domain where phi-features are manifested via overt morphology is the pronominal system, including personal pronouns and demonstratives, which are the only

89

elements showing plural agreement. These elements are clearly multimorphemic, as indicated in table (37), and further addressed below[12].

37.   Pronominal System of Malagasy

Person	Nominative	Accusative	Genitive
SG.			
1	aho, izaho	ahy	-ko / -o
2	ianao	anao	-nao / -ao
3	izy	azy	-ny / -y
PL.			
1 (incl.)	isika	antsika	-ntsika / -tsika
1 (excl.)	izahay	anay	-nay / -ay
2	ianareo	anareo	-nareo / -areo
3	izy (ireo)	azy (ireo)	-ny / izy ireo

The morphology of the pronominal system argues, to a great degree, for a decompositional account of the pronominal forms in terms of case features (c.f. Cardinaletti & Starke 1999; Zribi-Hertz & Mbolatianavalona, 1999). Notice that almost all pronominals have a base/root part that is better identified with the consonant-less form of the third column of genitive pronouns (e.g. *-o* for 1st person, *-ao* for 2nd, and so on). This root form is present in all other stems of the same person and is taken here to form the spell-out of person/number features. Accusative case is mainly marked with the prefix *an-* (i.e. *an.ao* for 2nd/sg and *an.tsika* for 1st/pl(excl.)). This marking emerges also with proper names and some demonstratives (subject to dialectal variation; see Rajemisa-Raolison 1971) when appearing as internal arguments of transitive verbs:

---

[12] The second part for each genitive pronoun in the last column represents the form of the pronoun as it appears after words that end in one of the weak syllables *-na*, *-ka*, or *-tra*. In these cases the final *-a* of the syllable and the initial nasal of the genitive pronouns are dropped: e.g. *soroka/* 'shoulder' → *sorokao/* 'your shoulder'; *sorotsika* 'our shoulder'; *atolotra/* 'introduced' → *atolotro/* 'introduced by me'; *atolotrao/* 'introduced by you'.

90

38. a. n.a.hita   **an**-dRasoa Rabe
       PST.AT.see ACC.Rasoa Rabe
       'Rabe saw Rasoa'.

    b. tsy m.ah.a.lala   (**an'**) io   olona   io   aho
       NEG ASP.ABL.AT.know (ACC') DEM person DEM 1SG/NOM
       'I don't know that person.'

It is natural then to think that the accusative form of the pronoun is formed by prefixing *an-* to the base form. Similarly, the nominative form is built on the root by addition of the accusative layer plus a D-layer which is the prefix *i-*. This prefix is morphologically identical to the determiner *i* that precedes proper names:

39.   n.a.hita   an-dRasoa i Koto
        PST.AT.see ACC.Rasoa D Koto
        'Koto saw Rasoa'.

Of course, a quick glimpse at the table in (37) shows that the composition of pronominal forms in such a way runs into a number of problems. There are small mismatches between the expected patterns and the attested forms. However, if one adopts a framework like Distributed Morphology, the mismatches can be attributed to the choice of vocabulary item that is inserted at Spell-out in the cases of the mismatched forms (see also Zribi-Hertz & Mbolatianavalona, 1999 for further discussion of the mmismatches).

Before closing the phi-feature discussion, there are a number of additional morphemes that seem to encode phi-features but have very limited distribution. Thus, demonstrative pronouns form a paradigm that presents number or visibility distinctions in that they may

contain the prefixes *re-* (plural marker) or *–za* (visibility marker). Some examples are provided in (40):

40.

	VISIBLE		INVISIBLE	GLOSS[13]
	SINGULAR	PLURAL		
a.	ity	irety	? izaty	'this; these (very close)'
b.	ito	ireto	izato	'this; these (proximate)'
c.	itsy	iretsy	? izatsy	'this; these (not very close)'
c.	io	ireo	izao	'that; those'
e.	iny	ireny	izany	'that; those'
d.	iroa	ireroa	izaroa	'that; those (distant)'
e.	iry	irery	izary	'that; these (very distant)'

Notice also that all demonstrative pronouns start with *i-*, which has the distribution of a determiner. This is why *re-* and *za-* are treated as prefixes and not infixes. The formation of demonstrative pronouns, like that of personal pronouns, can be decomposed to a root base that encodes distance[14], with additional functional layers that encode visibility, number and definiteness (c.f. Zribi-Hertz & Mbolatianavalona, 1999).

Turning now to the phrasal level definiteness/specificity is mainly encoded via the element *ny*, which is the prime candidate for the category D in Malagasy, or one of the demonstratives of table (40):

---

[13] The question mark on two of the forms indicates that these forms are not used productively in the modern language (for example Hallanger's (1972) Malagasy-English dictionary does not mention them at all; but they are listed in Malzac 1960).

[14] This is further supported by the fact that the same roots serve as bases for the formation of locative adverbials that encode exactly the same features in terms of distance. Thus *ety* (c.f. *ity*) designates a proximate area ('here'), while *ery* (c.f. *iry*) designates a very distant area ('yonder'). In a similar fashion, locative adverbials use the prefixes *e-* for visible locations and *a-* for invisible locations, so visibility is also encoded in the locative adverbial paradigm.

92

41. a.   n.an.galatra   akoho   i Koto
         ASP.AT.steal   chicken D Koto
         'Koto stole a/some chicken.'

   b.   n.an.galatra   ny akoho   i Koto
         ASP.AT.steal   D chicken D Koto
         'Koto stole the (specific) chicken.'

While the definite determiner precedes the NP, demonstratives usually appear flanking the noun phrase (and all its dependants) that they modify:

42.   n.an.galatra   **ireto** akoho lehibe rehetra   **ireto** i Koto
         ASP.AT.steal   DEM chicken big   all   DEM D Koto
         'Koto stole all these big chicken.'

Other modifiers like numerals, adjectives, relative clauses and most quantifiers appear in postnominal position. Possessors appear adjacent to the right of the possessee, preceding all other nominal modifiers (with some exceptions that will be discussed in the following section). The following example illustrates the normal word order within a complex noun phrase in Malagasy:

43.   n.a.hita   [ny boky   vaovao rehetra (izay) novidian-dRabe]   aho
         PST.AT..see [D book   new   all   (that) PST.buy.TT/LNK-Rabe   1SG.NOM
         'I saw all the new books that Rabe bought.'

Although there is some word order variation with respect to the distribution of adjectives and numerals, the normal word order of elements in the DP is:

44.   DEM/DET   **NP**   POSS ADJ   NUM QUANT REL. CLAUSE DEM

93

Assuming a universal hierarchy that posits D elements higher in the structure than quantifiers, numerals, and adjectives (c.f. Cinque 2005), the order in (44) must be derived via phrasal movement of the NP onto higher specifiers, pied-piping additional material up to some projection lower than DP. This is a type of roll-up movement that results in a mirror image of the substructure linearly following the NP with respect to the underlying structure. A parallel type of movement is attested in the clausal structure with the verb moving in a roll-up fashion resulting in a mirror image of the hierarchy of adverbial modifiers with respect to Cinque's (1999) universal hierarchy (see Pearson 1998a; Rackowski 1998). The NP moves to some functional projection below the DP. This is supported by the fact that some attributive adjectives can appear in prenominal position[15]:

45. a.   ny hany lehilahy
          the only man

     b.   ny antitra   havana
          the old   friend

     c.   ny   tena   antony
          the   real   cause

2.1.3 Linking

As it has been shown briefly in Chapter 1 (Section 1.3), there is a surprising parallelism between noun phrases and clauses in Malagasy with respect to the morphosyntactic marking of nominal and verbal dependants. Thus, possessors in the noun phrase and predicate-internal actors in non-active voices are linked to the possessee and the verb

---

[15] Some of these adjectives like *tena* and *antitra* can appear in postnominal position, in which case they have a predicative interpretation (e.g. postnominal *antitra* means 'old of age' and not 'someone who is a friend for a long time').

94

respectively, via the linking element $-n$[16] and with the genitive clitic form (last column of Table (37), if the possessor is pronominal (Paul 1996b)).

46. a. ny   sotro.**n**- dRabe
        DET spoon.LNK Rabe
        'Rabe's spoon'

   b. ny   sotro. **ko**
        DET spoon 1SG/GEN
        'my spoon'

47. a. n.an.orat.a.**n**-dRabe   ilay penisily vaovao
        PST.AT.write.CT/LNK-Rabe   DEM pencil   new
        'This new pencil, Rabe wrote (with it).'

   b. n.an.orat.a.**ko**   ilay penisily vaovao
        PST.AT.write.1SG/GEN   DEM pencil   new
        'This new pencil, I wrote (with it).'

Insertion of the linker is sometimes obscured by morpho-phonological processes. For example, when the possessee ends in [na] then the final [a] is dropped (or alternatively the [na] is dropped) and the initial consonant of the possessor undergoes mutation and nasalization:

48.   órona 'nose'   + sáka 'cat' → òron-tsáka 'cat's nose'

---

[16] Insertion of the linker is sometimes obscured by morphophonological processes. For example, when the possessee ends in [na] then the final [a] is dropped (or alternatively the [na] is dropped) and the initial consonant of the possessor undergoes mutation and nasalization:
   i.   órona 'nose' + sáka 'cat' → òron-tsáka

In cases of roots with weak and pseudo-weak final syllables (-*ka*, -tra) preceding consonant-initial words the final vowel of the weak syllable changes to [i], orthographically written as [y]:

   ii.   sóroka   'shoulder' + ny záza 'child' → sòroky ny záza
              tóngotra 'foot'   + ny fàrafára 'bed' → tòngotry ny fàrafára

In cases of roots with weak and pseudo-weak final syllables (-ka, -tra) preceding consonant-initial words the final vowel of the weak syllable changes to [i], orthographically written as [y]:

49. a. sóroka 'shoulder' + ny   záza 'child'   → sòroky ny záza
    b. tóngotra 'foot'   + ny   fàrafára 'bed' → tòngotry ny fàrafára

The possessor immediately follows the possessee and nothing can intervene between the two:

50. a. ny sakaiza.n-dRabe   faly
        D companion.LNK Rabe   happy
        'Rabe's happy companion...'

    b.* ny sakaiza   fali.n-dRabe
        D companion happy.LNK Rabe
        'Rabe's happy companion...'

Starting with the nominal domain, the complex possessee-possessor forms a tight phonologic unit that exhibits phonological alterations at the boundary between predicate and subject (c.f. 51.a). This is termed *n*-bonding in Keenan & Razafimamonjy (1996). These phonological processes are also attested in prefixation, reduplication and other morphological processes that are traditionally viewed as word-internal. In the terminology adopted here, the phonological processes apply to the same 'phase', i.e. the same Spell-out domain. A second phonological property that the complex possessee-possessor exhibits involves reduction of primary stress to secondary on the possessee

96

(51.b) (for a detailed discussion of these properties see Keenan and Razafimamonjy 1996; Paul 1996b; Keenan and Polinsky 1998):

51. a. soroka zaza → soro-jaza
         shoulder child   shoulder/LNK –child   'Child's shoulder ...'

    b. tráno ólona → tràno.n'ólona
         house   people   house.LNK'people   'People's house...'

In (51.a) the initial voiced fricative [z] of the possessee changes to the corresponding stop [j]. This change is characteristic of processes such as prefixation and reduplication and seems to indicate that the resulting string in (51.a) forms a single domain for phonological processes, i.e. a phase. This is further supported by the stress pattern in (51.b). The primary stress of the possessee reduces to secondary stress allowing for a single main stress for the whole string, again indicating that the string forms a single prosodic domain. Clearly, any analysis that deals with the mechanism deriving linking in Malagasy will have to account for these properties in an adequate way.

Turning now to the verbal domain, the properties of linked verbal strings are almost identical to the properties of linked nominal strings (a couple of exceptions will be discussed below). This includes the fact that similarly to the possessor-possessee complex, nothing can intervene between the verb and the linked internal actor. Let us consider an example. Keenan and Polinsky (1998) observe that the object of a transitive verb can sometimes "incorporate" to the preceding verb. Following Massam (2001); Paul

97

(2006), I term this process "pseudo-incorporation" to show that it is not "true" noun incorporation with a non-referential incorporated noun. It is rather a morpho-phonological process that is common in Malagasy and involves full indefinite or plural NPs. The claim that this is not true incorporation is supported by the fact that a pseudo-incorporated NP can be modified by adjectives and relative clauses and can be referential (see discussion in Paul 2006):

52.   nanapa-kazo   (n.an.apaka   [hazo)   lehibe]   Rabe
                        PST.AT.cut   tree   big   Rabe
       'Rabe cut big trees.'

The process of pseudo-incorporation consists of a number of phonological processes that require (phonological) adjacency between the predicate and an indefinite internal argument. Notice for example the mutation of /h/ to [k] in *hazo* 'trees' of (52) or the mutation of initial [r] of *rindrina* 'walls' in (53.b) where /r/ becomes [dr]. Any overt material (e.g. a definite determiner or an internal actor in non-active voices) blocks the process:

53. a.   n.an.doah.an-dRabe   ridrina   ny   fantsika
          PST.PFX.drill.CT.LNK-Rabe   wall   D   nail
          'The nail, Rabe drilled walls with (it).'

   b. * n.an.doah.an-dridri.n-dRabe   ny fantsika
        PST.PFX.drill.CT-wall.LNK-Rabe   D nail
        'The nail, Rabe wall-drilled (with it).'

(53) shows that an indefinite object (which in AT clauses cannot be separated from the predicate by intervening material) is not allowed to appear after the predicate, when an internal actor is present. In addition, verbal strings that contain a predicate-internal actor also form a tight phonological unit, which exhibits phonological alternations (54.a) and stress shift (54.b):

54. a. vidin(a)   Rabe →   hita.n-dRabe
        buy.TT   Rabe   buy.TT/LNK-Rabe   'Rabe bought...'

    b. ianáran(a) ny mpiánatra→ ianàran'ny mpiánatra
        study.CT D student   study.CT/LNK D student   'The student studies..''

The problem for the two main accounts on Malagasy clausal structure (Guilfoyle et al 1992 and Pearson 2001, 2005) is the constituency of the linked verbal string. In both accounts mentioned above, the predicate does not form a syntactic constituent with the linked internal actor. In fact, Pearson (2001) notes that although the internal actor and the predicate clearly form a phonological unit, they do not appear to form a syntactic unit. However, Keenan (1995, 2005) has shown that this is not the case. All constituent tests that take the actor and the remaining arguments as a constituent, fail:

55. a. * nividiananan-   [[dRabe ilay satroka] sy   [Rakoto ny boky]]   Rasoa
         PST.AT.buy.CT/LNK- Rabe DEM hat   and   Rakoto D book   Rasoa
         'Rabe bough this hat and Rakoto the book for Rasoa.'

On the other hand, the verb and the internal actor can coordinate, for example, with a

tensed active verb, or with another similar complex to the exclusion of internal arguments

or adverbial modifiers:

56. a. [nanondroan-dRabe   sy   naka]   ilay toevana   ianao
         PST.AT.show.CT.1SG.GEN   and   PST.take DEM place   2SG.NOM
         'Rabe showed (you) and you took that road.'

    b. fantatr.o   sady hita.ko   tsara izany
        known.1SG/GEN   and   see.1SG/GEN well DEM
        'I know and recognize that well.'

This shows that the structure of the clause is more like (57) rather than (55):

57.   [[[n.i.vidianan-dRabe]   [ilay satroka]] Rasoa]
        PST.AT.buy.CT/LNK-Rabe   DEM hat   Rasoa

Notice also that (56.b) shows coordination of two predicates with linked actors under the

scope of a single low manner adverb. This shows that the substructure that contains the

VoiceP$_{CT}$, VoiceP$_{AT}$ heads and the linker maps a very fine cartographic region at the edge

of the thematic domain and below the projections where manner adverbs merge.

Turning now to an analysis of the facts discussed in the previous paragraphs, I propose

that the structural mechanism that underlies linking in both nominal and verbal domains

is the same and it involves predicate inversion as discussed in Chapter 1. The linker

dominates a case projection (KP) which attracts and case-licenses the internal actor in its

specifier. Any predicate internal arguments vacate the domain of the predicate and move

100

at licensing positions above the predicate. Finally, the remnant predicate inverts over the subject and lands in the specifier of the linker, as in the following tree:

58.

```
                    LnkP
                  /      \
          VoicePCT       /\
          /\          n    KP
        /    \             /\
     DPACTOR            /      \
                     Kase  ....LP(NP)
                            /\
                      NPTHEME ....tVoicePCT
```
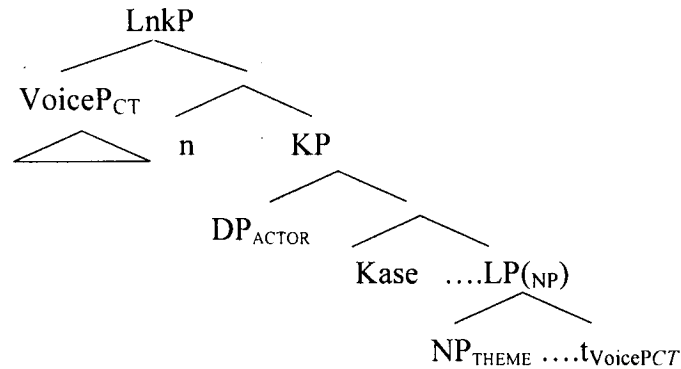
The tree in (58) leaves open the option of additional projections between KaseP and the predicate (e.g. LP(DP)). This is because, as we have seen, any predicate-internal arguments must vacate the predicate before inversion (including indefinite arguments that are available for pseudo-incorporation). LP(NP) then is assumed to provide a landing site for the theme NP. Going back to the constituent problems discussed above (examples (55)-(57)), the tree in (58) is still problematic as it does not contain a constituent that includes only the predicate and the internal actor to the exclusion of the theme. However, I suggest that the problem is only apparent. There is one additional movement which is independently motivated and derives the desired constituency: object-scrambling. It seems widely supported within the Malagasy literature that definite objects may scramble, i.e. appear higher in the structure than indefinite objects (Pearson 1998a; Travis 2000). The analysis adopted here assumes that all verbal arguments scramble (i.e. vacate the predicate) and this is a direct consequence of how constituents are built in the

101

language. However, object-scrambling gains direct empirical support from the placement of adverbials (c.f. examples in (61) below). Most Malagasy adverbials appear to the right of the predicate, in a mirror image to their underlying hierarchy. This argues for a roll-up type of movement for the predicate (Pearson 1998a; Rackowski 1998; Rackowski & Travis 2000; Travis 2005). If this is on the right track then all adverbs linearly to the right of the verb must have been at some time in the derivation structurally higher than the verb:

59.
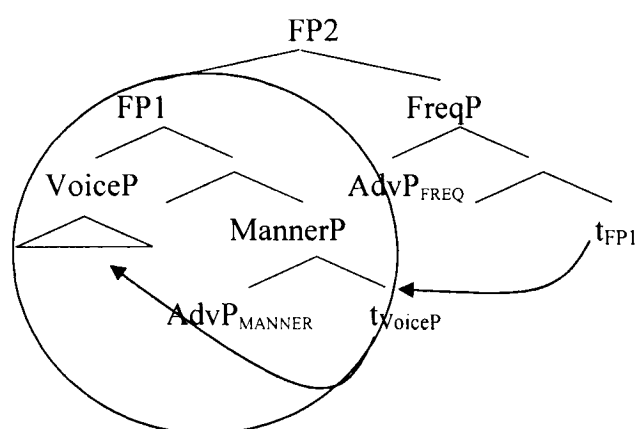
FP1 and FP2 are functional projections that host the predicate and any pied-piped adverbial projections in their specifiers. Assuming that FreqP that hosts frequantive adverbs merges above MannerP, which in turn merges above VoicePCT, then the proposed movement accounts for the observed final word order Voice >> Manner >> Frequency, illustrated in (60; example from Pearson 1998a:47):

60.　　m.i.jinja　　vary　an-tsirambina　foana　　ny mpamboly
　　　　PST.AT.cut　rice　LOC-careless　　always　D　farmer
　　　　'The farmer always harvests the rice carelessly.'

102

Consider now the following examples:

61. a. m.a.handro (ny) sakafo matetika Rabe
ASP.AT.cook D food often Rabe
'Rabe cooks food often.'

b. m.a.handro matetika *(ny) sakafo Rabe
ASP.AT.cook often D food Rabe
'Rabe cooks the (specific) food often.'

(61.b) shows that the definite theme can (optionally) appear to the right of the adverb while (61.a) shows that an indefinite theme cannot. Given the discussion about structural height and linear order, we have to assume that the definite theme in (61.b) must be structurally higher than the base position of the predicate. But what is this position? Given that only definite/specific themes appear in that position, I assume (following Pearson 1998a) that the theme occupies an inner-topic position (presumably the position where accusative clitics merge in Romance languages, termed accusative Voice position in Sportiche (1992)), i.e. a position above the voice projections. That is, the definite theme moves from spec-LP in the tree in (58), to some topic projection above LnkP. This leaves LnkP with just the predicate and the linked internal actor. But this is exactly the constituency that we need in order to account for the examples in (55)-(57). LnkP contains only the predicate-linker-internal actor string, and subsequent movements manipulate this constituent as a whole and cement/freeze it as a syntactic unit. The linker then defines a CP-domain (dominating a KP which is the equivalent of TP in the root clause). Therefore, the linker defines a phase, which constitutes a single phonological domain for purposes of stress assignment (c.f. the data in (51.b), (54.b).

103

Pearson (2001, 2005) notes that the linker is always in complementary distribution with the head of EventP *m-*. As we have seen this follows from the theoretical assumptions as both elements select for Voice heads and license different constituents: the prefix *m-* selects for VoiceP$_{AT}$ and allows for the subject to be licensed in its specifier while the head *-n(y)* selects for an additional KP projection which in turn selects for VoiceP$_{CT}$ or VoiceP$_{TT}$ and licenses the actor DP in its specifier, while the predicate inverts over the subject and lands in spec-LnkP:

62. a.   [$_{LnkP}$ DP$_{ACTOR}$ [**m-** [$_{t_{DPACTOR}}$[VOICEP$_{AT}$]]]]

     b.   [$_{LnkP}$ VOICEP$_{CT/TT}$ [-*n*- [$_{KP}$ [DP$_{ACTOR}$ [$_K$ [$_{t_{DPACTOR}}$ [$_{t_{VOICEPCT/TT}}$]]]]]]]]

Arguably, the derivation of a nominal possessive structure involves a configuration similar to the one in (62.b). The possessor starts as the highest argument/subject of a nominal predicate, is case-licensed in spec-KaseP, and the nominal predicate inverts over it to spec-LnkP. However, as I will show in the discussion below the symmetry between verbal and nominal domains is not complete.

The similarity in the morphosyntactic properties between possession and internal-agent licensing has been claimed to indicate that clausal strings in Malagasy and other Austronesian languages of the same type, are in fact nominal in nature (Starosta, et al 1982; Naylor 1995, 2001). Starosta, et al (1982) for example, claim that voice morphology in Austronesian is in fact nominalizing derivational morphology. Keenan

104

(2005) assumes a 'Predication Parameter', which states that languages vary with respect to the dominant expression of the Predicate-Argument relation: languages like Malagasy have a nominal setting of the type (N+Possessor), while languages like English have a verbal one (V+Object).

Ntelitheos (2006) argues against these approaches providing evidence from Malagasy that the linking structures in the nominal and verbal domain vary in their syntactic properties – a fact that can only be explained if the two structures have a different syntactic blueprint. The evidence for the claim comes from a number of distributional differences between the two structures. Keenan (1995) for example, shows that while nothing can interfere between the predicate and the internal actor in the verbal domain, 'inherent property denoting adjectives' are able to appear between the noun and the possessor in linking structures:

63.   ny trano vaovao.n-dRabe
        D house new.LNK-Rabe
        'Rabe's new house...'

If the possessee NP in (63) is in the specifier of LnkP, then it must have pied-piped the AP on its way there. However, only adjectives that merge between the NP and the projection where the possessor merges can appear in this position – i.e. only 'low' adjectives of the 'inherent property denoting' type as Keenan (1995) observes. Higher adjectives cannot intervene between the possessor and the possessee (c.f. 50.b) repeated here as (64)):

105

64. * ny sakaiza   fali.n-dRabe
       D companion happy.LNK Rabe
       'Rabe's happy companion...'

The second, and I think more telling, piece of evidence comes from the distribution of instrumental nominalizations of the *f*-CT type (discussed in detail in section 3.1.2). f-CT nominalizations can have different readings (action, instrumental, locative, manner and so on). For example, the following nominalization can mean the action of drilling or the instrument for drilling:

65. a. ny f.an.doah.an-dRabe   rindrina
         D NML.AT.drill.CT/LNK-Rabe wall
         'Rabe's drilling wall(s) ...' or 'The (instrument for) Rabe's drilling walls...'

disambiguated if an appropriate context is added:

66. a. n.an.dritry ny adiny telo **ny f.an.doah.an-dRabe**   **rindrina**
         PST.AT.last D hour three D NML.PFX.drill.CT/LNK-Rabe   wall
         'Rabe's drilling wall(s) lasted for three hours'

    b. **ny f.an.doah.an-dRabe**   **rindrina** dia ny   fantsika
         D NML.AT.drill.CT/LNK-Rabe wall   TOP D   nail
         'The (instrument for) Rabe's drilling walls is a nail.'

The crucial fact is that in the instrumental interpretation the indefinite internal argument is allowed to appear between the predicate and the linked DP, while in the action nominalization it is not:

106

67. a. **ny   f.an.doah.an-drindrin-dRabe**   dia   ny   fantsika
   D   NML.AT.drill.CT/LNK-wall.LNK-Rabe   TOP   D   nail
   'Rabe's (instrument for) drilling walls is a nail.'

   b.* n.an.dritry ny adiny telo   **ny f.an.doah.an-dridrin-dRabe**
   PST.AT.last   D   hour   three   D   NML.PFX.drill.CT/LNK-wall. LNK-Rabe
   'Rabe's drilling wall(s) lasted for three hours'

Given the similar marking of possessors and internal actors, *Rabe* in (67.a) may be an internal actor or a possessor – and in general when dealing with nominalizations there is always an ambiguity as to the role of the linked element, similar to the English 'John's painting...' where *John* can be the owner of a concrete object or the actor of the painting event. However, the ability of the internal theme to appear between the predicate and linked argument in (67.a) and its inability to do so in (67.b) suggest that *Rabe* is a possessor in the former but an actor in the latter (see Ntelitheos 2006 for detailed discussion). In simple terms, in (67.a), the verbal predicate and the theme are phonologically adjacent in the base structure (i.e. there is no overt internal actor). This phonological adjacency (i.e. lack of overt material between the two) triggers pseudo-incorporation (c.f. Massam 2001; Paul 2006). The pseudo-incorporated string then forms a linking structure with the possessor, resulting in the surface order of (67.a). In (67.b), on the other hand, an internal actor has already formed a linking structure with the predicate and intervenes between the predicate and the theme. Thus, pseudo-incorporation cannot take place and the string in (67.b) cannot be derived. This points to the following language-particular generalization:

68.   *Pseudo-incorporation is obligatory when the linked element is a possessor but*

107

never when it is an internal actor.

An additional hypothesis is of course that the linker merges at different levels in the derivation: in the interpretation where *Rabe* is an internal agent the linker merges at EventP as explained above, case-licensing the agent in spec-KaseP, and nominalization takes place immediately above EventP. In the interpretation where *Rabe* is a possessor, the linker merges outside the nominalization:

69. **Lnk POSSESSOR** NML $\left(\begin{array}{cccc} & \text{Voice}_{CT} & & \text{v/VP THEME} \\ \text{NML} & \textbf{Lnk} \ \text{Voice}_{CT} & \textbf{ACTOR} & \text{v/VP THEME} \end{array}\right)$
    NOMINAL DOMAIN   *VERBAL DOMAIN*

There is some additional support for the claim that pseudoincorporation is allowed only with possessors. For example, speakers find (70.b) degraded unless the appropriate context is provided (for example the sentence improves if Rabe has borrowed the drill from Rasoa, so that he possesses it temporarily):

70. a. ny f.an.doah.an-dRabe   rindrina   dia   an-dRasoa
         D NML.AT.drill.CT/LNK-Rabe   wall   TOP   ACC-Rasoa
         'Rabe's (instrument for) drilling walls is Rasoa's.'

    b. ??ny   f.an.doah.an-rindrina-dRabe   dia   an-dRasoa
         D   NML.PFX.drill.CT/LNK-wall.LNK-Rabe   TOP   ACC-Rasoa
         'Rabe's (instrument for) drilling walls is Rasoa's.'

Further evidence comes from possessor-raising constructions (Keenan & Ralalaoherivony 2000). In some cases of adjectival predication, a possessee in the trigger DP may raise and incorporate to the matrix adjectival predicate, as in the following examples:

71. a. kinga   ny sain-dRasoa
         adroit   D mind.LNK- Rasoa
         'Rasoa's mind is adroit.'

    b.   kinga   saina Rasoa
         adroit   mind Rasoa
         'Rasoa is quick-minded.'

The adjectival predicates involved can build causative AT verbs with the addition of the prefix *aha-*, and form a CT forms by suffixing *–an(a)*: *kinga* → *mahakinga* → *ahakingan(a)*. In the nominalization of such a circumstantial form, when built from a predicate that hosts possessor raising, the linked argument (i.e. the original possessor) occurs obligatorily exterior to the incorporated possessed noun:

72. a. ny fahakinga-sain-dRasoa
         D NML.CAUS.adroit.CT-mind.LNK- Rasoa
         'Rasoa's mental agility...'

    b. * ny fahakingan-dRasoa   saina
         D NML.CAUS.adroit.CT.LNK-Rasoa   mind
         'Rasoa's mental agility...'

In these cases there is no ambiguity of the role of the linked element: *Rasoa* is unambiguously a possessor of the incorporated argument since this is the underlying structure before possessor raising. Thus, (68) predicts that the internal argument will obligatorily appear incorporated between the predicate and the possessor.

109

Before closing this section, let us revisit the proposed structures. Given that the type of linker chosen is determined by the voice morphology of the verb, we have to assume that there is some property of the linker that forces selection of specific voice projections. Given the hypothesis that selection requirements are satisfied locally, the linker must immediately dominate Voice projections. Thus LinkP (the projection that hosts linkers in the clausal domain) must select for VoiceP – and particularly, VoiceP$_{AT}$ when the linker is m- and VoiceP$_{CT}$/VoiceP$_{TT}$ when the linker is -$n(y)$. Thus the final structure for the clausal domain (excluding projections that encode other aspectual information and host adverbial modifiers):

73.   AT: Tense   LnkPm Voice$_{AT}$ v/VP

       TT: Tense   LnkP$n(y)$ Voice$_{TT}$ (Voice$_{AT}$)   v/VP ....

       CT: Tense   LnkP$n(y)$ Voice$_{CT}$ Voice$_{AT}$ v/VP ....

2.1.4 Deriving VOS and Extraction Patterns

The structures proposed so far do not account for the final word order of clausal strings in Malagasy. As mentioned, the trigger appears in the rightmost position in the clause, while the predicate is initial, with adverbs following it in a mirror image to the underlying hierarchy. Some left-peripheral elements like the question particle *ve* appear between the predicate and the trigger, although some evidence suggests that *ve* is in fact a second position clitic (Paul 2001a). The topic marker *dia* precedes the predicate while the focus marker *no* arguably follows the predicate (Paul 2001b). The trigger, as has been argued

110

here (following Pearson 2001; 2005) is also a left-peripheral element. In an antisymmetric view of syntax, this means that the predicate must have rolled up to some higher clausal projection. The trigger extracts to the left periphery with subsequent movement of a clausal string containing the predicate to the left of the trigger, landing in the specifier of a higher left-peripheral projection. The discussion of how this order is derived, what type(s) of movement are involved, and what the triggers of these movements are is ongoing, and there are numerous issues that have not yet been resolved. In this section I will just mention briefly a number of the issues involved with particular attention to aspects of the structure that will become relevant to the discussion of Malagasy nominalizations.

Given an antisymmetric view of syntactic structure, the final word order of Malagasy must be derived by some sort of phrasal movement of a substructure that contains the thematic domain and some additional functional structure to the left of the trigger (Pearson 2001, 2005; Rackowski and Travis 2000; Chung 2006). The empirical evidence supporting such a movement account has to do with adverb ordering and extraction asymmetries in Malagasy. As we have seen, the adverbs following the verbal complex in Malagasy appear in mirror order with respect to their underlying hierarchy of projection. There is no easy way to derive this order by head movement, especially since an indefinite theme intervenes between the verb and any adverbs. Thus the only option is to assume phrasal movement of the vP/VP to specifiers of a type of 'pushing' or 'licensing' projections (LPs in Koopman & Szabolcsi 2000) that dominate functional projections that

111

host the adverbs (see tree in 59). The second piece of evidence comes from the well-know extraction asymmetry of Malagasy. Keenan (1972) observes that in Malagasy only the trigger is available for wh-extraction. Consider the following relative clause examples:

74. a. ny   vehivahy izay n.i.vidy   ny   vary ho an'ny ankizy
         D   woman REL PST.AT.buy D rice PRT for'D children
         'the woman that bought the rice for the children'

   b. * ny   vary   izay n.i.vidy   ho an'ny ankizy ny vehivahy
         D   rice   REL   PST.AT.buy PRT   for'D children D woman
         'the rice that the woman bought for the children'

   b'. ny   vary izay no.vidi.n'   ny vehivahy ho an'ny ankizy
         D   rice REL   PST.buy.TT/LNK D woman PRT   for'D children
         'the rice that the woman bought for the children'

   c.* ny   ankizy   izay n.i.vidy   ny vary (ho an) ny vehivahy
         D   children REL PST.AT.buy D rice (PRT for) D woman
         'the children that the woman bought rice for...'

   c'. ny ankizy izay n.i.vidi.anan'   ny vehivahy ny   vary
         D children REL PST.AT.buy.CT/LNK' D woman   D   rice
         'the children that the woman bought rice for...'

As we can see, relativization of the actor is realized with the verb in the AT form, i.e. the actor-promoting form of the verb (74.a.). However, relativization of the theme-trigger is not possible with the same form (74.b.). Instead the TT-form (the theme-promoting form of the verb) must be used (74.b'.). Finally, relativization of the benefactor is also not possible with the AT-form (74.c.). Instead the CT-form must be used (74.c'.). This means that verbal morphology is fixed in such a way that the extracted element is always the most prominent element in the clause, while other predicate-internal elements are

unavailable for extraction. In a VP-raising analysis (as in Rackowski & Travis 2000), this extraction asymmetry is exactly what is predicted if VP-raising freezes the constituent, rendering it an island for further extractions. Presumably, the trigger has vacated the VP before the raising operation and thus it is still available for subsequent operations such as *wh*-extraction (in agreement with phase theory, etc.).

The extraction asymmetries observed in Malagasy point towards a 'nominal' character of Malagasy clauses and of clauses in many Western Malayo-Polynesian, a fact that has been explored in a number of approaches (Starosta, et al 1982; Naylor 1995, 2001; Keenan 2005). I have already presented an argument supporting the claim of 'nominality' for Malagasy clauses, namely the similar morphosyntactic expression of internal actors and possessors in the language.

A second argument not really explored in detail in the literature comes from the fact that the extraction asymmetries in Malagasy are observed in nominal phrases in better-studied languages of the Indo-European family[17]. Thus, while extraction of all verbal arguments and adjuncts is possible in the clausal domain, in the nominal domain it has been noticed that only the highest DP can extract (see for example Milner 1982; Cinque 1980, 1990; Giorgi & Longobardi 1991; Valois, 1991). Let us consider some examples. In the clausal domain A'-movement of an argument lower in the structure over an intervening subject is possible. In fact, in clauses, A'-movement of objects is less restricted than that of subjects

---

[17] Thanks to Hilda Koopman for bringing this to my attention.

113

or adjuncts. For example, the *that*-trace effect, noted in Perlmutter (1971), filters out structures in which a subject extracts over an overt complementizer:

75. a. * Who do you think that t saw John?
    b.   Who do you think that John saw t?

Two of Ross' (1967) constraints point to the impossibility of extraction out of sentential subjects (76.a), and adjuncts (76.b):

76. a. * Who does that t opened the door annoyed Mary?
    b. * Who did John see Mary before t left the part?

Finally, object extraction out of *wh*-islands (77.a.) results in better structures than those that involve subject (77.b.) or adjunct extraction (77.c.) (Cinque 1990):

77. a. ? What do you wonder whether Peter bought t?
    b. * Who do you wonder whether t bought a new book?
    c. * How do you wonder whether Peter t bought a new book?

In the nominal domain, on the other hand, an argument must move to the edge of the DP (Milner 1982; Cinque 1980, 1990; Giorgi & Longobardi 1991), which may be an A position (Abney 1987) or an A'-position (Horrocks & Stavrou 1987; Szabolcsi 1994), and which it uses as an escape hatch in order to extract to the clausal domain. The argument passes through some case-related position (spec-TP) on its route to the escape hatch, checking structural Genitive case. This movement is blocked by the presence of an

114

argument structurally higher in the hierarchy possessor>>external argument>>internal argument. Consider the following examples (from Valois, 1991). In French, a *de*-DP phrase can be a possessor, an external argument or an internal argument of the nominal. Correspondingly we can have:

78. a.   Le portrait d'Aristotle$_1$ de Rembrandt$_2$ de ce collectionneur$_3$
          The portrait of Aristotle of Rembrandt of this collector

Only the highest present argument in the hierarchy can be pronominalized:

79. a.   Son$_3$ portrait (d'Aristotle$_1$) (de Rembrandt$_2$) [$^{\text{de ce collectionneur}}$$_3$]
    c.   Son$_2$ portait (d'Aristotle$_1$) [$^{\text{de Rembrandt}}$$_2$]
    d.   Son$_1$ portait [$^{\text{d'Aristotle}}$$_1$]

Similarly, only the highest argument that can independently be pronominalized can subsequently be extracted to the clause (e.g. by relativization):

80. a.   L'homme dont$_3$ j'ai vu le portrait (d'Aristotle$_1$) (de Rembrandt$_2$) [$^{\text{de cet homme}}$$_3$]
          The man of-whom I saw the portrait of Aristotle of Rembrandt [of this man]
    b.   L'homme dont$_2$ j'ai vu le portrait (d'Aristotle$_1$) [$^{\text{de cet homme}}$$_2$]
    c.   L'homme dont$_1$ j'ai vu le portrait [$^{\text{de cet homme}}$$_1$]

I think that the extraction pattern in Malagasy and in Romance DPs is due to the same structural effect: the highest DP in the structure, licensed by the corresponding voice morphology on the verb, blocks movement of a lower DP to the edge of the domain. This provides further support for treating LnkP as the head of a participial clause, as argued

115

for *m*-prefixed verbs in Section 2.1.1.2. It is possible, that all linking structures (with *m*-and with –*n*) are CPs of a nominal character, which would also explain why they form headless relative clauses productively (c.f. Chapter 4). This means that LnkP (the host projection for the linkers *m*- and –*n*) is a D/CP (in the sense of Koopman 2005), establishing a domain equivalent to Romance noun phrases. Let us see how a derivation for a circumstantial (CT) clause would proceed. The highest argument either merges (if a Causer) or moves to spec-VoiceP$_{AT}$:

81. a.   [$_{VoicePAT}$ DP$_{ACTOR}$ [*v*P]]

The theme (if definite) vacates the *v*P and moves to AspP, to check a [+TELIC] feature. VoiceP$_{CT}$ merges next and licenses the circumstantial argument (instrument, benefactor and so on) as in the configuration in(27), repeated here as (82):

82.
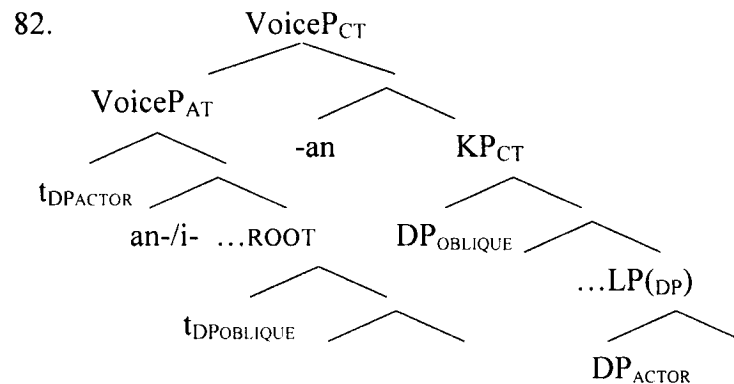
Finally, the linker merges above VoiceP$_{CT}$, and provides a case projection for the external argument, while inverting the VoicePCT complex over the linker:

83. a. [$_\text{LnkP}$ VoiceP$_\text{CT/TT}$ [-n- [$_\text{KaseP}$ [DP$_\text{ACTOR}$ [Kase [t$_\text{DPACTOR}$ [t$_\text{VoicePCT/TT}$]]]]]]]]

In this configuration both the external and internal arguments of the predicate are licensed in lower positions while the highest argument (licensed by the voice morphology) is embedded in the specifier of LinkP. The problem with the configuration in (83) is that it is not clear how the embedded argument DP becomes available for further computations if it is still inside the predicate. In order to allow for the argument to be available we have to assume that it vacates the predicate at an earlier stage, presumably moving to a licensing position above the VoiceP$_\text{CT}$ that hosts it (an LP(VoiceP$_\text{CT}$) in Koopman and Szabolcsi 2000:39). After the predicate inverts over the linker, the argument occupies the specifier of the specifier of LnkP and therefore it is still available for extraction – a case of 'smuggling' movement as applied to passive and raising constructions in English by Collins (2005a, 2005b). In this respect, voice morphology's function is to promote a verbal argument to a peripheral specifier, while the function of the linker is to invert the predicate over a higher argument so that this peripheral specifier is still available for subsequent computations (see Pearson 2001 for a discussion of how a specifier embedded within a specifier in Malagasy, can extract to the left periphery of the root clause – a case of clausal pied-piping). In Collins' approach these are the functions played respectively by participial morphology and the linker *by* in the formation of English passives. This provides a straightforward explanation for the 'participial' behavior of Malagasy clauses.

117

3.0 Introduction

In this chapter I lay out the properties of *f*-nominalizations in Malagasy. The discussion is based on a wide range of nominalizations so it is necessarily descriptive at this point since it is important to understand clearly the interaction between syntactic atoms (i.e. meaningful items with transparent featural content), syntactic structure and semantic interpretation. However, the broad range of data is accompanied by theoretical insights and a more detailed analysis is presented in Section 3.2. A somewhat more formal discussion of the status of participant nominalizations (i.e. agentive, instrumental, manner, and so on) is presented in Chapter 5. Based on the empirical data I make the following claims:

· The derivation of all nominalizations in Malagasy (including *f*-nominalizations of different types) is syntactic and there is no need to assume a separate morphological component in grammar

· All nominalizations are derived from a verbal stem and not a precategorial root level (contra certain approaches in the Distributed Morphology framework (Halle &

118

Marantz 1993), which assume a precategorial syntactic domain that becomes nominal through addition of nominal functional layers (c.f. Marantz 1997a; Harley & Noyer 1998; Alexiadou 2001a)).

- There is no division between syntactic processes that operate in the lexicon (l-syntax) and ones that operate in syntax proper (s-syntax). The fact that nominalizations derived by prefixing *f-* to a verbal stem exhibit certain properties that differentiate them for larger syntactic units such as (headless) relative clauses is attributed to the height of attachment of the prefix in the syntactic structure

- This height of attachment has to do with specific projections in the verbal extended domain. The nominalizer attaches above tense or aspectual heads that license different arguments. In this sense the nominalizer is a C element with the aspectual projection functioning as a lower tense projection. The nominalizer defines a CP domain which is also a phase and a participant nominal is structurally identical to a (reduced) relative clause. The specific aspectual properties that the nominalizations exhibit are attributed to the aspectual projection that the corresponding nominalizer dominates

- Productivity is affected by a number of factors that are relevant for both morphological and syntactic structures, and most notably the selectional properties of certain syntactic heads in the nominalized string

- Finally, *f*-nominalizations exhibit no semantic idiosyncrasies: their meaning is compositionally derived from the proposed syntactic structures in a straightforward way.

119

This last point however does not mean that 'lexicalized' *f*-nominalizations do not exist. Some *f*-nominals are 'listed', although I would suggest rather that the correct term is 'idiomatized' (as described in work in Distributed Morphology), i.e. expressions whose meaning is not wholly predictable from their syntactic structural description (Marantz 1995, 1997b). Such idiomatization of *f*-nominals is predicted to exist, given theories of the type of syntactic structures that can correspond to idioms (DiSciullo and Williams 1987; Koopman and Sportiche 1991; Marantz 1995, 1997b; Sportiche 2005; Svenonius 2005).

3.0.1 The Basic Design

How are different nominalizations formed? To answer this question we have to take into account a number of empirical facts related to nominalizations crosslinguistically. Given that the term 'nominalization' is an umbrella term for a number of different constructions crosslinguistically, the two main aspects of the discussion are necessary related to external distribution and internal structure. The term nominalization by itself implies a process that takes a unit which is not nominal and provides it with nominal properties[1]. What are these properties?

The basic property has to do with distribution – nominalizations distribute like noun phrases (DPs) in all relevant ways. They can be arguments, occupy the same DP positions

---

[1] In the discussion here I will concentrate on nominalizations of strings that form a subpart of the verbal extended projection and will not discuss nominalizations of strings that have adjectival or other categorial status

120

as arguments do (case positions, topic positions, etc), and undergo the same types of movements as arguments do. This however can be an issue that relates to language-internal properties. Consider for example Malagasy. As we will see in Chapter 4, clausal nominalizations in the language are formed with the determiner *ny* or any of the series of demonstratives (all markers of definiteness/specificity). Clausal nominalizations without a definiteness marker are almost non-existent. This argues for a treatment of clausal nominalizations as [+SPECIFIC] and predicts that they will occupy some sort of topic positions (scrambled objects, triggers) while resisting argument positions (they never appear as linked internal actors or objects of prepositions). As we will see in Chapter 4, this prediction is confirmed by the empirical data.

A second property has to do with internal syntax. If a string is nominalized it should have some internal structure that overlaps with the internal structure of DPs. Here the notion of gradience becomes relevant. Consider the set of examples from English –ing nominalizations examined in Chapter 1, Section 1.2.4:

1. a. He played the violin beautifully.
   b. [Him playing the violin beautifully] surprised everyone.
   c. [His playing the violin beautifully] surprised everyone.
   d. [His beautiful playing of the violin] lasted for three hours.

The finite clause in (1.a) is replaced by an *-ing* nominalization in (1.b), which retains all the verbal properties of (1.a), including accusative marking on the theme argument (detectible if the DP is replaced by a pronoun) and adverbial modification, but excluding

121

nominative marking of the subject. In (1.c) the accusative case of the subject has been replaced by genitive, while the rest of the verbal properties remain intact. Finally, in (1.d), the accusative case of the internal argument is replaced by prepositional marking and adverbial modification is replaced by adjectival, completing the nominal properties of the resulting nominalization. It is clear that even though the suffix *–ing* nominalizes the clause in all these nominalizations, the number of verbal/nominal properties exhibited varies. Malagasy nominalizations behave in a similar way in that the exhibit varying verbal/nominal properties. Before providing an analysis of their hybrid structure however, it is important to lay out the empirical facts.

3.1 Malagasy Nominalizers

There are three nominalizing prefixes in Malagasy: *f-*, *mp-*, and *ha-*. *f-* may be cognate with nominalizers in other Austronesian languages of the Western Malayo-Polynesian branch and most prominently with the Tagalog nominalizer *p-* that appears in the formation of instrumental nominals (c.f. Himmelmann 2005a) or agentive nominals (Schachter & Otanes 1972:106). In Proto-Austronesian, the prefix *paN-* may have been a marker of agents and instruments, developing to an agentive/instrumental nominalizer. *p(aN)-* is decomposable to a nominalizing prefix *p-* and the causative/voice morphology *an-* which is also attested in Malagasy and a number of other Austronesian languages. Given that Proto-Austronesian stops developed to fricatives in Malagasy (c.f. the change of the other nominalizing morpheme *ka-X-an*, to *ha-X-an*, Blust (2003)), it is natural to conclude   that *f-* in Malagasy is cognate with *p-* in Tagalog. A cognate may also be the

122

agentive nominalizer *mp-* in Malagasy (pronounced /p/). The properties of *mp-* will be discussed in detail in section (3.1.4). The last nominalizer *ha-* or *ha-X-an*, has limited distribution deriving abstract nominals from adjectival roots (e.g. *tsara* 'beautiful' → *ha.tsara* 'beauty') and will not be discussed here. It also has cognates in other Austronesian languages (c.f. the Muna affix *ka-* (e.g. *ghosa* 'strong' → *ka.ghosa* 'strength', van den Berg 1989:294).

f- is the most productive of the three in that it participates in the formation of two basic types of nominals (nominalizations of the AT form of the verb and nominalizations of the CT form) that are further divided into at least eight different sub-types depending on the interpretation of the derived nominals:

2.   Types of *f-*Nominals

	AT-voice	CT-voice
Instrumental	√	√
Manner	√	√
Locative		√
Result	√	√
Event		√

To these subtypes we can add the agentive nominalizer *mp-* which is arguably a fusion of the nominalizer *f-* and the event head *m-* (see discussion in Section 3.6.1) and a handful of *f-*nominals formed on the TT form of verbs that are prefixed with *a-* (see Section 3.5.1).

123

I will show here (see Section 3.7) that *f*- does not have a fixed position in the structure, but rather merges at different heights deriving structures with various morphosyntactic properties. Anticipating the discussion in Chapter 5, it will be assumed here *f*- is a nominal complementizer (C) with the broader understanding of C as a linker/functional element. This is in line with recent proposals on the syntax of functional elements as complementizers (c.f. the analyses of English *of* and French *de* in Kayne 1999, other prepositional elements in Cinque 2002, C/D nominal clauses in Maasai, in Koopman 2005a, and others). Given its status as C, *f*- merges at different levels in the structure creating reduced CP domains that have the structure, semantics, and (sometimes) distribution of relative clauses. I will leave the discussion of the exact properties of these structures for Section 3.7 and Chapter 5 and proceed in describing in detail the morphosyntactic properties of all the nominalizations that *f*- (and agentive *mp*-) derives.

3.2 *f*- attaching to AT Verbs

3.2.1 Tool *f*-AT Nominals

The first *f*-nominalizations under consideration involve tool nominalizations formed on the actor voice form (AT). *f*-prefixation takes place after the voice prefix *an*- or *i*- has attached and preempts the appearance of aspect/tense:

3.   a. hita.ko   **[ny f.an.oto]**
       see.1SG/GEN [D   NML.AT.pound]
       'I found the pestle (*Lit. the (thing that) pounds*).'

124

f-AT nominals are the poorest in terms of morphological structure, which in the framework adopted here indicates a small syntactic structure.

The process of tool nominal formation by prefixing *f*- to the AT form of the verb is arguably not productive in modern Malagasy. The existing forms can be listed. Some examples are provided in (4):

4.

	ROOT	GLOSS	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	vaky	'split open'	mamaky	'to cut'	famaky	'axe; N that cuts'
b.	zaitra	'sewing'	manjaitra	'to sew'	fanjaitra	'needle; N that sews'
c.	hogo	'trim hair'	mihogo	'to comb'	fihogo	'comb; N that trims hair'
d.	rakotra	'cover'	mirakotra	'to cover self'	firakotra	'blanket; N that covers'
e.	toto	'pounding'	manoto	'to pound'	fanoto	'pestle; N that pounds'
f.	haratra	'shaving'	miharatra	'to shave self'	fiharatra	'razor; N that shaves'
g.	kopaka	'flapping'	mikopaka	'to flap wings'	fikopaka	'fan; N that flaps'
h.	sisika	'force'	misisika	'to force between'	fisisika	'tongs; N that forces between'
i.	taratra	'reflection'	mitaratra	'to reflect on sth.'	fitaratra	'mirror; N that reflects'
j.	tsindrona	'pricking'	mitsindrona	'to prick'	fitsindrona	'fork; prong; N that pricks'
k.	voy	'paddling'	mivoy	'to paddle'	fivoy	'oar; N that paddles'

A reason for the limited productivity of these forms may be related to the fact that they refer to tools for everyday use. The around 40 attested forms that I have found (drawn from dictionary searches (c.f. Richardson 1885; Hallanger 1973) and field work) exhaust the list of essential tools/instruments used in everyday life. Notice also that in their 'prototypical' use *f*-AT instruments are intermediary instruments (or tools), i.e. instruments that 'are able to perform the action in some sense autonomously' (Levin &

Rappaport, 1988), and not facilitating instruments (or aides) that are not. Compare the following examples from English:

5. a. John cut the bread with the knife.   *Intermediary Instrument*
    a'. The knife cut the bread. (a bread-cutter)

    b. John ate the bread with the fork.   *Facilitating Instrument*
    b'. * The fork ate the bread. (*a bread-eater)

As Levin & Rappaport (1988) observe, only intermediary instruments can form -*er* nominalizations in English because they can be independently selected as external arguments of the involved verbs. This is also true for Malagasy *f*-AT nominalizations as the following examples illustrate:

6. a. n.am.oha   an'i Koto   ny lakolosy
        PST.AT.wake   ACC' D Koto   D bell
        'The bell woke Koto.'

    b. f.am.oha.m.andry
        NML.AT.awaken.ASP.lie_down
        'alarm-clock' (*lit. 'N that awakens the ones who lie down'*)

7. a. m.an.didy   tsara ny hena ity   antsy ity.
        ASP.AT.cut good D   meat DEM   knife DEM
        'This knife cuts meat well.'

    b. f.an.didy
        NML.AT.cut
        'blade' (*lit. 'N that cuts'*)

8. a. * m.an.ondraka tsara ny voninkazo ny rano.
        ASP.AT.water good D flower   D   water
        'Water waters flowers well.'

    b. * f.an.ondraka
        NML.AT.water
        'moisturizer' (*lit. 'N that waters/moisturizes'*)

126

For the formation of names of facilitating instruments speakers use the *f*-CT form (which has more expressive power due to its containing a larger syntactic structure that allows for expression of verbal arguments, see Section 3.3). Thus in (8.b), the *f*-CT nominalization *fanondrahana* is used for 'watering; instrument one uses to water'. Therefore the limited productivity of *f*-AT instrumentals may be due to the fact that only a limited number of verbs license intermediary instruments/tools.

To the clear-cut instrumental tool forms we can add numerous forms that are used primarily for naming species of plants and magical charms used to ward off evil spirits, especially in events like bull-fighting. Some examples are given in (4) and (10). As the translations show, these can also be understood as tools in some sense:

9.

	ROOT	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	velona	mamelona	*'to supply'*	famelona	'*tree producing wood, used in ornamental work*'
b.	voa	mamoa	*'to bear fruit?'*	famoa	*'a tall grass used in ceremonies'*
c.	sava	misava	*'to clear up'*	fisava	*'a plant used as medicine for headache'*

10.

	ROOT	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	loaka	mandoaka	*'make a hole'*	fandoaka	*'a charm placed on the horns of a fighting bull that he may gore his antagonists'*
b.	aro	miaro	*'protect, defend'*	fiaro	*'charm used on a fighting bull to preserve him from being wounded'*
c.	toraka	mitoraka	*'throw'*	fitoraka	*'a charm put on the horns of a fighting bull to ensure victory'*

127

In some sense *fisava* (9.c) denotes *'the thing that (one) uses to clear up or disperses (the headache) with'*. Similarly, *fiaro* (10.b), means *'the thing that (one) defends/protects the bull with'*. Therefore, the instrumental meaning is transparent in the morphology of nominalizations that become names for species and charms. In this respect *f*-AT nominalizations resemble instrumental *–er* nominalizations in English, which are also used productively to name species of plants and animals:

11.

	VERB	*er*-NOMINAL	GLOSS
a.	retrieve	retriever	*'a large dog with thick black or light brown fur'*
b.	point	(white) pointer	*'a large, dangerous type of shark'*
c.	creep	creeper	*'a plant that grows along the ground, or up walls or trees'*
d.	bloom	(late) bloomer	*'a plant that has flowers that bloom late'*
e.	box	boxer	*'breed of dog originally used in fighting'*
f.	warble	warbler	*'a small bird that lives in trees and sings'*
g.	wade	wader	*'a bird with long legs and a long neck, which lives near water and eats fish'*
h.	set	(Irish) setter	*'a long-haired dog, which is sometimes trained to help hunters find birds or animals to shoot'*

It seems therefore that the minimal structure of *f*-AT nominalizations makes them appropriate for naming things. The fact that they only name tools or plants indicates that in terms of semantic properties the most prominent feature of these nominalizations is that they denote entities in the world that are [-ANIMATE]. In this respect they contrast with *mp*-nominalizations (section 3.6) that are overwhelmingly [+ANIMATE]. To my knowledge, there are only a handful of exceptions to this empirical generalization going both ways (for exceptions in *mp*- nominals being exclusively [+ANIMATE] see section 3.6). All the [+ANIMATE] *f*-AT nominals are listed in (12):

128

12.

	ROOT	GLOSS	AT-FORM	f-NOMINAL	GLOSS
a.	rofy	'illness'	marofy	farofy	'habitually ill'
b.	loha	'head; front'	miloha	filoha.ny	'leader; lit. their head/front'
c.	iraka	'messenger'	maniraka	fanirakiraka	'messenger-boy'
d.	lainga	'lie'	mandainga	fandainga	'liar; one in the habit of telling lies'
e.	tomany	'cry'	mitomany	fitomany	'cry-baby'

These exceptions do not form a paradigm, (12.a) is formed on an stative verb and (12.d) is probably derived from the reduplication *irakiraka*, which has exactly the same meaning. I assume that children have to learn these limited cases. An important observation is that to the exception of the two *f*-AT forms that denote leading figures and may have some historical origin (notice that there is no attested root for *fiasy*), and the form denoting a 'messenger', which is derived by a nominal with the same meaning, the rest of the forms form derogatory terms for humans and may therefore be viewed as non-human or non-animate in some sense. It is interesting to note here that the term for 'corpse, dead body' in Malagasy is *faty* which seems to be derived from the adjective *maty* 'dead' by adding the nominalizer *f-*. This further supports the view that these limited exceptions are used to characterize properties of individuals that are viewed negatively and consequently not deserving of morphology reserved for animate things. If these exceptions are listed as idioms then the generalization that *f*-AT nominalizations are exclusively [-ANIMATE] holds.

129

3.2.2 Manner *f*-AT Nominals

The second type of nominalization that is formed by prefixing the nominalizer *f-* to the

AT form of the verb has to do with manner/way of nominalizations. Some examples are

given in (13) and (14):

13.
	ROOT	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	tao	manao	'to do'	fanao	'customary way of doing sth'
b.	leha	mandeha	'to go'	fandeha	'way of going'
c.	teny	miteny	'to speak'	fiteny	'way of speaking'
d.	hevitra	mihevitra	'to think'	fihevitra	'way of thinking'
e.	hetsika	mihetsika	'to move'	fihetsika	'way of moving'
f.	jery	mijery	'to look at'	fijery	'way of looking at'
g.	zaitra	manjaitra	'to sew'	fanjaitra	'way of sewing'

14. a. hafa.hafa   ny f.an.deha.n-   dRabe
        strange.RED   D NML.AT.go.LNK-   Rabe
        'The way Rabe is walking is a bit strange'

For some forms both instrumental and manner nominalizations are possible, leading to

ambiguities. The forms can be disambiguated if the appropriate context is added

(examples from Keenan and Polinsky, 1998:616):

15. a %hafa.hafa   ny fanjaitra.n'   io   olona   io
       strange.RED   D NML.AT.sew.LNK'   DEM person DEM
       'This person sews in an unusual way.'

   b. very ny f.an.jaitra.n'   io   olona   io
         lost D NML.AT.sew.LNK'   DEM person DEM
         'This person's needle is missing.'

Two (out of six) of my consultants find (15.a) strange because they associate *fanjaitra*

with 'needle', i.e. the instrumental use only – this is why I mark the sentence with the

percentage symbol. For these speakers the manner interpretation of this specific verb requires the CT form. In general, in elicitation sessions, when a verb has an attested instrumental *f*-AT form the two speakers find the corresponding manner *f*-AT form strange and replace it with a manner *f*-CT form. This seems like a blocking effect that facilitates avoidance of homonymy in the language. However, crosslinguistically similar forms can very often denote different nominals. The parallelism in form between basic instrumental (tool) and manner nominalizations in Malagasy brings to mind similar parallelisms in other languages. In English for example, a factive nominalization implementing an *-ing* form of the verb can also take a manner meaning, depending on the context:

16. a.   [John's walking in the room] surprised everyone present.
      b.   Mary noticed something strange about [John's walking.]

As we will see though in section 3.2, similarity in morphological form does not entail identical syntactic structures. Notice for example that the eventive nominalization in (16.a) contains a definite locative argument and has only the eventive (and not a manner) interpretation, while the manner nominalization in (16.b) cannot have an expressed argument :

17.   * Mary noticed something strange about [John's walking in the room.]
      (OK under the interpretation that there was something strange about the <u>event</u> of John's walking in the room)

131

A question that needs to be asked is how can manner nominalizations be formed with the AT form of the verb and how can this differ from the more complex manner *f*-CT nominalizations. In fact, as we will see shortly (Section 3.3), the CT form is used productively to form manner nominalizations in the language. An answer to this question could be related to the location of manner adverbs crosslinguistically. More specifically, there is a well-known relation between the expression of voice properties and the licensing of manner adverbs in a number of languages. Hale & Keyser 1993 (see also Levin & Rappaport 1995) connect the licensing of manner adverbs with agentivity. In Hale & Kayser's work on transitive verbs, a specific class of 'ergative' verbs allows an agented and an agentless structure to surface while transitive verbs do not:

18. a. John splashed mud on the wall.
    a'. Mud splashed on the wall.

    b. John smeared mud on the wall.
    c. * Mud smeared on the wall.

A verb like *splash* followed by its internal argument has an 'internally oriented' manner adverbial component (the particular way of mud-distributing that *splash* denotes) while verbs like *smear* have an 'external' manner component which is associated with the agent. The ungrammaticality of (18.b) then is attributed to the fact that there is no agent present to license the manner component of the verb. Therefore, manner adverbs must be

132

licensed adjacent to the projection that licenses external arguments[2]. This projection in the account presented here is VoiceP$_{AT}$, which is the only projection morphologically visible on f-AT nominals.

Cinque (1999:102) further supports the relation between manner adverbs and Voice with data from Italian that shows that passive past participles appear after manner adverbs while active past participles appear preceding them:

19. a. hanno (*benne)   accolto   bene   il suo spettacolo solo loro
         have   well   received well   his show   only they
         'Only they have received well his show.'

    b. questo genere di spettacoli è   sembre stato bene accolto   da tutti
        this   kind   of show   has   always been well received by everybody

Cinque's reasoning is that in Italian active participles raise to check the feature 'perfect' to a head that is higher than Voice. If *bene* is in VoiceP then the active participle necessarily precedes *bene*. The passive participle on the other hand only rises to Voice^{o} where the value 'passive' has to be checked. If *bene* is in Spec-VoiceP it is expected to precede the participle[3].

_____

[2] More evidence for this comes from psych-verbs which according to Belleti & Rizzi (1988) are unaccusatives (and therefore do not license external arguments) also resist manner adverbs:
   i. * He likes movies enthusiastically.
   ii. * Mary desired a holiday wholeheartedly.

[3] Since the other order where the passive participle precedes *bene* is also possible, Cinque speculates that the passive participle further raises to some other higher (unspecified) projection to check an additional unspecified marked feature.

133

Finally, the correlation of middle voice to the licensing of manner adverbials is also well-known. For example in Greek, middle voiced verbs require the presence of a manner adverb or PP-adverbial (Alexiadou, 1997:135):

20.   to pukamiso   plen.ete   *(efkola)
       D shirt.NOM   wash.MID/3SG   easily
       'The shirt washes easily.'

The close link between middle voice and manner adverbs is also reported in Keyser and Roeper 1984:384 and Roberts 1985: 194f.

If manner adverbs are connected with voice and merge above VoiceP then a manner interpretation of *f*-AT nominalizations can be explained. AT morphology allows for the higher element present in the lower thematic domain to extract and provide the nominalization with its interpretation. This is compatible with a recent view of the higher VP-shell (assumed here to be VoiceP) as a 'phase' (Chomsky 2001). Given the 'phase impenetrability condition', which states that in a phase α with head H only H and its edge but not the domain of H are accessible to operations outside α, only an element at the edge of VoiceP can be extracted. It is not surprising then that the prototypical and most productive derivations of *f*-AT nominals denote manner since manner is located exactly at the edge of VoiceP. Less productive are instrumental nominalizations that denote tools, i.e. that can independently appear as subjects, and which merge in spec-VoiceP. This crucially excludes [+ANIMATE] actors as these are further licensed higher up in the structure.

134

3.2.3 Result *f*-AT Nominals

Thyme (1989), Rasoloson & Rubino (2005), mention a couple of further interpretations of *f*-AT nominalizations including what they call result and factive nominals, as in the following examples:

21.

	ROOT	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	atitra	manatitra	'to offer'	fanatitra	'an offering/gift'
b.	ontany	manontany	'to ask'	fanontany	'a question'
c.	sotro	misotro	'to drink'	fisotro	'a drink'
d.	tory	matory	'to sleep'	fatory	'a sleep'
e.	leha	mandeha	'to walk'	fandeha	'a walk'
f.	teny	miteny	'to speak'	fiteny	'a speech'

These look like result nominals in the sense of Grimshaw (1990). They do not describe an action or activity but the result or outcome of an activity. They bring to mind the distinction between a complex event nominal like *examination of the patient* and a result nominal like *exam* in English. As Grimshaw establishes, the most important distinction between these nominals is the presence or absence of argument structure. Result nominals do not retain any argument structure (c.f. 22.b), while complex event nominals take obligatorily arguments (22.a):

22.   a. The examination *(of the patient) lasted for three hours.
       b. The exam(*of the patient) is on the table.

The nominalizations in (21) pattern with result nominals in that they cannot take case-marked internal arguments (compare the *f*-AT nominal of (23.a) to the complex event *f*-CT nominal of (23.b):

135

23. a.* maloto   ny f.i.sotro.n-dRabe   rano
       dirty   D NML.AT.drink.LNK-Rabe   water
       'Rabe's drink of water is dirty.'

   b. n.aha.ritra   minitra telo ny f.i.sotro.an-dRabe   rano
      PST.CAUS.last minute   three D NML.AT.drink.CT/LNK-Rabe water
      'Rabe's drinking water lasted for three minutes.'

A second diagnostic for result nominals is that they are incompatible with aspectual

modifiers, such as the frequentative *matetika* (often), in contrast with complex event

nominals (compare (24.a) to (24.b) (see section 3.4 for further discussion):

24. a.* matetika   ny f.i.sotro.n-dRabe
        often   D NML.AT.drink.LNK-Rabe
        'Rabe's drink is often.'

   b. matetika ny f.i.sotro.an-dRabe   rano
      often   D NML.AT.drink.CT/LNK-Rabe   water
      'Rabe's drinking water is often.'

In section 3.4 I return to the discussion of complex event nominals taking into account

the distribution of *f*-CT nominalizations. If the nominals in (21) are result nominals, then

it is not surprising that the AT voice form of the verb is used. This is the form that

contains the minimal verbal structure and is incompatible with independent expression of

the internal argument of the verb (except as a compound or pseudo-incorporated).

In other languages also (e.g. compare the English examples above) the form of the result

nominal is simplex compared to the form of a complex event nominal. Result nominals

136

usually employ zero derivation, i.e. are identical in overt form with the verbs they are derived form. Morphological complexity implies that more syntactic structure is implemented. This follows from the assumption that morphological elements are projecting heads in the syntactic structure and thus more morphology is directly translated to more structure (see basic assumptions in Chapter 1).

3.2.4 Nominal/Verbal Properties of *f*-AT Nominals

f-AT nominalizations are very close to common noun phrases in terms of distribution. In other words they exhibit minimal verbal properties and full nominal properties (see examples and discussion below). I propose that this distribution can be captured if we assume that *f*-AT nominals are formed by merging the nominalizer *f*- above AspP$_{RESULT}$, i.e. the aspectual projection that dominates VoiceP:

25.

$$
\begin{array}{l}
\text{CP}_N \\
\quad f\text{-} \quad \text{AspP}_{RESULT}, \\
\qquad\qquad \text{VoiceP}_{AT} \\
\qquad \text{TOOL} \\
\qquad \text{MANNER} \qquad \ldots\sqrt{P}
\end{array}
$$
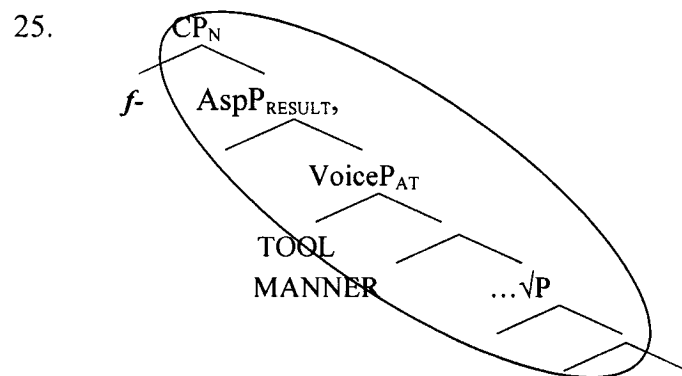
This means that *f*-AT nominals must be interpreted obligatorily as manner nominals when a manner projection is present. This explains the productivity of manner *f*-AT nominals. When a manner projection is not available, the nominalization is interpreted as an

intermediary instrument, i.e. the second highest element in the structure, at the edge of

the phase. In this section I will examine the distribution of nominal/verbal properties of f-

AT nominals and show how it is simply explained if we assume a structure like the one in

(**Error! Reference source not found.**).

In terms of nominal properties, f-AT nominals can be selected by the definite determiner

ny (26.a), or any of the large series of demonstratives available in Malagasy (26.b-26.c):

26. a. hita.ko   [**ny   f.an.oto**]
         see.1SG/GEN [D   NML.AT.pound]
         'I found the pestle (Lit. the (thing that) pounds).'

     b. hita.ko   [**ilay   f.an.oto**]
         see.1SG/GEN [DEM NML.AT.pound]
         'I found this (aforementioned) pestle.'

     c. hita.ko   [**ity   f.an.oto   ity**]
         see.1SG/GEN [DEM NML.AT.pound DEM]
         'I found this pestle.'

Furthermore, *f*-AT instrumentals can be possessed (27.a) and be modified by numerals

(27.b), quantifiers (27.c), low adjectives (27.d), and relative clauses (27.e):

27. a. hita.ko   [**ny   f.an.oto.n-dRabe**]
         see.1SG/GEN [D   NML.AT.pound.LNK-Rabe]
         'I found Rabe's pestle.'

     b. hita.ko   [**ny   f.an.oto roa**]
         see.1SG/GEN [DEM NML.AT.pound two]
         'I found the two pestles.'

     c. hita.ko   [**ny   f.an.oto rehetro**]
         see.1SG/GEN [DEM NML.AT.pound all]

138

'I found all the pestles.'

d. hita.ko   **[ilay f.an.oto lehibe]**
see.1SG/GEN [DEM NML.AT.pound big]
'I found this (aforementioned) big pestle.'

e. hita.ko   **[ny f.an.oto**   **(izay) no.vid.in-dRabe]**
see.1SG/GEN [D NML.AT.pound (that) PST.buy.TT/LNK-Rabe]
'I found the pestle that Rabe bought.'

Additionally, *f*-AT nominalizations share the same distribution with common noun phrases in that they appear in argument positions such as trigger (28.a), direct object (28.b), and object of prepositions (28.c):

28. a. n.i.toto.an-dRabe   vary **[ny f.an.oto]**
PST.AT.pound.CT/LNK-Rabe rice [D   NML.AT.pound]
'The pestle, Rabe pounded rice (with it).

b. hita.ko   **[ny f.an.oto.n-dRabe]**
see.1SG/GEN [D   NML.AT.pound.LNK-Rabe]
'I found Rabe's pestle.'

c. n.i.toto   vary t.ami.n'   **[ny f.an.oto]**   Rabe
PST.AT.pound rice PST.with.LNK' [D   NML.AT.pound]   Rabe
'Rabe pounded rice with the pestle.'

On the other hand, *f*-AT nominals also exhibit some verbal properties. They retain AT voice morphology, as seen in all the above examples. In addition *f*-AT nominals show transitivity distinctions in the same way that AT verbs do, depending on the specific AT prefix that they employ: *i*- prefixed forms in general have less valency than *an*- prefixed forms (see Paul 1998):

139

29.

	AT-FORM	GLOSS	ƒ-NOMINAL	GLOSS
a.	m.an.asa	'wash, *trans.*'	f.an.asa	'manner of washing (sth.)
b.	m.i.sasa	'wash, *intrans.*'	f.i.sasa	'manner of washing, state of being washed'
a.	m.am.etraka	'put down'	f.am.etraka	'manner of putting (sth.) down'
b.	m.i.petraka	'sit down'	f.i.petraka	'manner of sitting down'

Thus the projection where the voice prefixes *an-* and *i-* merge is actively present within these nominalizations and not a frozen morpheme with no semantic contribution.

ƒ-AT nominals allow for expression of the internal argument of the root they are derived from. Orthographically the nominalization-argument sequence is written as one word (c.f. (30.a)), or hyphenated (30.d), or as two independent words (30.c):

30.

	ROOT	AT	GLOSS	THEME	GL.	ƒ-NOMINAL	GLOSS
a.	ala	manala	*'to remove'*	hidy	*'lock'*	fanalahidy	*'key; N that removes locks'*
b.	tarika	mitarika	*'to pull; lead'*	andro	*'day'*	fitarikandro	*'morning star; N that pulls/ leads the day'*
c.	vely	mively	*'to strike'*	fandraka	*'chisel'*	fively fandraka	*'mallet; N that strikes chisel'*
d.	tsindry	manindry	*'to press '*	afo	*'fire'*	fanindri-afo	*'poker; N that presses fire'*

These nominalized strings seem to behave like synthetic compounds with participant nominalizations in English, as in (31):

31.

a. [[film-produc] er]
b. [[window-wip] er]
c. [[lawn-mow] er]

This seems to indicate that the theme NP has no available functional structure and is therefore internal to the VP, or at least low enough to have no access to the modification, quantificational and case domains (c.f. Sportiche 2005):

32.   [[*f-* [$_{VoiceP}$ *an-* [$_{vP}$... [$_{VP}$ *ala* [$_{NP}$ *hidy*]]]]]]

This is assuming that verbal arguments merge as NPs with no additional functional domain, and are subsequently 'quanticized' in a number of nominal functional projections outside the VP, including number, case and D (c.f. Sportiche 2005; see discussion in Chapter 1; Section 1.3):

33.   [DP D [CaseP Case [NumP Number [VP [NP]]]]]

In this approach then the compounds in (30) are formed by single movement of the NP theme to some projection above the VP (LP($_{DP}$)) with subsequent movement of the predicate over it (given that predication inversion is an across the board movement operation in Malagasy (c.f. Pearson 2001, 2005; Travis 2005a, Koopman 2005b; and others)). Lack of functional material explains the impossibility of the examples in (34) and (35) below.

141

The themes in these compounds exhibit a number of properties that are typical of nominal compounding[4] in general. The theme must be bare and functional material is excluded. The definite determiner *ny*, demonstratives (34.a), personal pronouns (34.b), and possessors (34.c), are not allowed inside the nominalization:

34. a. * n.a.hita   **[ny   f.an.ala   ny/ilay hidy]** aho
         PST.AT..see D   NML.AT.remove D/DEM   lock   1SG.NOM
         'I saw the instrument used to remove the/this lock with.'

     b. * n.a.hita   **[ny   f.an.ala   azy]** aho
         PST.AT..see D   NML.AT.remove 3.ACC   1SG.NOM
         'I saw the instrument used to remove it with.'

     c. * n.a.hita   **[ny   f.an.ala   ny   hidi.n-dRabe]** aho
         PST.AT..see D   NML.AT.remove D   lock.LNK-Rabe   1SG.NOM
         'I saw the instrument used to remove Rabe's lock with.'

Furthermore, the theme cannot be case marked (for example with a linker, c.f. (35.a); notice that accusative marking is not detectible on bare NPs but only on pronouns, proper names and demonstratives which are independently excluded (c.f. examples in (34)), or modified by quantifiers, numerals, or adjectives (even 'low' adjectives like ones that denote nationality) (35.b):

35. a. * n.a.hita   **[ny   f.an.ala.n'   kidy]** aho
         PST.AT..see D   NML.AT.remove.LNK'lock 1SG.NOM
         'I saw the instrument used to remove the lock with.'

     b. * n.a.hita   **[ny f.an.ala   [hidy lehibe/gasy/roa/rehetra]]** aho

---

[4] I will avoid the term 'incorporation' (c.f. Baker, 1988 and subsequent work) because of its strong theoretical connotations with respect to head-movement. Since head-movement is not an available syntactic operation in the framework adopted here, the term compounding will be used as a theory-neutral choice.

142

PST.AT..see D   NML.AT.remove lock big/Malagasy/two/all   1SG.NOM
'I saw the instrument used to remove big/Malagasy/two/all locks with.'

This seems to indicate that these compounds contain a smaller structure than that involved in pseudo-incorporation (c.f. discussion in Chapter 2; Section 2.1.3). The proposed structure in (**Error! Reference source not found.**) captures this pattern straightforwardly. AspP is the projection that licenses specific/case-marked internal arguments. Since the nominalizer f- replaces AspP, the internal argument must be non-referential and remain in situ. In any other case the derivation would crash as there is no available projection for the internal argument to check specificity/definiteness features.

As discussed in Chapter 2, Malagasy has a number of traditionally called 'secondary' verbal affixes that attach outside voice morphology. These include the causative *amp-* and the reciprocal *if-*. In the approach adopted here, these morphemes are decomposed into a light verbal projection and a nominalizer introducing a complement nominalized CP (see discussion in Chapter 2 and in section 3.1.2.3 in this chapter). Neither of these two affixes is possible inside *f*-AT nominals:

36. a.   * n.a.hita ny   f.amp.i.asa   aho
          PST.AT.see D   NML.CAUS.AT.work   1SG.NOM
          'I saw the (instrument that) causes something to work/ repairing tool.'

    b.   * nahita   ny   f.if.i.rako[5].n- dRabe   sy Rasoa aho
          PST.AT.see D   NML.REC.AT.cover.LNK-Rabe   and Rasoa 1SG.NOM

---

[5] My consultants inform me that *fifirako* exists as an unrelated noun, meaning 'manner of cleaning something' or 'toilet paper', presumably built on the root *firako*.

143

'I saw Rabe and Rasoa's (instrument that) covers each other/ blanket.'

None of the tool *f*-ATs that are listed in Richardson (1885) or later dictionary work, or those drawn from fieldwork exhibit causative or reciprocal morphology. All available evidence converges at this point supporting the unavailability of 'secondary' morphology in *f*-ATs.

A logical question to ask at this point is how much further verbal functional structure is available. A way to check this is to investigate adverbial distribution. Since *f*-AT nominalizations are interpreted as 'the manner of V-ing', it would be interesting to see whether 'higher' adverbs (in the sense of Cinque's (1999) hierarchical structure of functional projections that host adverbials in their specifiers) can be present in *f*-AT manner nominals. The data shows that higher adverbs are excluded:

37. a * tsy   tia.ko   ny f.a.handro.n-dRasoa   matetika
       NEG like.1SG/GEN D NML.AT.cook.LNK'-Rasoa often
       'I don't like Rasoa's way of often cooking.'

    b. * tia.ko   ny f.an.oratr' i Rakoto   foana
         like.1SG/GEN D NML.AT.write.LNK'-Rakoto   always
         'I like Rakoto's (way of) always writing.'

Why are the examples in (37) ungrammatical? It is proposed that the higher adverbs are not possible inside the manner *f*-AT nominals because the projections that host them are not available. In Cinque's (1999) hierarchical approach the following (partial) hierarchy is assumed:

144

Aspect (frequentative) >> Aspect (Perfect?) >> Voice/Manner
(*matetika*/*often*)   (*foana*/*always*)   (*tsara*/*well*)

If the nominalizer *f*- attaches low enough (in AspP as has been assumed here) the higher adverbs, which project in the verbal spine, cannot merge in the nominal structure and the data in (37) follows straightforwardly.

Summarizing, *f*-AT nominalizations exhibit the full range of nominal properties and very few verbal properties. indicating that the nominalizer *f*- merges very low in the structure in the derivation of instrumental *f*-ATs.

3.3 *f*- attaching to CT Verbs

3.3.1 General Properties

The most productive type of *f*- nominalizations in Malagasy is formed by attaching the nominalizer *f*- to the CT form of the verb, which as we have seen (Chapter 2) is formed by prefixing the verb root with AT morphology or any secondary morpheme, and subsequently suffixing the stem with -*an*. As in *f*-AT nominalizations, the nominalizer substitutes for tense morphology, as in the following morphological template:

38. Morphological Template: $[f\text{-}\ [[an\text{-}/i\text{-}\ [V_{ROOT}]]\ \text{-}an]$

Some examples of *f*-CT nominalizations are given in (39):

145

39.

	ROOT	GLOSS	CT-FORM	*f*-NOMINAL	GLOSS
ACTION NOMINALS					
a.	hita	'vision'	ahitana	fahitana	'sight; a vision'
b.	valy	'revenge'	amaliana	famaliana	'revenge, punishment'
c.	ahy*	(worry)	anahiana	fanahiana	'worry, anxiety'
d.	foy	'abandoned'	amoizana	famoizana	'rejection, abandonment'
INSTRUMENTAL NOMINALS					
e.	asa	'work'	iasana	fiasana	'thing you work with/instrument'
f.	loaka	'hole'	andoahana	fandoahana	'tool for drilling/piercing'
g.	ady	'fighting'	iadiana	fiadiana	'weapon'
h.	pasoka	'ironing'	ipasohana	fipasohana	'iron'
LOCATIVE NOMINALS					
i.	lalo*	(pass by)	andalovana	fandalovana	'place of passage'
k.	anatra	'advice'	ianarana	fianarana	'school'
l.	angona*	(gathering)	angonana	fiangonana	'church'
m.	tsara*	(judge)	itsarana	fitsarana	'court of law'
MANNER NOMINALS					
n.	kapa	'cutting'	ikapana	fikapana	'way of cutting'
o.	lomano	'swim'	ilomanosana	filomanosana	'way of swimming'

As we can see from (39), *f*-CT nominalizations can take any of the following interpretations: action nominal (including abstract nominals) (39.a-39.d), instrumental (39.e-39.h), locative (39.i-39.m), and manner (39.n-39.o). This is not surprising given that CT morphology on the verb corresponds to the relativization of an argument or oblique that may bear one of many thematic roles. Rajemisa-Raolison (1971) identifies several such roles. Some examples are given in (40)[6]:

40. a.   ny antsy (izay)an.didi.an'   ny vehivavy   ny hena ...   INSTRUMENT

---

[6] The relative determiner *izay* (discussed in Chapter 4; Section 4.1.6.1) very rarely appears with relative clauses. In most cases the relative verb immediately follows the 'head' NP of the relative.

146

D knife (D) AT.cut.CT/LNK' D woman D meat
'The knife (that) the woman is cutting the meat (with).'

b. ny trano (izay) i.toera.nay ... *LOCATION*
D house(D) AT.live.CT/1PL(excl)/GEN
'The house (that) we live in...'

c. ny kafaliana lehibe (izay) i.arahaba.nay anao ... *MANNER*
D happiness great (D) AT.greet.CT/1PL(excl)/GEN 2SG.ACC
'The great joy (that) we greet you with....'

For most of the forms in (39) more than one interpretation is possible. For example, all the participant nominalizations in (39.e-39.o) also have the action nominalization interpretation. As Rasoloson & Rubino (2005:483) show, some of these nominalizations can only be disambiguated when the appropriate context is added:

41. a. n.an.ditry ny adiny telo **[ny f.an.doah.an-dRabe ridrina]**
PST.AT.last D hour three D NML.AT.drill.CT/LNK-Rabe wall
'Rabe's drilling wall(s) lasted for three hours'

b. **[ny f.an.doah.an-dRabe ridrina]** dia ny fantsika
D NML.AT.drill.CT/LNK-Rabe wall TOP D nail
'Rabe's (instrument for) drilling walls is a nail.'

42. a. n.an.ditry ny adiny telo **[ny f.i.amben.an' ny miaramila ny fahavalo]**
PST.AT.last D hour three DNML.AT.watch.CT/LNK' D soldier D enemy
'The soldiers' watching of the enemy lasted for three hours'

b. **[ny f.i.amben.an' ny miaramila]** dia ny vahavady
D NML.AT.watch.CT/LNK' D soldier TOP D gate
'The soldiers' (place for) watching is the gate.'

An obvious gap in the above typology is temporal nominalizations. The CT form of the verb can be used to promote a time adverbial to a discourse prominent position such as *no*-focus, as in the following example:

147

43.   Ami.n'ny alarobia   no   h.an.deha.na.nay
       on.LNK'D Wednesday   FOC   IRR.AT.go.CT.1PLex/GEN
       'We will leave on Wednesday.'

A nominal head that has a temporal interpretation (such as *fotoana* 'time') can be

relativized, in which case the verb of the relative appears in CT form:

44.   fantar' i   Rabe   ny fotoana (izay) n.an.orat.an-dRasoa   ny taratasy.
       know/LNK D Rabe   D   time   (D)   PST.AT.write.CT/LNK-Rasoa D letter
       'Rabe knows the time (when) Rasoa wrote the letter.'

Furthermore, as with other relative clause structures of this sort, the relative clause can

appear headless (see discussion in Chapter 4), in which case the head is interpreted as a

generic nominal meaning 'time':

45.   ny n.an.orat.an-dRasoa   ilay   taratasy dia   (tamin') ny roa sy dimy
       D PST.AT.write.CT/LNK-Rasoa   DEM   letter   TOP   (PST.at') D two and five
       'The (time when) Rabe wrote this letter was five past two.'

Notice that the post-*dia* string can be a DP or a PP (if *tamin'* is added). One can argue

that when the PP is present the head of the relative could be interpreted as a generic

nominal meaning roughly 'event' as in 'the event of writing a letter was at five past two'.

However, when the preposition is not present the generic null head of the headless

relative clause must be valued by the post *dia* DP which is a temporal DP. Thus the

148

headless relative is interpreted as 'the time when Rasoa wrote the letter'. This is further

supported by the fact that the word *fotoana* 'time' can surface following the determiner.

46.　　ny fotoana　n.an.orat.an-dRasoa　　　ilay taratasy dia (tamin') ny roa sy dimy
　　　　D　time　　PST.AT.write.CT/LNK-Rasoa DEM　letter　TOP (PST.at') D two and five
　　　　'The (time when) Rabe wrote this letter was five past two.'

Given the pattern between relative clauses in (40) and the corresponding types of *f*-CT

nominalization in (39), it would be expected that some sort of temporal *f*-CT

nominalizations should be allowed in the language. However, as the following example

shows, this is not possible:

47. *　　ny f.i.amben.an'　　　ny miaramila　dia　ny　　alarobia
　　　　D　NML.AT.watch.CT/LNK'　D　soldier　　TOP　D　　Wednesday
　　　　'The soldiers' (time for) watching is Wednesday.'

On first sight there seems to be no obvious reason why (47) is ungrammatical, especially

considering the diversity of interpretations available in (39). However, as we will see in

Section 3.7, there is a principled way to show why examples such as (47) are excluded in

Malagasy and possibly cross-linguistically, which concerns the unavailability of a tense

head inside the nominal string. Morphological and semantic evidence suggests that *f*-CT

nominalizations do not contain a tense head. Therefore, the unavailability of a temporal

interpretation is related to how much structure is available within the derived nominal.

149

3.3.2 Nominal/Verbal Properties of *f*-CT nominals

f-CT nominalizations exhibit a number of verbal properties that are not available with *f*-AT nominals. Here it is claimed that this is directly related to the fact that *f*-CT nominals contain more structure than *f*-AT nominals and in particular, the nominalizer merges above EventP, the aspectual projection that closes the event variable:

48.

```
        CPN
       /    \
     f-    EventP (=ZeitP)
            /    \
          VoicePCT
          /    \
        VoicePAT
        /    \
      √P
      /  \
```
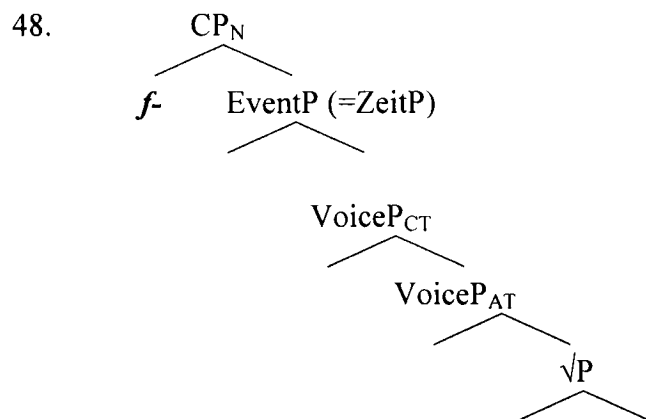
The availability of additional verbal functional layers predicts that *f*-CT nominals will exhibit more verbal/less nominal properties than *f*-AT nominals. In this section I show that this prediction is borne out.

As with *f*-AT nominalizations, *f*-CT nominals can be preceded by the definite determiner *ny*, or any of the demonstratives that are available in the language. This shows that the structures contain a nominal element:

49. a. ratsy [ity   f.an.galar.an-dRabe   akoho   ity]
         bad   DEM   NML.AT.steal-CT/LNK-Rabe chicken   DEM
         'This stealing of chicken by Rabe is bad.'

   b. [ny f.i.tiav.ana]   no   n.am.ono.a.ny   tena

D NML.AT.love.CT   FOC   PST.AT.kill.CT.3GEN self
'It is for love that he killed himself.'

c. n.an.ditry   ny adiny telo **[ilay f.an.doah.an-dRabe   rindrina]**
PST.PFX.last D hour three DEM NML.AT.drill.CT/LNK-Rabe wall
'Rabe's (aforementioned) drilling of wall(s) lasted for three hours.'

However, contrary to *f*-AT nominalizations, *f*-CT nominalizations followed by a direct

object cannot be modified by adjectives/numerals[7]:

50. a. * ny **[[f.i.zah.an'ilay dokotera   an'ilay marary]** telo/malaky]
       D NML.AT.exam.CT.LNK'DEM doctor ACC'DEM patient three/prompt
       dia   naharitra   minitra telo
       TOP PST.CAUS.last minute three
       'This doctor's three/prompt examination(s) of this patient lasted for three
       minutes.'

Finally, *f*-CT nominalizations can occupy DP positions, i.e. appear as triggers (51.a),

verbal objects (51.b), and prepositional objects (51.c- 51.d):

51. a.   mahagaga [ny [f.aha.tongava.nao   anio]]
        surprising D NML.ABL.arrive.CT/2SG.GEN today
        'Your arrival today is surprising.'

    b.   n.aha.tatidy   [ny   [f.an.galar.an'   i Koto]] aho
        PST.CAUS.remember D   NML.AT.steal.CT/LNK D Koto   1SG/NOM
        'I remember Koto's stealing'.

    c.   Hendry hatrami.n' [ny [f.aha.zaza.ny]]   izy
        wise   since.LNK'D   NML.CAUS.child.CT/3SG/GEN 3NOM
        'He is well-behaved since his childhood.'

---

[7] In fact, anything following the theme must be associated with it so (50) is grammatical under the interpretation 'This doctor's examination of three/prompt patients' where the numeral *telo* or the adjective *malaky* modifies the theme NP *marary*.

151

d. n.i.angona   t.ami.n' ny   f.i.angona.na   ao Ambositra Randrianaivo
   PST.AT.gather PST.LOC.LNK' D NML.AT.gather.CT LOC Ambositra Randrianaivo
   'Radrianaivo went to the church in Ambositra.'

In this last option of appearing as objects of prepositions, *f*-CT nominalizations have a restricted distribution. Action *f*-CT nominals can only appear following temporal prepositions such as *before, during,* and *after* but not after spatial prepositions such as *on* or *under* (c.f. Thyme 1989: 128). This is not surprising since most of these nominals are eventive in nature. Given their eventive character they can be used to mark time reference, hence their compatibility with temporal prepositions, but not location and thus they are not compatible with locative prepositions. However, locative *f*-CT nominals can appear after locative prepositions (c.f. 51.d) and instrumental nominals can appear after the general preposition *ami(ny)*.

As shown in the template of (38), *f*-CT nominalizations contain voice morphology. In fact, the *f*- nominalizer never attaches to a bare root. It always attaches to roots that have already been prefixed by (at least) the AT/CT voice affixes. As with *f*-AT manner nominalizations, *f*-CT nominalizations encode transitivity information, depending on the type of AT affix that they contain:

52. a. n.aha.ritra   ora   roa   ny f.i.sasa.n'dRabe
        PST.CAUS.last hour   two   D NML.AT.wash.CT/LNK-Rabe
        Rabe's washing (himself) lasted two hours.'

    b. n.aha.ritra   ora   roa   ny f.an.asa.n'dRabe   ny akanjo
        PST.CAUS.last hour   two   D NML.AT.wash.CT/LNK-Rabe   D clothes
        Rabe's washing the clothes lasted two hours.'

152

A similar contrast can be observed between *fialana* 'going away; excusing oneself from blame or from a duty' and *fanalana* 'the act of removing (i.e. 'cause to go away') something'. As shown in Chapter 2, *-an* and *–i* reside in the same projection (VoiceP$_{AT}$), a fact corroborated by their complementary distribution. However, it was suggested that they spell out different Voice heads (i.e. heads with different featural content). The fact that these affixes contribute to the semantics of the derived nominalizations means that they are actively present within the nominalized strings, as their phonological presence already suggests.

Affixes that attach outside transitivity affixes and are thus assumed to merge higher in the structure (following the 'mirror principle' (Baker, 1985)) like the causative *amp-* (53.c.) or the reciprocal *if-* (53.d.) can also appear inside the nominalization, which is consistent with the presence of a verbal spine:

53. a. [m.amp.i.anatra]   teny   gasy   an-dRabe   i Noro.
         ASP.CAUS.AT.study language Malagasy ACC-Rabe   D Noro
         'Noro teaches Malagasy to Rabe.'

    b. [amp.i.anara.n] '   i Noro an-d Rabe ny teny   gasy
        CAUS.AT.study .CT/LNK' D Noro LOC Rabe D language Malagasy
        'As for Malagasy, Noro teaches (it) to Rabe.'

    c. ny [f.amp.i.anara.n] '   i Noro an-d Rabe ny   teny   gasy.
        D NML.CAUS.AT.study.CT D Noro LOC Rabe D   language Malagasy
        'Noro's teaching of Malagasy to Rabe ...'

    d. ny [f.if.amp.i.anara.n] '   ny ankizy ny   teny   gasy.
        D NML.RCP.CAUS.PFX.study.CT/LNK D children D   language Malagasy

153

'The children's teaching of Malagasy to each other...'

Following work in Hung 1988; Travis 2000; Paul 1996a, both causative and reciprocal affixes can be decomposed to one of the two Voice$_{AT}$ prefixes *an-* or *i-* followed by the nominalizer *f-* (see discussion in Chapter 2). It is assumed that *f-* merges above VoiceP$_{CT}$ and creates a nominal domain which is subsequently selected by VoiceP$_{AT}$, verbalizing the string again and creating a bi-clausal structure for both causatives and reciprocals. The interpretation of the resulting verb as causative or reciprocal is tightly connected to the interpretation of Voice$_{AT}$ affixes as causative and inchoative for *an-* and *i-* respectively (see discussion in Chapter 2).

The structure for the causative *fampianarana* (in 53.c) would be the biclausal structure of (54):

54.

```
              CP
           /     \
         C        ...VoiceP_AT
         f-       /        \
            Voice_AT       CP
              an-         /    \
           [CAUSE]      C      ....VoiceP_CT
                        f-      /        \
                           VoiceP_AT    /    \
                           /      \   Voice_CT
                        i.anatra    -an
```
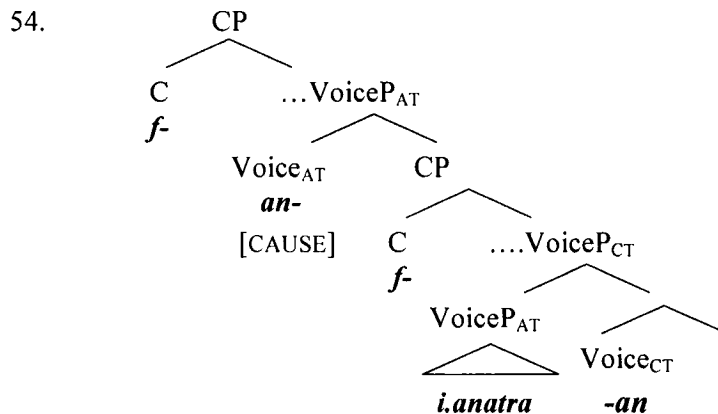
There is some syntactic evidence supporting the fact that a causative like *fiamparana* involves a biclausal structure. Andrianierenana (1996:68-69; cf. also Randriamasimanana 1986) shows that adverbs (55.a) and negation (55.b-55.c) can scope over both embedded and cause CPs:

154

55. a. n.amp.i.homehy   azy   indroa   aho
     PST.CAUS.AT.laugh   3SG/ACC twice   1SG/NOM
     'I made him laugh twice', or
     'Twice I made him laugh'.

    b.   tsy   m.amp.a.tory   ahy   ny kafe
      NEG   ASP.CAUS.AT.sleep 1SG/ACC   D   coffee
      'Coffee makes me not sleep.'

    c.   tsy   m.amp.a.tory   io   fanafody   io
      NEG   ASP.CAUS.AT.sleep   DEM medicine   DEM
      'This medicine doesn't make one sleep.'

In a full syntactic structure like the English periphrastic causative of course both adverbs or negations can appear simultaneously (as in *'Twice I made him laugh twice.'* or *'I didn't make him not laugh.'*) In the case of Malagasy, though, only the pre-causative position is available, which seems to indicate that the post-causative CP is 'reduced' in that it does not contain the functional domain that hosts adverbs and negation (notice also that tense is not marked twice). The structure for the examples in (55) is given in (56):

56.

                 NegP
           Neg   FP$_{LP}$
          tsy
       VoiceP$_{AT}$ FP$_{REPETITIVE}$
  Voice$_{AT}$ CP   AdvP$_{REPETITIVE}$
  an-   **indroa**
       C   VoiceP$_{AT}$
      f-
        i.homehy
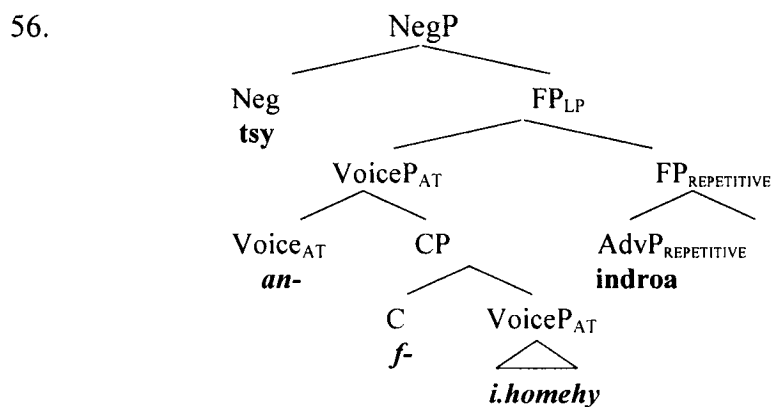
The lower domain of the causative complex is a binding domain which provides more support for its nominal status as DPs are binding domains. An anaphoric theme can only

155

be bound by the causee (the subject in the lower domain) and not the causer (Andrianierenana 1996):

57. n.amp.i.tifitra   tena an-dRakoto   aho
    PST.CAUS.AT.shoot self ACC-Rakoto 1SG/NOM
    'I made Rakoto shoot himself' (*I made Rakoto shoot me)

This contrasts with a normal transitive verb where the theme can be bound to the trigger independently of the presence of an intervening possible binder:

58. m.a.mono tena ho an'ny zana.ny   ny reny   rehetra
    ASP.AT.kill self for' D child.3GEN D mother every
    'Every mother kills herself for her children.'

In (58) the transitive verb has the causative AT prefix *an-*, but the structure is not biclausal in the sense of (57), as illustrated in the structure of (54). Therefore the intervening benefactor *ny zanany* does not block binding of the reflexive by the trigger.

Summarizing then, in terms of morphological structure, *f*-CT nominalizations can contain morphological atoms that merge in the outer functional domain of the clause. These atoms are active inside the nominal string in that they contribute to the semantics of the nominalization in the same way that they do with the verbal clauses.

The verbal property that is more prominently retained in *f*-CT nominalizations is that the latter retain the full argument structure (excluding the trigger) of the verbs they are

156

derived from. Furthermore, the retained arguments are case-marked with similar morphology as in the verbal counterparts including accusative case for themes/internal arguments:

59. a. t.amin'   ny zoma   no   n.an.galar.an '   i Koto azy
        PST.on.LNK' D   Friday FOC   PST.AT.steal.CT/LNK' D Koto 3SG.ACC
        'It's on Friday that Koto stole it.'

    b. n.aha.tezitra   an-dRasoa ny f.an.galar.an' i   Koto azy
        PST.CAUS.angry ACC-Rasoa D NML.AT- steal.CT/LNK'D Koto 3SG.ACC
        amin'   ny zoma
        on.LNK' D Friday
        'The stealing of it by Koto on Friday angered Rasoa.'

As we have seen (Chapter 2), accusative case is morphologically realized only on proper names and personal (and some demonstrative/interrogative) pronouns. Thus the presence of the accusative-marked 3rd person *azy* in (59.b) indicates that the projection where accusative case is assigned is available within the nominalization.

Finally, instrumental (60.b) or locative (60.c) modifiers seem to be able to modify nominalized predicates (Paul, 1996a: 327):

60. a. ny f.i.amben.ana   ami.n'   ny basy
        D NML.AT.watch.CT with.LNK' D gun
        'armed surveillance'

    b. ny   f.i.vidi.ana   entana   an-tsena
        D   NML.AT.buy.CT goods   LOC-market
        'The buying of goods at the market...'

157

A number of adverbs are also possible with these nominalizations. Compare the CT clause of (61.a) to the instrumental nominalization of (61.b):

61. a. n.an.doah.an-dRabe   rindrina tsara   ilay fantsika
PST.AT.drill.CT/LNK-Rabe wall   well   DEM nail
'This nail, Rabe drilled walls well (with it).'

    b. ny f.an.doah.an-dRabe   rindrina tsara dia ilay fantsika
D NML.AT.drill.CT/LNK-Rabe wall   well TOP DEM nail
'The (instrument for) Rabe's drilling walls well is this nail.'

As we have seen in Chapter 2, Malagasy exhibits a type of scrambling whereby the definite object can appear to the right of certain postverbal adverbs:

62. a. m.a.handro (ny) sakafo matetika Rabe
ASP.AT.cook D   food   often   Rabe
'Rabe cooks food often.'

    b. m.a.handro   matetika *(ny) sakafo Rabe
ASP.AT.cook   often   D food   Rabe
'Rabe cooks the (specific) food often.'

(62.b) shows that the definite theme can (optionally) appear to the right of the adverb while (62.a) shows that an indefinite theme cannot. This scrambling operation is available in ƒ-CT nominalizations, indicating that the projection where the definite object scrambles to is available within these nominalizations:

63. a. ny f.an.doah.an-dRabe   tsara *(ny) rindrina dia   ilay fantsika
D NML.AT.drill.CT/LNK-Rabe well   D wall   TOP DEM nail
'The (instrument for) Rabe's drilling the walls well is this nail.'

158

3.4   Event vs. Result nominals

The inability of result nominals to take DP arguments has been put forward in the relevant literature as an argument for the 'lexical' status of these nominals (c.f. Grimshaw 1990). Borer (2003) argues that result nominals derived via zero affixation (e.g. *a walk*; a *drive*; *a murder*; etc), are derived from category-neutral roots via the addition of either verbal or nominal functional layers. Thus the NP *murder* is formed by a lexical entry [L-D murder] by addition of, for example, a determiner, as in (64) while the verb *(to) murder* is formed by a lexical entry as in (65) by addition of an aspectual head:

64. a.   [L-D murder]
    b.   [D the [L-D murder] L-D → NP, [L murder] → [N murder]

65. a.   [L-D murder, army, civilians]
    b.   [ASP the civilians [L-D murder, army, ~~civilians~~] L-D → VP, [L murder] → [V murder]

This straightforwardly accounts for the lack of arguments with zero-derived nominals. DP arguments are not available because the projection that licenses them (AspP) is not available. Going back to the correspondence between morphological form and syntactic distribution, it has been argued that null or 'poor' morphology introduces result nominals while complex morphology (i.e. the affixation of at least one (and usually more) morphological units) results in the derivation of event nominals. For example, in English it has been argued that zero derivation only derives result nominals (examples in (66) from Borer 2003:53:

66. a.   *the/John's **drive** of this car
    b.   *the/Mary's **walk** of this dog

159

c. *the/Kim's **break** of the vase

d. *the airforce's **murder** of innocent civilians

In Malagasy we have seen that result nominals of this sort are derived by attaching the overt nominalizer *f-* to the AT form of the verb (c.f. Section 3.2.3). Some examples are provided in (21) (repeated here as (67)):

67.

	ROOT	AT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	atitra	manatitra	'to offer'	fanatitra	'an offering/gift'
b.	ontany	manontany	'to ask'	fanontany	'a question'
c.	tory	matory	'to sleep'	fatory	'a sleep'
d.	leha	mandeha	'to walk'	fandeha	'a walk'
e.	teny	miteny	'to speak'	fiteny	'a speech'

Take an *f*-AT nominal like *fanatitra* (offering; gift). The equivalent *f*-CT nominal is *fanaterana* 'the act of offering; a gift'. The *f*-CT form is ambiguous between an event and a result reading as the following examples illustrate:

68. a. ny f.an.atera.n-dRasoa   ireo boky telo ho an-dRabe
        D NML.AT.offer.CT/LNK-Rasoa   DEM   books three for ACC-Rabe
        dia   n.aha.faly   azy
        TOP   PST.CAUS.happy   3ACC
        'Rasoa's offering of three books to Rabe made him happy.'

    b. ny f.an.atera.n-dRasoa   dia   any ambon' ny tabatra
        D NML.AT.offer.CT/LNK-Rasoa TOP   LOC on.LNK D   table
        'Rasoa's offering/gift is on the table.'

However, the *f*-AT nominal is unambiguously a result nominal. As we have seen in Chapter 1, a number of diagnostics have been put forward in the literature to distinguish

160

between event and result nominals. Table (15) from Chapter 1 (repeated here as (69)) lists some of these diagnostics:

69. Diagnostics for Complex Event Nominals and Result Nominals

	CENs	RNs
Obligatory internal arguments	YES	NO
Aspectual Modifiers (singular Ns)	YES	NO
Genitives as agents	YES	NO
Agent-oriented modifiers	YES	NO
Able to appear in plural	NO	YES

f-AT result nominals cannot take DP arguments (70.a); they cannot be modified by aspectual adverbs when in the presence of singular demonstratives (70.b); the linked element, if present, is a possessor and not an agent (as manifested by the fact that a numeral can intervene between the nominal and the linked DP; see discussion of genitive subjects in Chapter 2) (70.c); and finally they can be selected by numerals (70.c) and plural demonstratives (70.d):

70. a. * ny f.an.atitr' i Rasoa   ireo boky telo ho an-dRabe
         D NML.AT.offer.LNK' D Rasoa DEM books three for ACC-Rabe
         dia   n.aha.faly   azy
         TOP PST.CAUS.happy 3ACC
         'Rasoa's gift of the three books to Rabe made him happy.'

    b. * ity fanatitr' i Rasoa   matetika dia nahafaly   an-dRabe
         D NML.AT.offer.LNK' D Rasoa often   TOP PST.CAUS.happy ACC-Rabe
         'This frequent gift of Rasoa's made Rabe happy.'

    c. ireo fanatitra telon-dRabe   dia boky avokoa
        DEM NML.AT.offer three.LNK-Rabe TOP book all
        'These three presents of Rasoa's are all books.'

    d. irety fanatitr'i Rasoa irety   dia boky avokoa
        DEM NML.AT.offer.LNK' D Rasoa TOP book all

161

'These presents of Rasoa's are all books.'

Therefore, in a parallel fashion to English nominals, the simpler (morphologically) form corresponds to the result interpretation while the complex form may be interpreted as an event nominal. In the terms adopted here the more complex 'morphologically' nominals have had the chance to 'grow' syntactically into a larger structure. Returning to Borer's analysis of zero-derived nominals, a problem with her approach is that it is not clear how to account for synthetic-compound formation. Malagasy *f*-AT and *f*-CT (as well as English) result nominals can form strings with incorporation (or pseudo-incorporation) of an internal argument (71)-(73):

71. a. fisotro   'a drink' rano   'water' → fisotro-drano   'drinking water'
    b. fanatitra   'offering' fisaorana 'thanks' → fanati-pisaorana 'thanks-offering'
    c. fihaza   'a hunt' biby   'animal' → fihaza-biby   'animal-hunt'

72. a. famonoana   'erasing' soratra 'writing' → famonoan-tsoratra 'eraser'
    b. fandefasana   'sending' feo   'sound' → fandefasam-peo   'transmitter'
    c. fanamaintisana 'blackening' volo   'hair' → fanamaintisam-bolo 'black hair-dye'

73. a. John went for a **bike-ride** across the valley.
    b. Attempting **self-murder** was not an option for John.
    c. Beyond that point you get the most trilling **train-ride** of your life!

Given that result nominals can take incorporated arguments, these arguments must be present in the root domain. Consequently (and extending Borer's 2003 account) it is the lack of the licensing projection (call it AspP) that restricts the appearance of definite internal arguments with result nominals.

162

Returning to *f*-CT nominals, which may have an event or result interpretation, Malagasy seems to depart from the pattern observed in English. As we have seen, English event nominals exhibit a number of properties that are quite rigid (listed in Table (69)). To some extent Malagasy exhibits the same patterns in the distribution of *f*-CT nominalizations. Take a morphologically complex *f*-CT nominal like *fifanekena*, built on the root *aiky* 'agreement' with the addition of AT morphology (*an-*), CT morphology (*y+-an*→ *-ena*), reciprocal morphology (*if-*) and the nominalizer *f-*, and literally meaning 'the act of agreeing with each other'. The same form can also have a result meaning: 'a written agreement (between two parts)'. Using the appropriate context the two meanings can be disambiguated:

74. a. eo   ambony latabatra ilay f.if.an.eke.na   vaovao.
         there on   table   DEM NML.REC.AT.agreement.CT new
         'The new agreement is there on the table.'

    b. n.aha.tezitra   ny Malagasy ilay   f.if.an.eke.na
        PST.CAUS.angry   D Malagasy DEM   NML.REC.AT.agreement.CT
        f.i.vidi.anana   basy t.amin'ny Frantsa
        NML.AT.buy.CT   gun PST.with'D France
        'This agreement to buy guns from France angered the Malagasy.

Some properties of result nominals that these nominalizations exhibit include the fact that the linked element in such nominals is a Possessor and not an Agent, as supported by the fact that a numeral must intervene between the nominal and the linked element:

75.   t.eo   ambony latabatra ilay f.if.an.eke.na   telo.n' i Madagasikara
        PST.there on   table   DEM NML.REC.AT.agreement.CT three.LNK'D Madagascar
        h.i.vidy   basy amin'ny Frantsa
        IRR.AT.buy gun   with'D France

163

'Madagascar's three agreements with France to buy guns were on the table.'

In addition, the plurality of the nominal in (75) further supports the claim that it is a result nominal.

Surprisingly though, and contrary to what is observed with result *f*-AT nominals (c.f. (70.a)), result *f*-CT nominals like *fifanekena* can take definite internal arguments and even clausal arguments:

76. a. eo   ambony latabatra ilay   f.if.an.eke.n' i Madagasikara
         there on   table   DEM NML.REC.AT.agreement.CT/LNK'D Madagascar
         h.i.vidy   basy amin'ny Frantsa
         IRR.AT.buy gun   with'D France
         'Madagascar's agreement to buy guns from France is on the table.'

In section 3.2.3 I showed that morphological complexity implies that more syntactic structure is implemented. This follows from the assumption that morphological elements are projecting heads in the syntactic structure and thus more morphology is directly translated to more structure. Addition of the CT affix allows for additional syntactic structure to be implemented. This is because the CT form of the verb allows for both internal and external arguments to be expressed inside the clausal string, while promoting some oblique to a left peripheral position. Thus the functional projections where different arguments are licensed are available within *f*-CT nominalizations but not within *f*-AT nominals. This accounts for the fact that *f*-CT nominals always allow for definite themes to surface, even in the cases where the derived nominal is interpreted as a result nominal.

164

3.5   A Gap in the Paradigm: *f*-TT Nominals

As we have seen in Chapter 2, Malagasy can form a passive-type structure, which I call Theme-Trigger (TT) forms following theory-neutral terminology (Pearson 2001; 2005). The formation of TTs can take place in one of four different ways: as a root form with no additional morphology; suffixed by the affix *-in* or *-an*; prefixed by the affix *a-*, or prefixed by *voa-* or *tafa-*. Despite its productivity with the other verbal voices in Malagasy, the nominalizer *f-* does not in general combine with verbs in TT form.

Firs, *f-* cannot attach directly to verbal roots independently of the root's voice specification. Consider the following root TTs:

77.		ROOT	GLOSS	*f*-NOMINAL	GLOSS
	a.	babo	'to be captured'	*fbabo	'(thing) that is captured'
	b.	tratra	'to be caught'	*ftratra	'(thing) that is caught'
	c.	very	'to be lost'	*fvery	'(thing) that is lost'

One could argue that the impossibility of the nominalizations in (77) is due to a phonological constraint that filters [f+C] clusters, which are independently forbidden in the language. Since most TT roots start with a consonant, this would be a legitimate argument. There are arguments against this approach however. First of all, the language has repair strategies for consonant clusters. Thus, if a prefix with a final nasal consonant is attached to a consonant-initial root, the initial consonant of the root is deleted (and

165

some sort of assimilation takes place (see Keenan & Razafimamonjy 1996; Paul 1996b for details): e.g. [an-] + [vono] 'split'→[amono]. Therefore, it is not clear why the proposed cluster [f+C] cannot surface amended by such a repair strategy. A second argument against a phonological explanation for the impossibility of the forms in (77) comes from the fact that the few vowel-initial roots also resist *f*-nominalization:

78.	ROOT	GLOSS	*f*-NOMINAL	GLOSS
a.	azoko	'to be understood'	*fazoko	'(thing) that is understood'
b.	azera	'to be thrown down'	*fazera	'(thing) that is thrown down'
c.	efa	'to be completed'	*fefa	'(thing) that is completed'

The nominalizer does not combine with the limited number of AT root forms such as *tia* 'like; love', *lasa* 'gone' and *tonga*. Some of these verbs have a dual status as AT and TT forms: *tia* for example can appear in both actor-promoting and theme-promoting structures as in (79):

79. a. tiako   ilay   boky vaovao
        like.1SG/GEN   DEM   book new
        'I like this new book.'

    b. tia   boky vaovao   aho
        like   book new   1SG.NOM
        'I like new books.'

The root cannot be directly affixed by the nominalizer and the status of the initial root segment once again does not seem to play a role in this restriction:

80.	ROOT	GLOSS	*f*-NOMINAL	GLOSS
a.	tia	'to love/want'	*ftia	'love'
b.	avy	'to come'	*favy	'coming'
c.	lasa	'gone'	*flasa	'sth gone'

166

However, the AT forms can be augmented by Voice$_{AT}$ prefixes (and additionally Voice$_{CT}$ suffixes) and the derived stems can form *f*-nominalizations. Some examples are given in (81):

81.

	ROOT	DERIVED STEM	*f*-NOMINAL	GLOSS
a.	tia	-i.tia	fitia/ fitiavana	'love'
b.	avy	-i.avy	? fiavia/ fihaviana	'arriving'
c.	lasa	-a.ha.lasana	fahalasana	'leaving'

The addition of the intermediate step of a derived stem formation for the derivation of these nominalizations provides further evidence for the incompatibility of *f*- with verbal roots. Clearly, the possibility of a silent AT prefix in the above cases is truled out by the fact that the roots that select for silent prefixes are listed (see discussion in Chapter 2).

However, not any affix can save the derivation. Thus, *tia* can also form a TT form by adding the suffix –*an*: *tia* + -*an* → *tiana* 'to be loved'. The derived stem however, cannot be the input to an *f*- nominalization: **ftiana* '?one (who) is loved; ?loving'. The question then arises as to which affixes can provide the input to *f*-nominalizations. As seen so far, the AT prefixes *an*- and *i*- (and the verbalizer *a*- with limited productivity, c.f. examples in (104) and discussion there) are very productive in the formation of *f*-nominals. One could argue that the CT suffix –*an* is also extremely productive since *f*-CT nominalizations are the most productive in the language (Section 3.1.2). However, the data shows that the situation may not be as straightforward as it initially seems. Consider the examples in (82):

167

82.	ROOT	GLOSS	TT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	aloka	'shelter'	alofana	'to be sheltered'	fialofana	'shelter, refuge'
b.	ambina	'watch/guard'	ambenana	'to be guarded'	fiambenana	'watching, a watch''
c.	andrana*	(test)	andramana	'to be tried'	fanandramana	'testing'
d.	aro	'protection'	arovana	'to be protected'	fiarovana	'a protection'

The roots in (82) derive TT forms by attaching the suffix *–an* and not the more productive TT suffix *–in*. If *–an* can be selected by the nominalizer *f-* then we would expect the TT forms in (82) to form *f*-nominalizations (possibly with a theme-reading: 'one who is V-ed'). But these nominalizations are impossible: *falofana, *fambenana, and so on. On the other hand, nominalizations of the *f*-CT type are available, as the last column in (82) indicates. The fact that these are *f*-CT nominalizations and not *f*-TT nominalizations, is confirmed not only by the fact that they contain AT morphology, but also by the fact that their interpretation is similar to that of other *f*-CT nominalizations as discussed in section (3.2.1). For example, *fiambenana* is interpreted as 'the act of watching' or 'the place of watching, a watch' and not as 'the (one) being watched' which would be the natural interpretation if (82.b) involved a TT-nominalization. Thus, in order for an *f*-nominalization to be formed, the Voice$_{AT}$ prefix needs to be phonologically present.

The existence of forms that seem to involve direct attachment of *f-* to a suffixed root could invalidate the above empirical generalization. With these verbs the AT form is derived by attaching the aspectual morphemes (*m-*, *n-*, and *h-*) directly to the root without

168

any visible addition of independent AT morphology (83). In some of these cases no CT

form of the verb is available and addition of the suffix –*an* creates a TT-form of the verb.

83.	Root	Gloss	AT-form	Gloss	TT-Form	Gloss
a.	anana	(possession)	manana	'possess'	ananana	'to be possessed'
b.	iditra	(entry)	miditra	'to enter'	idirana	'to be entered into'
c.	ita	(cross)	mita	'to pass over to the other side'	itana	'to be crossed (river)
d.	onina	'inhabitance'	monina	'to reside/ dwell'	onenana	'to be inhabited'

f-nominalizations of these TT forms proceed as normal without addition of an AT prefix:

84.	TT-Form	*f*-NOMINAL	Gloss
a.	ananana	fananana	'property''
b.	idirana	fidirana	'an entryway'
c.	itana	fitana	'a crossing place, a ford'
d.	onenana	fonenana	'a dwelling place'

Again, one could maybe argue here that these forms have AT prefixes that are deleted because the root starts with identical vowels. For example *miditra* in (83.b) may be formed by adding the AT prefix *i-* to the root and subsequently deleting it to avoid the hiatus. There are two arguments against such an approach. First of all such a hiatus is not in general forbidden in the language. The TT prefix *a-* can be added to an [a]-initial root and not be deleted: *a-* + *akatra* (go up) → *aakatra* (be gone up) (c.f. Keenan and Polinsky 1998: 587). Secondly, there are some roots that contain initial vowels different than the AT prefixes and they still take aspectual prefixes and the nominalizer *f-* directly (c.f. (83.d-84.d). Therefore we can assume that there is no intermediate step of adding AT

169

morphology with subsequent phonological deletion. What could be more plausible (and has been assumed in traditional and later literature (c.f. Keenan & Polinsky 1998: 598), is that there is in fact an AT morpheme in these roots but it is null. Such an assumption would bring the forms in (84) closer to the forms in (82), implying that these too are *f*-CT nominalizations. This is further corroborated by the fact that the nominalizations in (84) have a locative interpretation, a pattern that is exhibited solely by *f*-CT nominalizations in the language.

Summarizing, all available evidence seems to indicate that the nominalizer f- cannot attach directly to roots and this has the direct consequence that nominalizations of root TT forms are excluded.

A second TT form that seems to resist nominalization completely is TT verbs formed by suffixing –*in* to the verb root:

85.

	ROOT	GLOSS	TT	GLOSS	*f*-NOMINAL	GLOSS
a.	asa	(invite)	asaina	'to be invited'	*fasaina	'?invitee'
b.	afina	'concealment'	afenina	'to be concealed'	*fafenina	'something concealed'
c.	ahy	(care)	ahina	'to be cared for'	*fahina	'someone cared for'
d.	akatra	(lift)	akarina	'to be lifted up'	*fakarina	'someone lifted up'
e.	ila	(need)	ilaina	'to be needed'	*filaina	'somone needed/wanted'

This is also the case for TT forms of verbs that carry causative morphology:

86. a. *fampianarina   (something/someone (habitually) taught (lit. *cause to study*))
    b. *fampiasaina   (one habitually employed/employee (lit. *cause to work*))

170

The only possible cases of such nominalizations that I have been able to find so far are two suppletive *–in* forms, given in (87):

87. | | ROOT | GLOSS | TT-FORM | GLOSS | *f*-NOMINAL | GLOSS |
| --- | --- | --- | --- | --- | --- | --- |
| a. | ala | 'be without' | alaina | 'to be taken' | falaina | 'sth habitually taken' |
| b. | tondra | 'carry' | entina | 'to be carried' | fentina | 'sth habitually carried' |

Both of these forms are used as TT forms of verbs that derive the AT form from a different root. For *falaina* there is a root *ala* that derives the AT form *manala* (to remove), but it also acts as the TT form of *(m)aka* (to take). *falaina* is not used in standard Malagasy, only in some northern dialects (e.g. Sakalava (Rajaona 1977)). Standard Malagasy uses *faka* ('something one habitually takes') instead. On the other hand, *entina* has no root and may be a root itself (c.f. Richardson 1885). Note also that Hallanger (1973) lists the form as *entana*. Rajaona (1972:508) mentions *fentina* as one of the exceptions to the rule that *f-* affixes only to AT/CT forms. If *entina/entana* is a root, affixation of *f-* is still surprising as we have seen that *f-* does not attach directly to roots. I will assume that this is a lexicalized form, probably a back formation reanalyzed as a common noun, based on the fact that there are no other existing forms to indicate that a morphosyntactic process is involved.

Finally, *f*-nominalizations are unavailable also for TT forms derived by prefixing *voa-* and *tafa-* to the verbal root. These TT forms have a number of properties that distinguish them from the other TT-forms (c.f. Keenan & Polinsky 1998), more importantly the fact

that the *in-* and *a-* TTs do not entail a natural endpoint of the event described by the verb, while *voa-* and *tafa-* forms do (Travis 2005b).

88.

	Root	Gloss	TT	Gloss	*f*-nominal	Gloss
a.	tapaka	'cut'	voatapaka	'to be cut'	*f(v)oatapaka	'?thing cut'
b.	vory	'reunite'	voavory	'to be reunited	*f(v)oavory	'?one reunited'
c.	"	"	tafavory	"	*f(t)afavory	"
d.	lentika	'go_in'	tafalentika	'to go_in'	*f(t)afalentika	'?one entering'

Summarizing, it seems that the nominalizer is sensitive somehow to the presence of one of the two VoicePAT affixes in its local environment. Attachment to stems that do not contain any (overt or null) Voice$_{AT}$ prefixes leads to unattested forms. We can assume then that *f-* requires some sort of configuration in which it is local (somehow) to the Voice$_{AT}$ prefix. From a structural point of view this is not problematic for *f*-AT nominalizations as in these cases the nominalizer selects for VoiceAT and thus, locality is satisfied by the head-complement 'selection' relationship. Even when causative/ reciprocal morphology is present the requirement is satisfied since, as argued in Chapter 2, the causative/reciprocal morphemes are decomposable into the Voice$_{AT}$ morpheme plus the nominalizer (c.f. tree in (54)). However, the locality requirement is problematic for *f*-CT nominalizations. Assuming a simple 'morphological' structure, the suffix *–an* of CT must be higher than the AT prefix *an-/i-*.

172

89.

```
              NP
             /\
           f-  VoiceCT
              /\
      VoiceAT   -an
        /\
      an-  V
```
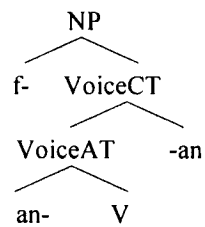
This is supported by the fact that the properties of the CT stem (including which elements are available for extraction, how the external argument of the verb is realized, and so on) are determined by the CT suffix and not the AT prefix. But in this configuration the nominalizer is not local to Voice$_{AT}$. It is not therefore clear how the relation can be captured structurally. In fact, one could argue that it is not the structural configuration that best describes the relation but rather the linear order of morphemes. Thus, we could assume that *f-* needs to be followed linearly by the AT affix for the nominalization to be licit. A first argument against such an approach comes from nominalizations of the sort in (84) in which there is no overt AT affix but nevertheless the nominalizations are grammatical. Secondly, since all the other morphological units behave as atoms with syntactic/configurational properties, it is not clear how to formalize such an ad hoc constraint in the grammar. There seems to be no such linearity requirement in any of the other morphosyntactic processes in the language.

We have to conclude that in the available structure of (89) the stem contains the nominalizer *f-* and the Voice$_{AT}$ prefix in a local enough configuration for the requirement to be satisfied. This entails that a projection XP can be sensitive not only to the featural content of its head X^0 but also to the features of the phrase in the specifier of its

173

complement YP. Such an account of locality was implicit in earlier approaches (c.f. the notion of government in which a head can case-mark exceptionally the subject of its complement, Chomsky 1981). In later approaches the possibility of a relationship between a head and the specifier of its complement is implicit in spec-head agreement configurations where features of the specifier are copied onto the head and percolate up to the maximal projection (c.f. Koopman 1996; Koopman & Szabolcsi 2000). As a result, the maximal projection has its own features plus features inherited from YP^8. Consider again the configuration in (89). In this structure it is possible that some of the features of $Voice_{AT}$ are copied to $Voice_{CT}$ (and percolate to $VoiceP_{CT}$ in the corresponding syntactic structure). In this analysis f- selects $Voice_{AT}$, while merging with $VoiceP_{CT}$ (or a structure that contains $VoiceP_{CT}$ in its specifier (i.e. LnkP).

The prediction then is that f- nominalizations may be formed only when $Voice_{AT}$ morphology is in the local environment of the nominal complementizer f-, either directly selected by it (as in f-AT nominalizations) or in the specifier (or the specifier of a specifier; and so on) of a phrase selected by it (as in f-CT nominalizations). Some empirical support for this generalization comes from TT forms that maintain the $Voice_{AT}$ morphology. Malagasy has a handful of forms that derive the TT voice by attaching the suffix –*in* to the $Voice_{AT}$ stem. For example the root *halatra* 'steal', forms the AT voice via attachment of the AT prefix *an*- (*angalatra*). The TT form is derived via affixation of –*in* to the AT stem (*angalarina*). We now have a TT form that contains $Voice_{AT}$

---

[8] This is the 'default' configuration for pied-piping in Koopman & Szabolcsi 2000.

morphology. If the above analysis is correct we would expect an *f-* nominalization to be possible with this form and this is borne out: *fangalarina* 'habitually thievish; a confirmed thief'. This is also true for m-i-ady (*miady*) 'fight' → *fiadina* 'a war lover'. *hataka* ==> *mangataka* (AF) ==> *angatahina* (TF) 'asks'; *fangatahina* 'request??' -

If the above analysis is on the right track the obvious question is why this should be so. In other words, why does the nominalizer require the presence of Voice$_{AT}$ morphology on the verbal stem. Paul (1996a), based on Grimshaw (1990), suggests that this restriction may have to do with the licensing of argument structure. Grimshaw (1990) proposes that nominalization (like passivization) includes a process of external argument demotion or suppression. Therefore, since the external argument of passives has already been suppressed, passives can never nominalize. There are a number of facts that suggest that this is not the most suitable approach, at least for Malagasy. First of all this predicts that nominalizations of all TT-forms should be unavailable, but this is not the case as we will see in the following section. In fact, a limited number of prefixed *a-* TT forms are available in the language. Furthermore, it is not the case that TT forms suffixed with *–in* do not have an external argument. In fact, contrary to English, the external argument is not usually missing in Malagasy TT forms. Keenan & Manorohanta (2001) in a quantitative study of voice morphology in Malagasy, have shown that the external argument is present in around 65% of TT forms in novels and around 41% in newspapers. English in comparison exhibits overt external arguments with passives in only around 17-20% of cases. In fact, as Keenan & Manorohanta (2001:79-80) explain, the Malagasy

percentage may be even higher if we include numerous cases of TT forms where the external argument is controlled by a DP in a higher predicate. Therefore, strictly in number terms, the external argument does not seem to be demoted in Malagasy, at least no more demoted than the external argument in CT forms, which nominalize in a very productive way. Paul (1996a) further argues that AT and CT forms can be the input to nominalizations because, contrary to TT forms they contain the AT affixes *an-/i-* which add a VP shell to the structure, introducing the external argument. No such affix is present in TT forms. As we have seen this seems to be on the right track but more needs to be said as to the reasons for such a requirement. This is correlates to the analysis of the trigger as an A'-element and not an A-element, presented in Chapter 2.

The requirement then for Voice$_{AT}$ morphology in *f*-nominalizations remains a mystery, and at this point must be attributed to a language specific property of Malagsy *f*-. This lexical (i.e. selection) property of a functional element is exactly the type of property that should exhibit cross-linguistic variation. In other Austronesian languages, low 'lexical' nominalizations are productively formed from the TT voice of the verb. In Yami for example (Rau 2002), theme (or object) nominalizations are formed productively from TT verbal forms (derived by suffixing *-en* to the verbal root) without the addition of an overt nominalizer:

90. a. ya   na   kan.en   no   kanakan o   soli
        TNS   3SG   eat.TT   GEN   child   NOM taro
        'The child is eating the taro.'

    b. kan "to eat"   →   kan.en   "food, starch"

176

akaw "to dig"   →   akaw.en   "field of taros"
palit "to exchange"   →   pi-palit-en "things in exchange"

Contrary to Malagasy the CT voice morphology in Yami (at least the one that promotes location DPs) consists only of the suffix *-an*. Not surprisingly then locative nominalizations do not require the AT prefix *m-* or infix *-om-*, in Yami:

91. a.   kan "to eat"   →   kan.an   "place where one eats, cafeteria"
         kozong "to pack"   →   kozong-an "place one packs something in"
         saway "to escape"   →   saway-an   "place one escapes from"

Similar patterns exist in Mayrinax Atayal (Huang 2002); Tagalog (Schachter and Otanes 1972); and others. Therefore, it is clear the requirement for VoiceAT morphology in nominalizations is a lexical property of *f-*.

Before closing this section on TT nominalizations a further issue needs to be discussed. In Malagasy as we have seen, the addition of a separate causative morpheme *amp-* (which is decomposable to the lower AT causative *an-* plus the nominalizer *f-*, see Chapter 2), adds a higher VP which introduces a causer in its specifier, e.g. *miasa* (to work) versus *mampiasa* ('to employ', lit. 'to cause to work'). The causative forms can further form TT verbs by suffixing *-in*: *ampiasaina* ('caused to work; be employed). In English, addition of the nominalizer *-er*, derives the agentive nominalization *employer* ('one who employs'). In the case that a nominalization denoting the subject of the lower VP needs to be formed, English employs the nominalizer *-ee*, (e.g. *employee* ('one who

is employed'). In this respect *employee* may be construed as a nominalization that promotes the theme to the specifier of the nominalizer/complementizer through a passivization-like process. In Malagasy, the corresponding process would involve prefixation of *f-* (or agentive *mp-*) to the TT form *ampiasaina* deriving the ungrammatical forms **fampiasain(a)/*mpampiasaina* ('one who is employed'/'employee'). If the causative *amp-* contains the AT prefix *an-* then following the discussion above we would expect these forms to be grammatical. I propose that their ungrammaticality is due to some form of 'blocking'. In Malagasy the same argument may be promoted by attaching VoiceP$_{AT}$ above the lower VP: *iasa* → *mpiasa* ('worker', 'employee'). Thus, since the language has a more economic way to derive these nominalizations, nominalization of the TT form is not available.

3.5.1 A (Possible) Exception: *a*-Prefixed TTs

There is only one exception, to my knowledge, to the fact that TT-forms cannot be the input to *f*-nominalizations. Verbal stems, formed by attaching the TT prefix *a-* to the verbal root can form a very limited number of *f*-nominalizations. The extremely low productivity of these nominalizations is noticed in Keenan & Polinsky (1998: 623, fn15), who mention the form *faleha* (path walked on) as the only case; Rasoloson & Rubino 2005, mention a few more cases. Some examples are provided in (92):

92.	ROOT	GLOSS	TT-FORM	GLOSS	*f*-NOMINAL	GLOSS
a.	leha*	(go)	aleha	'to be gone on'	faleha	'path'
b.	lefa	'sent'	alefa	'to be sent/shipped'	falefa	'sth usually sent'

178

c.	seho*	(show)	aseho	'to be shown'	faseha	'sth usually displayed'
d.	tao	'sth done'	atao	'to be done'	fatao	'sth usually done'
e.	rehitra	'burn'	arehitra	'to be burned'	farehitra	'name of plant habitually burned to create hair cosmetics)

Notice that most of the transitive verbs in (92) select for an object that becomes displaced because of the action that the verb denotes. This is the case with most verbs that *a*-TTs are formed on, including *eleza* 'scatter, spread, sow', *hantona* 'hang', *idina* 'descent', *janona* 'stop (tr.)', *joro* 'set up, erect', *latsaka* 'lower', *tsangana* 'raise', and *tosika* 'push'. In the relevant literature (c.f. Pearson 2001, 2005; Paul 1999) the *a*-passive is realized when the 'locatum' argument of a double object construction involving a small clause is promoted to trigger. In Pearson's analysis (1998b) (see also Paul 1999 for a somewhat different approach) the *a*-prefix receives a similar treatment to *m*- and *–ina* voice affixes. He assumes a low functional head F which checks the case feature of the 'locatum'. F takes the VP containing the root as its complement and projects an FP, selected as the complement of the applicative head which hosts *–an* and checks the case feature of the primary object.

93.   [$_{WhP}$ **Op**$_i$ ... [$_{vP}$ t$_i$ [$_{v'}$ (DP) v [$_{AspP}$ [$_{VP}$ DP [$_{FP}$ t$_i$ [$_{F'}$ F [$_{VP}$ t$_i$ ... V ...
               Ø   a-   ROOT

The mechanism of how *a*-TT clauses are derived is irrelevant here. The important observation is that *a*- heads a voice projection that is very low in the structure, above VP, possibly the same projection that hosts the AT prefix *a*- which attaches to stative roots (roughly translated as 'be in X'). This makes sense if *a*- promotes locata, i.e. entities that

179

are interpreted as displaced, caused to be in X, where X denotes a location. For example, in AT forms the nominal root *fana* 'heat' derives *m.a.fana* (hot; be in heat); *hia* 'leanness' derives *m.a.hia* 'lean; be thin' and so on. In TT forms, following the discussion above, a root like *tolotra* 'offering' derives the TT form *a.tolotra* (be offered to X) which may be represented structurally as 'be in possession of X'; *latsaka* 'fallen down' derives the TT form *a.latsaka* 'to be in the state/location of fallen down'; and so on. If this is on the right track then the limited productivity of *f*-TT nominalizations containing the prefix *a*- may be related to the limited productivity of *f*-AT nominalizations with the prefix *a*-. *a*-prefixed AT forms derive only a limited number of *f*-nominals:

94. | RT | GLOSS | AT-FORM | *f*-AT | GLOSS |
|---|---|---|---|---|
| a. tory | 'sleep' | matory | fatory | '(manner of) sleeping' |
| b. hita | 'see' | mahita | fahita[9] | '(manner of) seeing' |
| c. toky | 'trust' | matoky | ?*fatoky | '(manner of) trusting' |
| d. loto | 'dirt' | maloto | * faloto | 'habitually dirty' |
| e. hery | 'strength' | mahery | *fahery | 'always strong' |

At this point I have no explanation as to why participant nominalizations are incompatible with stative verbs (c.f. English ?knower, ?seer, ?*truster). Most likely the answer is related to the fact that attachment of *–er* is accompanied by a change of state and thus requires more structure than the one provided by stative predicates. This would also explain why *–er* does not attach to adjectives (c.f. *bluer/ 'one who is blue'; *handsomer /'one who is handsome'). The interesting fact is that *a*- prefixed TTs (if in

---

[9] As in *fahita lavitra* (habitually seeing from a distance) for television (c.f. section 3.1.1.1 for instrumental f-AT nominalizations)

180

fact states) follow the pattern of non-productivity[10] that the formation of English nominalizations from state verbs exhibits. However, the fact that these limited forms exist provide a further argument against Paul (1996a) who argues that nominalization of passive forms is not available in the language.

3.6 Agentive Nominalizations

3.6.1 General Properties

Malagasy uses the prefix *mp-* (pronounced /p/), to form agentive nominalizations that are roughly translated in English as *–er* nominalizations. Some examples are provided in (95)[11]:

95.	ROOT	GLOSS	AT-FORM	*mp*-NOMINAL	GLOSS
a.	halatra	'theft'	mangalatra	mpangalatra	'thief'
b.	soratra	'writing'	manoratra	mpanoratra	'writer, an author'
c.	asa	'work'	miasa	mpiasa	'worker, employee'
d.	valy	'field'	mampoly	mpampoly	'farmer'

An obvious question at this point is why include *mp-* agentive nominalizations in Malagasy in a chapter dealing with *f-* nominalizations. From a methodological point of

---

[10] The limited productivity of *f-*TT nominalizations from *a-*TT verbal forms can be attributed to the fact that the meaning they convey can also be conveyed by *f-*AT manner nominalizations. Thus, for example, the *f-*TT nominal *fatao/*'custom' (lit. 'way things are customarily done') is used in some northern dialects of Malagasy but is preempted in the standard language by the *f-*AT form *fanao* ('custom' (lit. 'way of doing things customarily'). In other words, the limited productivity of these *f-*TT nominalizations is due to some form of 'blocking', (Aronoff 1976:43), i.e. the process that restricts the formation of a potentially regular form due to the presence in the language of another synonymous (or near synonymous) form (e.g. English *thief/*stealer*).

[11] I will transcribe agentive nominals following orthography rather than pronunciation. In all the given forms the initial m̲ is unpronounced.

view it makes sense to include agentive nominalizations in a chapter that discusses all other participant nominalizations in the language. However, the connection between *f-*nominalizations and *mp-*agentive nominalizations may be stronger than initially assumed. In most traditional accounts of Malagasy, *mp-* is taken to be an independent morpheme that marks agentive nominals. No explanation is given as to the peculiar mismatch between its orthographic form and its pronunciation. In the grammars of some dialects the orthography is given as [p] to match the pronunciation (c.f. Rabenilaina 1983 for the dialect Bara). Rajaona (1977) speculates that its establishment during the codification of Malagasy orthography in 1820 (initiated by Radama I) may have been based on the causative/agentive prefix *amp-* or *omp-* which is still used in some Malagasy dialects as a marker of agentive nominals. This prefix evolved to /p/ (orthographically *mp-*) after deletion of the initial syllable and denasalization of the initial labial consonant. Thus, the orthography may reflect an earlier stage in the development of the affix. As possible support, Rajaona (1977:75f4) cites early Malagasy texts that present forms such as *ompandriorio* (vagabond) and *ompamosavy* (wizard)[12,13]. Certain Malagasy regional dialects still retain this initial prefix *omp-* or *amp-* in the formation of agentive nominals. Compare for example the Merina and Sakalava (Thomas-Fattier 1982:86) dialect forms for the following agentive nominals:

96.		ROOT	GLOSS	MERINA	SAKALAVA	GLOSS
	a.	nono	'suckle'	mpinono	ampinono	'child that suckles'

[12] In fact the modern Malagasy word for wizard is *ombiasa* or *ombiasy*, a word that seems to retain the initial prefix *omp-* (Rajaona 1977).

[13] From the document Un texte arabico-malgache du XVIe siécle and from Dictionnaire de la langue malgache, Flacourt, Paris, 1658.

b. zaka	'borne'	mpanjaka ampanjaka	'royalty (king or queen)'
c. soratra	'writing'	mpanoratra ampanoratra	'writer, author'

As a causative, *amp-* is preserved in modern Malagasy as a secondary prefix that forms causative verbs: *anatra* (advice) → *m.i.anatra* (study) → *m.amp.i.anatra* (teach). As I have shown, I have followed Hing 1988; Paul 1996a; and Travis 2000 in their decomposition of this prefix as bimorphemic consisting of *an-* and *f-*, and I have presented additional evidence for the fact that *f-* is a nominalizer C defining a phase.

In early work (Ferrand 1904) initial *omp-* is decomposed into two different prefixes: an initial nominalizer *on-* that was productive in an earlier stage of the history of the language and the agentive nominalizer *mp-* (*on.mp-* → *omp-*). The affix *on-* seems to have been a nominalizer attaching mainly to adjectives to create [+HUMAN] nominals. Ferrand (1904) cites the following examples:

97.	Root	Gloss	*on*-NOMINAL	Gloss
a.	kely	'small'	onkely	'small people'
b.	kafiry	'avaricious'	onkafiry	'infidel?'
c.	tia	'love'	ontia	'lover'

Rajaona (1977) notes that *on-* seemed to be very productive with adjectives so it makes more sense to assume that *omp-* was created by prefixing *on-* to the habitual prefix *f-* that replaces *m-* in adjectives to add a habitual interpretation. Compare for example modern Malagasy *m.arofy* (sick/ill) → *f.arofy* (habitually ill/invalid). An immediate advantage of

183

such an approach is that *on-* retains its subcategorization properties; it selects for adjectives only.

In other traditional and recent grammars of Malagasy proposals for decomposition of *mp-* are dismissed (see for example Fugier (1999:41)). The main argument for these approaches is that despite its orthography the affix is pronounced as a single phoneme /p/ and thus there is no reason to attempt a decomposition. However, such approaches have nothing to say for the peculiar orthography of the morpheme. In the approach adopted here I will try to incorporate the insights of earlier work (c.f. Ferrand 1904; Rajaona 1977) in combination with recent approaches within generative grammar that try to decompose *mp-* to a combination of aspectual/agentive verbal marker *m-* and the general nominalizer *f-* (Hung 1988; Thyme 1989; Travis 2000; Paul 1996a). Given the phonology of the language which includes a process of stopping of continuants in the environment of a nasal (c.f. *m.an* + *voly* → *mamboly* (to plant); *an- fofoana* → *am-pofoana* (on the bossom), (see Keenan & Razafimamonjy 1996 for discussion) it is logical to assume such a process. There are a number of synchronic reasons that support such an assumption.

First of all it is clear that *mp-* encompasses the two properties that are associated with *m-* (and historically *on-*) and *f-*: the initiator feature and the habitual interpretation respectively. With respect to the initiator, this is a property mostly associated with agentive nominals. In this respect *m-* acts as a linker that promotes the higher argument of

184

VoicePAT, which in most cases is a causer or an experiencer, both roles usually also interpreted as [+HUMAN][14].

Malagasy is special in that it differentiates morphologically between agentive and instrumental nominals which in a number of languages have similar forms (c.f. Comrie & Thompson, 1985). In English for example the suffix –er designates both instrumental and agentive nominalizations:

98.   ROOT   *er*-NOMINAL
    a. remove   remover
    b. wipe   wiper
    c. write   writer
    d. read   reader
    e. kill   killer
    f. send   sender

Some of the nominals in (98) can be interpreted as either agentive or instrumental depending on the context. Levin & Rappaport (1988) and van Hout & Roeper (1998) provide a number of tests that distinguish between the two interpretations. For, example a *lawn-mower* can be a person or a machine mowing the lawn. On the other hand if the internal argument is expressed with an *of*-phrase as in *the mower of the lawn*, the interpretation becomes unambiguously agentive. Similar tests apply to Malagasy, however, here morphology is the first indicator of which is the appropriate meaning: *mp-*

---

[14] The only exception to this generalization is 'tools', i.e. instruments that may appear independently in trigger position.

185

nominals are exclusively agentive while *f*-nominals are interpreted as instrumental. There are a couple of exceptions as we have already seen (c.f. section 3.1.1.1, for instrumental *f*-nominals with a [+HUMAN] interpretation). Some *mp*-nominals also appear to be exceptional in that they allow for a [-HUMAN] interpretation when the context forces it. The only example that I have been able to find so far is drawn from a first grade reader (Giambrone 1987):

99.   ny fifamoivoizana an-dranomasina izay ias.an'ireo   sambo
         D transportation LOC-sea   REL use.TT/LNK'DEM ship
         mp.i.tatitra   olona   sy   **mp.i.tatitra**   entana.
         NML.AT.transport people and NML.AT.transport   baggage
         '... the transportation in the sea which uses ships (which are) transporters of
         people and transporters of baggage'

The agentive nominal *mpitatitra* in its normal use is interpreted as 'one engaged in the transport business' (c.f. Hallanger 1973:77), i.e. has a [+HUMAN] interpretation. However, in (99) the nominal is obligatorily interpreted as [-HUMAN] because it is identified with the preceding noun *sambo* (ship), which it modifies in a relative clause structure. However, these uses of *mp*-nominals seem to be extremely rare and may be understood as assuming a human-like behavior for the inanimate entities they stand for. Thus a transporter ship may be construed as human-like in this specific environment possibly by association with the actual person that sails or owns the ship.

The assumption that *mp*- contains *f*- is strengthened by the fact that *mp*- derives nominals related to events that are predominantly interpreted as habitual/frequentative similarly to

f- (Rajaona (1972:645); Dez (1980:101-102); Parker 1883:32. Parker (1883:32) distinguishes between *mpamono* 'a man who often and habitually murders; a regular assassin' and *mamono* 'a man who perhaps only once murders'. Given this interpretation, it is not surprising that *mp-* is used to derive nominals that designate names of professions (e.g. *mpaka sary* (photographer; *lit 'taker (of) picture'*); *mpandrafitra* (carpenter); *mpanefy* (blacksmith); and so on)[15]. In this use the *mp*-nominalizations exhibit properties that group them together with *f-*AT nominals of the instrument or result type in that they do not take internal arguments expressed with accusative case[16]:

100.a. * n.a.hita ny mp.an.ao ny volo.n-dRabe aho omaly
      see.1SG.GEN D NML.AT.do D hair.LNK.Rabe 1SG/NOM yesterday
      'Yesterday, I saw the [Rabe's hair]dresser.'

b.* n.a.hita ny mp.an.asa ny lamba.n-dRasoa aho omaly
    see.1SG.GEN D NML.AT.wash D clothe.LNK.Rabe 1SG/NOM yesterday
    'Yesterday, I saw the [Rasoa's cloth]washer.'

Consider also the following examples:

101.a. ny mp.amp.i.anatra azy
     D NML.CAUS.AT.study 3/ACC
     'The one who teaches him/her/them...'

b. ny mp.amp.i.ana.ny
   D NML.CAUS.AT.study. 3/GEN

---

[15] This is not always the case however. Given the appropriate context, *mp-* can denote an actor that has participated in the action denoted by the verb only once. For example, *mpilomano* 'one who swims; swimmer', can refer to a habitual swimmer or to someone that just got out of the sea. This latter use though is not very productive, it is context dependent, and in most cases a clausal nominalization (i.e. a headless relative clause *ny milomano*) would be preferred.

[16] The sentences are of course grammatical when the interpretation of the nominalized string is not that of a profession (e.g. 'hairdresser') but of a headless relative ('the one that (habitually) washes hair').

187

'His teacher (the one he/she hired/employs/ and so on...'

c. * ny mp.amp.i.ana.ny azy
   D NML.CAUS.AT.study. 3/GEN
   'His teacher (the one he/she hired/employs/ and so on...to teach him'

Thus, when the internal argument is expressed with accusative case marking, an overt genitive is no longer possible. Thus the structure contained in profession naming *mp*-nominals must be smaller than the one contained in other *mp*-nominalizations. The fact that these nominals cannot take accusative-marked themes and cannot be modified by adverbs or denote an event, indicates that their structure is at least as small as that contained in *f*-AT instrumental nominalizations or *f*-AT result nominals. This predicts that *mp*-nominals denoting profession names should be able to appear with indefinite/bare themes and this is the case as the following examples indicate:

102. AT	GLOSS	THEME	GL.	*mp*-NOMINAL	GLOSS
a. maka	*'to take'*	sary	*'picture'*	mpaka sary	*'photographer; one that takes pictures'*
b. manao	*'to make'*	kiraro	*'shoe'*	mpanao kiraro	*'shoemaker'*
c. mandrafitra	*'to make'*	vato	*'stone'*	mpandrafi-bato	*'mason; one that works on stone'*
d. manety	*'to cut)' (with scissors)*	volo	*'hair'*	mpanety volo	*'hairdresser'*

In all the above cases the themes cannot be modified by low adjectives, appear as definite DPs, and so on. If the *mp*-nominalization however is not used as a profession name but denotes someone who (habitually) engages in the act of V-ing, then the internal argument of the nominalized verb can appear as a definite DP and be modified. Furthermore,

188

adverbial modification and the event-denoting ability become available (c.f. examples in (111)-(112). I will leave the discussion of how these properties of professional-denoting *mp*-nominalizations can be derived from the size of syntactic structure contained within the nominalization for section 3.2.

A stronger argument for treating *mp-* as a combination of *f-* plus *m-* has to do with the subcategorization properties of the two affixes. The set of subcategorization properties of the *mp-* prefix is equal to the intersection of the sets of subcategorization properties of the *m-* and *f-* prefixes. Thus, *m-* is compatible only with AT verbal forms and does not appear with TT and CT forms. The same is true for *mp-*: *anatra* 'study' – *mianatra* (AT form) 'to study' - *mpianatra* 'student' – *ianarana* (CT & TT form) - **mpianarana*. As claimed here *f-* can merge at different heights in the structure (with the requirement that there is a Voice$_{AT}$ affix in its local environment). However, there are some gaps in this distribution. Firstly, *f-* does not merge at the lowest root level (c.f. examples in (77)), but requires some prior voice morphology attachment. This is also true for *mp-* nominals as the following examples illustrate:

103.

	ROOT	GLOSS	*mp*-NOMINAL		GLOSS
a.	anatra	'instruction'	*mpanatra	√mpianatra	'student'
b.	avotra	'redemption'	*mpavotra	√mpanavotra	'redeemer; rescuer'
c.	asa	'work'	*mpasa	√mpiasa	'emploee'
d.	ompy	'cow'	*mpompy	√mpiompy	'cattle-raiser'

Furthermore, given its use as a nominalizer of AT verbal forms deriving instrumental or manner nominals *f-* does not easily combine with *a-* prefixed AT forms which denote

189

states (e.g. adjectival forms). Semantically a habitual aspectual marker such as *f-* is incompatible with states which are inherently imperfective. In addition, instrumental or manner *f-*AT nominalizations are not compatible with states (c.f. Rajaona 1972:507). While Keenan & Polinsky (1998) show that *mp-* resists affixation to stative *a-* prefixed AT forms, the picture turns out more nuanced, with some of the consultants who accepted some forms and rejected others. The patterns are summarized in (104): the generalization seems that some forms that involve some kind of activity are compatible with both *f-* and *mp-* nominalizations while fully stative verbs (i.e. adjectival) are considered ungrammatical. The important observation is that when *f-* is compatible with a stem, so is *mp-* (the judgments in (104) reflect the intuitions of 5 speakers):

104.	RT	GLOSS	AT-FORM	*f-*AT	GLOSS	*mp-*AT	GLOSS
a.	tory	'sleep'	matory	fatory	'(manner of) sleeping'	mpatory	'one who sleeps'
b.	hita	'see'	mahita	fahita[17]	'(manner of) seeing'	mpahita	'one who sees'
c.	toky	'trust'	matoky	?*fatoky	'(manner of) trusting'	?*mpatoky	'one who trusts'
d.	loto	'dirt'	maloto	* faloto	'habitually dirty'	*mpaloto	'one who is dirty'
e.	hery	'strength'	mahery	*fahery	'always strong'	*mpahery	'one who is strong'

Finally, both *f-* (c.f. 53.c-53.d) and *mp-* nominalizations are compatible with causative (105.a-105.b), and reciprocal (105.c-105.d) affixes:

105.	AT-Form	GLOSS	*mp-*NOMINAL	GLOSS
a.	m.amp.i.anatra	'to teach'	mp.amp.i.anatra	'teacher'
b.	m.amp.iasa	'to employ'	mp.amp.i.asa	'employer'
c.	m.if.an.oratra	'write e.o.'	mp.if.an.oratra	'writers to e.o.'
d.	m.if.an.erasera	'frequent e.o.'	mp.if.an.erasera	'people who frequent e.o.'

[17] As in *fahita lavitra* (habitually seeing from a distance) for television (c.f. section 3.1.1.1 for instrumental f-AT nominalizations)

190

Summarizing, historical considerations, dialectal evidence, phonological patterns and syntactic evidence seem to indicate that the agentive nominalizer *mp-* is decomposable to the linker *m-* and the across-the-board nominalizer *f-* in Malagasy.

3.6.2 Nominal/Verbal Properties of *mp*-nominals

The distribution of *mp*-nominals is similar to that of other *f*-nominalizations. They are easily selected by D-elements such as the definite determiner (106.a) and demonstratives (106.b) and can be modified by adjectives (106.c), numerals (106.d), relative clauses (106.e) and quantifiers (106.f):

106. a. n.an.asa   [ny mp.aka   sary]   i Rasoa t.ami.n'ny f.an.ambadi.ana
       PST.AT.invite D   NML.take picture D Rasoa PST.for.LNK'D NML.AT.marry.CT
       'Rasoa invited the photographers to the wedding.'

   b. [iretsy mp.an.galatra iretsy] dia voa.sambotra omaly.
      DEM NML.AT.steal DEM TOP   TT.arrest   yesterday
      'These thieves were arrested yesterday.'

   c. [mp.aka   sary   m.a.hay]   i   Rabe
      NML.take   picture ASP.AT.able D   Rabe
      'Rabe is a good photographer.'

   d. n.an.asa   [mp.aka   sary   telo] i Rasoa t.ami.n'ny f.an.ambadi.ana
      PST.AT.invite NML.take picture three D Rasoa PST.for.LNK'D NML.AT.marry.CT
      'Rasoa invited three photographers to the wedding.'

   e. n.i.lefa   [ny mp.an.galatra (izay) no.sambor.in'ny polisy   omaly]
      PST.AT.escape D   NML.AT.steal (REL) PST.arrest.TT/LNK'D police yesterday
      'The thieves that the police arrested yesterday escaped.'

   f. n.an.dao   aloha [avokoa ireo mpaka   sary   rehetra]
      PST.AT.go   early all   DEM NML.take picture all
      'All the photographers left early.'

191

Similarly to *f*-nominalizations, the situation becomes more complicated when the theme of the nominalized verb is expressed as a definite DP. In these cases, anything below the D level which hosts the definite determiner *ny*, demonstratives, and quantifiers, seems to become unavailable. One would expect adjectives for example to appear following the string nominalized verb-internal argument. However, this position is unavailable:

107. * Rabe sy Rakoto dia mp.an.galatra ny akohon-dRasoa gaigy lahy
       Rabe and Rakoto TOP NML.AT.steal D chicken.LNK'Rasoa clever men
       'Rabe and Rasoa are clever thieves of Rasoa's chicken.'

While at this point I don't have a full account for these facts, one possibility would be to assume that the introduction of a definite DP theme in the nominalization activates the event projection and the adverbial field in these nominalizations. If an event argument is present then eventive adverbial modifiers become available. Some further evidence for this is provided from the distribution of phrasal (DP) adverbials, as in the following examples:

108. a. ny mpampianatra   an-dRasoa isan'andro....
        D NML.CAUS.AT.learn ACC-Rasoa every day
        'The (one who) teaches Rasoa every day...'

     b.?ny mpampianatra   isan'andro....
        D NML.CAUS.AT.learn every day
        'The (one who) teaches every day...'

     c.*ny profesora   isan'andro....
        D professor   every day
        'The professor every day...'

192

In (108.a) the frequentative adverbial *isan'andro* modifies the event denoted by the nominalization. However, as (108.b) shows, such modification is somewhat strange when no definite theme DP is present. This seems to indicate that the event argument is not present in these cases. Finally, a borrowed noun that presumably does not denote an event is fully ungrammatical when modified by a frequentative adverbial (c.f. (108.c)). Furthermore, some modifiers are used predominantly with verbal strings and very rarely function as adjectives (see Ntelitheos 2005) (e.g. *mbola* (still), *matetika* (often/ frequently), *foana* (always), and others). For example they do not easily form predicates, as most adjectives do in Malagasy (109):

109.?? matetika/foana ny f.an.dehan.an-dRabe   any   an-tsekoli.n'ny   zaza.ny
        often //always   D   NML.AT.go.CT/LNK-Rabe there   LOC-school.LNK'D child.3GEN
        'The going of Rabe to his child's school is often/ always.'

These modifiers are possible with agentive (110.a) and *f*-CT nominalizations (110.b) but not with *f*-AT nominalizations (110.c), as we have already seen (section 3.1.2), nor with common nouns (c.f. (110.d)):

110.a. [ny mbola mp.aha.ndro sakafo   matetika]nadia antitra aza   dia   i Rasoa
         D still   NML.AT.cook food   often   even   aged   though TOP   D Rasoa
         'The one that still cooks food often even though she is old is Rasoa.'

    b. [ny f.an.doah.an-dRabe   rindrina foana]   dia   ilay   fantsika
           D   NML.AT.drill.CT/LNK-Rabe   wall   always   TOP   DEM   nail
           'The (instrument for) Rabe's always drilling walls is this nail.'

    c. * [ny   f.an.ala.hidy   foana]   dia   an-dRabe
           D   NML.AT.remove.lock always]   TOP   ACC-Rabe
           'The (instrument that) always removes locks is Rabe's'

193

d.?? ny mbola profesera-na teny gasy matetika na dia antitra aza dia Rasoa
     D still professor-PRT lang. Malagasy often even aged though TOP Rasoa
     'The one who is still professor of Malagasy often even though she is old is
     Rasoe'

We have to conclude therefore, that adjectival modification is constrained when agentive and *f*-CT nominalizations contain an expressed definite theme argument. However, when both of them function as common nouns without event structure (i.e. as names of professions or instruments) adjectival modification becomes possible again (c.f. (106.c)).

As we have seen, *mp*-nominals require AT voice morphology[18] and allow for secondary verbal morphology such as causatives and reciprocals. A further clausal property of agentive nominals is that they also preserve (inherit) the subcategorization properties of the verb they are derived from, and like *f*-CT nominalizations they maintain the case licensing properties of the involved arguments, contrary to languages like English:

111. a. m.amp.i.anatra   an-dRabe aho   omaly
      ASP.CAUS.AT.advice ACC.Rabe 1SG.NOM yesterday
      'Yesterday, I taught Rabe.'

    b. n.a.hita   ny mp.amp.i.anatra   an-dRabe aho   omaly
      see.1SG.GEN D   NML.CAUS.AT.advice   ACC.Rabe 1SG.NOM yesterday
      'Yesterday, I saw Rabe's teacher.'

---

[18] There are cases where the nominalizer seems to attach directly to the root, but these are the cases that involve roots that take directly aspectual prefixes as well, and are treated here as being selected by null voice morphology (see section 3.1.3): ex. *mpaka sary* (photographer).

194

In (111.b) the internal argument of *mpampianatra* (teacher), *Rabe*, appears with the accusative marker *an-*, exactly as the internal argument of the verb *mampianatra* in (111.a) does.

Adverbial modification is also possible with agentive nominals as we saw in the previous section. The adverb follows the string verb-indefinite object (112.b), as it does in main clauses (112.a):

112. a. m.aha.ndro   sakafo   matetika   Rabe
      ASP.ABL.cook food   often   Rabe
      'Rabe cooks food often'

    b. ny mp.aha.ndro   sakafo   matetika   dia   Rasoa
       D NML.ABL.cook   food   often   TOP Rasoa
       'Rasoa is the frequent cook of food'

Finally, the scrambling of definite objects that is possible in main clauses (see discussion in Chapter 2) is observed within agentive nominalizations as well. This seems to indicate that whatever position the definite object scrambles to (an inner topic projection), is also available within agentive nominalizations:

113. a. ny mp.aha.ndro   matetika ny   sakafo   dia   Rasoa
       D NML.ABL.cook   often   D   food   TOP Rasoa
       'Rasoa is the frequent cook of the food.'

3.7   Events and Episodes

A final clausal property that *mp*-nominalizations exhibit concerns eventive interpretations. In English there is a distinction with respect to whether an event is

195

implied between nominalizations with PP-arguments and compounds (Levin &
Rappaport 1988; Rappaport & Levin 1992; van Hout & Roeper 1998). Consider the
following examples:

114. a. The lawn-mower just walked in.
    b. The mower of the lawn just walked in

The lawn-mower in (114.a) may have just finished a lawn-mowing school and never
mowed a lawn in her life, while the mower of the lawn in (114.b) has mowed at least one
lawn. Van Hout & Roeper (1998) take this as evidence for the existence of functional
structure within the nominalization, which contains a TP and an AspP. The TP projection
is responsible for the event entailment and AspP deals with telicity. Given that neither
morphological nor semantic tense is present in these nominalizations (i.e. there is no
anchoring of the event denoted by the predicate in real time) I assume that a separate
projection EventP is responsible for binding the event variable. This projection is
available in (114.b) but not in(114.a) and this explains the difference in interpretation.
Similar facts are observed in Malagasy. *f*-AT instrumental nominalizations that form true
compounds with their internal arguments never imply an event. On the other hand *f*-CT
nominalizations and *mp*-nominals imply events when a definite internal argument is
expressed. Compare (115.a) to (115.b) and (115.c):

115. a. hita.ko   ny   f.an.ala.hidin-dRabe
     see.1SG/GEN   D   NML.AT.remove.lock.LNK-Rabe
     'I found Rabe's (instrument for) opening locks/key.'

196

b. n.a.hita   ny   mp.an.ala   ny   hidi.n-dRabe   aho
   PST.AT.see D   NML.AT.remove D   lock.LNK-Rabe   1SG/NOM
   'I saw the (one) that opens Rabe's locks.'

c. nandritry ny adiny telo   ny f.an.al.an-dRabe   ny hidi.n-dRasoa
   lasted   D hour three D NML.AT.remove.CT/LNK-Rabe D lock.LNK-Rabe
   'Rabe's opening Rasoa's locks lasted for three hours.'

In (115.a) with the compound formed by the *f*-AT instrumental and its internal argument no event of opening locks is implied. The key may never have been used to open a lock. On the other hand, in both (115.b) and (115.c) an event of 'lock-opening' is implied. This seems to indicate that the Event projection is not available in *f*-AT nominalizations but is available in *f*-CT nominalizations (with an expressed definite theme) and *mp*-nominals. Thus when the projection that hosts the definite theme becomes available, the Event projection also becomes available. This seems to indicate that the definite DP theme is above EventP, contrary to assumptions in Travis (2000); Pearson (2001; 2005).

What is not available in the *f*-CT and *mp*-nominals is an episodic reading. Both *f*-CT nominalizations and agentive nominals are interpreted as habitual/generic/abstract. As we have seen, an episodic reading may be available when forced by the context. However, when speakers want to refer to a specific episode they use headless relative clauses (to which I will turn in Chapter 4), c.f. Keenan & Polinsky 1998:617. Compare for example (116.a) to (116.b) and (116.c) to (116.d) (the last two from Rajaona (1972:645)):

116. a. ny f.an.doah.an-dRabe   rindrina dia ilay fantsika
        D NML.AT.drill.CT/LNK-Rabe wall   TOP DEM nail

'The (instrument for) Rabe's drilling (habitually) walls is this nail.'

b. ny n.an.doah.an-dRabe   rindrina (omaly)   dia   ilay   fantsika
   D PST.AT.drill.CT/LNK-Rabe wall   (yesterday) TOP   DEM   nail
   'The (instrument for) Rabe's drilling walls (yesterday) is this nail.'

c. hita.ko   ny mp.onina   ao   an-tanàna
   see.1SG/GEN D NML.inhabit   there(invis.) LOC-village
   'I saw the (ones) living in the village.'

d. hita.ko   ny m.onina   ao   an-tanàna
   see.1SG/GEN D ASP.inhabit there(invis.) LOC-village
   'I saw the (ones) (currently) staying in the village.'

In (116.a) the nominalization is interpreted as denoting an instrument that is used habitually by Rabe to drill holes, while in (116.b) the headless relative denotes an instrument that was used perhaps only once by Rabe. Similarly, in (116.c) the agentive nominal refers to people that were at the moment of the seeing event present at the town (including any visitors) while the headless relative in (116.d) refers to the permanent residents of the village (excluding visitors and any other people that are temporally there).

An immediately observed difference between the nominalizations of (116.a-116.c) and the headless relatives of (116.b-116.d) is that the latter contain a tense/aspectual morpheme while the former do not. In current approaches to the syntax/semantics of tense (c.f. Zagona 1990; Stowell 1996), tense orders the event relative to some reference time. This time is the moment of speaking in main clauses or the main predicate's event time in subordinate clauses. This partition of the time reference information predicts that only when tense is present is there obligatory anchoring of the event to some reference

198

time. If tense is not available, an event may be implied but it is not necessarily anchored. The prediction then is that tenseless nominalizations may not acquire an episodic interpretation while headless relatives can only be interpreted as episodic. This still leaves the option of allowing tenseless nominalizations with an episodic interpretation when some other mechanism can anchor the event relevant to the moment of speaking. In Malagasy for example this can be done when a preposition or locative adverbial is present, since both of these elements carry tense marking. Consider the following example (from Keenan & Polinsky 1998:615):

117. sosotra   ny mp.an.deha   t.any   Antsirabe fa ...
     frustrated D NML.AT.go   PST.there   Antsirabe because...
     'The ones that were going to Antsirabe were frustrated because...'

In (117) the nominalization can be interpreted as 'the ones that were going (at some particular moment)' because the locative adverbial *any* (there) is prefixed with the past tense marker *t-*. However, even in this context the speakers' preferred interpretation is 'used to go' and an unambiguous episodic interpretation would require a headless relative clause in the place of the agentive nominal, as in the following example:

118. sosotra   ny n.an.deha   t.any   Antsirabe fa ...
     frustrated D PST.AT.go   PST.there   Antsirabe because...
     'The ones that were going to Antsirabe were frustrated because...'

199

More evidence comes from manner nominalizations. These can be formed either by prefixing *f-* to the CT form of the verb or by a definite determiner selecting for a clausal tensed string. Consider the following examples:

119. a. haingana   ny f.a.handroan-dRabe   hena
         fast   D NML.AT.cook.CT/LNK-Rabe   meat
         'Rabe's cooking of meet was fast.'

     b. haingana   ny nahandroan-dRabe   hena
         fast   D PST.PFX.cook.CT.LNK-Rabe   meat
         'Rabe's cooking of meet was fast.'

In (119.a), with the *f*-CT manner nominalization, the predicate adjective is interpreted as modifying the manner of Rabe's habitually cooking the meet – i.e. he habitually cooks the meat in a fast manner. On the other hand, the same adjective characterizes the event as a whole in (119.b), i.e. the single event of Rabe's cooking the meat was fast. In the first case the actual cooking of the meat may have taken three hours but during these three hours Rabe was working fast, while in the second case the event lasted only a few minutes irrespective of whether Rabe was working in a fast or a relaxed manner. This seems to provide further support that the presence of tense in nominalizations anchors a single event in time, while lack of tense forces a habitual interpretation.

I take the data presented above as evidence that tense is not available in *f*-CT and *mp*-nominals, a fact that follows straightforwardly from the fact that the morphological

200

templates of these nominalizations do not include tense morphemes. Thus merging of the nominalizer in both cases must take place below the position where tense attaches.

I am in a position now to explain why the cases discussed in Section 3.1.2.1, example (47) repeated here as (120) are not attested:

120.* ny f.i.amben.an'   ny miaramila dia   ny   alarobia
       D NML.AT.watch.CT/LNK' D soldier   TOP D   Wednesday
      'The soldiers' (time for) watching is Wednesday.'

In the account adopted here these nominalizations would be formed by raising an operator from a clause-internal position to the specifier of the functional projection that is headed by the nominalizer f- (spec-CP). What would the launching site for the operator be? Given that the operator is interpreted as temporal (i.e. conveying information related to the time of the event described by the nominalization in relation to the time of speaking) the most natural slot for the operator is spec-TP. However, morphological and semantic evidence seems to support the fact that TP is not available within nominalizations. Therefore, there is no available site for the operator to merge and thus these types of nominalizations are excluded from the language.

This account makes the prediction that cross-linguistically nominalizations that contain a TP should be allowed to be interpreted as temporal. This is true, at least for Malagasy (example (45) repeated here as (121):

201

121. ny n.an.orat.an-dRasoa   ilay taratasy dia (tamin') ny roa sy dimy
     D PST.AT.write.CT/LNK-Rasoa DEM letter   TOP (PST.at') D two and five
    'The (time when) Rabe wrote this letter was five past two.'

This does not exclude cases where the promoted operator denotes time in some other sense, such as duration (time-interval). Given that functional elements that denote duration merge relatively lower than habitual aspectual elements (c.f. Cinque 1999) it is expected that *f-* nominalizations can contain durative aspect and thus derive nominals interpreted as 'the duration of ' or 'the season during which'. In fact, Malagasy has a productive form of nominalizations of this type, whereas *f-* attaches to verbalized stems of certain nominals. Verbalization takes place by adding the prefix *aha-* which may be decomposable to the general verbalizer *a-* plus the irrealis prefix *h-* (c.f. Phillips 2000; see also Chapter 2). Since the affix contains the irrealis prefix some reference to possible event times is implied. The following examples are from Dez 1980:115:

122.   ROOT GLOSS   *f-*NOMINAL GLOSS

	Root	Gloss	*f-*nominal	Gloss
a.	zaza	'child'	fahazaza	'during childhood''
b.	razana	'ancestor'	faharazana	'during ancestry'
c.	rary	'ill/sick'	faharary	'during the illness'
d.	varatra	'thunder'	fahavaratra	'thunder season; summer'
e.	Radama	'name of king'	fahaRadama	'during the time of Radama'

3.8   Variation in Height of Merger for *f-* and Distributional Gaps

I have shown that the nominalizer *f-* in Malagasy, merges at different heights in the verbal extended projection deriving strings with different morphosyntactic properties. The lower the attachment height the more nominal/fewer verbal properties the derived nominalization will have. This view poses two questions: what are the possible points in

202

the extended projection that nominalizers can merge and how can the correct ratio of nominal/verbal properties on the resulting nominalization be predicted?

The first question is dealt with here in correlation with the well-known aspectual properties of different nominalizations. Recent work on different nominalizations has shown that the aspectual properties which have been articulated for sentential syntax seem to become more explicit in nominalizations (Roeper 2005). Thus notions as 'result' and 'event' seem to define certain nominalizations (i.e. the distinction between complex event nominals and result nominals in Grimshaw 1990). Aspectual notions such as event and result have been associated with distinct syntactic nodes in a number of syntactic approaches (Travis 1991, 1994). I adopt the intuition that some sort of aspectual projection that encodes viewpoint aspect and is directly connected to the presence and shape of some predicate-dependent element (internal argument, prepositional modifier, and so on) is present in the verbal functional domain (Verkuyl 1989; Tenny 1994). Contra Travis (1991; 1994) I assume that AspP projects outside the thematic domain (above VoiceP. c.f. also Borer 1994; van Hout 1996; Alexiadou 2001a; Embick 2004; and others). I also relate this AspP with 'result state' i.e. the state related to the endpoint of the event denoted by the verb.

123.　　AspP

　　　　VoiceP

　　　　　√P

203
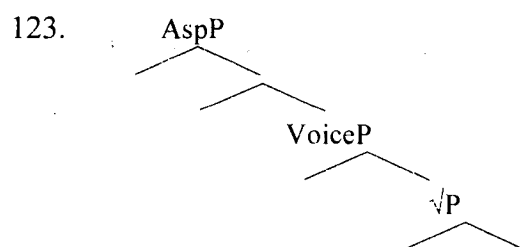
A higher aspectual projection is termed EventP following Travis 1994. While AspP scopes over the thematic domain and is related to the end point of the event, EventP scopes over the whole event and thus dominates all other verbal projections that are related with different aspects of the event. In some sense, EventP resembles ZeitP in Stowell's (1996) account. It closes off the event variable and is selected by Tense, which orders the event relative to some reference time. This time is the moment of speaking in main clauses or the main predicate's event time in subordinate clauses (Zagona 1990; Stowell 1996). In some accounts EventP is equivalent to VoiceP (or little vP) in that it licenses the external argument in its specifier. In the account adopted here, the phrase that is licensed in spec-EventP is more than just the external argument – it is the event initiator, i.e. an entity that can act autonomously, perhaps encoding a feature [+HUMAN] or [+VOLITION]. This is supported by the fact that triggers of AT verbs are predominately [+HUMAN], while instruments are rarely allowed[19] (examples from Paul 1999):

124.a. n.i.jery   f.a.hita   lavitra ny   vorona Rakoto

---

[19] The only instruments that are allowed to surface as triggers of AT verbs are so-called intermediary instruments, i.e. instruments that can be understood as eventive. This includes machines (called intermediary or instrument-causers by Rappaport & Levin (1992) and Kamp & Rossdeutscher (1994)) which act on their own (c.f. ii), but not facilitating or pure instruments which are under permanent control by a human agent (c.f. 124.b)

i. n.am.oha   an'i Koto t.ami.n'   · ny lakolosy   Rasoa
    PST.AT.wake   ACC'Koto PST.with.LNK' D   bell   Rasoa
    'Rasoa woke Koto with the bell.'

ii n.am.oha   an'i Koto ny lakolosy
    PST.AT.wake   ACC'Koto D   bell
    'The bell woke Koto.'

PST.AT.watch NML.AT.see far   D   bird   Rakoto
'Rakoto watched the birds with the binoculars.'

b. * m.i.jery   tsara (ny vorona) ny f.a.hita lavitra.
ASP.AT.watch well D   bird   D NML.AT.see far
'Binoculars watch birds well.'

Thus, when the Event head is present, it licenses only arguments that are [+HUMAN] or

otherwise construed as autonomous eventive entities and the same is true for the linker –

n(y) that realizes the Event head in non-active voices.

125.
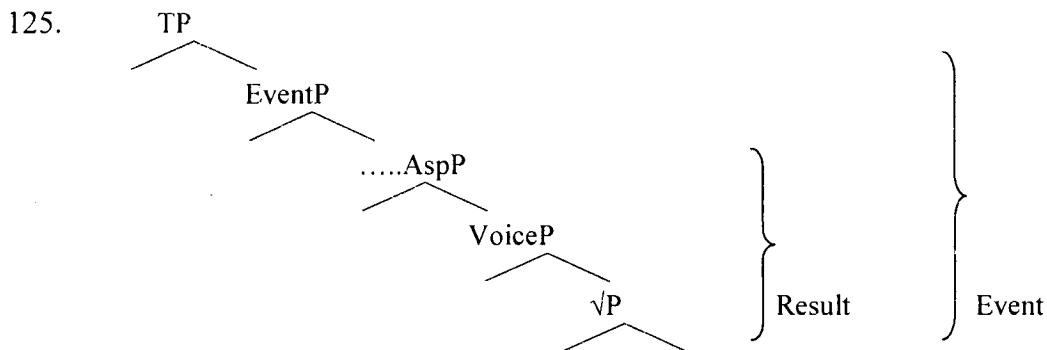
Certain substructures then are associated with certain aspectual properties. Connecting

the attachment height of the nominalizer *f-* to the two aspectual substructures captures the

properties of the derived nominalizations straightforwardly. Furthermore, the fact that

EventP merges higher than AspP predicts that *f*-nominalizations formed on EventP will

exhibit more verbal properties than *f*-nominalizations formed on AspP, including

adverbial modification by frequentive adverbs; accusative case marking on the internal

argument of the predicate; and the fact that complex event nominals always denote an

event. This is true not only for action *f*-nominalizations formed on the CT form of the

205

verb, but also for participant nominalizations with CT and AT forms of the verb that contain the Event head.

Now that we have seen in detail the morphosyntactic properties of *f*-nominalizations, we can return to the issues discussed in the introductory section of this chapter and see whether the data can enlighten the discussion. We have seen that traditional grammars and more recent morphosyntactic analyses (Keenan & Polinsky 1998; Paul 1996a; c.f. Travis 2000) treat *f*-nominals (or a subpart of *f*-nominals) as "lexical" in that they present a cluster of properties traditionally attributed to the lexicon: category-change, non-productivity, and meaning shift (non-compositional semantics). On the other hand, the proposals adopted here assume a purely syntactic account for these nominalizations, deriving the different morphosyntactic properties of different types of *f*-nominals from independent properties of the structures involved, as well as non-computational factors such as blocking.

Given the cartography I have independently established in Chapter 2, assuming different heights of attachment for *f*- yields a natural account for the different types of nominalizations involved, and yields a coherent picture. Malagasy allows for *f*- to attach above EventP and above AspP, forming CP-domains, where the aspectual heads act like lower tenses: $[_{CP} [_{AspP}]]$. Clearly, the heights of attachment of *f*- have to define phase boundaries – this is in accordance with what parts of structure can form phrasal idioms and also form an independent spell-out domain.

206

The proposal is supported by the empirical facts discussed in this chapter. Ordering nominal and verbal properties on a continuum, starting with purely nominal properties like adjectival modification and ending with a purely clausal property such as episodic reading (i.e. presence of a tense projection), the nominalizations examined in this chapter exhibit an interesting pattern as Table (126) illustrates:

126. Syntactic Properties of Malagasy Participant Nominalizations[20]

	f-AT (manner ; instrumental)	*f*-CT; *mp*-AT (event)
Incorporated Theme	YES	NO
Adjectival Modification	YES	NO
Possessor	YES	NO
D-elements (dem. & det)	YES	YES
DP Positions	YES	YES
Peudo-incorporation	NO	YES
Indefinite Theme	NO	YES
Secondary V-morphology	NO	YES
Definite Theme	NO	YES
Object Scrambling	NO	YES
Adverbial Modification	NO	YES
Eventive Reading	NO	YES
Episodic Reading	NO	NO

We see that the types of nominalizations on the left side of the table exhibit more nominal and less verbal properties contrary to the ones on the right side which exhibit mainly verbal properties. We have seen that tense morphology (i.e. the prefixes *n*- and *h*-) cannot surface in *f*-nominals. Furthermore, *f*-nominals are interpreted as habitual/generic, not allowing anchoring of the event denoted by the verb, and cannot be interpreted as

---

[20] In order to simplify the table I have omitted the patterns exhibited by result *f*-CT and *mp*- nominals.

temporal nominalizations. Thus, both morphological and semantic/interpretive cues indicate that a tense projection cannot be present inside *f*-nominalizations.

Perfective aspectual adverbs (*foana* 'always'), continuative adverbs (*mbola* 'still'), and frequentative adverbs (*matetika* 'often; frequently') are contained in *f*-CT and *mp*-AT nominals, so at least these aspectual projections are present. Also present is valency-changing morphology (causatives and reciprocals). Thus, all the functional layers up to tense seem to be available in these nominalizations. It is logical to assume then that *f*-nominalizations are formed just below the tense projection, dominating the projection where the event variable is bound (i.e. EventP). Such attachment would explain why in some approaches *f*- has been assumed to have an aspectual status (that of encoding habitual aspect, c.f. Rajaona 1972). The highest projection where *f*- attaches then is as follows (based on a partial hierarchy of projections as in Cinque 1999):

127.   CP$_N$

    f-   EventP

        FreqP

      matetika   ContinP

          mbola   PerfP

            foana   ......AspP

                  VoiceP$_{AT}$

                        √P

208
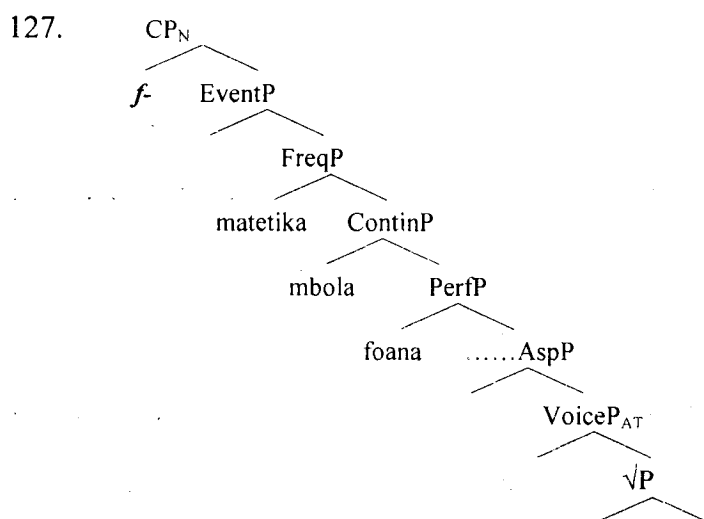
The *f*-nominals that contain this structure can be interpreted as eventive and this is why *f*-CT nominalizations very often denote actions and events. Similarly, *mp*-nominals always denote events when containing a definite theme. The distributional properties of *f*-CT and *mp*-AT nominals, as discussed in sections 3.3 and 3.6, follow straightforwardly from the structure in (127). AspP is available in the structure and thus these nominals can have definite, accusative-marked internal arguments; the projection where the external argument is licensed (LnkP) is available and thus linked subjects in these nominalizations have an agentive meaning and are not possessors; the functional domain where (low) adverbs merge is available (c.f. Cinque 1999) and thus adverbial modification is available inside these nominals; an event is always denoted by the nominal; since the verbal extended projection up to Tense is exhausted within the nominalization, the only nominal property that these nominals should be expected to exhibit is selection by D elements (D corresponding to C in the clausal domain).

The second limiting point, i.e. the lowest projection where *f*- can attach, must be above the root level as we have seen that *f*- cannot attach directly to roots (c.f. examples in (77)-(78), and (80) for *f*-nominals and (103) for *mp*-nominals) (some of them repeated here as (128)-(129)):

128. | | ROOT | GLOSS | *f*-NOMINAL | GLOSS |
|---|---|---|---|---|
| a. | babo | 'to be captured' | *fbabo | '(thing) that is captured' |
| b. | tratra | 'to be caught' | *ftratra | '(thing) that is caught' |
| d. | azoko | 'to be understood' | *fazoko | '(thing) that is understood' |
| f. | efa | 'to be completed' | *fefa | '(thing) that is completed' |
| h. | avy | 'to come' | *favy | 'coming' |

209

i.   lasa   'gone'   *flasa   'sth gone'

129. ROOT   GLOSS   *mp*-NOMINAL   GLOSS
   a. anatra 'instruction' *mpanatra √mpianatra 'student'
   c. asa   'work'   *mpasa   √mpiasa   'emploee'
   d. ompy   'cow'   *mpompy   √mpiompy   'cattle-raiser'

Therefore the lowest projection that f- merges must be above the lowest Voice projection (VoiceP$_{AT}$). This is of course further corroborated by the fact that the VoiceP$_{AT}$ affix always appears within nominalizations. If VoiceP$_{AT}$ introduces a CAUSER, then the use of VoiceP$_{AT}$ morphology in the formation of instrumental nominals that denote tools is explained, as well as the fact that only verbs that allow tool instrument as subjects can be nominalized. The tool instrument, i.e. a generic null NP (roughly translated as 'tool') is generated in spec-VoiceP$_{AT}$ and subsequently moves to the specifier of CP$_N$ deriving a nominalization with instrumental meaning. In addition, and following the discussion in section 3.2.2, manner adverbs require the presence of a particular subtype of Voice$_{AT}$. Movement of a null generic NP (MANNER) to the edge of f- is explained straightforwardly, since under any account manner is part of the Voice$_{AT}$ phase. Finally, since AspP denotes the result of an action (termed Asp$r$P in Pearson 2001, where r stands for result), f-AT nominals are expected to denote result nouns (sections 3.2.3 and 3.4).

130.
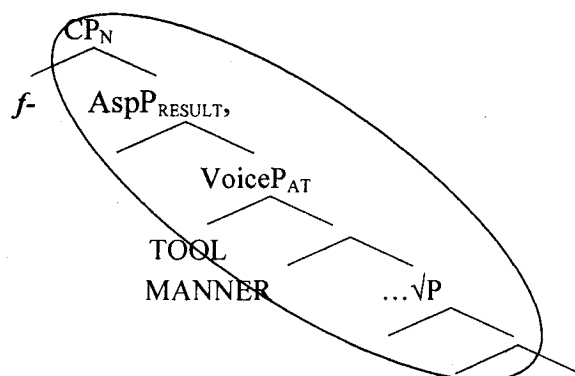
The structure in (**Error! Reference source not found.**) contains the lower thematic

domain at root level which introduces the arguments of the verb. The root selects for an

internal argument, while additional arguments (such as location or instrument) are

introduced in higher projections (in accordance with assumptions on the structural

encoding of verbal arguments in VP-shells (Larson 1988; Sportiche 2005). Finally,

manner adverbials merge at the edge of the thematic domain, at the voice projection

(following the discussion in section 3.2.2). We can assume an aspectual head (say

$AspP_{RESULT}$) dominated by *f-* in (**Error! Reference source not found.**). This would make

the structures in (127) and (**Error! Reference source not found.**) completely parallel.

Telic aspect would be above the nominalizer and thus definite themes would be excluded

from these nominalizations but indefinite themes (and consequently pseudo-

incorporation) would still be licensed in spec-$AspP_{RESULT}$ and thus they are expected to

surface with nominals derived at this level.

Furthermore, the structure in (**Error! Reference source not found.**) is compatible with

all the other properties of *f-*ATs as exemplified in Table 1. Since the higher adverbial

211

field (excluding manner adverbs) is introduced above the thematic domain, no adverbial modification revealing the presence of this domain is available with *f*-AT nominals. At the point where the nominalizer attaches, the extended projection changes from verbal to nominal. This means that the remaining functional domain will be nominal in nature and thus will allow for the licensing of adjectives, numerals, quantifiers, and relative clauses. Finally, possessors will also be available since a possessor selects for nominal strings.

Summarizing, the proposal is that in each type of nominalization, *f*- defines a CP-domain which contains a lower aspectual head and which is a phase. The idea that verbal arguments license their own phases, (structural domains that contain the verbal argument, a predicate, and possibly functional (or aspectual) projections) has been advocated in a number of decompositional accounts of the verbal/thematic domain (Sportiche 2005; Carnie & Barss to appear). Carnie & Barss propose that each verbal argument together with a predicate and a functional (aspectual) projection forms its own phase (for reasons of nominal interpretation that I will not discuss here). The idea is also implicit in Sportiche's decompositional approach to verbal predicates in which each verbal argument projects its own CP-like domain where number, case, and definiteness requirements are satisfied through movement to corresponding projections. Consider now the structures in (127) and **(Error! Reference source not found.)**. What I have in fact proposed is that nominalizers attach at the edge of such domains dominating the corresponding aspectual projection and inheriting somehow the aspectual properties of this projection (event nominals being interpreted as events and result nominals as results).

212

Furthermore, the interpretation of the resulting nominalization is related to elements that reside at the boundary of such phases: f-AT nominals are interpreted mainly as results, manner (the higher specifier in the domain) and instruments. They are never interpreted as themes (which merge quite low in the phase). Similarly, f-CT nominals and mp-AT nominals are interpreted as events (the specifier of the projection dominated by the nominalizer), agents, or instrumentals, locatives and less productively manner nominals (the immediately dominated projections). The fact that they are never interpreted as themes follows from the fact that the theme merges in the lower phase and is already sent to the interface. Thus the interpretation of a nominalization is also constrained by something like the 'phase impenetrability condition' (Chomsky 2001), i.e. it is identified as one of the elements at the boundary of the phase and cannot be related to elements deeply embedded in the phase. This is because the latter fail to move indicating that there are no unbounded relatives as nominalizations.

3.9 Structural Isomorphism between Verbal and Nominal Domains

Crosslinguistically nominalizations involve two processes: a process of loss of verbal properties, i.e. verbal functional layers in structural terms, and a process of acquisition of nominal properties (see for example Givon 1990; Croft 1991, Lehmann1988). This is illustrated in Table (126) where the properties of Malagasy f-nominals are listed. f-AT nominals exhibit a limited number of verbal properties counterbalanced by a large number of nominal properties. On the other hand, f-CT and mp-AT nominals with

213

expressed definite themes, exhibit a large number of verbal properties counterbalanced by a small number of nominal properties. How can we formally encode this gradience of verbal/nominal properties in the structure?

An approach which leans in the right direction is implemented in Schueller (2004), who attempts an analysis following Grimshaw's (2000) work on 'extended projections'. Grimshaw (2000) assumes a 'shell' structure ({F}-structure in Schueller's terminology) for both clausal (verbal) and nominal extended projections. Starting from {F0} (the lexical level), each additional functional layer is represented by an increasing index on the {F}-level. Thus, {F1}-level corresponds to TP for the verbal domain and NumP for the nominal domain; {F2}-level corresponds to SubjP (c.f. Cardinaletti 2004) for the clausal domain and to $D^{-1}P$ for the nominal; {F3}-level to CP and DP correspondingly, and so on, depending on the number of functional layers that one assumes present for each domain. Schueller's proposal then takes nominalizers (and specifically English – *ing*) to attach at a specific {Fi}-level, changing the verbal projection to nominal, but crucially projecting the equivalent {Fi}-level in the nominal projection. Thus, *-ing* attaching to VP projects an NP, both {F0}-levels. This yields an *ing*-of nominalization like the following (derivation tree in (132)):

131.   John's quick calling of the girl helped him.

214

132.

```
            DP{F2}
           /      \
    (subject)    NumP{F1}
                 /      \
          Num{F1}      NP{F0}
                       /     \
                   N{F0}     VP{F0}
                     |       /     \
                   -ing   V{F0}  (object)
```
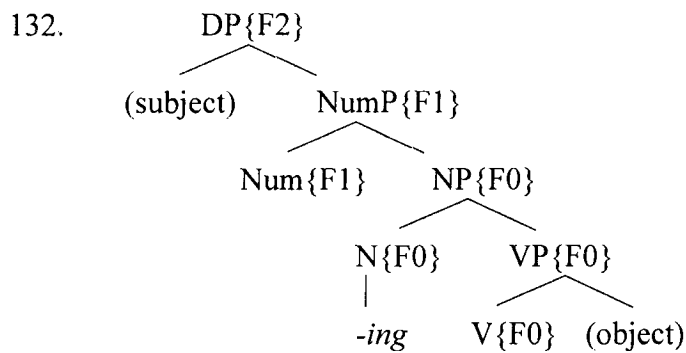
Final word order is achieved by affix lowering (*-ing* to V). Since the projection is nominal above NP, adjectival modification is expected (c.f. (131)), while adverbial modification is excluded (everything above VP is nominal).

Similarly, Schueller (2004) derives Poss-*ing* (133.a) and Acc-*ing* (133.a) nominalizations by attaching the nominalizer at the TP {F1}-level and SubjP {F2}-level and projecting a NumP and $D^{-1}P$ respectively:

133. a. John's quickly calling the girl helped him.
     b. John quickly calling the girl helped him.

As Schueller (2004) observes, for such a system to work it is necessary that the number of nominal projections is exactly the same as the number of verbal projections and additionally the architecture of the two domains is identical, allowing for each nominal projection to correspond to an equivalent verbal one. This is not a new idea as previous work, particularly after Abney (1987), focused on the similarities of the two domains (see

215

especially Ritter 1991; Bernstein 1993; Szabolcsi 1994; and others). However, assuming that the two projections are 'different' leads to the introduction of levels that have no independent theoretical or empirical support. Thus, Schueller introduces the level D-1P in the nominal domain, which corresponds to SubjP in the verbal domain. Cardinaletti (2004) decomposes the subject position of the clause into two distinct projections: SubjP which hosts the subject of the predication and AgrsP where nominative case is checked and agreement is established. Support for such decomposition is provided by 'quirky' case and other phenomena in Icelandic and crosslinguistically (c.f. also Koopman 2005c for further support for a SubjP position). On the other hand no motivation is provided for the D-1P projection, apart for the theory-internal need to fix the parallelism between verbal and nominal domains.

An additional problem comes from the fact that in certain cases of dialectal variation Schueller (2004) is forced to assume a mismatch between verbal and nominal domains. Thus, some speakers accept sentential adverbs with Poss-ing nominals while others do not:

134. % I was worried about John's probably being a spy.
      % Mary's certainly being pregnant worries me.

In order to accommodate the variation Schueller assumes two distinct {F1}-levels for the English verbal domain: TP and AgroP, both corresponding to a single {F1}-level at the nominal domain, NumP. For some speakers nominalization takes place at the TP level

and thus sentential subjects are allowed. For others nominalization takes place at AgroP and sentential subjects are excluded. But this leads to an imperfection that could possibly be multiplied for other levels: if multiple levels at the verbal domain are allowed to correspond to single levels of the nominal domain (and vice versa), then the system becomes too powerful generating nominalizations that are probably not attested in English and crosslinguistically.

In the analysis proposed here, Malagasy participant nominalizations are reduced CPs headed by the nominalizer *f-* (see discussion in Chapter 5). The nominalized CP has nominal properties because it inherits categorial features from the NP element in its specifier (the generic noun translated roughly as 'one', 'thing', 'instrument' and so on in English). Given the gradience in the verbal properties that the nominalization exhibits (c.f. Table (126)) it is clear that the nominalizer/complementizer interrupts the verbal projection at a specific height, rendering the higher functional layers unavailable. After the formation of the nominalization the string exhibits nominal categorial status and consequently can have nominal functional projections attached to it. However, certain kinds of information may have been exhausted in the verbal domain, in which case they will be unavailable in the nominal domain. Let us consider a specific example. As already discussed (Section 3.0.1), Alexiadou (2001a) shows that Greek complex event nominals allow for low adverbial modification but do not tolerate higher adverbs:

135.a. i   katastrofi ton egrafon   prosektika
        D destruction D documents.GEN carefully

b. i katastrofi   ton egrafon   kathimerina
    D destruction D documents.GEN   daily

c. * i katastrofi   ton stihion   pithanos/ilikrina
      D destruction D evidence.GEN   possibly/frankly

d. i   pithani   katastrofi   ton stihion
    D   possible destruction D   evidence.GEN

However, an alternative to (135.a-135.b) would be adjectival instead of adverbial modification:

136.a. i   prosektiki   katastrofi   ton egrafon
        D   careful   destruction D documents.GEN

b. i   kathimerini   katastrofi   ton egrafon
    D   daily   destruction   D documents.GEN

Crucially, presence of an adjective and an adverbial with the same semantic contribution is not possible:

137.a. * i   prosektiki   katastrofi   ton egrafon   prosektika
         D   careful   destruction D documents.GEN   carefully

b. * i   kathimerini   katastrofi   ton egrafon   kathimerina
     D   daily   destruction   D documents.GEN   daily

Given the ungrammaticality of (137.a-137.b) one can account for the alternation in the examples of (135-136) by having the nominalizer attaching above the adverbial field that hosts manner and frequentative adverbs in (135) but below it in (136). This would give a clear-cut distinction between the two structures and would explain the data straightforwardly.

CLAUSAL NOMINALIZATIONS

4.0 Introduction

This chapter presents a detailed discussion of different types of nominal clauses in Malagasy. The term nominal clauses includes at least two different types of strings that appear identical in terms of surface structure: they usually contain a definite determiner or demonstrative selecting for a clausal string that is fully inflected for voice/aspect/tense:

1. a. [ny/ilay   n.amp.i.anatra   teny   gasy   an-dRasoa]   dia   Rabe
        D/DEM   PST.CAUS.AT.study   language Malagasy ACC.Rasoa]   TOP   Rabe
        'The/This (one that) taught Malagasy to Rasoa is Rabe'.

    b. n.an.dritry ny adiny telo [ny/ilay n.amp.i.anatra   teny   gasy   an-dRasoa]
        PST.AT.last D   hour   three D/DEM PST.CAUS.AT.study language Mlg.   ACC.Rasoa
        'The/this (past) teaching of Malagasy to Rasoa lasted for three hours.''

219

The bracketed strings in (1.a) and (1.b) exhibit a cluster of differences, including interpretive, distributional, and internal-syntax differences. Most notably, structures such as (1.a) are interpreted as headless relative clauses while structures such as (1.b) are interpreted similarly to action nominals of the gerundive (-*ing*) type in English.

In this chapter I discuss the properties of these structures in detail. I show that both types of structures involve a process of nominalization which allows them to occupy positions normally occupied by DPs. In the first part of the chapter I concentrate on strings of the type in (1.a). This type of structure has been at the forefront of research in Austronesian languages primarily because of its bearing on issues of categorial status of morphosyntactic strings and the need for and status of silent morphosyntactic atoms in grammar. There are at least two diametrically different approaches on their syntax: in some approaches the overt material in the bracketed string of (1.a) is the only syntactically available material, i.e. the structure consists of a D-element plus a predicate (Himmelmann (to appear); Keenan 2005). In other approaches (c.f. Kroeger 1998) the bracketed string is a headless relative clause with a null 'head' (roughly translated as 'one' in English). I will pursue here the possibility tht the second approach is on the right track and provide a number of arguments supporting the claim. The arguments are drawn mainly from wh- movement diagnostic tests and show that contrary to common noun phrases, strings like (1.a) in Malagasy exhibit a number of syntactic properties indicating

220

the presence of relative clause structure. I will then generalize the headless relative clause analysis to a number of other structures in Malagasy that have received much less attention in the relevant literature.

The second part of the chapter focuses on strings of the type in (1.b). I show that these strings are also nominal in nature and that they have the distribution of DPs. I provide a detailed discussion of the notion of finiteness and show that the properties of morphosyntactic and semantic tense are not directly related to the fact that action nominals have no trigger. Instead I show that lack of a trigger is connected to the fact that action nominals lack the C-region and thus the projection where triggers are licensed in Malagasy.

The chapter is organized as follows: In section 4.1.1 I provide a very brief discussion of the approaches that treat the bracketed string in (1.a) as a simple juxtaposition of a determiner and a predicate. In Section 4.1.2 I examine some of the general properties of headless relative clauses in Malagasy and provide evidence from binding and the distribution of elliptical nominals in the nominal domain to support the existence of a null generic NP inside headless relative clauses. Based on evidence from movement constraints such as island constraints, strong and weak crossover, and reconstruction effects, I show in section 4.1.3 that the string in (1.a) involves A' movement of a null NP

221

to a left peripheral position, forming a headless relative clause. Sections 4.1.4 and 4.1.5 discuss the internal syntax and the external distribution of headless relative clauses, while Section 4.1.6 considers two different types of headless relative clauses and shows that they exhibit similar properties and should be treated as such.

In the second part of this chapter I discuss the type of strings in (1.b) which have an event/action interpretation and which I term action nominals. In Section 4.2.1 I show that these strings also have nominal properties, while in sections 4.2.2 and 4.2.3 I discuss in detail the issues of finiteness and trigger omission and how the two relate. The discussion has broader consequences for the theory that treats control structures and the relation of finiteness to the licensing of controlled subjects cross-linguistically.

4.1 Headless Relative Clauses

4.1.1 Headless Relative Clauses as Determiner-Predicate strings

A recurring idea in the syntactic literature related to Austronesian languages is that a subpart of these languages lacks categorial specification of lexical items (see claims for Tagalog (Shkarban 1992; Gil 1995), Tongan (Broschart 1997), Riau Indonesian (Gil 2005), Samoan (Mosel and Hovdhaugen 1992) and others. Taking this assumption to its extreme some researchers have suggested that the languages under investigation have no syntactic category verb distinct from nouns or adjectives and that there is no distinction

222

between different projection levels or between lexical and functional elements of the clausal structure (see Gil 2005 for Riau Indonesian). Similar claims have been made in the past for other languages from different families. An example is the Amerindian languages of the Northwest Coast of North America such as the Salishan languages (Straits Salish, Upper Chehalis, Jelinek and Demers 1985), Wakashan, and Chimakuan. Similarly different Eskimo languages were assumed to contain no category verb distinct from nouns/adjectives. The assumption was mainly based on the fact that object agreement on the verbal complex resembled possessor morphology (see discussion in Chapter 2, Section 2.1.3).

A further piece of evidence that has been put forward to support the claim that some Austronesian languages lack syntactic category distinctions comes from the distribution of fully inflected verbal complexes followed by verbal arguments and modifiers. These complexes (excluding the trigger) are what Keenan (2005) calls one-place-predicates (P1s) which combine with the trigger to form a sentence. One of the properties of P1s is that they easily combine with D elements, like the definite determiner *ny* or demonstratives in Malagasy or case particles in Tagalog, to form nominalized constituents that occupy normal DP positions. This pattern has been used as the main argument for treating lexical items in Austronesian languages as category-free elements. For example, Himmelmann (to appear) argues that (at least in Tagalog) all content words

223

may occur, without further derivation or conversion, in the same kind of phrase-structural positions. He calls this the 'syntactic uniformity hypothesis for content words'. Consider the following examples from Tagalog (Himmelmann, to appear:14):

2.   ang langgám rin ang t<um>ulong sa   mga bata'
            D   ant   also D   <AT>help   LOC PL   child
            'The (ones who) helped the children (were) also the ants.

In (2), the trigger of the sentence involves the determiner *ang* selecting for what seems to be a fully inflected verbal clause, including the internal pronominal argument. Himmelmann, based on such examples as (2), proposes that content words like *tumulong* in (2) may have a distinct lexical category but as far as terminal syntactic nodes are concerned, they have free distribution. The syntactic structure of Tagalog is built by function words selecting for content words ignoring the lexical category of the latter. Thus nouns (OBJECT-words in his terminology) may appear as predicates while verbs (ACTION-words) may appear as arguments when selected by a determiner like *ang*. Himmelmann dismisses the alternative, of treating strings like *tumulong sa mga bata'* in (2), as nominalizations or headless relative clauses, on the grounds that such treatment violates economy since it imposes additional and invisible layers of structure or additional morphological derivations. He states:

224

'...no formal differences whatsoever exist between ontologically different classes of words such as ACTION-words, PROPERTY-words, and OBJECT-words when occurring in the same phrase-structural position. Hence, if the occurrence of an ACTION-word in a determiner phrase or a quantifier phrase is interpreted as some kind of nominalization (or a headless relative clause) there is no principled reason to exclude the same analysis for OBJECT-words (for example, ang langgám could be analyzed as 'the one which is an ant', etc.)... Second, the alternative analyses are less economical in that they posit an additional (and invisible) layer of structure (in the case of headless relative clauses) or additional morphological processes (in the case of nominalizations). The syntactic uniformity hypothesis for content words allows the most general and economical statement of the syntax and semantics of Tagalog phrase structure. Hence it is the preferred analysis for reasons of simplicity.'
(Himmelmann, to appear:15).

The problem with 'simplicity' is that it is hard to measure in simple analytical terms. This is because attempting to simplify a component of the grammar usually results in shifting the complexity to some other component. What really counts is overall simplicity and I believe that this is achieved when we have a model that achieves transparency at the syntax-semantics interface. Therefore, the correct analysis, at least for Malagasy, must be

225

what appears at first sight as the less economic one as it adds complexity in the syntactic component. In Himmelmann's terms, 'economy' translates as a requirement that the only things that contribute to the interpretation and structure are audible "lexical" items in the traditonal dictionary sense. In this sense, the underlying theoretical assumptions are very different from the ones I have adopted,which admit non pronounced atoms of structure, or lexical items, whose existence is abundant, and which play important roles in simplifying the theory (cf Binding Principles for instance). In other words, here 'economy' has a 'structural' flavor in that it allows for non-audible material to enter the derivation as long as it can be perceived as a morphosyntactic atom which is relevant for interpretation and structure. Hence, accepting Himmelmann's challenge, I assume here that both common nouns and verbal clauses, when preceded by a determiner, form reduced relative clauses. Viewing common NPs as relative clauses has been proposed by Koopman 2005a, based on data from Maasai and other languages. This is an idea that frequently appears in the literature (c.f. Bach 1968; Campbell 1996 among others). The idea is that DPs are formed by a determiner selecting for a CP constituent (c.f. Kayne's (1994) analysis of relative clauses as clausal strings selected by D), which contains a small clause predicate that contains the NP and its variable x as subject. Thus, a nominal like 'the dog' is interpreted as 'D x such that x is a dog/ Dx such that dog is x' (see also Launey 2004, for a similar approach in the grammar of Nahuatl, within a different framework). The proposed structure derives the parallelism and accounts for any

226

observed differences between DPs and clauses in Maasai, in terms of word order and movement operations. I will not have much to say here about the syntax of common noun phrases, but would like to extend the proposal to the syntax of the constructions discussed in Himmelmann's (to appear) and Keenan's (2005) work. This includes strings like the following from Malagasy:

3. a. ny   n.amp.i.anatra   teny   gasy   an-dRasoa dia Rabe
    D   PST.CAUS.AT.study language Malagasy ACC.Rasoa TOP Rabe
    'The (one) (that) taught Malagasy to Rasoa is Rabe'.

   b. ny   n.afen.in-dRabe   dia   ny boki.n' i Koto
     D   PST.hide.TT/LNK-Rabe TOP D book.LNK' D Koto
     'The (thing) (that) was hidden by Rabe is Koto's book'.

   c. ny n.an.oratr.an-dRabe   ny taratasy dia   ilay penisily vaovao
    D PST.PFX.write.CT/LNK-Rabe D letter   TOP DEM pencil   new
    'The (thing) (that) Rabe wrote the letter (with) is this new pencil'

I will treat here the leftmost strings in (3) as headless relative clauses. I will support my analysis based on both the interpretive properties of the strings involved as well as their internal and external (distributional) syntactic properties.

4.1.2 Headless Relative Clauses Have a Null 'Head'

Treating the strings (3) as headless relative clauses requires accepting the existence of some sort of null generic NPs with specific featural context in syntax. This is by no

227

means a novel concept. Null elements of different types have been at the forefront of syntactic analyses within derivational frameworks in generative grammar. More particularly, null NPs of different types have been assumed in work on phenomena such as nominal ellipsis and discontinuous DPs (see Ntelitheos 2004 for an overview). For example, Kester (1996) assumes that sentences like the following from English contain a null generic NP, with the inherent features [+HUMAN, +PLURAL, +GENERIC] identified by the D head *the*:

4.   The poor e_{NP} will rule the world.

In Kester's account null generic DPs can have a number of different features, and feature identification is formally attributed to government by a DP-internal functional head F, which is morphologically expressed as adjectival inflection. In addition, features on a null generic noun (a nominal *pro* in her account) are identified either by the context or by appropriate features on either D or F. Some additional examples from Dutch are provided in (5):

5. a.   de   besprokene e_{NP}
         the.COM talked.about
         'the person talked about'

    b.   het   besprokene e_{NP}
         the.NEU talked.about
         'the matter talked about'

Kester (1996: 242-247) claims that, in (5.a), the null generic noun is specified for a [+HUMAN] feature, whereas in (5.b) it is specified as [-ANIMATE, -COUNT]. These inherent features are in turn identified by the gender on D: common gender in (5.a) identifies a [+HUMAN] feature on pro, whereas neuter gender in (5.b) a [-ANIMATE] feature on pro. I will not discuss the issue of identification here, but will keep the intuition that the language contains morphosyntactic atoms with generic meaning and specific featural content, which are not pronounced.

The meaning of such atoms is variable but always generic and it can be translated in English as 'person; one', 'thing', 'place', 'time', 'manner', and so on. Some examples of such null generic NPs in headless relative clauses from Malagasy are provided below:

6. a. ny   e$_{NP}$ n.amp.i.anatra   teny   gasy   an-dRasoa dia   Rabe
        D   PST.CAUS.AT.study   language Malagasy ACC.Rasoa TOP   Rabe
        'The (one) (that) taught Malagasy to Rasoa is Rabe'.

    b. ny   e$_{NP}$ n.afen.in-dRabe   dia   ny boki.n' i Koto
        D   PST.hide.TT/LNK-Rabe   TOP   D book.LNK' D Koto
        'The (thing) (that) was hidden by Rabe is Koto's book'.

    c. ny e$_{NP}$ n.an.orat.an-dRasoa   ilay   taratasy dia   (tamin') ny roa sy dimy
        D   PST.AT.write.CT/LNK-Rasoa DEM   letter   TOP   (PST.at') D two and five
        'The (time when) Rabe wrote this letter was five past two.'

    d. hafa.hafa   ny e$_{NP}$ an.oratan-Rakoto   ny taratasy
        strange.RED   D   AT.write.CT/LNK'D Rakoto   D letter
        'Rakoto's way of writing the letter is a bit strange.'

229

Each of these examples is also possible with an NP present between the determiner and the clausal string:

7. a. ny **olona** n.amp.i.anatra   teny   gasy   an-dRasoa dia   Rabe
        D   person PST.CAUS.AT.study language Malagasy ACC.Rasoa TOP Rabe
        'The person (that) taught Malagasy to Rasoa is Rabe'.

   b. ny **zavatra** n.afen.in-dRabe   dia   ny boki.n' i Koto
       D   thing   PST.hide.TT/LNK-Rabe TOP D book.LNK' D Koto
       'The thing (that) was hidden by Rabe is Koto's book'.

   c. ny **fotoana** n.an.orat.an-dRasoa   ilay taratasy dia (tamin') ny roa sy dimy
       D   time   PST.AT.write.CT/LNK-Rasoa DEM letter   TOP (PST.at') D two and five
       'The (time when) Rabe wrote this letter was five past two.'

   d. hafa.hafa   ny **fomba** an.oratan-Rakoto   ny taratasy
       strange.RED D   manner AT.writeCT/LNK'D Rakoto D letter
       'Rakoto's way of writing the letter is a bit strange.'

This seems to indicate that the structure of the strings in (6) may be identical to that of the strings in (7) with the only difference being that the NP-'heads' of the relative clauses are null in (6). Keenan (1985:142) assumes that strings like those in (6) are relative clauses in which the domain of relativization is the class of objects of which it makes sense to assert the restrictive clause. This means for example that in (8) the domain of relativization is restricted to the things that can be used for writing and cannot be for example a [+ANIMATE] generic NP (which follows straightforwardly from the selection properties of *write* in conjunction with movement):

230

8. ny e_{NP} n.an.oratr.an-dRabe   ny taratasy dia   ilay penisily vaovao
    D   PST.PFX.write.CT/LNK-Rabe D letter   TOP DEM pencil new
    'The (thing) (that) Rabe wrote the letter (with) is this new pencil'

This interchangeability between overt and null NPs in the above contexts seems to point

towards a wider distribution of null phrasal elements in syntax than initially thought.

Recent work (c.f. Kayne 2005) has shown that the existence of such null generic NPs

may prove essential in accounting for certain crosslinguistic variations with respect to a

number of structures. In a number of papers Kayne (2005) argues that certain intra- and

cross-linguistic distributional facts can be explained if we assume that the grammar

contains a (finite) set of null semi-lexical nouns (NPs) that select for specific categories

and impose selectional restrictions on them. Some of these functional nouns that Kayne

has introduced include generic NPs that we have encountered here such as THING, PLACE,

TIME, but also NUMBER, AMOUNT, WHERE, and so on. The introduction of such nouns

seems initially to add further complexity to the grammar. However, such introduction has

the desirable effect of attributing parametric crosslinguistic and intralinguistic variation

exclusively to functional (and semi-lexical) elements such as the null generic NPs that

Kayne introduces[1].

---

[1] Take for example the difference in distribution between English *grape* and French *raisin*:

231

Turning back to Malagasy, there is strong support for the existence of a silent indefinite NP in Malagasy. The definite determiner *ny* in Malagasy cannot appear on its own as an independent pronoun without an accompanying NP. Compare (9.a-9.a') and (9.b-9.b'):

9.   a. * hitako   ny ___
             see/RT.1SG/GEN   D
             'I see it'.

     a'.   hitako   azy
             see/RT.1SG/GEN   3SG/ACC
             'I see him/her.'

     b. * n.amp.i.asa   ny ___   aho
             PST.CAUS.AT.work   D   1SG/NOM
             'I employed him/her.'

     b'.   n.amp.i.asa   azy   aho
             PST.CAUS.AT.work   3ACC   1SG/NOM
             'I employed him/her.'

---

i.   Give us some grapes/*grape.
ii.   Donne-nous du raisin/*des raisins.

In English grape normally has count noun properties and can be used as a mass noun only in special contexts while French raisin has exactly the opposite distribution. This looks like a parametric difference associated with lexical items. However, Kayne (2005) relates this variation to examples like the following from English:

iii.   John has a large number/*amount of friends.
iv.   John has a large amount/*number of money.

He takes lexical nouns to always be accompanied by either the overt nominals number or amount or their unpronounced counterparts NUMBER or AMOUNT, depending on the count vs. mass distinction. The parametric variation in i-ii then is reduced to the selectional properties of the null nouns: English NUMBER/*number* selects for *grape*, French AMOUNT/*quantité* selects for *raisin*.

232

One can assume that the determiner in each of the examples in (6) does select for an NP, which is the string following the determiner. However, the existence of verbal morphology (i.e. aspect/tense, voice, and causative morphology) indicates that these strings contain verbal projections.

A further argument for assuming null generic nouns in the strings of (6) is provided by the fact that non-specific, indefinite noun phrases, introduced by the existential *misy* (c.f. Section 2.0.2), are in general omitted (example from Dez 1990:1207):

10. a. misy olona/e$_{NP}$ mandondona   ambaravarana.
         exist person/   ASP.AT.knock at-door
         'Someone is knocking on the door.'

Finally, the strongest argument against treating the post-determiner string as an NP and for assuming a null NP comes from the distribution of nominal modifiers. As we have seen (Section 2.1.2), nominal modifiers in Malagasy generally follow the NP they modify:

11.   n.a.hita   [ny boky vaovao rehetra (izay) novidian-dRabe]   aho

        PST.AT..see [D book   new   all   (that) PST.buy.TT/LNK-Rabe   1SG.NOM

        'I saw all the new books that Rabe bought.'

233

However, when a demonstrative or determiner selects for a clausal string, any nominal modifiers appear immediately after the determiner:

12.   ny   hendry   m.an.dalina   sady   m.i.saina
       D   wise   ASP.AT.deep   and   ASP.AT.reflect
       'the wise (ones) that improve (their knowledge) and reflect…'

If the XPs *mandalina* and *misaina* in (12) were NPs, one would expect the adjectival modifier *hendry* to follow them. The fact that it precedes them shows that the actual NP is situated in a pre-modifier position (as expected given (11)). Therefore, it is reasonable to assume that there may be a null NP immediately following the determiner in the strings of (6), (8), and (11). A desirable consequence of such an assumption is that the examples in these strings and (7) receive identical analyses.

Before proceeding with a syntactic analysis of the relevant strings let me introduce some basic concepts on the syntax of relative clauses that will be adopted here. Following Vergnaud 1974; Kayne 1994; Bianchi 1999, 2000, I assume a promotion analysis of relative clauses, where the NP following the determiner has been raised from within the clause to spec-CP, as in the following representation:

13.   [DP [D [CP NP [C [TP [….tNP ….]]]]]]

The reasons for preferring a raising analysis in Malagasy relative clauses are the same as have been argued for other languages and most prominently reconstruction effects that argue for an underlying position inside the relative clause for the 'head' NP. I will discuss some of this evidence in the following section[2].

In a promotion analysis the strings in (6) are derived by similar movement of a null generic NP (represented as e_{NP} in the structures) that has a generic meaning of 'person', 'thing', and so on, interpreted by the context. In some sense the headless relatives of (6), are elliptical structures similar to English 'the poor', 'the bold', 'the homeless' and so on which are assumed to be adjectives modifying a generic null noun interpreted by the context (c.f. Kester 1996). The generic NP originates in some predicate-internal position (including positions where 'adjuncts' like time, manner, and place merge), where the overt noun phrase would have originated, and moves to spec-CP where it provides C with a nominal feature under current assumptions of licensing in spec-head configurations (Koopman 1996, 2004). The nominal feature on C is a requirement if the CP is to be selected by a determiner or other D-element. This implies the following condition:

---

[2] Other types of evidence that have been used to support a promotion analysis of relative clauses in better-studied languages such as the use of idiom chunks, require further research to establish for Malagasy as phrasal idioms in the language have not been studied in any depth.

235

14. A D^0 selects for a CP iff the CP has a nominal feature. The nominal feature on C is provided when an NP moves to spec-CP.

I will take this claim as a given here and discuss further technical theoretical issues in more detail in Chapter 5 (Section 5.1.1). The derivation for (6.a) would proceed as follows (details of causative structure omitted for reasons of space but see section 3.1.2.3 for discussion):

15.

```
                    DP
                   /  \
                  /    \
                 D      CP
                 ny    /  \
                      /    \
                    eNP     \
                   (one) C   TP
                      (that)/  \
                           /    \
                          T      vP (causative)
                          n-    /  \
                            tNP     vP
                                   /\
                              ampianatra teny
                              gasy an-dRasoa
```
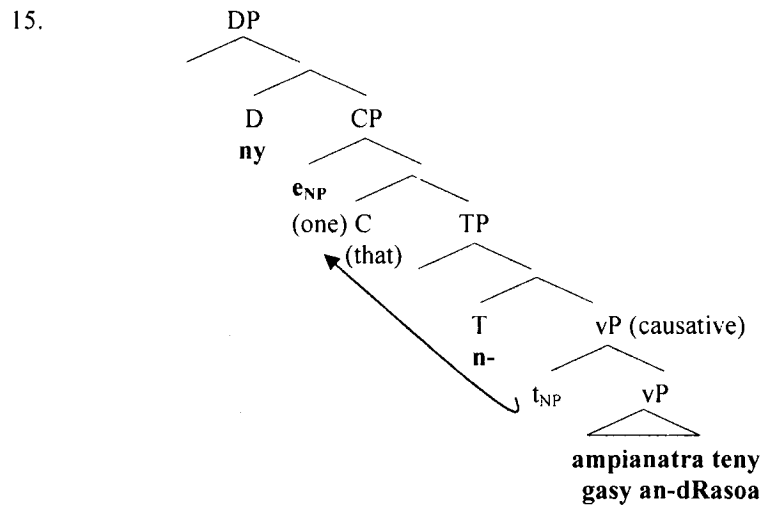
The null NP in (15) originates in spec-vP, headed by the causative prefix *an-* and is subsequently moved to the specifier of the relative CP to satisfy the nominal feature of C^0. The [+N] feature of the NP is inherited by the clausal string which can now be selected by the external determiner. Thus, what makes the clausal string 'nominalized' in some sense is the movement of NP to spec-CP.

236

4.1.3 Presence of an A'-Chain in Malagasy Headless Relative Clauses

Is there any independent evidence that supports the existence of null NP in the strings in (3)? In general, the tests that provide evidence for the existence of a null element have to do with perceivable effects that the null element has on interpretation, i.e. effects at the interfaces. The postulation of a null element is not justifiable for reasons of supporting a structural configuration unless it plays a role in explaining certain dependencies that would otherwise have remained unexplained. Thus, evidence for the presence of a null morphosyntactic atom can come from binding facts, for example the need of anaphors to have a local antecedent (used for PRO) or the need of R-expressions to be free. Or from the fact that the position where the null element is assumed to reside exhibits properties associated with moved elements such as island constraints and reconstruction effects.

4.1.3.1 Evidence from Binding

Going back to Malagasy headless relatives, the existence of a null generic NP in the specifier of the relative CP can be supported by the fact that these strings can license a reflexive that seems to be unbound. The reflexive NP *tena* (body) and DP *ny tenany* (his/her body) in Malagasy behave like reflexives in better studied languages in that they

237

need to be bound in their local domain (c.f. Pearson 2001, 2005; Paul 1999, 2004 –

examples (16.c-16.d), from Paul 2004)[3].

16. a. m.amp.i.anatra   tena$_i$ Rabe$_i$
        PRS.CAUS.AT.study self   Rabe
        'Rabe teaches himself.'

   b.* m.amp.i.anatra Rabe$_i$ (ny) tena$_i$.(ny)
        PRS.CAUS.AT.study   Rabe D self.3GEN
        'Himself teaches Rabe.'

   c. n.i.laza   Rasoa$_i$ [$_{CP}$ fa   h.am.ono   tena$_{*i/j}$ Rabe$_j$.]
        PST.AT.say Rasoa   that FUT.AT.kill self   Rabe
        'Rasoa said that Rabe is going to kill himself.'

   d.* m.an.dresy   tena$_i$ ny alahelon-dRabe$_i$.
        ASP.AT.defeat self   D sadness.LNK.Rabe
        'Rabe's sadness defeats himself.'

Examples (16.a-16.d) show that the NP *tena*/DP *ny tenany* has the distribution of

reflexives. It cannot appear in subject position c-commanding its antecedent (16.b - a

violation of Condition C of Binding Theory), nor it can be coreferential with a DP outside

its domain (16.c) or a non-c-commanding DP (16.d). More importantly, *tena* cannot

appear in a sentence without a c-commanding antecedent:

---

3 In fact, as Paul (2004:43-44) shows, *ny tenany* may have a wider distribution than *tena* in that it can be bound by discourse or higher predicate antecedents. Paul (2004) agrees, however, that *tena* needs to be bound in its local domain (TP, DP) as other reflexives crosslinguistically.

238

17. a. * m.amp.i.anatra   tena$_j$ Rabe$_i$
       PRS.CAUS.AT.study self Rabe
       'Rabe teaches himself (*not Rabe*).'

Consider now the following example:

18.   vanona   [ny [m.amp.i.anatra   tena$_i$)]]
       successful D   PRS.CAUS.AT.study self
       'The (one that) teaches himself is successful.'

In (18) there appears to be no c-commanding DP binding the reflexive within the verbal

clause. One could argue that the whole clause is the c-commanding antecedent, as in (19):

19.   [DP ny   [NP$_i$ m.amp.i.anatra [NP$_i$ tena]]

However, it is well-known that binding of anaphors contained within the antecedent XP

is ruled out. This is formulated in Chomsky's 'i-within-i' condition (Chomsky 1981:212):

20.   *[α...β ...], where α and β bear the same index.

Consider the following examples:

239

21.   * There is [DP*i* a picture of [DP*i* itself]] on the table.

(21) is ungrammatical because the anaphor is contained within its antecedent phrase. However, the condition breaks down with relative clauses as Chomsky (1981:229) observes[4]:

22.   [DP*i* the man who saw [DP*i* himself]]

Chomsky stipulates that i-within-i does not apply when the anaphor is coindexed with the head of the antecedent phrase. This would allow DPs like (22) in the grammar. If we assume that Condition A can be satisfied at some stage in the derivation then the reflexive in (22) has an available antecedent within the domain that contains it. This is the trace of the moved noun phrase 'man'. Thus the reflexive has an available antecedent distinct from the matrix DP as a whole. Therefore, reflexives can appear inside relative clauses but not inside smaller parts of structure and most importantly DPs containing an argument. The grammaticality of (18) then must be due to the fact that the verbal string is part of a relative clause. Bringing to the discussion Kayne's (1994) assumptions on the

---

4 Given that the i-within-i condition is construction specific, it cannot be maintained in a grammatical model such as Principles and Parameters and needs to be replaced by some independent syntactic mechanism that accounts for the observed contrasts in the above examples (see for example Hatakeyama (2002) for an analysis based on the argument-adjunct distinction).

structure of relative clauses, the English relative of (22) and Malagasy headless relative of (18) have the following structure:

23.   [DP the [CP [DP man$i$] who]   C   [ti saw   [DP himself$i$]]]]]]
         [DP ny [CP [DP e$_{NP}i$]]   C   [ti mampianatra   [DP tena$i$]]]]]]

In a framework that treats the verbal strings as something else than relative clauses (c.f. Himmelmann to appear) it is not immediately clear how to account for the binding of reflexives within these strings.

4.1.3.2   Island Constraints

Since Ross (1967), constraints on movement have been used as a diagnostic for movement operations[5]. A number of configurations are ruled out crosslinguistically when certain conditions apply. If we have a movement account for these configurations, then we should expect the diagnostics for movement to explain the ungrammaticality. A'-movement (and consequently relative clause formation) is blocked, for example, when

---

[5] There is obviously some deeper mode of organization that is behind all these constraints. There is an extensive literature on the issue with proposed mechanisms to derive the constraints, under a number of different names – from Subjacency (Chomsky 1973) to the theory of Barriers (Chomsky 1986b), Rizzi's (1990) Relativized Minimality, minimalist Minimal Link Condition and Attract Closest (Chomsky 1995) to recent developments with Phase Theory and the 'Phase Impenetrability Condition' (Chomsky 2001). I will not discuss any of the issues involved here but just use the empirical data as a diagnostic for movement.

241

the operator/relative head extracts from an adjunct (24.a), a coordinate structure (24.b) or

a complex noun phrase (24.c):

24. a. * the man*i* who John is happy because Mary met t*i* ...
     b. * the man*i* who Mary and t*i* met John ...
     c. * the man*i* who Mary met the girl who loves t*i* ...

Headless relative clauses obey the same range of island constraints that relative clauses

with an overt head obey in Malagasy (see discussion in Keenan 2005). Some examples

are provided below:

25. a.   ny e$_{NP}$ faly   t$_{NP}$ [satria   vidin'dRasoa   ilay boky vaovao dia   Rabe]
          D   happy   because buy.TT/LNK-Rasoa DEM book new   TOP   Rabe
          'The (one who) is happy because Rasoa bought a new book is Rabe.'

     b. * ny e$_{NP}$ faly   Rabe   [satria   vidin'dRasoa t$_{NP}$] dia ilay   boky vaovao
          D   happy Rabe   because buy.TT/LNK-Rasoa TOP DEM   book new
          'The (thing that) Rabe is happy because Rasoa bought is a new book.'

In (25.a) we see that the trigger of an adjectival predicate can be relativized into. On the

other hand if we try to extract the trigger of an adjunct 'reason' phrase the relative clause

becomes ungrammatical (25.b-25.c).

The effect is the same with coordinate structures. Malagasy uses the conjunction *sy* to coordinate XPs that are smaller than full clauses (26.a). In (26.b) we see that when we try to extract one of the two conjuncts the result is ungrammatical.

26. a. milalao   ao   an-trano   ny zazalahy sy   ny zazavavy
        ASP.AT.play there LOC-house D boy(s)   and D girl(s)
        'The girls and the boys are playing in the house.'

    b. * ny e$_{NP}$ milalao   ao   an-trano   ny zazalahy sy   t$_{NP}$
        D   ASP.AT.play there LOC-house D boy(s)   and
        'The (ones who) and the girls are playing in the house.'

A third case involves complex noun phrases that already contain a relative clause. Take for example the relative clause of (27.a). If we try to extract from within the relative clause the result is ungrammatical (27.b).

27. a. n.an.dositra   ny olona   t$_{NP}$ n.an.galatra   ny omby
        PST.AT.flee   D person   PST.AT.steal   D cow
        'The man (who) stole the cow fled.'

    b. * ny e$_{NP}$ n.an.dositra   ny olona   n.an.galatra t$_{NP}$ dia   ilay omby.
        D   PST.AT.flee   D person   PST.AT.steal   TOP   DEM   cow
        'The (thing that) fled the person (who) stole is this cow.'

Thus, movement constraint tests indicate that there is movement within a Headless Relative Clause, from some clause-internal position to the periphery of the clause.

243

4.1.3.3 Reconstruction and Crossover Effects

If the claim that the strings under discussion are headless relative clauses is correct, then we would expect them to exhibit effects specific to A'-movement. These effects have been studied in detail and while the dust has not settled on some of the issues involved, a number of diagnostics are currently widely accepted for A'-movement operations. These include most prominently reconstruction effects, strong/weak crossover effects, and parasitic gaps. As we have seen in Chapter 2, reconstruction is a defining property of movement (the property to be interpreted in a lower position in the derivation) (c.f. Chomsky 1977, 1995; Hornstein 1984; Fox 1998, 1999; Sportiche 2005, and others).

If the strings under discussion here are in fact relative clauses then we would expect them to show reconstruction effects since the formation of relative clauses involves some sort of A'-movement. However, if nothing has moved or if their formation involves something different than A'-movement no reconstruction effects should be observed. Consider the following examples:

28. a. ny e$_{NP}$ t*i* m.amp.i.ana-**tena*i***   dia   Rabe
        D   ASP.CAUS.AT.study-self TOP   Rabe
        'The (one who) teaches himself is Rabe.'

   b. * ny e$_{NP}$ amp.i.anar.in'   **ny tena.ny*i*** t*i* dia   Rabe

244

D   CAUS.AT.study.TT/LNK' D self.3GEN   TOP Rabe
'The one who is taught by himself is Rabe.'

The grammaticality judgments illustrated in (28) are not surprising given that they follow the patterns observed by Pearson (2001; 2005) in clausal structures. Assuming that the null NP of the headless relative clauses in (28.a-28.b) is in the left periphery of the clause and has moved there by A'-movement, then it should follow the behavior of the trigger in normal clauses which also behaves like an A'-element. In this respect, (28.a) is not enlightening because the null NP starts higher than the reflexive in the underlying representation and subsequently moves to a higher position, binding the reflexive at all steps of the derivation. The interesting case here is (28.b) where the null NP is interpreted as the theme of the verb in the headless relative. The reflexive merges in a higher position inside the higher VP-shell and is licensed in the linking structure. This is a c-commanding position as the following examples illustrate (from Pearson 2001):

29. a. * n.am.ono.an'ny tena.ny*i*   ny lehilahy*i* ny   zana.ny*i*
       PST.AT.kill.CT/LNK'D self.3GEN D man   D   child.3GEN
       'The man killed himself for his children.'

   b. n.am.ono.an'ny lehilahy*i* ny tena.ny*i*   ny zana.ny*i*
      PST.AT.kill.CT/LNK' D man D self.3GEN   D child.3GEN
      'The man killed himself for his children.'

245

In (29.a) we have a reflexive internal actor and an R-expression theme and the sentence is ungrammatical. On the other hand in (29.b) the internal actor is an R-expression and the theme is a coindexed reflexive, and the sentence is grammatical. This shows that the position of the internal actor is a c-commanding position. Going back to (28.b), the theme NP has moved to spec-CP to form the headless relative from its underlying position (i.e. the position it occupies in (29.b)). In this position the theme NP c-commands the internal actor reflexive and Condition A is satisfied in surface structure. The ungrammaticality of the sentence seems to indicate that the movement operation that has taken place does not create a domain for the application of binding conditions, i.e. reconstruction takes place. Given that reconstruction is obligatory, the conclusion has to be that this is A'-movement and not A-movement (for example to a case position, spec-TP).

The argument is further strengthened when we consider other A'-movement diagnostics such as weak and strong crossover. Crossover phenomena (c.f. Ross 1967; Postal 1971) have been used in the relevant literature to show that certain constructions, including *wh*-movement, relative clauses, clefts, and tough-constructions involve some sort of A'-bar movement. Since Postal 1971, weak crossover effects have been attributed to a constraint stated in terms of a structural 'crossing' configuration. Lasnik & Stowell (1991) provide the following general description of weak crossover:

246

In a configuration where a category C A'-binds a pronoun P and a trace T, P may

not be contained in an argument phrase XP that c-commands T.

Strong crossover, on the other hand, forbids crossing of an A'-element over a pronoun that c-commands the A'-trace (a Condition C effect as the wh-trace has the properties of R-expressions). The terms 'weak' and 'strong' are related to the judgments that these configurations trigger as shown in the following examples:

30. a. **Who$i$ ti** likes **his$i$** mother?
    b.?? **Who$i$** does **his$i$** mother like **ti**
    c. * **Who$i$** does **he$i$** like?

In (30.a) the *wh*-phrase moves to spec-CP without crossing over the coindexed pronoun and the sentence is grammatical. In (30.b) on the other hand, the *wh*-phrase crosses over a coindexed pronoun that is contained in a DP c-commanding the *wh*-trace. This induces a weak crossover effect and the sentence is much worse than (30.a). Finally, in (30.c), the *wh*-phrase crosses over a c-commanding pronoun and the sentence is completely unacceptable. Weak-crossover is not a fully reliable test as its application to different types of A'-movement has variable results. Thus, while its effects are observable in *wh*-questions, it is not the case that all A'-movement structures exhibit weak crossover

247

effects (or are as unacceptable, 'weakest crossover'). Consider the following relative clause and topicalization examples:

31. a.   The student*i* [who [[her*i* mother] loves t*i*]] arrived this morning.
    b.   This book*i* , I expect [its*i* author] to buy t*i*.

To the degree that a construction does exhibit weak crossover effects we can safely assume that it involves A'-movement. This is because A-movement structures never exhibit weak crossover effects. Consider the following examples:

32. a. * It seemed to his*i* friend that John*i* was moving too fast.
    b.   John*i* seemed to his*i* friend t*i* to be moving too fast.

Even though the antecedent *John* does not c-command the pronoun in its base position (c.f. (32.a)), A-movement over the pronoun, to spec-TP creates a configuration where Condition B can be satisfied (32.b). No crossover effects are attested with this type of movement.

If the Malagasy strings under discussion are formed via A'-movement then we would expect that they should exhibit A'-properties with respect to weak and strong crossover. The following data shows that the prediction is borne out:

33. a.* ny e_{NP}*i*   amp.i.anar.i.ny*i*   t*i*   dia   Rabe
         D   CAUS.AT.study.TT.3GEN   TOP   Rabe

248

'The (one who) teaches himself is Rabe.'

b. * ny e_NP*i* amp.i.anar.in'   ny rai.ny*i*   *ti*   dia   Rabe
   D   CAUS.AT.study.TT/LNK' D father.3GEN   TOP   Rabe
   'The one who is taught by his father is Rabe.'

In (33.a) the trace of the null NP indicating its base position is inside the lower VP-shell, and the null NP has moved to the specifier of CP over an intervening coreferential pronoun that is arguably in spec-VoiceP, in a position where it c-commands the trace of the null NP. The ungrammaticality of the sentence indicates that a strong crossover effect is observed supporting the claim that the movement of the null NP has A'-properties. If this was A-movement one would expect the sentence to be grammatical, given the data in (32). Similarly, in (33.b) the null NP has moved over a DP that contains a co-referential pronominal. The pronominal does not bind the trace of the null NP as the following example illustrates:

34. a.   n.am.ono.an'ny rai.ny*i*   Rabe*i*   ny vola
         PST.AT.kill.CT/LNK' D father.3GEN   Rabe   D money
         'His father killed Rabe for money.'

We have seen that an internal actor binds a theme anaphor (c.f. examples in (29.a-29.b). However, in (34) the pronominal is contained in the DP *ny rainy* and therefore fails to c-command the R-expression theme. Thus, the sentence in (33.b) is a weak crossover

249

configuration. The sentence is equally ungrammatical further supporting the claim that the null NP has A'-moved to the left periphery of the clause.

A final piece of evidence comes from the existence of headless relative clauses with long distance extraction. Consider the following example:

35. a. heverin-dRakoto   [fa   no.vaki.n'ny mpianatra   ilay   boky vaovao]
         think.TT/LNK-Rakoto   that PST.read.TT/LNK D student DEM book new
         'Rakoto thinks that the student read this new book.'

As Pearson (2001) shows, in (35.a), the *fa*-clause serves as the trigger of the matrix clause , as can be tested by the placement of the question particle *ve* (c.f. Section 2.0.2):

36. a. heverin-dRakoto   ve   [fa   no.vaki.n'ny mpianatra   ilay   boky vaovao]?
         think.TT/LNK-Rakoto Q   that PST.read.TT/LNK D student DEM book new
         'Does Rakoto think that the student read this new book?'

However, the trigger of the embedded clause can extract and become the trigger of the matrix clause, as the following examples indicate:

37. a. heverin-dRakoto   no.vaki.n'ny mpianatra   [ilay boky vaovao]
         think.TT/LNK-Rakoto   PST.read.TT/LNK D student DEM book new
         'Rakoto thinks that the student read this new book.'

    b.   heverin-dRakoto   no.vaki.n'ny mpianatra   ve   [ilay boky vaovao]?
         think.TT/LNK-Rakoto   PST.read.TT/LNK D student Q   DEM book new

250

'Does Rakoto think that the student read this new book.'

In (37.b) the position of the question particle *ve* indicates that the DP is the trigger of the

matrix clause. In this structure the trigger can be relativized yielding:

38. a.   ilay   boky vaovao (izay)   heverin-dRakoto   no.vaki.n'ny mpianatra
         DEM   book new   REL   think.TT/LNK-Rakoto   PST.read.TT/LNK D student
         'This new book that Rakoto thinks that the student read…'

And as expected a headless relative is also possible:

39. a. ? ny heverin-dRakoto   no.vaki.n'ny mpianatra   dia   ilay   boky vaovao
         D think.TT/LNK-Rakoto   PST.read.TT/LNK D student TOP   DEM   book new
         'The (thing that) Rakoto thinks that the student read is this new book.'

The question mark indicates that while the speakers find the sentence grammatical they

describe it as 'heavy', formal speech. However, the possibility of long-distance extraction

provides further support for an A'-movement analysis of headless relative clauses.

Summarizing, the strings that are formed by a definite determiner or demonstrative

selecting for a clausal string without a trigger in Malagasy, behave syntactically like

relative clauses with a null element NP in the specifier of the relative CP. This null

element has moved from some predicate-internal position via A'-movement, a fact

supported by the empirical data and, more specifically, the observation of movement

251

constraints as well as reconstruction, weak and strong crossover effects, and the ability for long-distance extraction in the resulting structures.

One last diagnostic test for A'-movement that has been used widely in the relevant literature is that of parasitic gaps. In parasitic gap constructions an A'-trace that would otherwise be illicit is licensed when the matrix clause also contains a coindexed A'-trace, as in the following example:

40.   [Which book]$_i$ did Mary buy t$_i$ without reading t$_i$?

Malagasy uses a resumptive pronoun when a relative clause is formed containing a parasitic gap:

41.   ny boky (izay) no.vidi.an-dRabe   talohan'ny   n.am.akia.ny
        D book REL   PST.buy.TT/LNK-Rabe before.LNK D PST.AT.read.CT/3GEN
        azy   dia   "Ilay kintana Mamirapiratra"
        3SG/ACC TOP   "Ilay kintana Mamirapiratra"
        'The book that Rabe bought before reading (it) was 'IKM''.

This is because the formation of the adjunct clause in (ii) involves nominalization of the clause (as indicated by the preceding determiner ny), and thus extraction out of the [DP [CP...]] domain is blocked – the derivation is saved by inserting a pronoun in the adjunct clause. As expected, a similar pattern appears in headless relative clauses:

42.   ny no.vidi.an-dRabe   talohan'ny   n.am.akia.ny
           D PST.buy.TT/LNK-Rabe before.LNK D PST.AT.read.CT/3GEN
           azy   dia   "Ilay kintana Mamirapiratra"
           3SG/ACC TOP   "Ilay kintana Mamirapiratra"
           'The (thing) that Rabe·bought before reading (it) was 'IKM".·

Having examined the internal properties of Malagasy headless relative clauses we turn in

the following section to their external distribution.

4.1.4 Distribution of Malagasy Headless Relative Clauses

In many Austronesian languages the distribution of headless relative clauses follows

closely the distribution of common noun phrases in that they appear in DP positions. This

kind of distribution seems to be very productive in Tagalog and other Austronesian

languages (c.f. Himmelmann 2005b). Similar structures are also available in Malagasy

and are very productive in certain contexts. Consider the following examples (from the

text of the Malagasy novel *Ilay Kintana Mamirapiratra* (Rajohanesa 1963):

43.   a. tsy   tia.n-dRakoto   ny [n.a.tao.nao   azy]
         NEG like.LNK-Rakoto D PST.TT.do.LNK2SG   3.ACC
         'Rakoto doesn't like what you did to him.'

    b. ... ny fijeriny   ireo dia tahaka kintana m.an.ameloka
        ... D seeing.3SG/GEN DEM TOP like   stars   ASP.AT.condemn
        [ny n.a.tao.ny].
        D PST.TT.do.3SG/GEN
        '... her seeing them as stars condemning what she did'

    c. Araka   ny voa.laza   t.ami.nao ...

253

according_to D PASS.say PST.to.2SG/GEN
'According to what was said to you...'

In (43.a) the HR appears in trigger position, in (43.b) it is the direct object of the verb in the relative clause, while in (43.c) it appears after a participle-like element meaning 'according to/following'[6]). These types of example are quite common in written texts (novels, newspapers, etc) but somewhat odd in everyday speech. All of my consultants find the examples in (43) perfect but avoid a wider use of headless relative clauses, especially when the latter appear as the internal actor of non-active voices or as prepositional complements. Attempts to create examples using other lexical verbs provokes mixed feelings from the speakers (the % symbol indicates inter-speaker variation):

44. a.% hita.ko   ilay n.afen.in-dRabe
        see/TT.1SG.GEN   this PST.hide.TT/LNK-Rabe
        'I found this (thing that) Rabe hid.'

    b.% fantatrao   ve   ny n.ome.n-dRabe   ahy?
        know.2SG   QP   D PST.give.TT/LNK-Rabe 1SG.ACC
        'Do you know (what is) the (thing) (that) Rabe gave to me'

    b. * n.an.oratra   taratasy t.amin' ny   n.ome.n-dRasoa   azy   Rabe
         PST.PFX.write letter   PST.INSTR'D PST.give.TT.LNK-Rasoa 3SG/ACC   Rabe
         'Rabe wrote a letter with the (thing) Rasoa gave him.'

---

6 In fact *araka* can be the base for the derivation of verbal forms like *miaraka* ('go with) and *manaraka* (follow/obey). In its root form however it has the distribution of a participle (meaning 'as stated by)'.

254

The one construction that all speakers accept without hesitation as grammatical is the type of specificational/identificational sentence illustrated in the following examples:

45. a. ny n.amp.i.anatra teny gasy an-dRasoa dia Rabe
       D   PST.CAUS.AT.study language Malagasy ACC.Rasoa TOP Rabe
       'The (one) (that) taught Malagasy to Rasoa is Rabe'.

   b. ny n.afen.in-dRabe   dia ny boki.n' i Koto
      D   PST.hide.TT/LNK-Rabe TOP D book.LNK' D Koto
      'The (thing) (that) was hidden by Rabe is Koto's book'.

   c. ny n.an.oratr.an-dRabe   ny taratasy dia ilay penisily vaovao
      D PST.PFX.write.CT/LNK-Rabe D letter   TOP DEM pencil   new
      'The (thing) (that) Rabe wrote the letter (with) is this new pencil'

In all the examples in (45), the relative clause carries the presuppositional part of the clause and is topicalized via a topic particle *dia*, while the XP on the right of the particle (or part of it) conveys new (i.e. unpredictable) information. I assume (following work done by Pearson 2001; Paul 1999; c.f. also Keenan 1976; Koopman 2005) that *dia* is generated in a left-peripheral position (TopP), higher than FocP and the lower Topic projection where the trigger moves to:

46. a. [[Top$_{dia}$ [Foc$_{no}$ [**PREDICATE** Y [**DP$_{TRIGGER}$** Top$_{nom}$ [...[

255

It is possible that *dia*-clauses are derived form an underlying structure where the DP that carries new information is a predicate taking the HRC as its subject. Subsequently the HRC moves to spec-TopP deriving the surface order. This would also explain the other possible places where headless relative clauses appear: as triggers (i.e. a lower topic projection in the left periphery) or as scrambled objects (an inner-topic projection above the voice domain). The fact that headless relative clauses appear only as scrambled objects is supported by the fact that they in general follow any postverbal adverbial modifiers (example from Rackowski 1998):

47. a.   tsy   mbola hai.ny   foana   [ny tokony ha tao]   rehefa m.isy   ny olana
       NEG   still   know.3GEN always   D   should   IRR do   when ASP.exist D problem
       'When there is a problem, he still doesn't always know what to do.'

I will not discuss the structure of these clauses in detail (see Pearson 2001; Paul 1999, for further discussion). The important fact here is that these clauses are very productive in spoken Malagasy and they readily allow for headless relatives to appear in them, contrary to normal indicative clauses that do not easily allow for HRC strings.

4.1.5 Internal Structure of Headless Relative Clauses

As far as the internal structure of Malagasy headless relative clauses is concerned, they behave like normal clauses, in that they allow for all the clausal functional layers,

256

including tense, to appear in them. This is not surprising if their structure is [$_{DP}$ D [$_{CP}$]], where the CP is a fully finite.

Starting from the lower layers, we have assumed that case is assigned outside the thematic domain in some aspectual projection (AspP). Since accusative case is readily available within headless relative clauses, this layer must be present in the structure:

48. a.   n.amp.i.asa   an- dRabe   izy
         PST.CAUS.AT.work ACC-Rabe   3.NOM
         'He/she employed Rabe'. (Lit.: He/she caused Rabe to work')

    b.% hita.ko   ilay n.amp.i.asa   an- dRabe   omaly
         see.1SG.GEN   DEM PST.CAUS.AT.work ACC-Rabe   yesterday
         'Yesterday, I saw Rabe's (aforementioned) (past) employer'

Furthermore, the domain where causative and reciprocal affixes merge is above the thematic domain and these affixes are readily available within headless relative clauses (48-49):

49. % hita.ko   ilay n.amp.i.asa   an- dRabe   omaly
         see.1SG.GEN   DEM PST.CAUS.AT.work ACC-Rabe   yesterday
         'Yesterday, I saw Rabe's (aforementioned) (past) employer'

Adverbial modification is also possible inside headless relative clauses:

50. a.   m.a.handro   sakafo   matetika   i Rabe
         ASP.AT cook food   often   D Rabe
         'Rabe cooks food often'

257

b. ny m.a.handro   sakafo matetika dia i Rasoa
    D ASP.AT.cook   food   often   TOP D Rasoa
    'Rasoa is the frequent cook of food'

High adverbs that appear in preverbal postion are also available within headless relative clauses:

51. a. ny   mbola/efa m.amp.i.anatra   teny   Malagasy dia Rabe
    DET still/already ASP.CAUS.AT.study language Malagasy TOP Rabe
    'The (one) (that) still/already teaches Malagasy is Rabe'.

Finally, other functional elements that appear in preverbal position such as negation may also appear within a HRC:

52. a. ny tsy m.a.handro   sakafo   dia i Rasoa
    D NEG ASP.AT.cook   food   TOP D Rasoa
    'Rasoa is the (one who) does not cook food.'

As discussed in Chapter 3 (section 3.1.5), what differentiates Malagasy headless relative clauses from Malagasy *f*-CT and *mp*-nominalizations is the fact that the former include tense and therefore can anchor the event described by the contained verb in time. Let us repeat the relevant examples:

53. a. ny f.an.doah.an-dRabe   rindrina dia ilay fantsika
    D NML.AT.drill.CT/LNK-Rabe wall   TOP DEM nail

258

'The (instrument for) Rabe's drilling (habitually) walls is this nail.'

b. ny n.an.doah.an-dRabe   rindrina (omaly)   dia ilay fantsika
   D PST.AT.drill.CT/LNK-Rabe wall   (yesterday) TOP DEM nail
   'The (instrument for) Rabe's drilling walls (yesterday) is this nail.'

c. hita.ko   ny mp.onina   ao   an-tanàna
   see.1SG/GEN   D NML.inhabit   there(invis.) LOC-village
   'I saw the (ones) living in the village.'

d. hita.ko   ny m.onina   ao   an-tanàna
   see.1SG/GEN   D ASP.inhabit there(invis.) LOC-village
   'I saw the (ones) (currently) staying in the village.'

Nominalizations formed by prefixing the nominalizer *f-* to the CT form of the verb (c.f. 53.a) and agentive nominalizations formed with the prefix *mp-* (53.c) are compatible with habitual interpretations (unless an appropriate context is added – see section 3.1.5). Headless relative clauses on the other hand (53.b-53.d) have a temporal interpretation as they are compatible with temporal adverbials (53.b) or with a temporal state of affairs (53.d). In section (3.1.5) this was taken as evidence that tense is not available in *f-*CT and *mp-* nominalizations, a fact further supported by their lacking tense morphology. In headless relative clauses on the other hand, elements that seem to be morphological expressions of tense distinctions are present, and therefore a time-anchored interpretation is predicted.

Assuming then that headless relative clauses contain full clauses, the structure for a HRC like *ny nianatra teny gasy* ('the (one who) studied Malagasy'), should be the one in (54) (with additional movements of the verb and its complement omitted):

54.
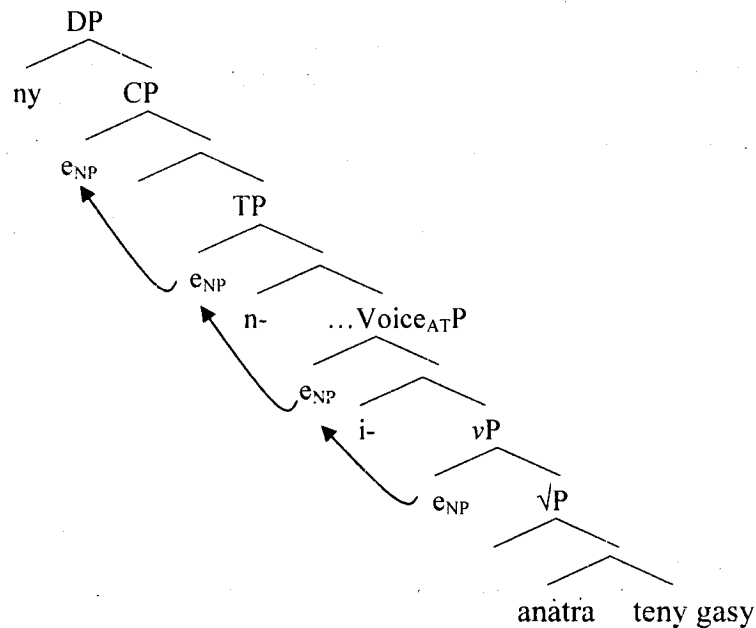
The null NP merges at spec-vP where the external argument of the verb is licensed. It subsequently moves to specifiers of higher projections (spec-VoiceP$_{AT}$ → spec-EventP → spec-TP), finally landing via A'-movement to the specifier of the relative CP, which is in turn selected by the definite determiner, resulting in the HRC. Additional movements of the VP and its internal argument to licensing positions, result in the same surface order, and so they are not shown in the tree.

4.1.6 Other Headless Relative Clauses

4.1.6.1 *Izay*-Headless Relative Clauses

A type of headless relative clauses can also be formed by using the demonstrative *izay*, which functions as the only available relativizer in the language. *Izay* is used optionally in the formation of headed relative clauses, as in the following examples:

55. a.   ny vehivahy   (izay)   n.an.oratra   ny taratasy ho   an'ny ankizy ...
      D   woman   REL   PST.AT.write   D   letter   for'   D   children
      'the woman that wrote the letter for the children ...'

   b.   ny taratasy (izay)no.sorat.an'   ny vehivahy   ho   an'ny ankizy ...
      D   letter   REL   PST.write.TT/LNK'   D   woman   for'   D   children
      'the letter that the woman wrote for the children ...'

   c.   ny ankizy   (izay)n.an.orat.an'   ny vehivahy   ny vary ...
      D   children   REL   PST.AT.buy.CT/LNK'   D   woman   D   letter
      'the children that were-written-for the woman the letter ...'

The relative clauses in (55) are formed by optionally inserting *izay* after the 'head' noun and affixing the appropriate voice morphology on the verb root, depending on which argument is relativized (see Keenan 1972). Given the existence of the homophonous demonstrative *izay*, one could assume that *izay* in (55) may be a demonstrative merged in the outer D-layer of the relative clause. However, it is clear that this is not so, as *izay* in (55) can cooccur with a flanking demonstrative such as *ity*:

56. a.   ity   boky vaovao ity   izay   no.vakin-dRabe
      DEM   book   new   DEM REL   PST.buy.TT/LNK-Rabe
      'This new book that Rabe bought.'

261

The relative clauses in (55) can be formed by omitting the 'head' NP so in this respect they resemble *ny*-headless relative clauses. When the head is not present the presence of *izay* is obligatory:

57. a. izay n.an.oratra ny taratasy ho an'ny ankizy ...
         REL PST.AT.write D letter for' D children
         '(that one) who wrote the letter for the children ...'

     b. izay no.sorat.an' ny vehivahy ho an'ny ankizy ...
         REL PST.write.TT/LNK' D woman for' D children
         '(that thing) which the woman wrote for the children ...'

     c. izay n.an.orat.an' ny vehivahy ny taratasy ...
         REL PST.AT.buy.CT/LNK' D woman D letter
         '(that one) who was-written-for the woman the letter ...'

Before considering in detail the structure and distribution of these clauses let us first discuss in more detail the properties of the relativizer *izay*. The main question with respect to *izay* has to do with its categorial status: is *izay* a determiner that selects for the CP-internal relativized NP, or is it a C-element? In traditional grammars *izay* is considered to be the only relativizer in Malagasy (Rajemisa-Raolison 1971; Rajaona 1972). It seems to form an exception to the empirical generalization that Malagasy does not have D-like complementizers - tensed complement clauses are extraposed and start with *fa*, which is homophonous with the coordinator *fa*/'but'. Morphologically *izay*

262

resembles the rich paradigm of demonstratives in the language (c.f. Section 2.1.2). Of particular interest is the set of pronouns used to refer to entities that are unseen, i.e. remembered or conceived in some sense, in contrast to those that refer to entities that can be pointed out. *Izay* morphologically resembles theformer in that it contains the initial [i] (which marks the D-feature of proper names and pronouns, see discussion in Section 2.1.2) in addition to the morpheme [za] that seems to realize a feature [-VISIBLE]. In fact, *izay* is productively used as a demonstrative before nouns that name an entity previously established in the discourse (i.e. known by both speaker and addressee). In this distribution it shares with the determiner *ny* the properties of being pronominal and being distinct from other demonstratives in not framing the NP:

58. A. no.vak.in.ao   ve   ny   bokin-dRabe   vaovao?
    PST.read.TT.2SG/GEN Q   D   book.LNK-Rabe new
    'Have you read Rabe's new book?'

   B. izay boky no vaki.ko   halina
    DEM book FOC read.TT/1SG/GEN last_night
    'It is this book that I read last night.'

Furthermore, in this position. *izay* is in complementary distribution with other D-elements, like the definite determiner *ny* and any of the series of demonstratives in the language:

59.   *ny/*ilay/*ity izay boky no vaki.ko   halina
       D/DEM/DEM   DEM book FOC read.TT/1SG/GEN last_night
       'It is that book that I read last night.'

263

Thus *izay* seems to be a D-element like other demonstratives in the language. At the same time however, *izay* may introduce embedded questions, as in the following examples (from Keenan 1976, 2005):

60. a. tsy   fantatro   izay n.an.enjika   azy
       NEG   known/1SG/GEN   DEM PST.AT.chased 3ACC
       'I don't know who chased her.'

    b. tsy   fantatro   izay mpianatra nanenjika azy
       NEG   known/1SG/GEN   DEM student   PST.AT.chased 3ACC
       'I don't know which student chased her.'

This seems to be a property of free relatives crosslinguistically. For example, Koopman (1984) shows that embedded questions in Vata have the form of relative clauses but behave like *wh*-islands for extraction purposes rather than complex NPs. Intuitively then *izay* seems to have a complex meaning: a fusion of D-features plus a wh- feature which seems to be D-linked, like the English *wh*-determiner which or more likely the French *wh*-determiner lequel/ 'the-which'.[7]

---

[7] Thanks to Hilda Koopman for bringing this to my attention.

264

The fact that *izay* introduces D-linked DPs, can account for the fact that contrary to *ny*-headless relative clauses, *izay*-headless relative clauses cannot appear in specificational sentences. These types of sentence consist of a constituent containing a variable and a constituent (exhaustively) specifying the value for that variable linked usually with a form of the copula (see den Dikken, to appear). We have already seen (c.f. Section 4.1.3, example 45) that *ny*-headless relative clauses are very productive as the first constituent of these specificational sentences. However, one of the properties of specificational sentences is that the constituent that contains the variable resists D-linked strings:

61.   *   Bill likes which books you read.

If we replace the D-linked DP with its wh-counterpart the sentence becomes grammatical:

62.   Bill's likes what you read.

Consider now the following specificational sentences in Malagasy:

63. a.   ny   n.an.oratra ilay taratasy   dia   Rabe
         D   PST.AT.write DEM   letter   TOP   Rabe
         'The (one who) wrote this letter is Rabe.'

    b. ?*izay n.an.oratra ilay taratasy   dia   Rabe
         DEM   PST.AT.write DEM   letter   TOP   Rabe

265

'Whoever wrote this letter is Rabe.'

As we can see *izay* cannot form a specificational sentence. If it forms a headless relative clause, then it is not immediately clear why it cannot appear in these environments, given the grammaticality of (63.a). If however, it has a *wh-* feature and additionally introduces D-linked DPs, then the impossibility of *izay* in (63.b) follows.

Summarizing then, *izay* seems to combine the properties of a D-element (prenominal syntactic position, complementary distribution with other determiners and demonstratives) and the properties of a *wh*-element (introduces embedded questions). A possible conclusion then is that *izay* is the phonological realization of a complex syntactic structure that includes two D heads and a null noun (which is licensed by some antecedent or is arbitrary): izay → [D [NP Dwh]]. This brings *izay* on a par with Romance relativizers, such as French *lequel* or Italian *il quale* which are obviously made up by a definite determiner and a relativizer. The morphological template of *izay* (i.e. the inclusion of the D-morpheme i-) further supports such an analysis. Furthermore, in their interrogative use elements like *lequel* can also appear with a null NP as in the following example:

64. a.   Lequel as-tu vu?
         The-which have-seen you

'Who have you seen?'

This argues for a treatment of *lequel* as including a null NP which possibly raises to spec-DP (see Kayne 2005): $[_{DP} e_{NP}$ le $[$quel $t_{NP}]]$.

When the 'head' NP is not present, the presence of *izay* is as expected obligatory since omitting it would leave us only with a predicate. But where is *izay* in the structures of (57)? Is it postnominal as in the corresponding structures of (55) or pronominal as in (60.b)? I propose here that *izay* is in fact occupying the matrix D position and not the clause-internal D position in the headless relative clauses of (57). A first piece of evidence for this comes from the fact that *izay* can be followed by the 'head' NP in these structures:

65. a. izay olona   n.an.oratra   ny taratasy ho   an'ny ankizy ...
       REL person PST.AT.write   D letter   for' D children
       'That person (who) wrote the letter for the children ...'

    b. izay taratasy no.sorat.an'   ny vehivahy   ho   an'ny ankizy ...
       REL letter   PST.write.TT/LNK' D woman   for' D children
       'That letter (which) the woman wrote for the children ...'

    c. izay olona   n.an.orat.an'   ny vehivahy   ny taratasy ...
       REL person PST.AT.buy.CT/LNK' D woman   D letter
       'That person (who) was-written-for the woman the letter ...'

Definite determiners or other D-elements like demonstratives can co-occur with *izay* when the 'head' is not overt, only when some other modifier, like an adjective or a quantifier are present (compare (66) to (67); example (67.a), from the motto of the online magazine *Ny Haisoratra Malagasy* ('Malagasy Prose')[8]:

66. a. tia.ko   **ny olona hendry (izay)** m.amp.i.anatra   teny   gasy
         like.1SG/GEN D people intelligent REL   ASP.CAUS.AT.study language Malg.
         'I like the intelligent person who teaches Malagasy.'

67. a. ato   no   m.isy   ireo mp.an.oratra vaovao sy efa   fantatra   ary
         here FOC ASP.exist DEM NML.AT.write new   and already known   and
         ireo rehetra izay te   h.am.etraka ny asa.ny   satria   tia ny haisoratra
         DEM all   REL want FUT.AT.place D work.3GEN because like D prose
         'Here (you can find) those new writers and those already known, and all those
         that like to post their work because they love prose.'

    b. tia.ko   **ny e_{NP} hendry (izay)** m.amp.i.anatra   teny   gasy
         like.1SG/GEN D   intelligent REL ASP.CAUS.AT.study language Malagasy
         'I like the intelligent one who teaches Malagasy.'

As can be seen in (66), the NP appears between the pronominal determiner (or a demonstrative) and any postnominal modifiers. The relative clause follows all other nominal modifiers and thus the (optional) *izay* appears after the adjective. When the NP is elided, the word order remains the same:

68. a. D   NP/e_{NP} AP/QP *izay* RelClause

---

[8] Available at http://www.haisoratra.org/.

Consider now the *izay*-headless relative clauses of (57). If *izay* is indeed a relativizer or a determiner internal to the relative clause in these structures, one would expect the modifiers to appear on the left of *izay*, conforming to the order of (68). However, as the following examples illustrate, this is impossible:

69. a. * andriamby dia ny fitaovana manintona **rehetra izay**   mety ho vy
    magnet   is the instrument attracts   all   DEM (made of) iron
    'Magnet is an instrument that attracts all iron—made things.''

  b. * tia.ko   **hendry izay** m.amp.i.anatra teny   gasy an-dRasoa
    like.1SG/GEN intelligent DEM ASP.CAUS.AT.study language Malg. ACC-Rasoa
    'I like the intelligent one who teaches Malagasy to Rasoa.'

In fact, the modifiers must follow *izay* in these structures:

70. a. andriamby dia ny fitaovana manintona **izay rehetra**   mety ho vy
    magnet   is the instrument attracts   DEM all   (made of) metal
    'Magnet is an instrument that attracts all metal-made things.''

  b. tia.ko   izay **hendry** m.amp.i.anatra teny   gasy an-dRasoa
    like.1SG/GEN DEM intelligent ASP.CAUS.AT.study language Malg. ACC-Rasoa
    'I like the intelligent one who teaches Malagasy to Rasoa.'

Therefore, there is strong evidence that *izay* in headless relative clauses occupies the prenominal D-position and not the postnominal position that it occupies in 'headed' relative clauses:

71. a. *izay* NP/e$_{NP}$ AP/QP (*izay*) RelClause

Therefore, these 'headless' relative clauses are not actually 'headless' in the traditional sense. Suppose now that there is no nominal modifier available in the structure. Given that *ny* can license headless relative clauses with a null generic NP, one would expect the order [D __ izay] to emerge. However, as the following example illustrates, the resulting structures are ungrammatical in Malagasy (c.f. Potsdam to appear):

72.   * n.a.hita   ny __ izay n.an.oratra   ny taratasy ho an'ny ankizy aho
          PST.AT.see D   DEM PST.AT.write D letter   for'   D children 1SG/NOM
          'I saw whoever wrote the letter for the children.'

Why is (72) ungrammatical? The answer is not immediately clear given the grammaticality of the examples in (67). There is no obvious reason why the structure should not be legitimate when nominal modifiers are not present. Potsdam (to appear) stipulates that in the *izay*-headless relative clauses there is a null determiner that selects for the relative CP and this is why *ny* cannot surface in the top D position. However, I think that this stipulation is misguided since, as we have seen, in *izay*-headless relative clauses it is *izay* that occupies the top D position. Therefore, the unavailability of *ny* follows. The problem, however, still remains. Why it is that *izay* cannot surface in the position that it occupies in 'headed' relative clauses, when there 'head' is null and there is

no modifier present? I do not have an insightful answer for this problem but I think that the solution lies in a constraint that filters out linearly adjacent D elements. That is, the grammar does not allow pronunciation of two D-elements that are adjacent even when they are derived by a licit derivational process. For example most speakers find the following sequence strange[9]:

73. * io   trano.n'ity   lehilahy ity   io
         DEM house.LNK'DEM man   DEM   DEM
         'That house of this man...'

Summarizing, *izay*-headless relative clauses have the distribution and structure of *ny*-headless relative clauses in that they are formed by the demonstrative *izay* selecting for the relative CP. Their distribution differs minimally from that of *ny*-headless relative clauses in that they appear introducing embedded questions and cannot appear in specificational sentences due to the D-linking properties of *izay*. Finally, it has been shown that *izay* in 'headed' relatives is also a determiner that has the syntax of the *wh*-determiner *which* in English, as proposed in Kayne 1994, with the difference that contrary to *which*, *izay* can also license null nominals. We turn now to the last class of possible headless relative clauses in the language, the *no*-headless relative clauses that

---

[9] Thanks to Ed Keenan for bringing this example to my attention.

introduce pseudocleft structures in the formation of focus structures and *wh*-questions in

Malagasy.

4.1.6.2 Focus structures and *wh*-questions in Malagasy

Before closing the section on headless relative clauses, I would like to mention a third

case of headless relative clauses that has been proposed in the literature. A number of

proposals claim that Malagasy has a wider distribution of headless relative clauses, as the

latter participate in the formation of *wh*-questions and focus structures (Dahl 1986; Paul

2001a, 2003, 2004; Pearson 2001; Potsdam 2004)[10]. This proposal follows the idea that

wh-words and focused elements in Austronesian languages form predicates that take a

headless relative clause as their subject (see for example similar proposals by Kroeger

1993, and Richards 1996, on Tagalog). Under these analyses the fronted constituent or

the *wh*-phrase in the examples in (74) forms a predicate that takes a headless relative

clause as its subject. Analyses differ with respect to the role that the particle *no* plays in

these constructions (a complementizer or relativizer in Potsdam 2004; a determiner in

Paul 2003), but they agree on the basic structure of the sentences under discussion (c.f.

(75)):

---

10 For a movement approach to the formation of (some) *wh*-questions in Malagasy see Sabel (2002). See
  Potsdam 2004; Paul 2003, for arguments against such an approach. I will not consider this approach here
  as I am mainly interested in the possibility that the remaining clause (after the fronted constituent) is a
  headless relative clause.

272

74. a. iza   no   n.a.handro   sakafo
       who   FOC   PST.PFX.cook   food
       'Who cooked food?'

    b. Rabe no   n.a.handro   sakafo
       Rabe FOC   PST.PFX.cook food
       'Rabe (was the one who) cooked food.'

75. a. [IP [predicate iza]   [DP no OPi   nahandro sakafo ti]]
    b. [IP [predicate Rabe]   [DP no OPi   nahandro sakafo ti]]

Under this view, the string that includes the focus particle and everything to its right

forms a constituent to the exclusion of the focused element. This constituent is a DP and

it contains a CP, in which an operator co-indexed with the predicate moves to spec-CP.

Therefore, the proposed structure is similar to the one proposed here for participant

headless relative clauses in Malagasy. The evidence for this structure comes from a

number of facts, discussed in detail in Paul 2001a, 2003, 2004; Potsdam 2004). I will

mention some of the arguments here but a complete discussion and arguments against

alternative analyses can be found in the above references.

Paul (2001a) argues that the clefted element is a predicate because it behaves

syntactically like the predicate of a declarative sentence: it appears clause initially like all

predicates in Malagasy, and it can be preceded by negation or other preverbal particles:

76. a. tsy   Rasoa no   n.an.oroka   an-dRakoto.
        NEG   Rasoa FOC   PST.AT.kiss   ACC-Rakoto
        'It's not Rasoa who kissed Rakoto.'

Potsdam (2004) provides additional evidence for the predicate status of the focused element from the distribution of post-predicate and pre-predicate particles in Malagasy. Post-predicate particles immediately follow the predicate. They include floating quantifiers like *daholo* 'all' and VP adverbs such as *foana* 'always'. In indicative clauses, these elements appear immediately after the predicate and before the subject (except in the case of object shift (see section 2.1.3; all examples from Potsdam 2004):

77. a. n.i.hinana   vary (daholo) ny vahiny (*daholo)
        PST.AT.eat   rice all   D guest   all
        'All the guests ate rice'

    b. m.i.homehy   (foana) Rasoa (*foana)
        ASP.AT.laugh   always   Rasoa always
        'Rasoa is always laughing'

As predicted, in focused and *wh-* constructions post-predicate particles immediately follow the initial focused element:

78. a. iza   daholo   no   m.i.lalao   baolina
        who   all   FOC   ASP.AT.play ball
        'Who all are playing ball'

    c. Rasoa foana   no   m.i.homehy

274

Rasoa always FOC ASP.AT.laugh
'It's always Rasoa who laughs'

Similarly, there are a number of particles that immediately precede the predicate in normal clauses. These pre-predicate particles include, *tokony* 'should', and *tena* 'indeed (affirmative emphasis)' among others:

79. a. tokony hamangy   an-dRabe   Rasoa
      should FUT.AT.visit ACC-Rabe Rasoa
      'Rasoa should visit Rabe'

   b. tena ho.vid.in' ny   zaza ny fiaramanidina
      EMPH FUT.buy.TT/LNK'D child D   airplane
      'The child will indeed buy the airplane'

Again, as predicted, pre-predicate particles immediately precede the initial element, in *wh-* (80.a) and focus (80.b) structures:

80. a. tokony iza no h.am.angy   an-dRabe
      should who FOC FUT.AT.visit   ACC-Rabe
      'Who should visit Rabe?'

   b. tena Rabe no m.a.handro   ravintoto
      EMPH Rabe FOC ASP.AT.cook   pounded.manioc.leaves
      'It's indeed Rabe who cooks ravintoto'

As for the rest of the pseudocleft, i.e. the headless relative clause headed by the focus particle *no*, Paul (2001a) provides coordination tests that show that it forms a constituent.

The conjunction used for coordination of the *no*-strings is *sy* (81.c), which is used to coordinate everything smaller than a clause (CP) (c.f. 81.b). For the coordination of clauses the conjunction *ary* is used instead (81.a).

81. a. [Nanasa ny lamba Rabe] *sy/ary [nahandro sakafo Rasoa].
        PST.AT.wash D clothes Rabe and PST.AT.cook food Rasoa
        'Rabe washed the clothes and Rasoa cooked food.'

    b. [Nanasa ny lamba] sy/*ary [nahandro sakafo] Rasoa
        PST.AT.wash D clothes and PST.AT.cook food Rasoa
        'Rasoa washed clothes and cooked food.'

    c. Rasoa [no nanasa ny lamba] sy/*ary [no nahandro sakafo] .
        Rasoa FOC PST.AT.wash D clothes and PST AT.cook food
        'It was Rasoa who washed clothes and cooked food.'

This seems to indicate that the bracketed strings in (81.c) are DPs and not CPs. Examining the interpretation of pseudoclefts in Malagasy, Paul (2001a) shows that at least two of the interpretive properties of pseudoclefts, existential presupposition and exhaustivity (c.f. Halvorsen, 1978), can be straightforwardly explained if the post-predicate part of the pseudocleft is a headless relative clause.

First, a cleft presupposes that there is some individual that has the property attributed by the clefted part. Hence the presupposition of the cleft in (82.a) is that someone painted

houses. This clearly contradicts (82.b), which asserts that no one painted houses (examples from Paul 2001a:722):

82. a. tsy misy olona n.an.doko trano . . .
        NEG exist person PST.AT.paint house
        'No one painted houses . . . '

    b. # . . . noho izany dia tsy i Koto no n.an.doko trano.
           because that TOP NEG D Koto FOC PST.AT.paint house
           '... therefore it wasn't Koto who painted houses.'

Secondly, clefts express exhaustive identification. Consider the following examples (from Paul 2001a:723):

83. a. n.an.deha t.aiza ianao?
        PST.AT.go PST.where 2SG/NOM
        'Where did you go? '

    b. n.an.deha t.any Ambositra aho.
        PST.AT.go PST.there Ambositra 1SG/NOM
        'I went to Ambositra.'

    c. t.any Ambositra no n.an.deha aho.
        PST.there Ambositra FOC PST.AT.go 1SG/NOM
        'It was to Ambositra that I went.'

In (83.b), the answer to the question in (83.a) does not exclude the possibility that the speaker visited other places except *Ambositra*. However, the cleft in (83.c) is interpreted as to exclude any other place – *Ambositra* is the only place that the speaker has visited.

277

How are these properties of Malagasy clefts explained if we assume that the string following the clefted element is a headless relative clause. According to Paul (2001a) headless relative clauses are a type of a 'definite description', i.e. a description that uniquely describes an individual. One of the properties of definite descriptions is the presupposition of the existence of the individual they describe. This is exactly the role that the headless relatives play in the formation of pseudoclefts. In other words the existence presupposition of *wh*-questions and focus structures is derived from the presupposition induced by the definite description/headless relative. As for the exhaustive interpretation of pseudoclefts, this is a direct result of the "uniqueness" property of definite descriptions, i.e. the existence of one and only one entity meeting the descriptive content of the headless relative.

Even though the above approach seems to account for numerous facts on the distribution, internal syntax and interpretation of focus structures and *wh*-questions in Malagasy, it also encounters a number of problems (c.f. Law 2005).

First of all DPs with the overt determiner *ny* do not appear, in general, in predicate position in Malagasy. Compare (84) to (85):

84.   mp.i.anatra Rabe
        NML.AT.study   Rabe

278

'Rabe is a student.'

85. * ny mp.i.anatra   Rabe
       D NML.AT.study Rabe
       'Rabe is the student.'

However, definite DPs are clefted productively in focused structures and *wh*-questions in

Malagasy:

86. a.   Rabe no   n.am.aky   ity   boky ity
         Rabe FOC PST.AT.read this   book this
         'It is Rabe who read this book.'

    b.   ity   mp.i.anatra   ity   no   n.am.aky ity boky ity
         DEM NML.AT.study DEM FOC PST.AT.read this   book this
         'It is this student who read this book.'

If the clefted elements are indeed predicates of the clefted structures, it is not

immediately clear why definite DPs are allowed in these structures but avoided

elsewhere. A similar pattern occurs with strong quantifiers like *akabetsahan* 'most' and

rehetra 'all' which also resist appearing as predicates (c.f. Law 2005), but this may be

due to the fact that these quantifiers always co-occur with *ny* which as we have already

seen is banned from predicate positions.

279

Law (2005) argues on the basis of co-ordination facts that the headless relative headed by *no* cannot be a DP as it cannot be coordinated with other DPs, while *no* cannot be a complementizer like *izay* because it cannot be coordinated with other *izay* clauses or introduce relatives. However, this argument is weakened by the facts presented here. *Izay* is not a relativizer but a demonstrative with *wh*-properties and thus if *no* is a complementizer/focus marker, coordination of a string headed by *no* with an *izay*-headless relative is expected to be ungrammatical.

A further problem for Paul's (2001a) analysis has to do with the semantics. As previously mentioned, the focus interpretation of the involved structures is supposed to be derived from the properties of the headless relative clause headed by *no*. This means that juxtaposition of a predicate with a headless relative clause introduced by *ny* should induce the same focus interpretation. However, the data indicates that this is not so:

87. a. lahy   ny m.amp.i.anatra   teny   gasy   an-dRasoa
       man   D ASP.CAUS.AT.study   language Malagasy   ACC.Rasoa
       'The person that teaches Malagasy to Rasoa is a man.'
       '*It is a man that teaches Malagasy to Rasoa.'

In (87) the *ny*-HRC should be interpreted as exhaustively identifying the entity, a property of which is supplied by the predicate. However, no focus interpretation is available, as the English gloss shows. The difference between (87) and the clefted

280

structures of (74) is the presence of the particle *no*. This seems to indicate that *no* is not a determiner but a focus particle, possibly heading a focus projection in the left periphery of the clause.

Trying to solve these problems, Law (2005) suggests that the structure of focused elements and *wh*-questions involves a biclausal structure of a null copular verb selecting for the *no*-constituent and attracting the clefted element to its specifier, as in the following configuration:

88. $[_{VP} XP_i [BE t_j]] [_{FP} t_i [no [_{IP} \dots t_i \dots]]]_j$

The clefted element is the trigger or an adjunct of the embedded clause. It moves to the specifier of the projection where *no* merges, possibly checking a focus feature, and subsequently moves to the specifier of the matrix copular verb.

Law (2005) proposes that the null copular verb in the above structure is independently motivated by the fact that Malagasy does not have an overt copular verb in non-verbal predication:

89. a.   mp.i.anatra   Rabe
          NML.AT.study Rabe
          'Rabe is a student.'

b. . . faly   ny ankizy
       happy   D children
       'The children are happy.'

If this is correct then the fact that *no*-clauses allow for definite DPs to appear on the left

of *no* is solved: the predicate is not the definite DP but the VP with the null copula and

the DP in its specifier. However, under Law's own critique of the pseudocleft analysis, if

a null copula is available in the cases of (89), then one would expect them also to allow

for definite DPs to appear in predicate position. However, as we have seen this is not

possible (c.f. example 85).

Summarizing, the *no*-strings of pseudoclefts and *wh*-questions in Malagasy seem to have

some properties of headless relative clauses. However, such an analysis runs into a

number of problems with relation to the internal syntax and external distribution of these

strings, as well as the fact that they differ from the *ny*-headless relatives in their semantic

interpretation. I will therefore assume that *no*-strings are not headless relatives of the type

discussed here, and that more work needs to be done in order to determine the exact

properties of their structure/distribution. I leave this issue for further research.

282

4.2   Action Nominals

Let us next return to the fact that *ny*-CP strings function as nominalizations (c.f. Section 4.0.1). The second main type of clausal nominalizations in Malagasy (which I will term 'action nominals') are morphologically identical to headless relative clauses in that they are formed by an optional D element selecting for a clausal string (P1 in Keenan's (2005) terminology). The difference between headless relative clauses of the type discussed in the previous sections and action nominals is that the latter are not interpreted as denoting one of the participants in the event described by the verb, but as the event itself. In this respect they are equivalent to action nominalizations of the 'destruction' type in English. Thus, a string like *ny mangalatra akoho* can mean 'the (one who) steals chicken' or 'the stealing of chicken' depending on the context, as the following examples illustrate:

90. a.   [ny   m.an.galatra   akoho]   dia   Rabe
          D   ASP.AT.steal   chicken   TOP   Rabe
          'Rabe is the (one who) steals chicken.'

    b.   ratsy   [ny m.an.galatra   akoho]
         bad   D ASP.AT.steal   chicken
         'Stealing chicken is bad.'

283

Clausal nominalizations of the sort in (90.b) are quite common as triggers in non-verbal (e.g. adjectival) predicate structures. They can also appear in object position (example adapted from *Ilay Kintana Mamirapiratra*, Rajohanesa 1963):

91. a. n.a.tahotra [ny tsy h.a.hita an-dRainilaimanga intsony] izy roa lahy
       PST.AT.afraid D NEG IRR.AT.see ACC-Rainilaimanga anymore 3NOM two men
       'The two men were afraid of not seeing Rainimanga any more.'

   b. n.i.laza t.amin'Ilaimanga [ny tsy n.aha.zaka.ny ny sai.ny
      PST.AT.report PST.to.LNK' I. D NEG PST.ABL.bear.3GEN D mind.3GEN
      h.an.oratra] izy
      IRR.AT.write 3NOM
      'He reported to Ilaimanga his not being able to make his mind write.'

Finally, clausal nominalizations appear in complement clauses, translated as embedded infinitival clauses in English:

92. a. n.an.iry [(ny) h.an.deha ho any Antsiranana] Rabe
       PST.AT.wish D FUT.AT.go FUT LOC Antsiranana Rabe
       'Rabe wished to go to Antsiranana'.

   b. n.i.kasa [(ny) h.an.oratra taratasy] Rabe
      PST.AT.intend D FUT.AT.write letter Rabe
      'Rabe intended to write a letter.'

   c. n.an.adino [(ny) n.i.vidy sakafo] Rabe
      PST.AT.forget D PST.AT.buy food Rabe
      'Rabe forgot to buy food.'

284

The bracketed strings in (92) appear to have a similar interpretation to the bracketed string in (90.b-91). They are interpreted as events and not as participants. But the similarities do not stop there. In the following section I show that the two types of nominalizations exhibit a number of similarities with respect to their internal structure and external distribution, including tense-aspectual properties and the licensing of arguments.

4.2.1 Nominal Properties of Action Nominals

The distribution of action nominals in Malagasy overlaps with the distribution of finite and non-finite clauses in other better-studied languages. For example, in English, arguments of control and raising predicates have been argued to be CPs (or TPs or smaller pieces of structure in some analyses (see discussion and tests for CP-hood in Rizzi 1982). However, there is evidence that in Malagasy the corresponding clauses are DPs. The arguments for such an assumption come from the fact that they can be selected by D elements, the fact that their distribution overlaps with that of common noun phrases, and from extraction facts. I discuss these arguments in detail in this section.

The strongest piece of evidence for assuming that action nominals in Malagasy are DPs comes from the fact that in most cases a definite determiner or demonstrative can appear introducing the clause:

285

93. a. n.an.iry   [(ny) h.an.deha ho   any Antsiranana] Rabe
      PST.AT.wish D FUT.AT.go   FUT LOC Antsiranana Rabe
      'Rabe wished to go to Antsiranana'.

   b. n.i.kasa   [(ny) h.an.oratra]   taratasy Rabe
      PST.AT.intend D   FUT.AT.write letter   Rabe
      'Rabe intended to write a letter.'

   c. n.aha.tezitra   ahy   [ity n.an.dehan.an-   dRakoto t.any   Antsirabe ity]
      PST-CAUS-angry 1SG.ACC DEM PST.AT.steal.CT/LNK-Rakoto PST.there Antsirabe DEM
      'This going of Rabe's to Antsirabe angered me.'

In most of the literature on control in Malagasy it is assumed that the determiner is optional and that it does not contribute to the semantics of the clause (c.f. Polinsky & Potsdam, 2002. 2003, who assume that the embedded clause has CP categorial status).

However, one of the properties of nominal strings is that they are readily selected by determiner heads (Abney 1987) whether definite/indefinite determiners, quantifiers or demonstratives. In generative approaches that dismiss semantic definitions of the notion 'grammatical category' the categorial status of 'noun' is defined as the set of elements that fit in a syntactic frame following a D-type element. However, in later work it has been assumed that Ds can select for finite CPs. This is the case for example in Kayne's (1994) analysis of relative clauses, or Rousou's (1991) and Picallo's (2001) analyses of clausal arguments of factive predicates in Greek and Spanish respectively.

286

Crosslinguistically it has also been observed that definite determiners can select for finite strings (where for finite see 'tensed') to form clausal nominalizations. Consider the following example from Lakhota (from Comrie & Thompson 1985:393):

94. a. Unglapi   LAKHOTA
   'We are going home'

  b. [Unglapi   kin] iyonicip'ipi
    we.are.going.home the has.pleased.you
    'Our going home has pleased you'

In (94.b) a definite determiner selects a finite string to create a factive clausal nominalization. Malagasy seems to further support the claim that Ds can select for finite CPs as the examples in (93) illustrate. In these examples the embedded clauses are marked for tense (but see section 4.2.2, for discussion on finiteness). This has been taken as an argument that *ny* is not in fact a determiner in these cases but a complementizer (c.f. Randriamasimanana (1986: 501-503). The argument is further supported by the fact that while action nominals of the sort in (93.c) can be selected by demonstratives, this is not so for the clausal arguments of control predicates (compare (93.a-93.b) with (95.a-95.b):

95. a. * n.an.iry [ilay h.an.deha ho any Antsiranana] Rabe
    PST.AT.wish DEM FUT.AT.go FUT LOC Antsiranana Rabe
    'Rabe wished to go to Antsiranana'.

  b. * n.i.kasa [ity h.an.oratra taratasy ity] Rabe

287

PST.AT.intend DEM FUT.AT.write letter   DEM Rabe
'Rabe intended to write a letter.'

Is *ny* a definite determiner or a complementizer in the sentences of (93.a-93.b)? For *ny* to be a determiner it needs to be shown that it contributes to the overall semantics of the embedded clauses in the same way that it contributes to the semantics of common noun phrases (by quanticising the NP, adding referentiality). No such contribution of *ny* has been explored in the relevant studies of control structures in Malagasy (c.f. Polinsky & Potsdam, 2002, 2003). On first sight, (96) has the same meaning whether the definite determiner is present or not:

96.   n.i.kasa   (ny) h.an.oratra   boky Rabe
        PST.AT.intend D   FUT.AT.write   book Rabe
        'Rasoa intended to write a book.'

However, given that the presence of a definite determiner at the clausal level has been connected to interpreting the action of a verb as denoting an event (see Chapter 3) it may be that when a determiner is present an event is entailed, while when the determiner is absent an event has not necessarily taken place. This would have the determiner functioning in the same way as it functions in common noun phrases – quanticising/referencing the event denoted by the predicate. In order to check this we have to construct a specific context. Consider the following two examples:

288

97. a. n.i.kasa   h.an.asa   ny lamba Rasoa fa   narary tampoka   izy
        PST.AT.intend FUT.AT.wash D clothes Rasoa COMP PST.PFX.ill suddenly 3SG.NOM
        'Rasoa intended to wash the clothes but she suddenly became ill.'

    b. nikasa   *(ny) hanasa   ny lamba Rasoa fa tsy vita.ny
        PST.AT.intend   D   FUT.AT.wash D clothes Rasoa C NEG complete.3SG
        intsony   izany
        anymore   DEM
        'Rasoa intended to wash the clothes but they weren't finished by her.'

(97.b) implies that an event of washing has started at some point in the past. My consultants do not accept the sentence as grammatical if the definite determiner is omitted. In (97.a) on the other hand no event of washing was necessarily initiated and the sentence is better without the definite determiner. Presence of a definite determiner would indicate that Rasoa started washing the clothes but stopped because she fell ill. We see therefore, that the definite determiner does have some sort of semantic contribution when preceding embedded clauses of control predicates - it provides the structural context for the entailment of an event.

On purely syntactic grounds *ny* seems to have more the distribution of a determiner rather than a complementizer like *fa*. Its presence seems to play a role in licensing structural configurations that require the presence of a definite determiner in the nominal domain. For example, a definite determiner is required when an element occupies the trigger

289

position. Consequently, when a subject control structure appears in TT form, the embedded clause can occupy the trigger position and the definite determiner becomes obligatory. Compare (96) to (98):

98.   kasain-dRabe   *(ny) h.an.oratra   boky[11]
       intend.TT.LNK-Rabe   D   FUT.AT.write   book
       'Rasoa intended to write a book.'

Given that triggers can also be focused in a pseudocleft structure, the presence of the definite determiner allows for the embedded clause to be focused:

99.   *(ny) h.an.oratra   boky no   kasain-dRabe
       D   FUT.AT.write   book FOC   intend.TT.LNK-Rabe
       'It is to write a book that Rabe intended.'

Finally, it has been shown in Section 2.1.3 (see also Section 3.1.2.3) that while indefinite internal themes must stay adjacent to the verbal complex, definite themes headed by *ny* may appear to the right of intervening modifiers:

---

[11] Of course the sentence would be grammatical if the internal argument *boky* were preceded by a definite determiner.
ii.   kasain-dRabe   [h.an.oratra]   ny boky
intend.TT LNK-Rabe   FUT.AT.write   D   book
'Rasoa intended to write the book.'

However, in these cases the internal argument has been extracted from the embedded clause and occupies the trigger position of the matrix clause (see example (102.b) and relevant discussion on the properties of this structure).

100.a. m.aha.ndro   sakafo   matetika   i   Rabe
ASP.AT.cook   food   often   D   Rabe
'Rabe cooks food often'

b. m.aha.ndro   matetika   *(ny)   sakafo   i   Rabe
ASP.AT.cook   often   D   food   D   Rabe
'Rabe cooks the food often'

The presence of *ny* in embedded clauses has an even stricter requirement. When the matrix predicate is modified by an adverb the complement clause must appear to the right of the adverb when preceded by the definite determiner:

101.a. m.an.iry   [h.i.sambotra   ny mpangalatra]   matetika ny polisy
ASP.AT.wish   FUT.AT.arrest   D thief   often   D police
'The police often wish to arrest the thief'.

b. m.an.iry   matetika [*(ny) h.i.sambotra   ny mpangalatra]   ny polisy
ASP.AT.wish   often   D   FUT.AT.arrest   D thief   D police
'The police often wish to arrest the thief'.

c. azo.ntsika   h.atao   foana ny m.am.antatra   ny fanatrehan'   ny anjely ...
can.1PL/GEN IRR.do always D ASP.AT.examine D NML.AT.face.CT/LNK'D angel
'We can always recognize the presence of the angels ...'

This brings the distribution of action nominals on a par with the distribution of headless relative clauses – both types of structures when preceded by a definite determiner or demonstrative occupy topic-related projections at different levels of the clausal structure but resist case-marked (i.e. linked) positions (internal agents or prepositional complements). The difference is that in action nominals what raises to spec-CP of the

291

nominal clause is a null generic NP, interpreted as EVENT. The subject (a null PRO) remains low (i.e. does not raise to EventP as the specifier of the latter is occupied by EVENT). This is confirmed by the fact that the quantifier *daholo* (which always modifies the subject) cannot emerge in these nominalizations as the subject cannot raise high enough to be licensed in spec-DaholoP (spec-DistrP). The projection becomes nominal because of the raising of EVENT in spec-CP (as discussed in Chapter 5). Thus higher clausal projections become unavailable (i.e. no TP).

More evidence that action nominals are nominal in nature comes from the extraction patterns discussed in Chapter 2 (Section 2.1.4). This has to do with the well-known asymmetry between DPs and clauses with respect to what can be extracted from each domain. As we have seen, Malagasy clauses follows a pattern unlike clauses in Romance and Germanic languages in that the structurally higher argument extracts. This resembles the pattern observed in the nominal domain in these languages (see for example Cinque 1980, 1990; Milner 1982; Giorgi & Longobardi 1991; Valois, 1991). Consider the following examples (from Pearson 2001):

102.a. m.i.kasa   [h.an.asa   ny vilia] Rakoto
    ASP.AT.intend IRR.AT.wash D dish Rakoto
    'Rakoto intends to wash the dishes.'

  b. kasa.in-dRakoto   [ho.sasa.na] ny vilia
    intend.TT/LNK-Rakoto IRR.wash.TT D dish

'The dishes, Rakoto intends to wash.'

In (102.b) the internal argument of the embedded verb has been extracted and occupies the trigger position of the main clause. This is supported by the fact that the question particle *ve* is positioned before the extracted argument when a yes/no question is formed (see diagnostics for predicate edges in Chapter 2):

103. kasa.in-dRakoto   ho.sasa.na   ve ny vilia?
      intend.TT/LNK-Rakoto   IRR.wash.TT   Q D dish
      'Does Rakoto intend to wash the dishes?'

Such extraction is not possible if the embedded verb is marked with AT morphology:

104. * kasa.in-dRakoto   h.an.asa   ve ny vilia?
        intend.TT/LNK-Rakoto   IRR.AT.wash   Q D dish
        'Does Rakoto intend to wash the dishes?'

It seems then that embedded clauses in Malagasy follow the general pattern of nominal domains to allow only for the higher argument to be extracted to a higher domain,

293

providing further support to the claim that embedded clauses are nominal in Malagasy[12] (and perhaps crosslinguistically).

To the extent that coordination of XPs shows similar categorial status (but see Munn 1993; 2000 for arguments against such an approach), the nominal status of action nominals predicts that they should be able to coordinate with other nominalizations and common noun phrases. Consider the following examples:

105.a. m.an.antena [ny h.ana.dio   ny trano] sy [ny f.a.handro.an-dRasoa sakafo]
        ASP.AT.hope D IRR.AT.clean D   house and D NML.AT.cook.CT/LNK-Rasoa food
        Rabe
        Rabe
        'Rabe hopes to clean the house and that Rasoa (will) cook food.'

    b. n.an.adino   ny boki.ny   sy   ny n.a.handro sakafo Rabe
        ASP.AT.forget D book.3GEN and   D PST.AT.cook food   Rabe
        'Rabe forgot his book and to cook food.'

In (105.a) the nominalized embedded clause of a control predicate is coordinated with an *f*-CT nominalization, while in (105.b) the nominalized embedded clause of a control

---

[12] This pattern of course extends to the predicates of root clauses. Thus, there is reason to assume that Keenan's (2005) P1, i.e. the predicate with all its dependents is in fact a participial string of some sort, closer to passive/past participle or the *-ing* gerundive form in English, rather than the verbal form. This would explain why these forms are so easily nominalized without addition of any further (overt) morphology.

predicate is coordinated with a DP containing a common noun phrase. Thus coordination provides further support that action nominals are DPs.

A last argument for the nominal status of action nominals comes from the fact that even though they contain verbs that carry tense/aspect morphology, their tense specification is defective in some sense, bringing them closer to infinitival clauses in English or subjunctive clauses in Balkan and Romance languages rather than fully finite clauses. In the following section I discuss in some detail the notion of finiteness and how it relates to the nominal character of action nominals in Malagasy.

4.2.2 Finiteness

There is an extensive literature on the issue of finiteness and its relation to the licensing of null subjects as well as the semantic/syntactic properties of tense. Some of the related issues include the licensing conditions on PRO, the availability of nominative case and how this is related to finiteness, and the interpretive properties of tense heads. Secondary issues that add complexity to the discussion are played by issues of agreement and issues related to topic-drop, pro-drop, and argument-drop in general.

Malagasy is particularly interesting with relation to a subset of the issues mentioned above for a number of reasons. Firstly, embedded clauses in Malagasy are, as has been

claimed here, nominalized and very often accompanied by a definite determiner which adds a level of structural complexity that is not usually available in other languages. Secondly, tense morphology is always available in embedded clauses in Malagasy (contrary to other languages that have no tense morphology (e.g. English), or exhibit special morphology (i.e. subjunctives in Greek and Romance languages). Lastly, while subjects may be null or overt in some embedded clauses in the majority of languages, the trigger is never available in embedded clauses in Malagasy. This has consequences not only for the discussion of the internal syntax of embedded clauses, but also for the status of the trigger as an A or an A' element. In this and the following section I will discuss these issues in more detail.

The first notion to be discussed is 'finiteness'. The notion of finiteness has received numerous different interpretations at different stages of the development of syntactic theory (see Cowper 2002, for a detailed discussion and historical overview of the notion). A basic question that needs to be asked is what exactly the properties of tense in a finite structure are. In other words, when tense is morphologically expressed with a series of morphemes that denote tense distinctions, what exactly is the correspondence of this morphological tense with how tense is semantically computed? It has been noted that in the syntax of embedded clauses tense marking of a specific temporal value does not

always correspond to a semantic interpretation of the same value: Thus a past tense verb in an embedded clause under a matrix past verb may be interpreted either as denoting an event occurring prior to the reported event or at a time interval that overlaps with the time of the reported event (c.f. Stowell 1995). Consider the following example:

106.a.   John said [that he knew Mary].

The past tense on *know* in the bracketed complement clause leads to an ambiguity with respect to how the temporal interval of the knowing-state is ordered relative to the reported speech event in the main clause. The knowing-state may be located at a time prior to the (past) speech event or it may be located at an interval that includes the time of the (past) speech event. In the second interpretation past tense marking in the embedded clause corresponds to semantic present with respect to the matrix event time (the two are simultaneous).

What can the possible temporal interpretations of an embedded clause (or nominalization) be? The literature (Landau 2004) suggests that there is some sort of gradient finiteness observed in different types of embedded clauses. Indicative clauses (e.g. (107)) seem to have a tense operator that is completely independent from the matrix

verb. In most cases (including English) the embedded clause carries tense morphology that can be distinct from the tense morphology of the matrix clause:

107.   I believe that [John (was/is/will be) the best candidate for the job].

The situation is not that clear with embedded infinitival clauses because in these cases there is no overt tense morphology on the embedded verb. Do infinitival complements of control verbs contain a syntactically/semantically relevant tense projection? Bresnan (1972) notes that infinitival complements refer to 'something hypothetical or unrealized'. Stowell (1982) shows that infinitives selected by control verbs have independent tense internally determined as 'unrealized' contrary to infinitives selected by raising verbs which denote an event which takes place simultaneously with the event of the matrix clause (see also Martin 1996, 2001):

108.a.   John seemed yesterday to be intelligent (*tomorrow).
     b.   John intended yesterday to leave tomorrow.

In (108.a) the state of 'being intelligent' is interpreted as simultaneous to the state of 'seeming', while in (108.b) the event of 'leaving' is situated on a point along the time axis that must follow the time that 'John intended...'.

The fact that infinitives selected by control verbs have an 'irrealis' flavor has also been noted in a number of studies on the properties of infinitival complements as well as subjunctives in Romance and Balkan languages (see Picallo 1984; Iatridou 1993; Varlokosta 1993; Krapova 2001; Landau 2004). However, not all control verbs select for 'irrealis' complements. Palmer (1974) distinguishes between verbs of 'futurity' and verbs of 'effort and achievement'. Infinitives selected by verbs of 'futurity' (*wish, decide, persuade, expect, promise*) refer to the future, whereas infinitives selected by verbs of 'effort and achievement' (*manage, try, remember*) do not refer to the future (Palmer 1974:195-206):

109 a. John promised to leave tomorrow.
    b. John managed to leave (*tomorrow).

Verbs of the type in (109.a) take complements whose time reference follows the time of the matrix verb. The infinitival complement is unrealized at the time of the matrix predicate and the truth of the complement is left unspecified at the time of the utterance (Pesetsky 1992; Boščović 1997). Verbs of the type in (109.b) on the other hand, take complements that require a simultaneous interpretation which seems to be closer to the interpretation of infinitival complements of raising predicates. Aspectual verbs like *begin, finish, continue, cease,* and others, also require a simultaneous interpretation and have been assumed to involve both control and raising properties (see for example Alexiadou

and Anagnostopoulou 1999 for Modern Greek aspectual verbs and Landau 2004 for a crosslinguistic discussion). These verbs also may have a 'functional' flavor which would indicate that they are not lexical verbs selecting for a CP complement but rather overt realizations of functional heads (Cinque 2001) :

110.a.   John begun yesterday to fix the car (*tomorrow).
   b.   John continued (yesterday) to write the book (*tomorrow).

Landau (2004) provides crosslinguistic evidence that shows that the interpretation of the embedded clause is related to whether the latter contains semantic tense independently of the matrix clause. Embedded clauses selected by verbs of 'futurity' can have their own tense operator and consequently be partially independent from the matrix clause but still maintain some sort of dependency related to the lexical properties of the matrix verb. Verbs of 'effort and achievement' as well as aspectual verbs on the other hand select for embedded clauses that contain no tense operator, in which case there is some sort of anaphoric (or 'empty') tense specification. This is true not only for infinitival complements in English but also for subjunctive complements in Romance and Balkan languages. Consider the following examples from Greek:

111.a.   o   Yanis   thel.i   na   kerthisi   i   Maria
         D   John   want.3SG   SBJ   wins.3SG   D   Maria
         'John wants Maria to win.'

b. o Yanis   prospath.ise na   diavasi   (* i Maria)
   D John   try.PST/3SG   SBJ   read.3SG   D Maria
   'John tried to read.'

In (111.a) the event described by the verb of the embedded clause may be situated at a

different time interval than the one of the matrix state of 'wanting', but it has to be an

interval that follows the matrix time and cannot be one that precedes it:

112. * o Yanis   thel.i   na   kerthis.e   i Maria
       D John   want.3SG   SBJ   wins.PST/3SG   D Maria
       'John wants Maria to have won.'

This is presumably due to specific lexical requirements of the matrix verb *thelo/* 'want',

which needs to take as an argument clauses that have some sort of irrealis interpretation.

In (111.b), on the other hand, the embedded clause is interpreted as happening

simultaneously with the matrix clause, i.e. there can be no aspectual independence

between the two clauses. This can be shown with the fact that the matrix and embedded

clauses in (111.a) can take distinct aspectual modifiers, while this is not true for the

corresponding clauses in (111.b):

113. a. simera o Yanis thel.i   na   kerthisi   i Maria avrio
         today D John   want.3SG   SBJ   wins.3SG   D Maria tomorrow
         'Today John wants Maria to win tomorrow.'

301

b. * o Yanis prospath.i tora na   diavasi   avrio
   D John   try.PST/3SG now SBJ wins.3SG   tomorrow
   'John is trying now to read tomorrow.'

Notice that in the cases of dependent tense, as in (113.a) a lexical subject is available in the embedded clause, while in cases of anaphoric tense (i.e. embedded clauses without an independent tense operator) there is obligatory coreference between the matrix subject and a null pronominal in the embedded clause. This will become significant, in the discussion of null triggers, in section (4.2.3).

Let us examine now the different nominalized clauses in Malagasy and see how they fit into the calculus of finiteness as discussed above. Before proceeding to the core cases let us quickly examine the cases illustrated by sentences like (90.b), repeated here as (114) (Thyme 1989; Paul 1996a):

114.   ratsy [ny m.an.galatra akoho]
        bad D ASP.AT.steal   chicken
        'Stealing chickens is bad.'

The sentence is interpreted as having an arbitrary subject very much like the sentences in (115) from English:

115.a. [Stealing chicken] is bad.
   b.   [To be sick during the holidays] would annoy anyone.
   c.   It is unclear what [to buy for dinner.]

For these sentences, it is assumed that there is a null pronominal element (an arbitrary

PRO) that occupies the specifier of the embedded clause. The English examples contain

non-finite clauses, in the sense that there can be no tense distinctions allowed within the

clause. Similarly, in the Malagasy clauses, the embedded clause has a fixed tense marker.

In clauses of the type in (114), the verb appears with the aspectual marker *m-*, while past

or irrealis markers are not allowed:

116.a. * ratsy [ny n.an.galatra akoho]
         bad D PST.AT.steal chicken
         'Stealing chicken (in the past) was bad.'

   b. * (ho) ratsy [ny h.an.galatra akoho]
        (FUT) bad D IRR.AT.steal chicken
        'Stealing chicken (in the future) will be bad.'

It is safe then to conclude that these clauses have not overt tense marking and are

interpreted as tensless nominalizations with a generic (habitual) interpretation[13].

---

[13] A similar type of nominalization appears in attributive function modifying a noun phrase, as in the
following example (from *Ilay Kintara Mamirapiratra*, Rajohanesa 1963):

i.   indro nisy   lehilahy m.i.satroka volotsangana sady   m.an.ao   palitao fotsy
       here   PST.be man   ASP.AT.hat bamboo   and   ASP.AT.have coat   white
       sy   pataloha mainty, ary m.i.kiraro   mainty
       and   pants   black, and ASP.AT.shoe black

4.2.2.1 Independent Tense Action Nominals

Malagasy embedded clauses contain verbs that are marked morphologically with aspectual/tense morphemes. In fact, non-prefixed verb forms are not allowed in embedded environments[14]:

117.a. n.an.iry   [(ny) *(h)an.deha   any Antsiranana] Rabe
      PST.AT.wish   D   IRR.AT.go   LOC Antsiranana   Rabe
      'Rabe wished to go to Antsiranana'.

  b. n.i.ezaka   [(ny) *(n)a.handro vary] Rabe
      PST.AT.try   D   PST.AT.cook   rice Rabe
      'Rabe tried to cook rice.'

This contrasts drastically with the way embedded clauses are formed in most languages independently of whether they surface as infinitival (complements of control predicates in English and other Germanic languages) or subjunctive clauses (Romance and Balkan

---

'There was a man wearing a bamboo hat, white coat and black pants, and having black shoes.'

Notice in (a), that while the main existential verb is marked with past tense, the modifying clauses (arguably reduced relative clauses) contain verbs marked with the aspectual marker *m-*, and not the past tense marker *n-*. In fact, introducing verbs in the past tense would result in ungrammaticality. Thus, we have to conclude that the modifying clauses of (a), as well as the nominalization of (114) are unmarked for tense, similarly to the gerundive clauses of the English translations. Thus, these cases provide further support to the claim made in Chapter 2, that *m-* is in fact an imperfective aspectual marker and not a present tense morpheme, the latter being null in the language.

[14] Obviously, since present tense is unmarked in Malagasy, forms without a prefix are available in sentences that encode present tense.

languages). In most of these cases there is special subjunctive or infinitival marking that distinguishes morphologically embedded sentences from main clauses. In addition, languages have special complementizers and/or infinitival markers (e.g. 'to' in English) to mark embedded clauses. In Malagasy on the other hand, embedded clauses are identical morphologically to matrix clauses (although as we will see there are specific semantic/syntactic differences between the two). The only other property that distinguishes embedded from matrix clauses in Malagasy is the ability of the former to appear after the definite determiner *ny*, which as we have already seen indicates nominalization of the clause.

Let us consider first examples of the type in (91.b) repeated here as (118):

118.   n.i.laza   t.amin'Ilaimanga [ny tsy n.aha.zaka.ny   ny sai.ny
         PST.AT.report PST.to.LNK' I.   D NEG PST.ABL.bear.3GEN D mind.3GEN
         h.an.oratra] izy
         IRR.AT.write   3NOM
         'He reported to Ilaimanga his not being able to make his mind write.'

In this type of example the embedded clause can have any of the possible tense/aspect morphemes in Malagasy. In fact, with some verbs embedded nominalized clauses can be substituted with indicative *fa*-complements, which are fully finite clauses containing an overt trigger:

305

119.   n.i.laza   t.amin'Ilaimanga Rabe [fa   tsy n.aha.zaka   ny sai.ny
           PST.AT.report PST.to.LNK' I.   Rabe COMP NEG PST.ABL.bear D mind.3GEN
           h.an.oratra   izy]
           IRR.AT.write   3NOM]
           'Rabe reported to Ilaimanga that he was not able to make his mind write.'

Both embedded clauses in (118) and (119) have the full set of arguments realized and are both interpreted as factive complements (i.e. can be paraphrased as 'the fact that...'). The difference is that in (118) there is no overt trigger while in (119) there is. The tense specification of the embedded clause is completely independent from the tense of the matrix clause and distinct aspectual modifiers can appear in the two clauses:

120.   h.i.laza   rahampitso [ny tsy m.aha.zaka.ny   ny sai.ny
           FUT.AT.report tomorrow   D   NEG ASP.ABL.bear.3GEN D mind.3GEN
           h.an.oratra]   androany izy
           IRR.AT.write   today   3NOM
           'He will report tomorrow his not being able to make his mind write today.'

In (120) the matrix verb is in future tense while the embedded verb can contain any of the tense/aspect prefixes available in the language. Furthermore, the matrix clause can have a future adverbial modifier while the embedded clause verb is modified by an adverbial referring to the present. It seems then that embedded clauses of this type are indicatives of the type associated with *fa*-complements and are fully finite, containing an independent tense operator. If therefore there is a missing subject in any of these cases it

306

will have to be some sort of subject-drop (either *pro*-drop or topic drop depending on how one views the syntactic structure of the language).

Pearson 2001, has shown that in Malagasy informal speech, pronouns which are particularly discourse-salient may be optionally dropped, but only if they occupy the external argument position (compare (121.b) to (121.d).

121.a. m.am.angy   an'i   Tenda izy
        ASP.AT.visit   ACC'D Tenda 3NOM
        'He is visiting Tenda.'

    b. m.am.angy   an'i   Tenda
        ASP.AT.visit   ACC'D Tenda
        '(He) is visiting Tenda.'

    c. m.am.angy   azy   i Naivo
        ASP.AT.visit   3ACC D Naivo
        'Naivo is visiting him.'

    d. * m.am.angy   i Naivo
        ASP.AT.visit   D Naivo
        'Naivo is visiting (him).'

Complements of factive verbs, headed by the complementizer *fa* can also exhibit topic-drop inside the clause:

122.a. m.i.hevitra   Rabe fa   h.i.vidy   fiara (izy)
        ASP.AT.think   Rabe COMP IRR.AT.buy car   3NOM
        'Rabe thinks that he will buy a car.'

307

b. m.i.hevitra   ny zaza fa   h.i.lomano   (izy)
   ASP.AT.think   D child COMP   IRR.AT.swim   3NOM
   'The child thinks that he will go swimming.'

Potsdam (2004) treats the above examples as cases of finite control but in later work (Polinsky & Potsdam 2005) it is argued that they are cases of topic drop. Arguments that these cases involve finite control include the fact that the trigger can be (optionally) dropped; that there has to be an overt antecedent and that no arbitrary PRO reading is available; that only a strict and not a sloppy reading is available under ellipsis; that the structure with the null trigger can be paraphraseable with one with an overt pronoun (c.f. 122); and that it does not allow for a non-local, non-c-commanding antecedent (c.f. Potsdam 2004). It is worth noting that the trigger of the embedded clause is dropped only when its antecedent is the trigger of the matrix clause (example from Potsdam 2004):

123.a. * heveri.n-dRabe   fa   ho.vidi.na ny fiara
     think.TT/LNK-Rabe   COMP IRR.buy.TT D   car
     ('It is thought by Rabe that the car will be bought by him')
     (ok: 'It is thought by Rabe that the car will be bought by someone')

   b. heveri.n-dRabe   fa   h.i.vidy   fiara *(izy)
     think.TT/LNK-Rabe   IRR.AT.buy car3NOM
     'It is thought by Rabe that the car will be bought by him'

308

In (123.a) the internal agent of a TT matrix verb fails to control the internal agent of a TT embedded verb. The sentence can only be interpreted with an arbitrary internal agent. Finally, in (123.b), the internal agent of a TT matrix verb fails to control the trigger of the embedded clause. If the two entities have the same reference then a pronoun must obligatorily appear as the trigger of the embedded clause.

Polinsky & Potsdam (2005) show that the above patterns support a topic-drop analysis rather than a finite control analysis as in Potsdam (2004). I will not repeat the arguments here. The important thing is that the fact that the embedded clauses in the above examples have a completely independent tense operator coincides with the fact that they do not observe any form of control relation between their trigger and any of the arguments of the main clause.

4.2.2.2 Dependent Tense Action Nominals

Certain verbs seem to take complement clauses that also present a distinct tense marking, independent of the tense of the matrix clause. Consider the following examples (example (124.e) from the online version of *L'Express de Madagascar*):

124.a.   n.an.iry   [(ny) h.an.deha   ho   any   Antsiranana] Rabe
        PST.AT.wish   D   FUT.AT.go   FUT LOC Antsiranana   Rabe
        'Rabe wished to go to Antsiranana'.

309

b. n.i.kasa   [(ny) h.am.aky   ny boky]Rabe
    PST.AT.intend   D   IRR.AT.read   D   book Rabe
    'Rabe intended to read the book.'

c. m.an.aiky   [(ny) ho.sas.ana]   ny zaza
    ASP.AT.agree   D   IRR.wash.TT   D   child
    'The child agrees to be washed.'

d. handa   [(ny) h.an.dray   ny tenin'Andriamanitra] izy
    FUT.AT.refuse   D   IRR.AT.accept.TT D words.LNK'God]   3NOM
    'He will refuse to accept the words of God.'

e. n.i.tetika   [(ny) h.an.afika   tokan.tranon'olona]   izy ireo
    ASP.AT.plan   D   IRR.AT.invade   single.house.LNK'people 3NOM
    'They planned to invade people's households.'

In all the above cases the tense marking of the embedded clause is the future morpheme

h(o)- while the matrix verb can be marked with present, past or future morphology. If we

try to change the tense of the embedded clause the result is ungrammatical:

125.a. * n.an.iry   [(ny) n.an.deha   ho   any   Antsiranana]   Rabe
        PST.AT.wish   D   PST.AT.go   FUT LOC   Antsiranana   Rabe
        'Rabe wished to have gone to Antsiranana'.

b. * n.i.kasa   [(ny) m.am.aky   ny boky]Rabe
     PST.AT.intend   D   ASP.AT.read D   book Rabe
     'Rabe intended to read the book.'

This means that the tense of these clauses cannot be independent but must be invariably

future. However, the function of the future morphology in the embedded clause is not

similar to its function in the main clause. In a simple declarative, the future tense locates

the event temporally in relation to the utterance time. In the embedded clauses of (124) the future morphology simply indicates that the event described by the verb is located temporally after the event described by the matrix verb, while its time is unspecified in relation to the utterance time. In this respect the use of future tense in controlled embedded clauses is similar to its use in purpose clauses like the following (from *Ilay Kintana Mamirapiratra*, Rajohanesa 1963):

126. n.a.lefa.ny   h.i.anatra   t.any   Antananarivo Randrianaivo
      PST.AT.send.3GEN   IRR.AT.study   PST.LOC Antananarivo Randrianaivo
      'Randrianaivo was send by them to Antananarivo to study.'

In (126) the purpose clause appears in future tense even though the matrix verb is in past tense. The future of the dependent clause indicates that the time of 'studying' follows the time of 'sending' but remains unspecified with relation to the utterance time. In fact it is not sure whether any studying has taken place at all (Randrianarivo may have decided to do something else in Antananarivo). But this is what has been claimed about the tense of embedded clauses selected by verbs of 'futurity'. In fact, a quick survey of the relevant data shows that verbs that take clausal complements marked for future are so-called 'desiderative' (i.e. denoting desire) predicates (in Noonan 1985 verbs that belong to three classes – the 'wish-class', the 'hope-class', and the 'want-class'). Some examples include: *manaiky* 'agree', *mikasa* 'intend', *tia/te* 'want', *manantena* 'hope', *manapaka*

311

'decide, agree', *mitady* 'seek', *maniry* 'wish', *mitetika* 'plan', *mandra* 'refuse', and others.

The special pattern that these verbs exhibit is not unique to Malagasy. In Balkan languages the same verbs select for so-called free subjunctives (Landau 2004), i.e subjunctive clauses that allow for lexical subjects and for aspectual modifiers distinct from ones that appear in the matrix clause (c.f. examples (111.a)-(113)). Furthermore, the use of future tense in order to denote some sort of irrealis mood is not unique to Malagasy. Landau shows that in Hebrew, commissive and desiderative verbs take complements marked with future tense and that in Hebrew, morphological future participates in sequence of tense phenomena, expressing the irrealis *would* as well as the future *will*.

Malagasy thus provides further morphosyntactic evidence for the crosslinguistic generalization that complements of desiderative verbs convey irrealis mood information. This information is encoded morphologically as future tense on the embedded verb in Malagasy.

312

4.2.2.3 Anaphoric Tense Action Nominals

A number of clausal argument-selecting verbs impose a stricter restriction on the tense morphology of their selected clauses. These verbs belong to at least three different classes. Implicative verbs (i.e. verbs that assert the truth of their complements), such as the positive *mahatsiaro* 'remember', and the negative *mahavitra* 'avoid', and *manadino* 'forget', as well as positive and negative achievement verbs such as *manandrana* 'try', *mianatra* 'learn', and others. Examples are provided in (127.a-127.b):

127.a.   h.i.ezaka   [(ny) h.a.handro   vary] Rabe
         FUT.AT.try   D   FUT.AT.cook   rice   Rabe
         'Rabe will try to cook rice.'

    b.   n.an.adino   [(ny) n.i.vidy   sakafo] Rabe
         PST.AT.forget   D   PST.AT.buy   food   Rabe
         'Rabe forgot to buy food.'

The second class contains aspectual verbs such as *manomboka* 'begin', *mitsahatra* 'cease', *mijanona* 'stop', and *mahavita* 'finish'. See examples (128.a-128.b):

128.a.   tsy   n.i.janona   [(ny) n.i.tomany]   ilay   zaza
         NEG   PST.AT.stop [D   PST.AT.cry]   DEM   child
         'This child did not stop crying.'

    b.   m.aha.finaritra   fa   m.an.omboka m.i.resaka   isika
         ASP.CAUS.happy   COMP ASP.AT.start   ASP.AT.talk 1PL/NOM (inclusive)
         'We are happy that we start talking.'

313

Finally, the same pattern is observed with modal verbs like *mila* 'need', *mahay* 'know how to, can', as well as some verbalized modifiers such as *miaraka* 'together'. Some examples in (129.a-129.c):

129.a.　m.a.hay　　　m.i.teny　　　Malagasy Rabe
　　　　ASP.AT.can　　ASP.AT.speak　Malagasy Rabe
　　　　'Rabe can speak Malagasy.'

　　b.　nila　　　　n.i.resaka　　　t.ami.n'ny　　　ambasadiko　　Rabe
　　　　PST.need　　PST.AT.converse　PST.with.LNK'D　embassy　　　Rabe
　　　　'Rabe needed to contact the embassy.'

　　c.　n.i.ara-n.i.asa[15]　　　　　　　Rabe sy　Rasoa
　　　　PST.AT.together-PST.AT.work　Rabe and　Rasoa
　　　　'Rabe and Rasoa work together.'

In all the above cases the tense morphology of the embedded clause matches the tense morphology of the matrix clause. In fact, if we try to alter the tense specification of the embedded clause the result is ungrammatical:

130.a. * n.i.ezaka　　　[(ny) m/h.a.handro　　　vary] Rabe
　　　　PST.AT.try　　　D　　ASP/IRR.AT.cook　rice　Rabe
　　　　'Rabe tried to cook rice.'

　　b. * m.an.omboka　h.i.resaka　isika
　　　　ASP.AT.start　　IRR.AT.talk　1PL/NOM (inclusive)

---

[15] With certain of these verbs that end in one of the weak syllables –tra, -na, -ka, the last syllable is dropped. This type of truncation is optional but in general preferred by the speakers. The untruncated form of (129.c) is '*niaraka niasa*'.

'We start talking.'

Furthermore, it is impossible to introduce distinct aspectual modifiers in both matrix and embedded clauses:

131.a. * n.i.ezaka omaly [(ny) h.a.handro vary rahampitso] Rabe
 PST.AT.try yesterday D ASP/IRR.AT.cook rice tomorrow Rabe
 'Rabe tried yesterday to cook rice tomorrow.'

 b. * m.an.omboka androany h.i.resaka rahampitso isika
 ASP.AT.start today IRR.AT.talk tomorrow 1PL/NOM (inclusive)
 'We start today talking tomorrow.'

Comparing these cases with the cases discussed in the previous section, we have to conclude that the embedded clauses that allow for future tense are aspectually independent, whereas in the examples of (127.a-129.c) only one event takes place. As a result, tense sequencing is allowed in the former but not in the latter.

Summarizing then, even though the embedded clauses of control verbs in Malagasy retain their tense/aspect morphology, they do not always have an independent tense specification but are rather directly or indirectly dependent on the lexical properties of the matrix predicate. Certain matrix verbs impose no requirements on the tense specification of their clausal complements (epistemic verbs for example), while others select for action nominals marked with future/irrealis morphology and a third type require 'tense-

315

agreement' on their clausal complements. In this sense then, tense morphology is not crucial in determining finiteness. It is rather tense semantics that determine the properties of a clausal argument and its distribution.

A way to encode syntactically the specifications that the matrix predicate impose on its selected complement is to incorporate in the structure a binary system of features [±TENSE], incorporating at the same time the insights of Picallo 1984; Varlokosta 1993; Pesetsky & Torrego 2001; Landau 2004, that the tense specification of a clause resides in C as well as T. In other words, both the C and T clausal projections have a tense feature which can have any of the values (±TENSE). C may have no tense feature, in which case the clause has an independent tense operator. A verb can select for a CP complement with no tense feature on C. This is the case of indicative embedded clauses discussed in section 4.2.2.1. Some classes of verbs select for embedded CPs with [+TENSE] on both C and T. This is the case of embedded clauses with dependent tense i.e. clauses whose tense specification is dependent somehow on the lexical properties of the matrix verb (c.f. verbs discussed in section 4.2.2.2.). Finally, some classes of verbs select CPs with [-TENSE] on both C and T, in which case if there is overt tense morphology in the embedded clause it must 'agree' with the tense morphology of the matrix verb to indicate that the two verbs describe parts of the same event (see Landau 2004, for a detailed discussion of such a formal system and how it relates to control structures).

316

A remaining question is if and how this 'gradient' finiteness relates to whether the embedded clause can have an overt trigger (as in Landau's 2004 work) or whether lack of triggers (and subjects crosslinguistically) is related to something completely (or partially) independent from finiteness.

4.2.3 The Licensing of Triggers

One of the main properties of action nominals is that they contain what has been traditionally called the predicate, in its entirety, excluding the rightmost prominent element, which is referred to as the trigger here. The fact that an overt trigger cannot appear overtly in these nominalizations is confirmed by the following examples:

132.a. * ratsy [ny m.an.galatra akoho   ny olona]
         bad D ASP.AT.steal   chicken D people
         'People stealing chicken is bad.'

   b. * n.a.tahotra   [ny tsy ho.hitan'izy   ireo intsony Rakoto] ny olona
        PST.AT.afraid D NEG IRR.see.TT.LNK'3NOM   DEM   anymore Rakoto D people
        'The people were afraid of their not seeing Rakoto anymore.'

   c.* kasain-dRabe   ny   h.an.oratra   boky Rasoa
       intend.TT.LNK-Rabe D   FUT.AT.write   book Rasoa
       'Rasoa intended (for) Rasoa to write a book.'

317

In (132.a) the nominalization in trigger position cannot have an overt trigger, in (132.b) the embedded nominalization with a verb in TT-form cannot contain an overt theme in trigger position, and in (132.c) the matrix control verb cannot take an embedded clause with an overt trigger (c.f. Polinsky and Potsdam 2001, 2002, 2005). Thus, it seems that in clausal nominalizations the trigger is either absent or, if present, it has to be covert.

Why is this so? The answer is necessarily related to one's view of the general properties of Malagasy syntactic structure. If we assume that the prominent element is a subject then we have to obligatorily assume some type of null subject present in the above structures. This is because the projection where subjects are licensed (spec-TP) is present in the structure. The presence of TP is corroborated by the overt tense morphology on the verb. If clausal subjects check case in the specifier of TP, there is no way to exclude subjects from the action nominals of (132). The only possible solution then is to assume some sort of obligatory (OC) or non-obligatory (NOC) control relationship between the null subject of the embedded clause and one of the arguments of the matrix verb.

In an account that assumes that the trigger is licensed in some left-peripheral clausal position however, an additional possibility becomes available. The projection where overt triggers are licensed is simply not available within action nominals. This is compatible with Richards' 2000 and Pearson's 2001, 2005 treatment of the trigger as a low topic. Is

318

there any independent evidence that the position where the trigger merges (or moves to) is not available within nominalizations?

In general, nominalizations carry no illocutionary force and resist expression of discourse functions such as focus and/or topic. Even though there are languages that allow for nominative subjects to appear within nominalizations, I know of no cases where nominalizations of any sort allow for topicalized or focused elements to appear within a nominalization. In a large typological study, Koptjevskaja-Tamm (1993) observes that action nominal constructions of the sentential type may retain functional projections related to voice, aspect and tense, but they never allow for topic markers to appear inside them. This is the case, for example, with Korean and Quechua where topic particles are restricted to root clauses only. Furthermore, syntactic processes that require some sort of left peripheral position as the landing site of movement operations do not seem to surface within nominalized strings. Thus, verb-second phenomena in the Germanic languages do no surface in nominalizations (c.f. Zwart 2005). In English, –ing gerunds with accusative marked subjects have a cluster of clausal properties (accusative-marked internal arguments; adverbial modification; long wh-extraction; and others) but they seem to lack a CP layer. They do not allow for overt complementizers of any sort (133.b-134.b):

133.a. Mary would like for John to work at home.
    b. Mary would like (*for) John working at home.

319

134.a.   Bill prefers that George clean the house.
   b.   Bill prefers (*that) George cleaning the house.

Furthermore, Acc-gerunds cannot appear in indirect questions, i.e. they do not allow for

short wh-movement ():

135.a.   The actor didn't remember [to read the transcript].
   a'.   The actor didn't remember [what to read t].

   b.   The actor didn't remember [reading the transcript].
   b'.* The actor didn't remember [what reading t].

   c.   The actor didn't remember going to the theatre.
   c'.* The actor didn't remember where going to.

   d.   The actor didn't remember playing Hamlet three years ago.
   d'.* The actor didn't remember when playing Hamlet.

While short *wh*-movement is possible with *to*-infinitives (135.a'), it is not possible with

Acc-gerunds, independently of the nature of the wh-phrase (direct object (135.b'),

locative (135.c'), or time adverbial (135.d')).

A somewhat related crosslinguistic observation is that topic particles and topicalization in

general seems to not be available inside clausal complements of control verbs (c.f.

Polinsky and Potsdam 2005). For example, in Japanese the topic marker –*wa* cannot

appear inside an embedded clause as in (136) (c.f. Kuroda 1972):

320

136. * Jiroo.ga   kono.eiga.wa   mi.yoo.to   shi.ta[16]
       Jiro.NOM   this.movie.TOP watch.DESID.COMPL do.PAST.DECL
       '*Jiro tried, this movie, to watch.'

Similar patterns are attested in French and English (as the translation of (136) illustrates).

A further piece of evidence comes from the fact that triggers can be modified by the

quantifier *daholo* (Polinsky & Potsdam 2005):

137.a.   n.am.aky   boky daholo   ny mpianatra
         PST.AT.read book all   D student
         'The students all read the book(s).'
         *'The students read all the books.'

     b. no.vak.in' ny mpianatra daholo   ny boky
         PST.read.TT'D student   all   D book
         'The students read all the books.'
         *'The students all read the book(s).'

If there is a trigger within nominalizations, then we would expect *daholo* to be able to

surface in the nominalized string, As Polinsky & Potsdam (2005) show, *daholo* cannot

appear in embedded clauses selected by control predicates:

138.a. * m.i.kasa   h.i.anatra   teny anglisy daholo ny mpianatra

---

[16] OK as: 'Jiro tried to watch THIS movie.'—contrastive reading only.

321

PST.AT.intend IRR.AT.learn English   all   D   students
'The students all intend to learn English.'

   b. * nanaiky [hianatra teny anglisy daholo] ny mpianatra

   c.   nanaiky [hianatra teny anglisy] daholo ny mpianatra

Evidence that *daholo* is not contained in the embedded clause comes from the fact that it does not follow the embedded clause when the latter is extraposed and that it cannot be interpreted under the scope of embedded clause negation:

139. a.   mikasa   daholo ny mpianatra [hianatra teny anglisy an'i Amerika *daholo]
         PST.AT.intend all   D   students   IRR.AT.learn English LOC'D America all
         'The students intend to all learn English in America.'

    b.   n.an.aiky   tsy   h.am.aky   ilay   boky daholo   ny mpianatra
         PST.AT.agree   NEG   IRR.AT.read DEM book all   D   students
         'The students all agreed to not read that book.'
         *'The students agreed to not all read that book.'

Particles associated with the left periphery such as the question particle *ve*, the focus particle *no* and the topicalizer *dia* are not allowed within action nominals in Malagasy:

140. a. * ...ny [m.an.galatra   akoho   ve (ny olona)]
         ... D   ASP.AT.steal   chicken   Q   D people
         '... the are (people) stealing chicken?'

    b. * ... ny [Rabe dia   n.an.galatra   akoho]
         ... D   Rabe TOP   PST.AT.steal   chicken
         '... the (as for) Rabe (he) stole chicken'

    c.* ... ny [Rabe no n.an.galatra akoho]

322

... D Rabe FOC PST.AT.steal chicken
'... the (it was) Rabe (who) stole chicken'

Furthermore, Malagasy uses two different conjunctions when coordinating full sentences and smaller constituents. When full sentences, including the trigger, are coordinated the conjunction *ary* is used (141.a), while for the coordination of predicates or noun phrases the conjunction *sy* is used (141.b-141.c):

141.a. n.a.handro ny sakafo Rasoa ary n.an.asa ny vilia Rabe
PST.AT.cook D food Rasoa and PST.AT.wash D dishes Rabe
'Rasoa cooked the food and Rabe washed the dishes.'

b. n.a.handro ny sakafo Rabe sy Rasoa
PST.AT.cook D food Rabe and Rasoa
'Rabe and Rasoa cooked the food.'

b. n.a.handro ny sakafo sy n.an.asa ny vilia Rabe
PST.AT.cook D food and PST.AT.wash D dishes Rabe
'Rabe cooked the food and washed the dishes.'

If action nominals contained a trigger then we would expect them to coordinate using *ary*. However. the conjunction *sy* is used instead, indicating that action nominals contain a reduced structure without a trigger position:

142.a. n.i.ezaka [(ny) n.a.handro vary] sy [(ny) n.an.asa vilia] Rabe
PST.AT.try D PST.AT.cook rice and D PST.AT.wash dishes Rabe
'Rabe tried to cook rice and to wash dishes.'

323

143.b.　ratsy [ny m.an.galatra akoho] sy　[ny m.am.ono biby]
　　　　bad　D ASP.AT.steal　chicken and　D ASP.AT.kill animals
　　　　'Stealing chicken and killing animals is bad.'

Summarizing then, it seems that the left peripheral clausal substructure is not available within nominalizations and clausal complements of control predicates. Assuming that the trigger is in a low topic position in the left periphery, it follows straightforwardly that the trigger cannot appear within nominalized strings in Malagasy.

Excluding the presence of an overt trigger in action nominals we still have the possibility that some sort of null element is present in them. This can be an operator (Pearson 2001, 2005) or a null pronominal (pro or PRO) or a trace of A or A' movement (Polinsky & Potsdam 2003, 2005). In Pearson's (2001, 2005) approach the trigger is merged in the specifier of TopP in the left periphery and is licensed by a null operator that moves to the immediately dominated projection WhP from a case licensing position. The voice morphology in the embedded clause is determined by where the null operator originates. If we assume that TopP is not present within nominalizations, but WhP (termed neutrally CP here) is, then action nominals may involve movement of the operator from the case-licensing position within the embedded clause to spec-CP of the embedded clause and subsequently to the specifier of the corresponding position in the matrix clause, where it

324

licenses an overt trigger in the immediately c-commanding spec-TopP projection.
Consider the following examples:

144.a.   n.i.kasa   [(ny) h.am.aky   ny boky t_1] OP_1 $Rabe_1$
         PST.AT.intend   D   IRR.AT.read   D book Rabe
         'Rabe intended to read the book.'

    b.   no.kasa.in-dRabe$_2$ [no.vono.ina e_2 OP_1] ny akoho$_1$
         PST.intend.TT/LNK-Rabe   PST.kill.TT   D chicken
         'Rabe tried to kill the chicken.'

In (144.a) the (actor) operator moves from its case-licensing position to spec-WhP of the embedded clause, triggering AT morphology on the embedded verb. It subsequently moves (presumably first) to spec-VP of the matrix clause and finally to spec-WhP of the matrix clause triggering AT morphology on the matrix verb. The trigger merges at spec-TopP of the matrix clause since the operator in spec-WhP can license it. The situation is somewhat different in (144.b). Here Pearson (2005) assumes some sort of clausal pied-piping. The theme operator in the embedded clause moves to spec-WhP triggering TT morphology on the embedded verb. Subsequently, the embedded clause (bearing abstract accusative case) moves to spec-WhP of the matrix clause triggering TT morphology. In this configuration the operator of the embedded clause is sufficiently local to TopP of the matrix clause to license an overt trigger (*ny akoho*) in its specifier.

325

This analysis requires that there must be (at least some) structure in the left periphery of the embedded clause, to allow for the operator to reach spec-WhP. As it has been claimed here this is compatible with the syntax of both headless relative clauses and action nominals. A low fragment of the CP-domain that hosts null Generic NPs must be present within nominalizations. All that is required is that the higher topic position where triggers merge is not available[17].

Pearson (2001, 2005) does not consider how the internal agent comes to 'control' the internal agent of the embedded clause in structures like (144.b). Polinsky & Potsdam (2005) offer a somewhat different analysis that retains the intuitions in Pearson (2001, 2005). In their account the embedded clause does not have a left periphery. In a structure like (144.b) the internal agent originates in spec-VP of the embedded-clause and is subsequently raised to spec-VP of the matrix clause (A-movement). The theme trigger A'-moves directly to the spec-TopP of the matrix clause. Thus both 'control' relationships between the arguments of the matrix clause and the arguments of the embedded clause are captured. The idea that the control relationship is based on

---

[17] Pearson (2001) analyzes the focus particle *no* as occupying the head of WhP. If this were true then we would expect *no*-focus to be available within nominalizations. However, as (123.c) shows this is not possible. Therefore, we have to assume that *no* merges in a higher projection, which is not available within nominalized clauses.

movement draws from work on control-as-movement in, among others, Hornstein 1999, 2003[18].

I will not discuss here the different types of control structures in Malagasy. The reader is referred to Keenan 1976, 1995, Law 1995, Paul and Ranaivoson 1998, Pearson 2001, and Polinsky and Potsdam 2002, 2003, 2005. I will only discuss briefly a somewhat marginal case of control that seems to provide evidence against the claim that action nominals in Malagasy do not contain a position where the trigger is licensed. The case involves backward control (see Polinsky & Potsdam 2002; c.f. footnote 19):

145.a.　m.an.omboka [m.i.tondra　　ny fiara　ny mpianatra] e
　　　　ASP.AT.begin　ASP.AT.drive　the car　the student
　　　　'The student has begun to drive the car'

---

[18] An additional piece of evidence that Polinsky & Potsdam (2003; 2005) provide for a movement analysis of control comes from the existence of backward control in Malagasy. In a structure like (iii) certain diagnostics, and most importantly the distribution of particles at the edge of predicates) show that the trigger remains in the embedded clause while there is no overt trigger in the matrix clause:

(i)　　m.an.omboka [m.i.tondra　　ny fiara　　ny mpianatra] e
　　　ASP.AT.begin　ASP.AT.drive　the car　· the student
　　　'The student has begun to drive the car'

In (i) the trigger of the matrix clause cannot be PRO since it c-commands its antecedent. Polinsky & Potsdam claim that this constitutes evidence for a movement analysis, the movement delayed until LF or (in later accounts) assuming that the lower copy (in a copy-and-delete analysis of movement) is pronounced.

327

The problematic property of this structure for the analysis proposed here is that the trigger seems to be in the embedded clause rather than the matrix clause. This is confirmed by the distribution of predicate right-edge identifiers (such as adverbs (146)):

146.a.   n.an.andrana   n.i.teny ny tonon-kira (indroa) Rabe (*indroa)
         PST.AT.try   PST.AT.knock D door twice   Rabe twice
         'Rabe twice tried hard to knock on the door.'

   b. ? n.an.omboka n.i.teny   ity   tonon-kira ity   Rabe indroa
         PST.AT.begin PST.AT.knock DEM door   DEM Rabe twice
         'Rabe twice began to knock on this door.'

An adverbial modifier like *indroa* 'twice' is restricted to a post-predicate position in clauses and forward control structures of the type in (146.a). The fact that the same modifier appears in post-trigger position in (146.b) seems to indicate that the trigger must be inside the embedded clause (see Polinsky & Potsdam 2002 for a detailed discussion and a number of other diagnostics).

The problem for the present analysis lies in the projection where the trigger of the embedded clause resides. I have claimed that the trigger position is not available inside nominalizations of any sort, including embedded complements of control predicates. It must be therefore that either the embedded clause of backward control predicates is not a nominalization or that the overt rightmost element is not a trigger but resides in a lower position. The second option is not viable given that the element that appears in this

328

position retains that characteristic of main clause triggers: most importantly the specificity requirement that allows for [+specific] elements (proper names, pronouns, and ny-NPs) to appear in this position. Is there any evidence for the first option, i.e. that these complements are not nominalized clauses? One piece of evidence comes from the unavailability of the determiner *ny* (Polinsky & Potsdam 2003; Polinsky (personal communication)):

147.a. m.an.omboka (*ny) [m.i.tondra   ny fiara ny mpianatra] e
       ASP.AT.begin D   ASP.AT.drive the car   the student
       'The student has begun to drive the car'

Absence of *ny* indicates that the structure of the embedded clause with these predicates is somewhat different from that of more productive control predicates and in particular the string is not an action nominal. The rightmost DP in the string may be located in some predicate-internal position. This seems to be impossible in all other cases of embedded clauses and it is not clear why it is possible in this particular configuration. I leave this as an open question for further reearch. The marked character of the construction seems to

be obviously related to its marginal acceptability by Malagasy speakers (as noted in Polinsky and Potsdam 2003)[19].

In summary then, the tense properties of action nominals are determined by the lexical properties of the matrix verb. Thus, all action nominals carry morphological tense marking but only one class of them has independent semantic tense. Other classes include action nominals with dependent and anaphoric tense. The lack of triggers in action nominals is not directly related to the finiteness of the latter but rather to the inaccessibility of the projection in the specifier of which triggers land within action nominals. However, the interpretation of arguments in the embedded clauses is directly related to finiteness, in the sense that dependent tense predicates allow freer distribution of overt arguments in their selected embedded clauses than anaphoric tense predicates.

---

[19] None of the five native speakers that participated in my fieldwork in Antananarivo accept the backward control structures from Polinsky and Potsdam 2003. Therefore, further work with this construction was impossible at the moment of writing.

330

CHAPTER 5

PARTICIPANT NOMINALIZATIONS AS (REDUCED) HEADLESS RELATIVE CLAUSES

5.0 Introduction

Chapter 3 presented a discussion of *f*-nominalizations in Malagasy, which fall into the class of 'lexical' or 'gerundive-type' nominalizations in certain accounts. Chapter 4 presented an account of clausal nominalizations and especially headless relative clauses, which under all accounts are syntactic in nature. In this chapter I present a unifying account of both types of nominalizations. In particular, I argue that participant nominalizations are in fact headless relative clauses with a reduced structure. Given the fact that participant nominals are interpreted as relative clauses, any analysis that can capture this fact, while accounting for the differences between full relative clauses and participant nominals by using independently available mechanisms, is in principle to be preferred over an analysis that must assume particular mechanisms which yield the observed parallelism in quite different ways. The analysis builds on earlier assumptions about the structure of participant nominalizations and especially insightful intuitions in early transformational work and on typological/historical work investigating the

331

crosslinguistic patterns of participant nominals. The main claim is that the overall structural design of participant nominalizations is based on the structural design of relative clauses, i.e. a determiner selecting for a clausal string. The evidence for the claim comes from voice restrictions in Malagasy (and other Austronesian languages); binding facts in Malagasy and English and especially the failure of 'i-within-i' effects with agentive nominals in certain English dialects; and finally from the typologically established relation between headless relative clauses and participant nominalizations crosslinguistically. The formal discussion of how a relative clause structure is implemented in the formation of participant nominalizations is based on recent advancements in the syntax of relative clauses (Kayne 1994; Bianchi 1999) and analyses of noun phrases as having a relative clause structure (Koopman 2005a). Any differences between headless relatives and participant nominals, especially in terms of available structure, are explained as the result of the fact that nominal Cs can take a subpart of the clausal spine (the part corresponding to a phase) as their complement. A detailed discussion of this was provided in Chapter 3. Finally, issues related to the commonly assumed idiosyncratic character of so-called 'lexical' nominalizations are addressed and shown to either be explained by independent principles or hold across the board in syntactic structures of different sizes.

5.1 On the Relative Clause Character of Participant Nominalizations
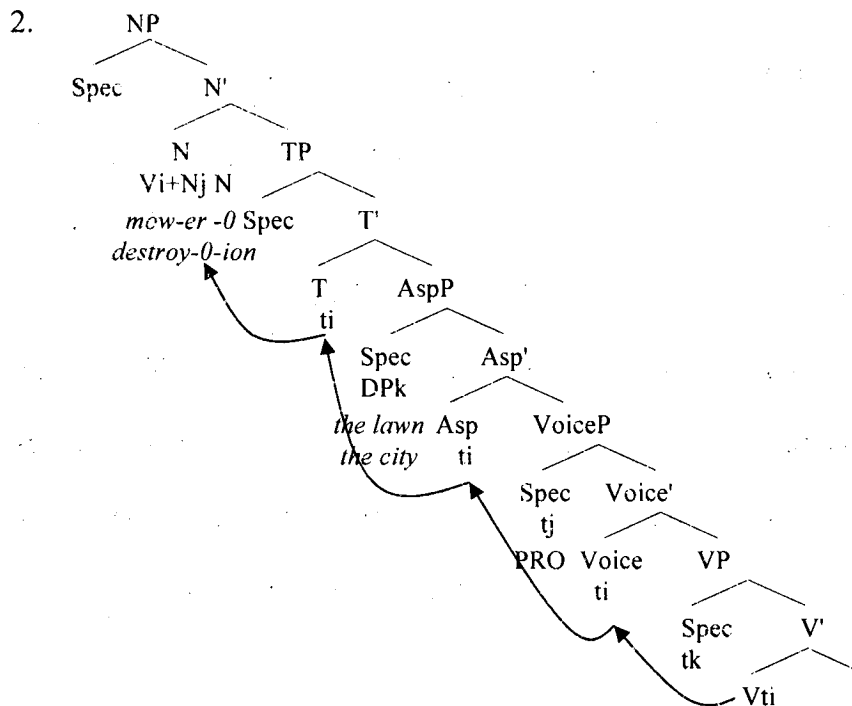
5.1.1 The nominal Character of (Headless) Relative Clauses

One of the main reasons put forward in treating nominalizations as transformationally derived from underlying strings that contain relative clauses (c.f. Vendler 1968; McCawley 1988; and Bach 1968) is the fact that most of these nominalizations are paraphraseable with strings that do contain relative clauses and a generic or empty head (given that English does not allow for nominal ellipsis with relative clauses, *one* is substituted for the empty head (c.f. Llombart-Huesca 2002)):

1. a. player   - 'one who plays'
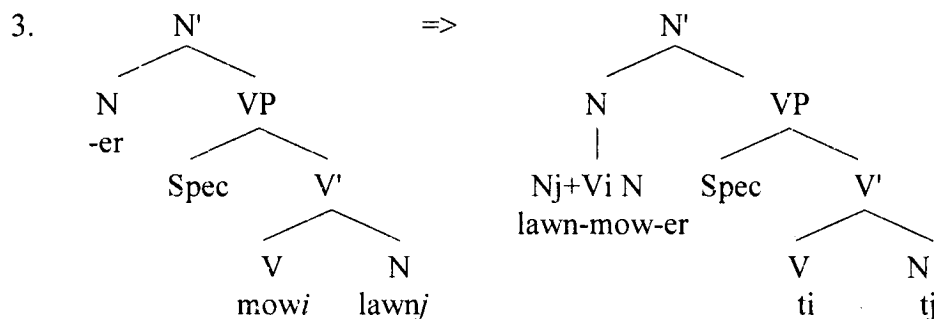   b. sender   - 'one who sends'
    c. builder   - 'one who builds'

The fact that participant nominalizations are paraphraseable by headed relative clauses with a generic noun has been overlooked in subsequent literature including recent approaches to the syntax of nominalizations. In most work of the post-nineties, which explores a syntactic analysis of nominalized strings, the focus of the research is on action nominalizations of different types (e.g. *destruction*-type and *–ing* nominalizations in English and other, mainly Indo-European languages, (c.f. Abney 1987; Alexiadou 2001a; Borer 1993, 2003; Fu et al 2001; Harley & Noyer 1998; Schueller 2004; and others). In

333

the few analyses where participant nominalizations are explored syntactically[1], the

proposed syntactic structures are usually identical with the structures of action

nominalizations, though the derivations diverge. Take for example the structures for

agentive and instrumental –er nominalizations in English proposed in Van Hout &

Roeper (1998). Once the syntactic properties and aspectual interpretations of both action

and er-nominalizations have been established, the two receive an identical syntactic

structure (the following tree corresponds to the action nominalization *destruction of the*

city and the participant nominalization *mower of the lawn*, Van Hout & Roeper (1998):

2.
```
        NP
       /  \
    Spec   N'
          /  \
         N    TP
     Vi+Nj N  /  \
   mow-er -0 Spec  T'
   destroy-0-ion   /  \
                  T    AspP
                  ti   /  \
                    Spec   Asp'
                    DPk    /  \
                 the lawn Asp   VoiceP
                 the city  ti   /  \
                            Spec  Voice'
                            tj    /  \
                           PRO  Voice  VP
                                 ti   /  \
                                   Spec   V'
                                   tk     /  \
                                        Vti
```

---

[1] Examples include Fabb 1984; Levin & Rappaport 1988; Rappaport & Levin 1992; van Hout & Roeper 1998; Keyser and Roeper. 1984, Moortgat, 1987

334

Under this analysis –er raises, albeit not via relativization, but via head movement. The job of accounting for the nominal character of the structure is done by the projection of either a zero noun or –ion. But in the structure for instrumental nominals Van Hout & Roeper (1998) position –er in the head position of the NP dominating VP:

3.

```
        N'                  =>              N'
      /    \                              /    \
    N       VP                          N        VP
   -er     /  \                         |       /   \
        Spec    V'                    Nj+Vi N  Spec    V'
               /  \                  lawn-mow-er      /  \
              V     N                                V      N
            mowi   lawnj                            ti      tj
```

This results in a non-unified analysis and a reduplication of properties. Furthermore, if – er can be an N° in the same way that an action nominalizer like –ion can, how do we interpret a nominalization as participant or action? And how does the nominalization in (3) gets assigned an instrumental interpretation? Van Hout & Roeper (1998) must thus assume some other mechanism (which they don't talk about) binding the instrument in some way. This makes their analysis non-uniform, and creates redundancy in the framework with all the usual problems associated with it. In addition they simply stipulate the fact that instrumental nominaliations and agentive nominalizations show different syntactic behavior. More general, it is not clear why–er is restricted to subjects

335

(c.f. the generalization in Levin & Rappaport 1988; Rappaport & Levin 1992, discussed below) and the fact that these structures behave as subject relatives. In addition, Ns in general are assumed not to be able to take reduced clausal complements (i.e. TPs), since there can be no raising nor ECM structures within nominalizations in English (c.f. Chomsky 1970). These problems need to be addressed somehow, in order to compositionally get the interpretation of the resulting nominalization.

The fact that *–er* merges or moves to spec-VoiceP seems to be a justified choice. It disassociates the interpretation of *–er* nominals from specific thematic arguments, a result which is supported by empirical data (see for example Levin & Rappaport 1988; Rappaport & Levin 1992). English suffixation with *–er* is independent of the semantic role of the subject, which could be the agent who performs an action (4.a-4.d), or an experiencer (4.e-4.h), an instrument, (4.i-4.l), or (less productively) a location (4.m-4.n):

4. a. player   e. lover   i. humidifier   m. container
    b. sender   f. admirer   j. sharpener   n. diner
    c. builder   g. charmer   k. toaster   o. merger
    d. destroyer   h. entertainer   l. peeler

The situation is similar with other participant nominalization deriving affixes in English and crosslinguistically. The suffix *–ee* for example is mainly used to derive nominalizations that refer to the direct object (thematically theme or patient) of a
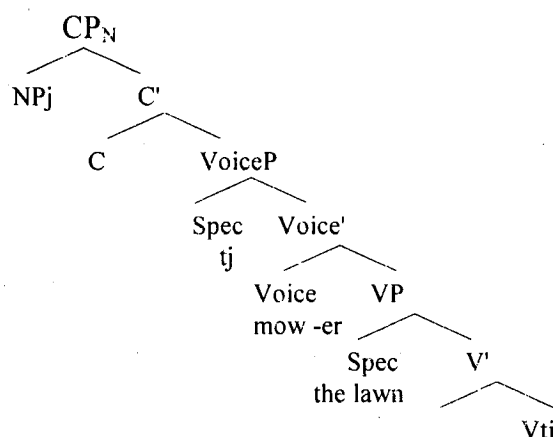
336

transitive predicate (e.g. *employee*) but also appears with nominals that denote the indirect object (goal, e.g. *addressee*), prepositional object (*experimentee*), intransitive subject (*escapee*), and very rarely transitive subject/agent (*signee*) (c.f. Barker 1998). It seems then that the morphological shape of the nominalizer is not directly related to thematic roles such as Agent, Theme, Location, Instrument and so on but rather to syntactic positions (and features such as [±ANIMATE]). Thus, *-er* realizes the external or higher argument (excluding a handful of cases such as *diner* and *merger* that may be explained by independent historical reasons[2]), while *–ee* realizes lower [+HUMAN] arguments (and thus excluding instruments, manner, and location interpretations). The generalization in Levin & Rappaport (1988) and Rappaport & Levin (1992) is that whatever can become a syntactic subject can form an *–er* nominalization. This suggests a relation to voice, and a disassociation of voice and thematic structure. In the structures adopted here this disassociation is structurally encoded by assuming voice heads immediately above the thematic structure. Voice morphology allows for different verbal arguments to climb the structural ladder to the top and thus form nominalizations interpreted accordingly.

---

[2] The word *diner* seems to originate from the Old French word *disner*, originally "take the first meal of the day," itself derived from the Gallo-Romance **desjunare* "to break one's fast," originally from the Latin compound *dis-* "undo" + *jejunare* "to fast,". Diner "railway car for eating" was introduced in American English around 1890. Thus the *–er* at the end of the word may be part of the original French borrowing and not compositionally derived from dine + -er. Similarly the verb 'to merge' originally meaning "to plunge or sink in," originates from the Latin *mergere* "to dip, immerse," and therefore the noun *merger* (in the business sense first recorded in 1889 and uncommon until 1926), may be a return to the form of the Latin source. (Data from The Online Etymology Dictionary available at http://www.etymonline.com/).

337

This brings us back to the second idea that the semantic interpretation of the nominalization is related to attachment height of the nominalizer. If –*er* merges in spec-VoiceP then it is not surprising that –*er* nominalizations are interpreted predominately as agentive (or any other argument that is licensed in this position such as experiencer). Attachment of –*er* in a lower ApplP (or InstrP) would result in nominalizations interpreted as instrumental. In other words there is a very close relationship between the height of attachment of a nominalizer and the interpretation of the resulting nominalization. A potential problem for such an approach is how to distinguish between action nominalizations and participant nominalizations. The problem is that both action and participant nominalizers can attach at different levels in the structure, resulting in nominalizations with different interpretations and different syntactic properties.

It is reasonable to assume that since participant nominalizations single out an event participant, they may have the form of relative clauses. In such an approach the structure in (2) needs to be modified slightly to include a CP, the specifier of which hosts a null generic nominal that is interpreted as the participant in the event denoted by the nominalized verb:

338

5.

```
                        CPɴ
                      /    \
                   NPj      C'
                          /   \
                        C      VoiceP
                              /    \
                          Spec     Voice'
                           tj     /     \
                               Voice     VP
                               mow -er   /  \
                                      Spec    V'
                                    the lawn  /  \
                                            Vti
```

In this analysis there is no NP dominating the clausal string. The structure is identical to that proposed for restrictive relative clauses in Kayne (1994). The relativized nominal originates inside the clause (in the specifier of VoiceP where agents merge) and subsequently moves to spec-CP. The CP can now be selected by a D-element (as in Kayne 1994) resulting in a structure similar to that of headed restrictive relative clauses. The interpretation of the structure is derived straightforwardly: (5) is interpreted as 'the (one that) mown(s) the lawn' in a similar way that a headed relative clause like 'the person that mowed the lawn yesterday' would be interpreted. Notice that contra- Van Hout & Roeper 1998, no AspP and TP are assumed to be present. AspP is associated with accusative case marking and thus if AspP is not contained in the structure, accusative case is not possible for the internal argument which has to be licensed by a higher prepositional complementizer ('of-insertion' as described in Kayne 2000). The presence of Voice/EventP guarantees an eventive interpretation while lack of TP excludes an

339

episodic reading for agentive nominalizations which thus have to be interpreted as habitual (see discussion in 3.1.5).

A problem with the structure in (5) is that its categorial status is that of CP and not NP as in Van Hout & Roeper's 1998 structure. It is not immediately clear how the string is interpreted as nominal if its syntactic structure is clausal. I claim that this is only an apparent problem. Recent work in the syntax of relative clauses (Kayne 1994, Bianchi 1999), prepositional complementizers (Kayne 1999; Cinque 2002), and C/D nominal clauses in Maasai (Koopman 2005a) has shown that CP-type projections at different levels of the syntactic structure have a nominal status, indicating a parallelism between CPs and NPs. Koopman (2005a) assumes a complete parallelism between common noun phrases and clauses, where a nominal C projection is relabeled C/D to capture this parallelism.

In the case of relative clauses the nominal nature of the relative CP has been explored in Bhatt 1999; Iatridou, Anagnostopoulou, and Izvorski 2001. Bhatt (1999) (see also Bury 2002 for a similar account for free relatives) proposes a raising analysis of relative clauses, in the spirit of Kayne (1994) with the additional assumption that the relative NP moves outside the CP, projecting an NP (a type of movement not generally allowed within minimalist accounts, c.f. Chomsky 1995:4.4.2). The projected phrase nominalizes the clausal string:

6. $[_{DP}$ the $[_{NP}$ book$_i]$ $[_{CP}$ [OP/which t$_i]_j$ $[_{TP}$ John likes t$_j]]]$

Iatridou, Anagnostopoulou, and Izvorski (2001), notice that free relatives headed by nominal *wh*-phrases are nominal and leave open the possibility that restrictive relative clauses are also nominal. They motivate movement of the relative 'head' to spec-CP as triggered by the need to satisfy a nominal feature of the relative clause, eventually nominalizing the relative CP. In other domains, e.g. object movement to the front of the verb, the target must project in order to satisfy selectional restrictions of a higher head (i.e. aspect/tense heads require a verbal complement). If relative clauses are not directly selected as complements (c.f. earlier approaches in which they are assumed to adjoin to NPs), then there is no problem. The moved element can project in these cases[3].

In the domain of headless relative clauses there is no doubt that the relative clauses behave like nominals since their distributional and selectional properties form a proper subset of the properties of common noun phrases (c.f. discussion in 4.1.0, 4.1.3). This is true for free relatives with nominal *wh*-prases in English and other languages (c.f.

---

[3] Iatridou, Anagnostopoulou, and Izvorski (2001) speculate that a nominal feature on the relative C may also explain why there is no verb inversion in English relative clauses – if verb inversion is triggered by a verbal feature on C then in relative clauses inversion is not expected due to the presence of a nominal feature on the latter (but this is not a crosslinguistic generalization as in some languages inversion is attested in restrictive relative clauses. e.g. inversion is obligatory in Greek and obligatory or optional in some Bantu languages, see Demuth & Harford 1999, and references therein).

Bresnan and Grimshaw 1978; Groos and Riemsdijk 1981; Caponigro 2002). Caponigro (2002) assumes that free relatives crosslinguistically have the structure [DP D [CP]], which is also the structure assumed here for headless relative clauses (see Chapter 4).

This can be formally analyzed in terms of 'categorial agreement' licensed by a spec-head configuration (Koopman 1996; Koopman and Szabolcsi 2000). In its landing site the moved NP is in spec-head configuration with the head of CP. Given certain assumptions about spec-head configurations (Koopman 1997; Koopman & Szabolcsi 2001), formal features of the XP in a specifier can be copied to the head Y of the host projection (via a "dynamic" form of spec-head agreement) and subsequently percolate to the host YP:

7.

$$YP_F$$

XP   Y'
[+F]
      Y_F ZP
      ......
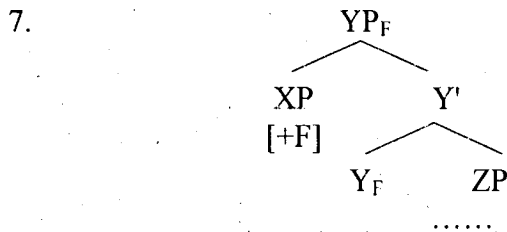
In this respect YP maintains its syntactic status but also acquires features of XP, which can subsequently play a role in its syntactic distribution for the purposes of syntactic operations. Thus, if YP is a phase (which is the case for example for CPs (Chomsky 2001)) then extraction out of YP (excluding XP) is completely blocked. Elements lower than the head YF cannot extract due to the phase impenetrability condition (Chomsky

342

2001). The only available option is for the specifier XP to extract since it is at the edge of the phase. However, if movement is triggered in order to check [+F] then the YP_F can move as a whole, pied-piping XP (see Koopman 1996, Koopman & Szabolcsi 2000).

Consider now a relative CP, the top-substructure of which is represented in (8):

8.

CP$_N$
NP C'
[+N]
C$_N$ TP
......
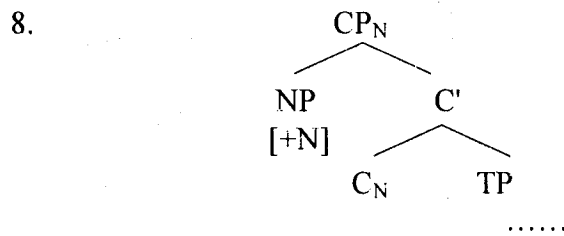
An NP carrying a [+N] feature moves to the specifier of the CP. The [+N] feature is copied onto the head C and percolates up to the CP. The CP$_N$ can now function as a nominal string for the purposes of selection and movement – i.e. can be selected by functional heads of determiner type and subsequently move to discourse related projections in topicalization or focalization structures. This analysis avoids the problem of projecting movement and does not require a [+N] feature to be part of the featural content of C, allowing thus for the attested inversion in restrictive relative clauses[4].

---

[4] Chomsky (2005), based on Donati (2006), provides an additional formal way of how the label of a headless relative can be derived from the label of the moved *wh*-phrase (a head). The known algorithms for categorial label assignment (as established in X-bar theory) are:

1. a. In {H, α), H an L(exical)l(tem), H is the label

5.1.2 Reduced Structures

Consider now reduced relative clauses. In most cases a postnominal relative clause, following the relative NP, can appear without an overt C:

9. a. I talked to the man that you saw yesterday.
     b. I talked to the man you saw yesterday.

In other cases progressively more structure in the relative clause is omitted:

10. a. I talked to [the man [*that was* crossing the street]].
     b. I talked to [the man [crossing the street]].
     c. The employer fired [everyone [*that was* caught sleeping]].
     d. The employer fired [everyone [caught sleeping]].

---

b. If α is internally merged to β, forming {α, β} then the label of β is the label of {α, β}

Chomsky considers movement of the lexical item *what* to spec-CP with a copy *t* in base position:

2.   what [C [you wrote t]]

If C projects, in accord with (1.a), then (2) is an interrogative complement. However, *what* may also project, in accord with (1.b), yielding a free relative interpreted as a DP headed by *what*. This is possible only when the phrase that is moved is a head. As Chomsky (2005) notes, there can be no free relative interpretation in "I read [what book you wrote]." If *what* projects the properties of the mother node are also affected by the head C for reasons of feature-inheritance by T. Therefore, the two labels coexist. Extending the idea to headless relatives discussed here the correct theoretical assumption is that the raising of a nominal phrase in spec-CP is triggered by the need to nominalize the clausal string. A clause-internal NP (either overt as in 'headed' restrictive relative clauses, or null with a generic meaning as in headless relative clauses) is attracted to spec-CP in order to nominalize the clause.

344

Reduction is also productively attested in prenominal relative clauses which are crosslinguistically non-finite or nominalized (c.f. Keenan 1985:160; Kayne 1994:95). Keenan (1985) observes that the verb of prenominal relative clauses exhibits a reduction of tense, aspect and agreement morphology compared with main clause declarative verbs:

11. a. kardeh.im   misafir.i   bekli.yor   TURKISH
        brother.POSS/1SG guest.ACC   expect.PRS
        'My brother expects the guest.'

    b. kardeh.im.in   bekle.dig.i   misafir
        brother.POSS/1SG.GEN   expect.PRT.POSS/3SG guest
        'the guest (who) my brother expects...'

In the Turkish example of (11.b), the tense specification (e.g. present tense -yor, in (11.a) is missing and the verb appears with special nominalizing/participial morphology (the suffix -dig).

Furthermore, modifying clauses in prenominal position in English as well as other European languages appear obligatorily reduced or nominalized. Thus, from the relatives of the type in (10) only participial (i.e. nominalized) forms can appear in pronominal position:

12. a. * The employer fired [the [that was sleeping]man].
    b. The employer fired [the [sleeping man]].
    c. * The [[that had been carefully washed] clothes were mine.
    d. The [[carefully washed] clothes] were mine.

345

Clause reduction (or nominalization) in reduced relative clauses is manifested through a number of properties. For example, subjects inside pronominal relative clauses may appear marked with genitive instead of normal subjective (nominative or ergative) case. This is for example the case in Turkish (13.a) or Mongolian (13.a):

13. a.   [meltem.in   gör.düğ.ü]   yılan   TURKISH
      Meltem.GEN   see.DIK.3POSS snake   Hankamer & Knecht (1976).
      'The snake that Meltem saw.'

    b.   [ene xüü.gijn suu.j   baj.x]   xot   MONGOLIAN
       this boy.GEN live.IPFV   be.INF   town   Binnick (1979)
       'The town where this boy is leaving.'

The impossibility of nominative subjects in pronominal relative clauses can reasonably be attributed to the lack of a TP and consequently the unavailability of a projection where subjective case can be assigned as argued by Bhatt (1999). Furthermore, the presence of genitive case reveals the existence of some nominal property of the relative clause.

The degree of reduction of a relative clause can also be determined by the type of adverbial modifiers that are allowed within the reduced relative clause Consider the following examples (from Marvin 2002):

14. a.   zena.ta   cela   kniga.ta   ot   sutrin.ta   nasam   TURKISH
      woman.DET read.IPFV/PP book.DET from morning.DET till_now

346

'The woman who has read this book since this morning.'

b. * the leaf fallen since this morning

c. Der endlich in Mailand angecommene Zug ist Miramara   GERMAN
    D   finally at Milano   arrived   train is Miaramara
    'The train that finally arrived at Milano is Miramara.'

d. il treno finalmente arrivato a ' Milano ...   ITALIAN
    D train   finally   arrived at Milano
    'The train that finally arrived at Milano...'

In (14.a) a temporal adverbial is allowed inside the reduced relative while in the English

example (14.b) the same adverbial is not possible. Similarly, in (14.c) the aspectual

adverb finally is allowed in German reduced relatives but not in Italian. The fact that

certain adverbs may or may not surface inside a reduced relative could be related to the

availability of specific aspectual projections within the relative clause (c.f. Marvin 2002).

In this respect reduced relatives parallel nominalizations which also exhibit a gradient

structure with respect to the availability of adverbial modifiers (see discussion in Section

3.0.2).

Finally, in theoretical work reduction has been assumed to be a fundamental property in

the formation of modifying elements such as predicative adjectives. Certain proposals

assume that the prenominal position of modifying adjectives in English is a derived

position. The underlying structure involves a reduced relative clause with the AP

functioning as predicate taking the NP as its subject. The prenominal position of the

347

adjective is achieved by predicate movement to spec-CP (Kayne 1994:Ch. 8; Alexiadou 2001b):

15. a. the red car
    b. [DP the [CP [AP red_i] [IP [NP car] t_i]]]

Summarizing, the process of 'reducing' somehow the higher functional domain in restrictive relative clauses is widespread intra- and crosslinguistically. As evidenced from the examples provided here, the reduction can be gradient including just the complementizer or any of the immediately following verbal functional projections, including tense and aspect. In fact, this is exactly what I have claimed happens in participant nominalizations of different sorts. Therefore, the claim that participant nominals are reduced relative clauses is not surprising given the tendency of relative clauses to appear with different degrees of reduction crosslinguistically.

In the following sections I provide a number of empirical arguments supporting the claim that participant nominalizations are reduced headless relative clauses. In Section 5.2 I provide morphosyntactic evidence from Malagasy and other Austronesian languages that shows that participant nominalizations and relative clauses share the same morphosyntactic properties with respect to specific restrictions on verbal voice morphology. In Section 5.3, I provide evidence from binding facts for both the existence of a generic null nominal within participant nominalizations in Malagasy and English and

for the existence of A'-movement of such a nominal within the nominalized string. If, as assumed in much of the current literature, effects like weak-crossover and reconstruction are legitimate diagnostics for A'-movement, then participant nominalizations must have a relative clause structure since they exhibit both of the above effects. Finally, in Section 5.4, I discuss the typological predictions that the analysis makes, especially the overlap between relativizing and nominalizing structures crosslinguistically, and provide data from a variety of languages from different families that confirm these predictions.

5.2 Nominalizations and Voice Morphology in Austronesian

If participant nominalizations are reduced headless relative clauses then there should be some crosslinguistic parallelism between the two in the domain of morphosyntactic structure. In other words, in a language that marks the relative verb with particular morphology we would expect that the same morphology should also appear in participant nominalizations, providing that the syntactic structure of the latter is "rich" or "large" enough to contain such morphology. I claim that this is the case in Malagasy and other Austronesian languages.

As we have seen (Chapter 2), in Malagasy the voice morphology on the verb identifies the trigger in the clause. Thus, AT morphology corresponds to promotion of the external argument to trigger, TT morphology to the promotion of the theme, and CT morphology

349

to the promotion of an oblique. Keenan (1972) observes that there is a 'basic constraint'
guiding relative clause formation in Malagasy:

BASIC CONSTRAINT

An NP position in a sentence can be relativized into if, and only if, it is the

subject position of the sentence. " (Keenan, 1972:173).

This means that the 'head' of a relative clause in Malagasy must function as the trigger of
the relative clause. Let us consider some examples:

16. a.   ny   mpampianatra (izay)   n.i.vídy   boky   ho an'ny   mpianatra
         D   teacher   (REL)   PST.AT.buy books   for' D   student
         'The teacher (who) bought books for the student.'

    b. * ny   boky   (izay)   n.i.vídy   ho an'ny mpianatra ny mpampianatra
         D   books   (REL)   PST.AT.buy for' D   student   D teacher
         'The books (which) the teacher bought for the student.'

    b'. ny   boky   (izay)   no.vídin' ny mpampianatra   ho an'ny mpianatra
         D   books   (REL)   PST.buy.TT for' D   teacher   for'   D student
         'The books (which) the teacher bought for the student.'

    c. * ny   mpianatra   (izay)   n.i.vídy   boky   ny mpampianatra
         D   student   (REL)   PST.AT.buy books   D teacher
         'The student (who) the teacher bought books for.'

    c'. ny   mpianatra   (izay)   n.i.vídi.an'   ny mpampianatra boky
         D   student   (REL)   PST.AT.buy.CT/LNK' D teacher   books
         'The student (who) the teacher bought books for.'

    d.   ny fotoaña n.an.orat.an-dRasoa   ilay taratasy dia (tamin') ny roa sy dimy
         D time   PST.AT.write.CT/LNK-Rasoa DEM letter TOP (PST.at') D two and five

350

'The (time when) Rabe wrote this letter was five past two.'

e. hafa.hafa   ny fomba   an.oratan-Rakoto   ny taratasy
   strange.RED   D   manner   AT.write.CT/LNK'D Rakoto   D   letter
   'Rakoto's way of writing the letter is a bit strange.'

As we can see, relativization of the agent-trigger is realized with the verb in the AT form,
i.e. the agent-promoting form of the verb (16.a). However, relativization of the theme-
trigger is not possible with the same form (16.b). Instead the TT-form (the theme-
promoting form of the verb) must be used (16.b'). Finally, relativization of the benefactor
is also not possible with the AT-form (16.c). Instead the CT-form (the oblique-promoting
verbal form) must be used (16.c'). The CT form is also used when adjuncts such as time
and manner are relativized (c.f. (16.d-16.e). If verb-morphology is a reflex of operator-
movement to the left periphery then different verb forms correspond to the movement of
different operators in relative clause formation.

The above relative clauses can also appear 'headless' omitting the 'head' noun c.f
Chapter 4):

17. a.   ny   n.i.vidy   boky   ho an'ny   mpianatra   dia ny mpampianatra
      D   PST.AT.buy books   for' D   student   TOP D   teacher
      'The (one who) bought books for the student is the teacher.'

    b.   ny   no.vidin' ny mpampianatra   ho an'ny mpianatra   dia ny boky
      D   PST.buy.TT for' D   teacher   for'   D   student   TOP D books
      'The (things which) the teacher bought for the student are the books.'

351

c.   ny   n.i.vidi.an'   ny mpampianatra boky dia   ny mpianatra
        D   PST.AT.buy.CT/LNK' D teacher   booksTOP D   student
        'The (one who) the teacher bought books for is the student.'

d.   ny   n.an.orat.an-dRasoa   ilay taratasy dia (tamin') ny roa sy dimy
        D   PST.AT.write.CT/LNK-Rasoa DEM letter   TOP (PST.at') D two and five
        'The (time when) Rabe wrote this letter was five past two.'

e.   hafa.hafa   ny   an.oratan-Rakoto   ny taratasy
        strange.RED   D   AT.write.CT/LNK'D Rakoto   D   letter
        'Rakoto's way of writing the letter is a bit strange.'

The missing head in the above headless relative clauses (i.e. the domain of relativization) encodes the class of objects of which it makes sense to assert the restrictive clause. A rough translation of the head in English would be *one* for [+HUMAN] entities, *thing* for [-ANIMATE] entities, etc).

Consider now participant nominalizations. When the nominalization is agentive, the nominalized verb is marked with AT morphology while an oblique interpretation (instrument, location, manner) triggers CT morphology on the verb[5]:

---

[5] As we have already seen (Section 3.1.2.1), temporal *f*-nominalizations are not possible. This is explained in Chapter 3 as the result of non-availability of the tense head within f-nominalizations. Since temporal adverbs merge in some projection at the TP level, temporal headless relative clauses (c.f. (i)) are assumed to be possible while temporal *f*-nominalizations (ii) should be impossible. The data support these predictions:

i.   ny (fotoana) i.amben.an'   ny miaramila   dia   ny alarobia
      D time   AT.watch.CT/LNK' D soldier   TOP   D   Wednesday
      'The soldiers' (time for) watching is Wednesday.'

ii. * ny f.i.amben.an'   ny miaramila   dia   ny alarobia
       D NML.AT.watch.CT/LNK' D soldier   TOP   D   Wednesday

352

18. a.   ny   mp.i.vidy   boky   ho an'ny   mpianatra .dia ny mpampianatra
           D   NML.AT.buy   books   for' D   student   TOP D   teacher
           'The buyer of books for the student is the teacher.'

     b.   ny   f.i.vidi.an'   ny mpampianatra boky dia   ny sekoly
           D   PST.AT.buy.CT/LNK' D teacher   booksTOP D   school
           'The (place where) the teacher bought books is the school.'

Thus participant nominalizations and relative clauses exhibit the same structural requirement: the (null, generic) head is identified by the voice morphology on the verb. Given this parallelism it is not surprising that participant nominalizations such as *mp*-AT or *f*-CT manner nominals in Malagasy can in fact function as relative clauses modifying overt nouns in the language. The crucial assumption is that when this happens the NP in the specifier of the nominal CP is overt, i.e. not a null generic noun but rather a noun phrase as in the clausal relatives of (16):

19. a.   ilay olona **mp.i.vavaka**
          DEM people NML.AT.prayer
          'those church-goers' (lit. 'people who pray')

     b.   tsy tia.ko   ny fomba **f.an.draho.n-dRasoa sakafo**
          NEG like.1SG/GEN D way   NML.AT.cook.CT/LNK-Rasoa food
          'I don't like the way Rasoa cooks food.'

'The soldiers' (time for) watching is Wednesday.'

Such function of participant nominalizations as relative clauses is attested crosslinguistically and will be discussed in detail in section 5.4.

5.2.1 Some Problematic Cases

5.2.1.1 *f*-AT Nominals with Manner and Instrument Interpretations

A potential problem for the analysis sketched above is the existence of manner and instrumental nominalizations in Malagasy that are formed not with the CT but rather with the AT morphology of the verb. If CT is the morphology that allows relativization of instruments and manner adverbials in the language, how can we explain derivations of instrumental and manner nominals by attaching the nominalizer *f-* to the AT form of the verb? This problem was first noted in Paul (1996a) and was used as an argument for treating *f*-nominalizations in Malagasy as lexical, given the unpredictability of their meaning in contrast to the predictable meaning of, for example, headless relative clauses. Let us consider some of the cases from Chapter 3:

20. hafa.hafa   ny f.an.deha.n-   dRabe
     strange.RED   D NML.AT.go.LNK-   Rabe
     'The way Rabe is walking is a bit strange'

21. hita.ko   [ny f.an.oto.n-dRabe]
     see.1SG/GEN [D   NML.AT.pound.LNK-Rabe]
     'I found Rabe's pestle. (lit. 'the thing Rabe pounds with'

354

In (20) a manner nominalization is formed by *f-* attaching to a verb stem that has been inflected with Voice$_{AT}$ morphology. The same morphology is true for the instrumental nominalization of (21). If the claim that participant nominalizations are reduced headless relative clauses is correct, one would expect instrumental and manner nominals to be formed exclusively on the CT form of the verb, given the relative clause formation basic constraint from Keenan (1972).

I argue here that this is only an apparent problem. As repeatedly stated here, the function of voice morphology is to limk verbal arguments and adjuncts from the thematic domain. This licensing is executed via movement of the thematic argument to the specifier of a suitable voice projection. Thus, voice morphology on the verb corresponds to the externalization of a verbal argument only when the corresponding voice projection is present in the structure. Consider now the case when the nominalizer *f-* merges lower than any of the projections that host voice morphology. In this case formation of a reduced relative clause is still possible but there is no morphology on the verb to signify which argument has been relativized. Since voice projections rearrange the structural hierarchy of verbal arguments, lack of voice morphology can only mean that only the highest of the verbal arguments/modifiers can be relativized.

Let us see how this can be derived from the structures assumed here. Consider the proposed configuration of *f*-AT nominalizations (from Chapter 3):

355

22.
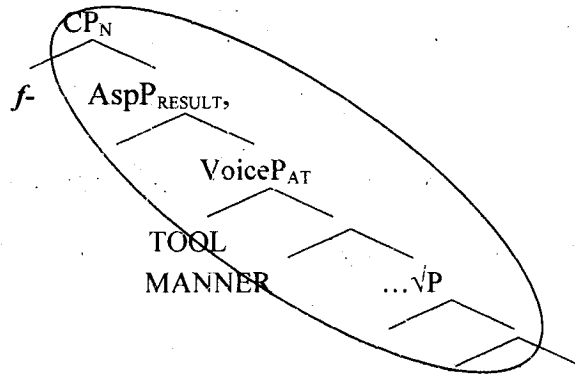
In (22) the nominalizer interrupts the clause at AspP, and the highest element is manner adverbials (adjoined to VoiceP). Thus a manner interpretation is the most natural and productive for these nominals and this is corroborated by the data. Keenan and Polinsky (1998) for example note that f-AT manner nominals are more productive than instrumental nominals. However, when MANNER (i.e. a null NP interpreted as 'manner') is not present, the next higher argument is TOOL, which translates to instruments (and more specifically tools, i.e. intermediary instruments). As we have seen only [-ANIMATE] arguments are licensed in spec-VoiceP$_{AT}$. [+ANIMATE] causers (i.e. actors) need to move higher up (perhaps to Mod$_{VOLITIONAL}$) to check a [+ANIMATE] feature. Thus the only possible candidates for f-AT participant nominals are tools – agentive nominalizations require more structure.

The structure in (22) also accounts for the impossibility of other participant f-AT nominalizations such as nominals that denote location, and/or temporal nominals. This is

356

because these nominalizations are formed by moving generic NPs that merge higher in the structure. Thus, TIME, a generic NP meaning 'time', presumably merges in the vicinity of the temporal region and PLACE, a generic NP meaning 'place', in the locative region of the clause. The fact that the temporal region projects higher than the aspectual domain is undisputable. In addition, Adger & Tsoulas (2004 and references therein), provide a number of arguments for assuming that locatives merge above manner adverbs. Thus, it is predicted that temporal and locative nominals are impossible with the AT form and this is supported by the data:

23. a. * ny   f.an.oratra   ilay taratasy dia   ny roa sy dimy
        D   PST.AT.write DEM letter   TOP   D two and five
        'The (time when someone) wrote this letter was five past two.'

    b. * ny   f.i.vidi.n'   ny mpampianatra boky dia   ny sekoly
         D   PST.AT.buy.LNK' D teacher   booksTOP   D school
         'The (place where) the teacher bought books is the school.'

However, it is not clear from the structure in (22) why a nominalization with a theme interpretation is not available. Assuming that we can have a structure where there is no manner or causer projected, the next available argument is the theme. In fact, some *f*-AT nominalizations seem to have a theme interpretation, although a different explanation may also be possible. Thus, *fisotro/* 'drink', formed from the AT form *misotro/* 'to drink' which is in turn formed on the nominal root *sotro /* 'spoon', seems to have the result interpretation, e.g. 'we went for a drink', but also a theme interpretation as in 'thing that

357

one drinks/spoons'. Similarly, the root *ontany/* 'enquiry, question', forms the AT form *manontany* 'to ask' and the *f*-AT nominalization *fanontany* 'question; thing one asks', while the *f*-CT nominalization *fanontaniana* has the more eventive meaning of 'interrogation'. Given that the theme is the lowest NP in the structure of (22), followed by instrument and manner entities, the gradual productivity (with manner nominalizations very productive, instrumental less productive and theme almost non-existent) is predicted. Thus all the possible nominalizations derived on the AT form of the verb without additional morphology are accounted for by the structural components that are present. Turning now to nominalizations that contain further voice morphology (*m*- for AT verbs and *–an* for CT verbs) there is absolutely no idiosyncrasy in their semantic interpretation. *mp*-AT nominals are interpreted exclusively as agentive and *f*-CT nominals are interpreted exclusively as manner, locative, and instrumental, as predicted from the general function of CT morphology.

5.2.1.2 Non-participant Nominalizations

A second problem with the above analysis has to do with non-participant nominalizations. As we have seen (sections 3.1.1.3, 3.1.2), *f*-AT nominals are used sometimes to denote results and *f*-CT nominals' most productive use is to denote actions, events and abstract nominals. It is not immediately clear why this should be so and this property has also been put forward by Paul (1996a) to support the claim that *f*-nominals are lexical since their meaning is unpredictable.

358

I wish to argue that this division is actually expected, give a proper understanding of the syntactic structure. Let us see how this is implemented. Starting with f-AT nominals, I have shown that they are formed with f- attaching to $\text{AspP}_{\text{RESULT}}$. $\text{AspP}_{\text{TELIC}}$ merges above the domain of the nominalization. The latter's role is related to the telicity of the event denoted by the verb (Travis 1991, 1994; c.f. also Ritter and Rosen 1998; Pearson 2001 2005). Thus its function is to provide a specifier for a 'quanticized' verbal argument that delimits the verbal event. This argument can be a definite/specific internal argument (c.f. Travis 1991, 1994):

24. a.   I read that book.   (TELIC)
    b.   I read books.   (ATELIC)

In the account adopted here however, verbal arguments are not quanticized, they are bare NPs (Sportiche 2005). This means that 'quanticization' in fact takes place in $\text{AspP}_{\text{TELIC}}$[6]. Let us assume that this process of quanticization is blocked when a nominalizer attaches below that level. This means that the internal argument cannot be quanticized and therefore it can only emerge as a non-referential incorporated element in a synthetic-compound formation:

---

[6] In minimalist terms quanticization may be the result of checking an uninterpretable feature [+QUANT] on Asp by movement of an NP that has an interpretable version of the feature. Furthermore, only telic specifications of Asp can have such a feature which will match features of the internal argument (see Adger & Tsoulas 2004 for details).

25. a.   hita.nao   ve ny fanindri-afo   ?
         see/TT.2SG/GEN   Q D NML.AT.poke-fire
         'Have you seen the poker (lit. *'the thing that presses fire'*)

   b.   I went for a bike-ride.

Assuming a syntactic approach towards morphosyntactic processes, a question that has been raised (c.f. Sportiche 2005) is why a predicate is allowed to surface with NPs as saturated arguments (c.f. (25.a-25.b)), while in other cases DPs are required. Here the solution proposed is that this is the result of nominalization. The nominalizer merges low in the clausal structure (verbal extended projection) and thus the projections where case/definiteness features are checked are not available any more. This would also explain why certain synthetic compounds are possible only in nominalizations: *window-cleaner-*to window-clean; lawn-mower – to lawn-mow*, and so on.

Thus, at this low level verbal arguments are present but not licensed in their respective case-licensing positions and thus cannot be overtly expressed (except in cases of synthetic compound formation). This is however a property of result nouns crosslinguistically (Grimshaw 1990). Suppose now that the nominal derived from the structure of (22) is not a participant nominalization but refers directly to the aspectual property of the action denoted by the verb, in other words the result. We can assume, following the discussion in section 4.1.2 on null generic NPs, that the specifier of AspP

360

can be filled by an analogous null generic NP roughly interpreted as 'result' in English. This null-NP is licensed only when the specifier is not filled by some other XP, e.g. an internal theme checking a [+QUANT] feature. In this case any predicate-internal arguments must remain in predicate-internal positions and thus form exclusively synthetic compounds. The nominalization is interpreted as 'the result (of) V', i.e. a headless relative clause of the type discussed in the previous section. Such an account would have two desired consequences: firstly, all nominalizations are unified under a unique, relative-clause type structure; and secondly, the theoretical generalization spelled-out in (14) in section 4.1.2 (repeated here as (26)) is made to apply to all cases of nominalizations:

26. A D^0 selects for a CP iff the CP has a nominal feature. The nominal feature on C is
     provided when an NP moves to spec-CP.

In other words, a CP is nominal (and thus can be selected by D to form a relative clause) in all and only the cases where a NP/DP has moved to its specifier). In the case of result nominals this NP is the null generic NP 'result'.

Moving on to event/process nominals, the empirical generalization is that their arguments must be obligatorily expressed (Grimshaw 1990). The formation of event nouns in Malagasy and crosslinguistically therefore must contain the necessary structure for verbal arguments to surface in their licensing positions (i.e. case-checking positions). As we

have already seen (section 4.2.3) triggers cannot appear within nominalizations because *f*-merges below the discourse domain. This empirical generalization predicts that any voice morphology that promotes core verbal arguments to trigger (or to spec-CP in the case of relative clause/participant nominalization formation) should not participate in the formation of event nominals. This is because AT and TT morphology would result in promotion of the agent and theme respectively to trigger therefore restricting them from appearing within the nominalization. But this leaves only CT morphology as a possible candidate for allowing both actor and theme to surface with an event nominal.

However, this raises the question of how CT morphology comes to be. As we have seen (Chapter 2) in current assumptions of clausal structure in Malagasy (Guilfoyle et al 1992; Pearson 2001; 2005) voice morphology on the verb has to do with promotion of an argument or oblique to some clause-prominent position, i.e. serves to relate two phases. Since nothing is promoted in the case of event nominals, what triggers CT morphology on the verb? A possible explanation would be to assume again some sort of null generic noun, translated roughly in English as 'event' and occupying the specifier position of EventP. An event nominal then is a [D [CP]] structure with the null NP 'event' occupying spec-CP. Since *f*-CT nominals with expressed arguments are formed by attaching *f*-above EventP, with movement of the null NP 'event' to spec-CP the CT morphology on the verb is realized in the same way as when any other non-core argument is promoted.

Such an analysis would also explain why CT morphology surfaces with event nominals and why it does not with result nominals: it simply is not available with the latter.

Before closing this discussion and anticipating the discussion of crosslinguistic evidence in Section 5.4, it is important to note that this correlation between headless relative clauses and participant nominalizations is not unique to Malagasy but extends to numerous other Austronesian languages where participant nominals of different types appear with predicted voice morphology: AT for agentive, TT for theme, CT for obliques, LT, where available, for locatives, and so on (see discussion of nominalization and relativization in Formosan languages in Zeitoun (2002)).

5.3 Evidence from Binding

5.3.1 NP-Anaphors

Lieber (1992:132-140) presents a detailed study of the distribution of the NP-anaphor *self* in English which forms productively compounds with adjectives and nouns:

27. a. self-love   d. self-evident
  b. self-contempt   e. self-destructive
  c. self-control   f. self-explanatory

Obviously, in the domain of participant nominalizations it is difficult to construct examples that have inanimate referents (an instrument that operates on itself). With

363

manner and location nominalizations this is impossible. However, with agentive nominals it is quite common to find compounds with *self* preceding a nominalization:

28. a.   self-promoter
    b.   self-seeker
    c.   self-admirer

It is a well-known fact that full DP-reflexives are not possible in these environments:

29. a.   *himself-promoter
    b.   *herself-seeker
    c.   *ourselves-admirers

As already discussed this is accounted for by assuming that merging of the nominalizer is at the level where the internal argument of the verb is quanticized (i.e. AspP) and thus the internal argument of the verb cannot surface as a definite, case-marked DP. The only possibility is then for the reflexive to appear as an incorporated NP-anaphor. This explains the distribution of *self* in what is traditionally termed 'word-internal' environments.

Lieber (1992), based on data discussed in Sproat (1985) and Farmer (1987)), shows that there is a contrast between derived participant nominals and action nominalizations with respect to the distribution of *self*:

30. a. * his_i self_i-admirer

    d.   his_i self_i-admiration

Farmer (1987) assumes that the ungrammaticality of (30.a) is due to the argument

structure of the participant nominalizer *-er*. The suffix binds the external argument of the

verb while *self* fixes external and internal arguments as coreferential, explaining why *his*

in (30.a) cannot be interpreted as the external (or internal) argument. As Lieber states

though (1992:214, fn.18), this analysis does not explain why (30.a) is ungrammatical

even when *his* is a possessor and not an argument of the base verb.

Lieber similarly assumes that *-er* in some sense links or binds the external argument of

the verb, resulting in a nominalization that retains the rest of the verb's unsaturated

arguments. When *self* attaches to such a nominalization, it is interpreted as the internal

argument of the predicate (i.e. it is assigned the Theme theta role). Given the rightwards

direction of the Theme role the derivation of (30.a) proceeds as follows[7]:

---

[7] Lieber's(1992) tree precedes the DP-hypothesis (Abney 1987) and therefore there are no DPs.

31.

```
            NPi
          /      \
      NPi          N'i
      his         /    \
              Ni          N⁰
             /   \         |
           N       Ni      t
           |      /   \
         selfi   V      eri
                 |
              admire
```
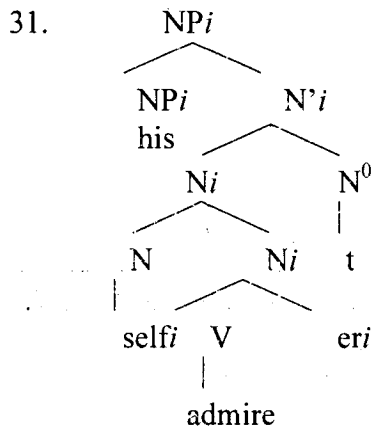
From (31) it follows that *his* cannot be interpreted as the internal argument of admire(er), as this position is saturated by *self*. The only other available option is for *his* to be a possessor. Lieber further assumes that the derivational morpheme *–er* is in fact the external argument of admire and can bare its own referential index. If this is true, and modifying slightly the notion of Minimal Governing Category (MGC) so as to allow for any projection (not only maximal projections) to fit the definition, the ungrammaticality of (30.a) is explained. The MGC for *self* in (31) is N' as this is the projection that contains *self* and a lexical category binding *self*. This lexical category is *–er.–er* obviously does not c-command *self*, but Lieber assumes that the index of the head of a word is the index of the whole head projection. Thus the index of *–er* percolates up to N and NP and thus binds the sublexical reflexive. Finally, *his* cannot be coindexed with *self* as a possessor because of Principle B of Binding Theory that states that pronouns should be free in their MGC. Since the index of *–er* percolates up to NP (c.f. (31)), *his* is bound in its MGC and thus Principle B is violated.

One problem with such an approach (c.f. Lieber (1992:214, fn. 20) comes from the fact that English allows for iteration of compounds resulting in structures such as the following:

32. a.   self-criticism promoter

If –*er* is the external argument of promote and its index percolate up to the maximal projection (NP) the it should obligatorily bind self. However, (32) has an additional interpretation in which *self* is interpreted as arbitrary. Nothing in the account explains this possibility. Furthermore, advances in syntactic theory have resulted in understanding more about the structure of the nominal domain and the categorial status of involved elements and structures like the one in Lieber's account are not tenable anymore. If –*er* is the external argument of the base verb then it should merge to the left of the base verb while *self* would be on its right (following the universal hierarchy of specifier-head-complement advocated in Kayne 1994, and assumptions about the merging height of external arguments (see Chapter 1 for detailed discussion)). Thus, assuming a relative clause source for the nominalization, a better representation of the example in (30.a) would be:

367

33.

```
            DP
          /    \
       DPi    /    \
       his   CP
            /  \
           /    \
          /      \
        Cnml    vP
             /    \
           -er   /    \
                /      \
             admire   self
```
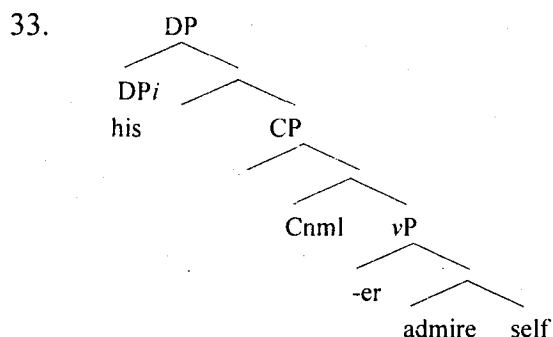
From this structure, *self* moves to the edge of the VP. This movement is motivated presumably for case reasons (see Lieber 1992; Keyser & Roeper 1992). Lieber (1992), assumes head-movement of the internal argument to the left of the predicate, triggered by the 'Visibility Condition' (the condition that requires all DPs to be case-marked (Chomsky 1986a; Baker 1988)). In phase-theoretic terms, this can be recast as movement of the internal argument to the edge of the phase so that it can become available for further computations. If case is licensed in a projection outside the vP (AspP in the verbal domain and KaseP which is dominated by the prepositional complementizer *of* in the nominal domain (as in Kayne 2000)), then the theme DP must move to that position. Given that vP is a phase (Chomsky 2001, 2005) and the Phase Impenetrability Condition, the DPTHEME must first move to the edge of the vP and then to the case-licensing position:

368

34.

```
        DP
       /  \
      /    \
     /     CP
    /     /  \
   /     /    \
  C_NML  XP
       /   \
    self    vP
      ↖    /  \
      -er /    \
     admire  t_self
          ↩
```
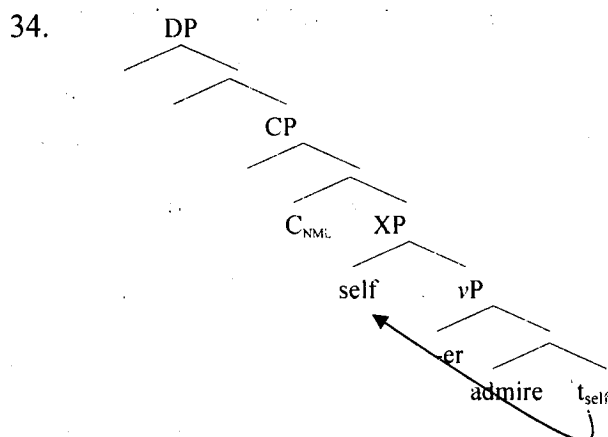
However, at this point the nominalizer merges and the verbal case-licensing projection is not available anymore. This explains why accusative case is not possible in these nominalizations. At this point there are two possibilities – if the reflexive needs to be quanticized it moves to nominal Kase position and the prepositional complementizer *of* is inserted (Kayne 2000). If the reflexive is non-referential then it stays in spec-XP (no quanticization/case licensing is available), forming a synthetic compound.

How then is final morpheme order achieved? This question is related to the status of *-er*. Following the intuitions in Lieber (1992) I assume that *-er* is an NP encoding the external argument of the verb (an assumption implicit in the structures of (33-34)). In other words, *-er* is not a nominalizer per se but rather the external argument of the verb, while the actual nominalizer/complementizer is null. Given that the formation of the agentive nominalization is assumed to have the structure of a relative clause, nominalization involves movement of *-er* to spec-CP in accordance with the assumptions in Kayne (1994):

35.

```
              DP
            /    \
          /   \
        /    CP
       /   /    \
    -er  /    \
       C_NML   XP
        \    /    \
        self     vP
               /    \
             t_er  /    \
              admire   t_self
```
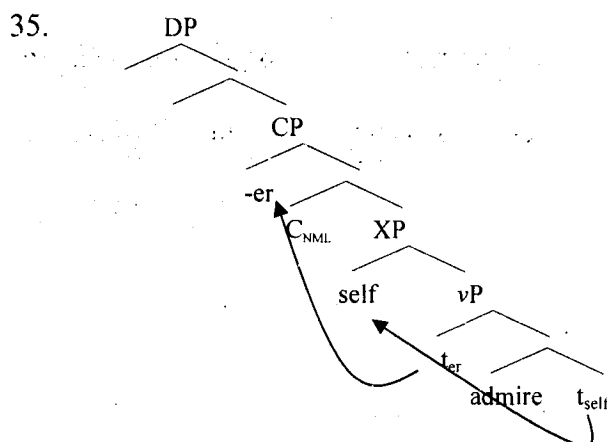
We now have a relative clause structure which matches the semantic interpretation of an agentive nominalization in English: '-er (who) admires self', where –*er* is interpreted as [+HUMAN]. This is still not the surface structure though, so one additional movement of the XP constituent to the left of –*er* must be assumed. I can provide no independent reasons for this type of movement at this point. It is the type of movement that derives head-final relatives in English, including participial relatives and pronominal adjectives:

36. a.   the self-promoting artist
    b.   the red carpet

An alternative is to assume that surface order is achieved by moving –er to spec-IP (dominated by CP) in (34), followed by inversion of the predicate (XP) to spec-CP:

370

37.

```
                    DP
                   /\
                  /  \
                 /    \
                /    CP
               /    /\
              /    /  \
            XP    /    \
           /\    /      \
          /  \ C_NML     IP
       self   vP        /\
             /\        /  \
            /  \     -er    t_XP
          t_er  /\
              /  \
          admire  t_self
```
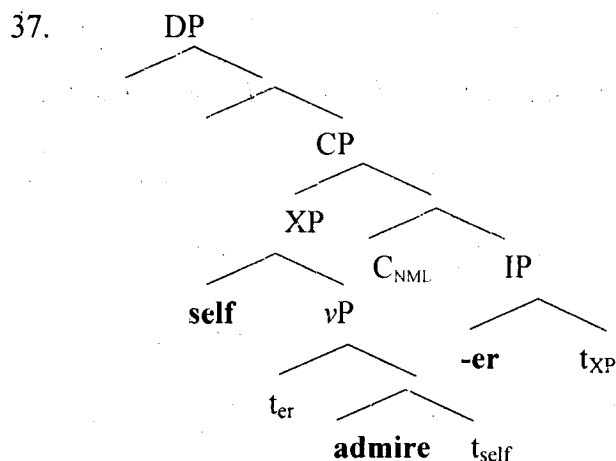
This is the direction taken for example in Alexiadou (2001b) in order to explain the syntax of prenominal adjectives. It is not clear what motivates movement of XP to spec-CP since the interpretation of the string is that of a relative clauses whose head is –er. I believe that the semantics are better accounted for if we assume a structure as in (35) with subsequent movement of XP to some left-peripheral position (assuming a split-CP as in Rizzi 1997). I will leave this issue for further research.

Notice that in the pre-derivational configuration –er binds self and Principle A is satisfied. Any pronoun in spec-DP cannot be interpreted as an Agent of admire since this position is saturated by –er. Movement of the XP self-admire to the left of –er does not result in violation of the Binding Theory as this movement is not a type of A-movement for case reasons and thus the original structure is reconstructed for binding purposes. The pronominal in spec-DP cannot bind self because it is outside self's local domain (the vP

371

which has an accessible subject (*er-*)). In addition, *his* cannot bind –*er* because that would violate Condition C (since –*er* is an R-expression interpreted as [+HUMAN]).

It should be mentioned here that similar compounds are possible with –*ee* type participant nominals. From the discussion above it is not clear why this should be so. In an –*ee* nominal the derivational suffix is identified with the internal argument of the verb base, the Theme. Thus, *self* in these nominals must encode the external argument (unless we are dealing with 3-place predicates in which case *self* could encode the third argument, i.e. a goal, benefactor and so on). Let us consider some examples:

38. a. self-interviewee
    b. self-addressee
    c. self-nominee
    d. self-employee

How could these compounds come about? The underlying structure would be as in (39):

39.   DP
         /\
        / \
       /   /\
          / \
         CP
        /\
       / \
      vP
     /\
    / \
 self /\
      / \
   employ -ee

372
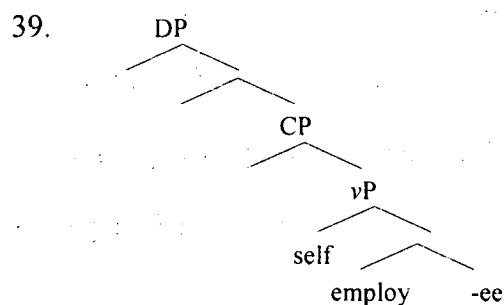
The problem with the structure in (39) is that Principle A of Binding Theory is not satisfied. Thus, we have to assume some type of A-movement preceding application of binding principles. This could be movement of –ee to spec-IP (presumably through XP at the vP-phase edge) and over the external argument. This resembles the movement of the theme over the external argument in passive structures, which also create new configurations for the application of Binding Theory (reconstruction fails)[8]:

40.   [TP [vp himself [VP killed John]]] → [TP John was [LNKP [PartP killed by [himself]]]]

If we assume that movement of the Theme to spec-IP is to satisfy the EPP feature of I, then movement of –ee could be triggered by the same reason (i.e. to satisfy the EPP feature of its landing site). Subsequently, -ee moves to the specifier of the nominal CP to yield the interpretation 'one who is Ved'. If this is correct then subsequent movement of the vP to some position on the left of the CP is required in order to derive the surface order. Or, -ee remains in spec-IP and the XP (or vP) moves to spec-CP, yielding a parallel structure to a pronominal participial relative:

41. a.   the self-promotee   [-ee   (who is) promoted (by) self]
    d.   the self-promoted person [person (who is) promoted (by) self]

---

[8] The structure of the passive version is a simplified version of a smuggling approach to passive (Collins 2005b). However, this is not important. The important thing is that the landing site of the Theme creates a configuration where Principle A is satisfied.

So far I have discussed the distribution of word internal anaphors. However, some participant nominalizations in English and more in other languages seem to allow for full DP-type anaphors and pronominals to appear inside their structure. In the following section I discuss these cases in more detail.

5.3.2 'i-within-i' Effects

In Malagasy, some participant nominalizations can contain a full anaphoric phrase. The reflexive NP *tena* (body) and DP *ny tenany* (the body.3GEN) in Malagasy behave like reflexives in better studied languages in that they need to be bound in their local domain, although their exact distribution is not fully determined (see Pearson 2001, 2005; and especially Paul 1999 for arguments against treating *ny tenany* on a par with English *himself*) – examples (42.c-42.d), from Paul 2004[9]:

42. a. m.amp.i.anatra   tena$_i$ Rabe$_i$
PRS.CAUS.AT.study   self   Rabe
'Rabe teaches himself.'

b.* m.amp.i.anatra Rabe$_i$ (ny) tena$_i$.(ny)
PRS.CAUS.AT.study   Rabe D self.3GEN
'Himself teaches Rabe.'

---

[9] In fact, as Paul (2004:43-44) shows, *ny tenany* may have a wider distribution than *tena* in that it can be bound by discourse or higher predicate antecedents. Paul (2004) agrees however that *tena* needs to be bound in its local domain (TP, DP) as other reflexives crosslinguistically.

Example (42.b) shows that the DP *ny tenany* cannot appear in trigger position c-commanding its antecedent. This does not mean that the reflexive cannot be a trigger, it rather indicates that it cannot be the external argument. The trigger position is possible when the voice morphology on the verb is TT in which case the reflexive originates in the theme position, where it is bound by the linked internal actor:

43.   amp.i.anar.in-dRabe$_i$ t$_i$ ny tena.ny$_i$ /*tena
        CAUS.AT.study.TT/LNK-Rabe D self.3GEN
        'Himself teaches Rabe.'

Notice that due to the requirement of the trigger to be [+SPECIFIC], only the DP reflexive can appear in trigger position. In (43) the trigger originates as the theme/internal argument of the verb, in a position where it is c-commanded by the internal actor *Rabe*. The grammaticality of (43) points towards a reconstruction analysis of the operation of promotion to trigger (Pearson 2001; 2005). Consider now the following examples:

44. a. n.i.laza   Rasoa$_i$ [$_{CP}$ fa   h.am.ono tena$*_{i/j}$ Rabe$_j$.]
        PST.AT.say Rasoa   that FUT.AT.kill self   Rabe
        'Rasoa said that Rabe is going to kill himself.'

    b. * m.an.dresy   tena$_i$ ny alahelon-dRabe$_i$.
        ASP.AT.defeat self   D sadness.LNK.Rabe
        'Rabe's sadness defeats himself.'

(44.a) shows that the reflexive cannot be coreferential with a DP outside its domain and
(44.b) shows that the reflexive cannot refer to a non-c-commanding DP. More
importantly, *ny tena.ny* cannot appear in a sentence without a c-commanding antecedent:

45. * n.an.ditry   ny adiny telo   ny m.amp.i.anatra   ny tena.ny
      PST.AT.last   D   hour   three   D   ASP.CAUS.AT.study   D   self.3GEN
      'Teaching themselves lasted for three hours.'

Consider now the following example:

46. vanona   [ny   [mp.amp.i.anatra   ny tena.ny$_i$/ny zana.ny$_i$)]]
      successful   D   ASP.CAUS.AT.study   D   self. 3GEN/ D   child. 3GEN
      'The (one that) teaches himself/his children is successful.'

In (46) there appears to be no visible/pronounced c-commanding DP binding the
reflexive within the verbal clause. If binding is a relation between two DPs one of which
c-commands the other, then it is clear that in (46) there must be a silent antecedent for the
anaphor, given the ungrammaticality of (45). In the account proposed here, this
antecedent is the null generic DP, originating in spec-EventP, and moving to spec-CP of
the headless relative clause/participant nominalization:

47. [DP ny [CP e$_i$ ...[EventP e$_i$ mp.amp.i.anatra   ny tena.ny$_i$/ny zana.ny$_i$)]]

Thus, the behavior of participant nominalizations in Malagasy matches the behavior of relative clauses in better-studied languages like English, where a relative clause can contain an anaphor co-indexed with the head:

48.   [DP the [CP man [who t$_{man}$ saw [DP himself/his father]]

In fact, not only full relative clauses allow for binding of anaphors by their 'head' (in fact the trace of their 'head') but also any type of reduced relative clause (see discussion in Section 5.1.2) allows for such binding relations. This is true for participial clauses (example (49) from Jacobson 1993) or simple PP small clauses (example (50) from Hatakeyama 2002):

49. a.   The woman$_i$ [married to her$_i$ childhood sweetheart] left.
    b.   The woman$_i$ [marrying her$_i$ childhood sweetheart next month] left.
    c.   The woman$_i$ [still in love with her$_i$ childhood sweetheart] left.

50. a.   The woman$_i$ [in her$_i$ car] is my sister.
    b.   The boy$_i$ [on his$_i$ bike] is graduating soon.
    c.   The cat$_i$ [in its$_i$ bed] is mine.
    d.   The car$_i$ [in its$_i$ parking spot] is for sale.

This contrasts sharply with the behavior of common noun phrases. Notice for example the ungrammaticality of the following two examples from Malagasy and English:

51. a. * the [picture of [itself/its frame]] was taken yesterday.
    b. * ny sari.n'ny   tena.ny

377

D picture.LNK'D self.3GEN
'the picture of itself ...'

In general, the existence of anaphors within complements of common noun phrases that are coindexed with the head noun is ruled out. This is formulated in Chomsky's 'i-within-i' condition (Chomsky 1981:212):

52.   *[α...β ...], where α and β bear the same index.

Thus, the examples in (51) are ungrammatical because the anaphor is contained within its antecedent phrase. Consider now the following examples from English (from Jacobson 1993, 2004). There is dialectal variation in the grammaticality of these examples (for example it seems that they are slightly better in British English than in American English dialects) and I have to note that even for the speakers that accept them, their grammaticality improves by adding focus particles such as *own*:

53. a.?* The builder$_i$ of her$_i$ house left.
    b.?? The builder$_i$ of her$_i$ father's house left.
    c. ? The builder$_i$ of her$_i$ own house left.

In any case, the examples in (53) sound much better to speakers compared to the examples in (0):

54. a. * The wife$_i$ of her$_i$ /her$_i$ own childhood sweetheart left.

378

b. * The wife_i of her_i sister's childhood sweetheart left.
c. * The wife_i of the author of her_i biography left..

That is, the agentive nominalizations in (53) pattern more with relative clauses, as in (48) or the reduced relatives of (49)-(50), than with the common nouns of (51). This means that the agentive nominalizations of (53) must share (at least some) of the structure of relative clauses, and specifically the part of the structure that allows for an antecedent for the phrase-internal anaphors. The claim made here is that this part is the null generic NP in the specifier of the nominal CP. Dialectal variation may be related to how much structure is contained within the nominalization. We have already seen that one of the reasons that dialectal variation arises with nominalizations of different sorts is related to the attachment height of the nominalizer. Thus, in Section 3.3, we saw that there is dialectal variation with respect to whether speakers allow for subject-oriented adverbial modifiers with *Poss*-ing nominalizations in English:

55. % I was worried about John's probably being a spy.
    % Mary's certainly being pregnant worries me.

For the speakers that accept the structures in (55), the nominalization is large enough to contain the projection where sentential adverbs merge. For the rest of the speakers the nominalizer merges below that level and thus sentential adverbs are excluded. I believe that a similar account can be implemented here. Speakers that tolerate the examples in (53) allow a large enough structure to accommodate a 'quanticized' or referential null,

generic DP. That is, the antecedent of the DP-anaphor or the pronoun is also a DP. For the rest of the speakers the element in spec-CP is an NP and therefore cannot bind a DP anaphor. Thus, only NP-anaphors are allowed in the structure (examples from (28) repeated here as (56)):

56. a. self-promoter
    b. self-seeker
    c. self-admirer

A related issue has to do with formation of idioms. This can seen better with an agentive nominalization like *lover* which can either have compositional semantics (one who loves) or idiomatic meaning (a sexual partner). The application of 'i-within-i' effects can disambiguate the meaning:

57. a. ? The lover$_i$ of his$_i$ mother's art collection will get to inherit it.
    b. * The lover$_i$ of his$_i$ mother's hairdresser will get many wigs.

How is the contrast in (57) explained? I think that the direction that needs to be followed is that the nominalization of (57.a) contains a full *v*P, including an internal argument. In (57.b), on the other hand, a smaller structure (without an internal argument) is idiomatized (i.e. assigned a new, non-compositional interpretation). This is supported by the fact that the nominalization of (57.a) can form synthetic-compounds with its internal argument, while the form in (57.b) cannot. Thus, an *animal-lover* is 'a person who loves

380

animals' and not 'a person who has sexual relationships with animals'. Under this account, the structure of (57.b) is similar to those of (51). Dialectal variation then may be related to the fact that certain dialects have lost the compositional semantics of (some) participant nominalizations and reanalyze them as 'idioms', which enter different structural configurations. I leave the discussion of such idiosyncrasies for Section 5.5.2.

5.4 Typological Observations

The idea that participant nominalizations are somehow related to relative clauses is not new in the domain of typological and diachronic studies as well as theoretic investigations of participant nominals. Spruiell (1990; 1994) proposes that relative clauses in a number of languages serve as 'functional equivalents' of participant nominals, i.e. they perform the same role in languages that have no participant nominalizations per se. In early transformational grammar (Vendler 1968; McCawley 1988; and Bach 1968) the idea of a transformational relation between relative clauses and participant nominalizations was explored formally. In this section I explore this idea drawing from morphosyntactic parallelisms between relative clauses and participant nominals crosslinguistically.

Starting from Malagasy, I have shown in Chapter 4 that the language contains a very productive type of headless relative clauses that follow the morphosyntactic patterns of 'headed' relative clauses. I have argued that these clauses contain a null, generic NP and

381

justified the presence of this NP drawing from morphosyntactic and interpretive properties, binding facts and the observance of movement constraints. In this chapter I have argued that a similar structure can be implemented for participant nominalizations of the *f*-AT, *f*-CT, and *mp*-AT type. This means that the bracketed strings in the following structures have similar (but not identical) structures:

58. a. [ny [n.amp.i.anatra   azy]]   dia   Rabe
        D   ASP.CAUS.AT.study 3SG/ACC TOP Rabe
        'The (one that) taught him/her was Rabe.'

    b. [ny [mp.amp.i.anatra azy]]   dia   Rabe
        D   NML.CAUS.AT.study   3SG/ACC TOP Rabe
        'The (one that habitually) teaches him/her is Rabe.'

Any structural/interpretive differences between (58.a) and (58.b) are attributed to the size of structure contained within the relative clause. Thus, the relative clause of (58.b) is reduced in that it does not contain tense and is interpreted as habitual. Further reduction is possible with agentive nominals. Thus, in the following example the agentive nominal only contains the thematic domain and functional layers up to AspP[10]:

59. a. * ny   mp.an.ao   ny volo.n-dRabe
        D NML.AT.do D hair.LNK.Rabe
        '[Rabe's hair]dresser.'

---

[10] (59.a) is of course grammatical when the interpretation of the nominalized string is not that of a profession (e.g. 'hairdresser') but of a headless relative ('*the one that (habitually) washes Rabe's hair* – could be his wife and not a professional hairdresser).

382

    b. ny mpanao volo
        D NML.AT.do D hair.LNK.Rabe
        'the hairdresser.'

The reduction of structure in participant nominalizations has been linked to the productive use of reduced structures with relative clauses crosslinguistically: .

60. a. The [book that is on the table] was John's.
    b. The [book on the table] was John's.

In (60.a) the bracketed relative clause contains a tense projection that anchors the location of the book in time (i.e. simultaneous with the speaker's utterance). In (60.b) no such projection is available and the bracketed string is ambiguous (the book may or may not be on the table anymore).

The analysis presented here makes a number of specific predictions about what patterns are expected to be found cross-linguistically in terms of participant nominalizations. Let us consider the proposed structure again:

61.

DP
      CP
  e_{NP} [.... PredP]
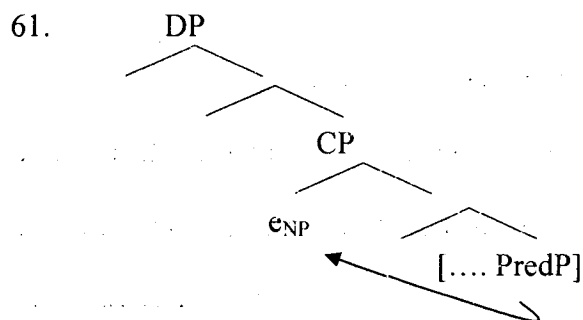
(61) presents participant nominals as derived by movement of a null generic NP from some predicate-internal position (or an adjunct position) to spec-CP. The exact structure below CP is left unspecified as different degrees of reduction will result in different structures with different morphosyntactic properties. Therefore, reduction is one aspect of the structure that may vary both crosslinguistically and intra-linguistically (as we have already seen). The second aspect that may be subject to crosslinguistic variation has to do with the overt realization of the moved generic NP and/or the nominalizer. Thus, in some languages the moved generic NP may be null, while in others it may be overtly realized via a specific morpheme that may or may not have a historical relation to a common noun phrase in the language that has similar semantic content. Finally, the last aspect related to cross-linguistic variation has to do with the use of special nominalizers/relativizers for the formation of participant relatives. Thus, while in some languages it is predicted that the C element that participates in the formation of relative clauses is the same as the C-element that derives participant nominalizations, in other languages two different functional elements may participate in the same structure – nothing in the analysis proposed here rules such a pattern out. The following table summarizes the predicted patterns and provides a (tentative) list of languages that seem to fall within specific groups:

384

62. Patterns of Participant Nominalizations[11]

	Full Structure		Reduced Structure	
	Overt C	Overt e_{NP}	Overt C	Overt e_{NP}
$C_{REL} = C_{NML}$	Chinese ?Qiang	?Lhasa Tibetan	Quechua	Yaqui Navajo Tsou
$C_{REL} \neq C_{NML}$	??	Lahu	Malagasy	English Greek German

This table is obviously only indicative of the patterns that are actually attested crosslinguistically. There are several gaps in the table that do not necessarily correspond to non-existent patterns but simply to the need for more typological research. As with most typologies that are based on written grammars and not actual fieldwork, there is a real problem with the fact that linguists working on specific language areas often adopt the terminology that is used historically for the languages in question. Thus, a particular gloss often turns out to be incorrect or only partially correct, a fact that very often biases the linguistic analysis as well. Abstracting away from these problems, however, the very existence of specific parallelisms between participant nominalizations and relative clauses adds significant support to the analysis presented here. I believe that the reason

---

[11] An additional column would include cases where both the relative NP and the relativizer/nominalizer are covert. This is the case of headless relatives in Malagasy where the determiner is followed by the finite predicate without an intervening overt NP or a relativizer.

385

for the lack of theoretical work oriented towards unifying the structure of relative clause with that of participant nominalizations is related to the fact that most theoretical work in the domain of nominalizations has concentrated on the languages of the last column/row in the table of (62). These are the languages in which participant nominalizations differ significantly from relative clauses. However, a look into different cells in the table shows that crosslinguistically the correlation is much stronger. In the following two sections I will provide some cross-linguistic data and discuss how differences between participant nominalizations and relative clauses can be derived from the size of the structures involved and how cross-linguistic variation can be derived from the form of the nominalizers/relativizers and the form of the 'head' in the formation of relative clauses.

5.4.1 Participant Nominals as Full or Reduced headless relatives

In a number of languages participant nominalizations are clearly headless relatives with no difference in terms of morphological marking (e.g. distinct morphological elements as relativizers and nominalizers) or any (obvious) reduction in terms of functional structure. Consider for example Mandarin Chinese. In Chinese prenominal relative clauses are formed by the nominalizer/relativizer *de* which follows the relative clause and precedes the head noun. A headless relative clause is formed by *de* but the head noun is null and retains a generic meaning (in the case of agentive nominalizations roughly translated as 'one; person' in English):

63. a. tā chǎo – fàn   CHINESE, MANDARIN
       he cooks rice   Comrie & Thompson
       'He cooks.'   (1985: 353)

   b. chǎo – fàn de   rén
      cook - rice REL   person
      'a/the person who cooks...'

   c. chǎo – fàn de
      cook - rice REL
      'one who cooks; a cook'

A headless relative in (63.c) forms an agentive nominalization, while the same string in (63.b) has a modifying function as a relative clause with an overt NP. As we have seen, the situation is similar in a number of Austronesian languages, including Malagasy, where headless relatives are formed by adding a case/definiteness marker to a clause that contains a verb, usually inflected for tense/aspect and voice:

64.   [ny [n.amp.i.anatra   azy]]   dia   Rabe
        D   ASP.CAUS.AT.study   3SG/ACC TOP   Rabe
        'The (one that) taught him/her was Rabe.'

Similar examples can be found in a number of other languages from different families (the (a) examples represent participant nominalizations assumed in the source papers to be lexicalized, while the (b) examples represent relative clauses assumed to be syntactic):

65. a. inepo   ye'e.**me**   YAQUI (UTO-AZTECAN)
      iSG/NM   dance.NML   Martinez & Langendoen
      'I am a dancer (*lit.* one who dances).'   (1996)

b. hu enchi   bicha.ka.me   siika
D 2SG/ACC see.PF.NML   leave./SG/PF
'The one who saw you left.'

66. a. shi.   b.ii. 'atin.   í   NAVAJO (ATHABASKAN)
        1SG/POSS 3.in something-is-frozen NML   Tuttle (2003)
        'my freezer'

    b. (*shi) b.ii. 'atin.   í
        1SG/POSS 3.in something-is-frozen NML
        'the (place) something is frozen in' (e.g. a place outside, in mountain snow)

More similar patterns are observed in numerous Austronesian languages (c.f. different papers in Zeitoun 2002), but also in languages as diverse as Quechua (Weber, 1989; Lefebvre & Muysken 1988), Diegueño (Langdon, 1970), and more prominently in Tibeto-Burman languages (Lhasa (deLancey, 1986); Lahu (Matisoff 1972; 1973); Burmese (Hopple 2003)). Consider the following examples from Lhasa Tibetan (deLancey 1986) and Lahu[12] (Matisoff 1972):

67. a. [stag gsod.mkhan]   LHASA TIBETAN
        tiger kill.NML   deLancey, 1986
        'tiger-killer'

    b. [stag gsod.mkhan] mi
        tiger kill.NML   person
        'The person who killed/kills/will kill the tiger.'

68. a. ša   bɔʔ   LAHU
        animal shoot   Matisoff 1972

---

[12] Matisoff's does not provide a morpheme-to-morpheme gloss for the Lahu examples.

b. ša bɔʔ pā
   'hunter (lit. *one who shoots animals*)'

c. qhɔ.qhô.lɔ.qho mâ tâʔ e gâ
   '(they) don't want to climb up into the hills'

d. [qhɔ.qhô.lɔ.qho mâ tâʔ e gâ **pā**] qòʔ e phɛ̀ʔ ve yo
   'the ones that don't want to climb up into the hills may go home[13]'

In both examples the (nominalized) relative clause is unspecified for tense. In the Lhasa example of (67.b) the bracketed string is interpreted as an agentive nominal, while in (67.a) it functions as a relative clause. This pattern is widespread in Tibeto-Burman languages and is facilitated by the fact that nominalizers/relativizers like *–mkhan* in Lhasa Thibetan are specified for a number of features that make clear the interpretation of the null head noun. Thus, *-mkhan* is always interpreted as agentive while *=yag* is interpreted as the Theme of the verb in the relative. Similarly, in Lahu, the relativizer/nominalizer *pā* is interpreted as agentive while for locative and purposive relatives/nominals the nominalizers *kɨ* and *tù* are inserted respectively.

In some languages the morphosyntactic unit that realizes a generic NP in the specifier of the relative CP or the relativizer itself maintains some connection to a full NP in the language, which corresponds to that generic meaning. In Qiang (Tibeto-Burman; LaPolla

---

[13] Matisoff (1972) translates this as *the not-wanting-to-climb-up-into-the-hill-ers*.

& Huang 2003) for example, the noun *mi/* 'person; man' has been reduced to the suffix -

m which is used productively to form agentive nominalizations (69) and relative clauses

with animate referents (70):

69. a. *ʁua*   'help'   →   *ʁuam*   'servant'   QIANG
    b. *tɕiʁua* 'house' *le* 'be' → *tɕiʁualem* 'occupant' LaPolla & Huang
    c. *ma*   'not'   *qə* 'have'→ *maqəm*   'pauper'   (2003: 44)

70. a. qa.fia.ʁdʑe.m   khuə
      1SG.DIR.bite.NML dog
      'The dog which bit me...'

    b. qa.panə.dele.m   mi
      1SG.thing.give.NML person
      'the person who gave me something...'

    c. qa.wu.panə.dele.m   mi
      1SG.AG.thing.give.NML person
      'the person to whom I gave something...'

In the latter use the suffix can appear with headless relative clauses, as in (71):

71. a. wutɕupu die.ʂe.m
      husband DIR.die.NML
      'one whose husband had died...'

    b. qá   the:.tɕ ləɣz de.le.m   le:
      1SG 3SG.GEN book DIR.give.NOM DEF/CL
      'the one to whom I gave a book...'

390

Notice that in (71.b) the headless relative is formed by a definite determiner selecting for the relative CP with a null generic nominal interpreted as 'one'. Furthermore, a resumptive pronoun in the relative marks the position where the generic noun is interpreted. LaPolla & Huang (2003) assume that the pronoun is necessary in order to carry the genitive marker that marks the null 'head' with the benefactive relationship. The interesting fact is that the grammaticalization of the NP *mi* into the complementizer/nominalizer –*m* has made it possible to have both the head C^0 and the specifier of the relative clause filled by the same item as in (70-b-70).c). This means that *m*- is not a morpheme interpreted as the null generic noun 'person', but rather the complementizer, unless we assume some sort of 'doubling', like clitic doubling in Romance languages. This will become relevant in the following section where I will discuss briefly the categorial status of different nominalizers/relativizers crosslinguistically.

We have seen that participant nominalizations crosslinguistically are very often headless relative clauses without the addition of any additional nominalizing morphology or obvious reduction compared to headed relative clauses in the languages under discussion. What is interesting about Malagasy is that even reduced headless relatives (i.e. participant nominals formed with *f*- and *mp*-) can retain the relative clause function in most cases, as the following examples illustrate:

391

72. a. ilay olona mp.i.vavaka
       DEM people NML.AT.prayer
       'those church-goers' (lit. 'people who pray')

    b. tsy tia.ko   ny fomba f.an.draho.n-dRasoa sakafo
       NEG like.1SG/GEN D way   NML.AT.cook.CT/LNK-Rasoa food
       'I don't like the way Rasoa cooks food.'

In (72.a) the agentive nominal *mpivavaka/* 'one who prays; church-goer' appears to have a relative clause/modifying function for the overt NP *olona/* 'person'. Similarly, the manner *f*-CT nominalization *fandrahoana/* 'way of cooking' in (72.b) appears with the overt NP *fomba/* 'way; manner' indicating that the participant nominalization is in fact the headless version of the 'headed' example in (72.b).

5.4.2 Returning to Attachment Height

As we have seen, in a number of languages the same morphosyntactic unit is used to form relative clauses and participant nominalizations. Given this overlap, one would expect that both an empirical generalization and possibly analytical insight could be gained. However, in most cases, the overlap has been termed 'accidental' and no attempt has been made to my knowledge to explain the fact. I will discuss here two clear cases of such an overlap and show how the analysis presented in Chapter 3 for Malagasy can capture regularities in other languages from different language families. It is clear that a typological study is missing in this area and that data from a wide variety of languages is needed to test the proposal presented here. Furthermore, as already mentioned, specific

terminological choices that are adopted in the grammars of the languages examined, make it difficult to tease apart the data and see what the exact properties of the morphosyntactic units involved are. However, the two cases that I discuss present a possible direction that a theoretical explanation of the empirical facts can follow.

In Quechua the suffix –*q* is used to relativize the agent of the clause and to form an agentive nominalization (Lefebvre & Muysken 1988):

73. a.   [runa hamu.sha.q]   nana.y.pa   wasi.n.ta   ri.n   QUECHUA
       man   come.PR.NML   sister.1.GEN   house.3.ACC   go.3   Lefebvre & Muysken
       'The man who is coming goes to my sister's house.'   (1988: 168)

     b.   papa suwa.q   Lefebvre & Muysken
       potato rob.NML   (1988: 67)
       potato thief

According to Lefebvre & Muysken (1988: 65), this correspondence is possibly accidental but they acknowledge the fact that all nominalizers play a role in both inflectional and derivational morphology. Abstracting away from exceptions, the four nominalizers in Quechua participate in the formation of nominals and sentential strings that are interpreted as follows:

74.

Nominalizer	Derived Nominal	Clausal Nominalizaton
-y	action noun	infinitive
-na-	instrument, potential realization noun	unrealized action
-sqa-	resultative adjective	realized action
-q	Agentive noun	agentive (e.g. relative clause)

Let us concentrate in the last case of agentive nominals and agentive relative clauses keeping in mind that the discussion can be easily extended to cover the rest of the cases. Lefebvre & Muysken (1988: 65-67) provide a number of differences in the morphosyntactic properties of the two constructions (relative clauses and participant nominalizations) to support their claim that the similarity in their morphological properties is the result of a process of reanalysis "in which the marked feature of inflectional nominalizations is lost". By this they mean that while in clausal strings there is a categorial switch from the head to the projection (i.e. verbal head – nominal projection), in the lexical nominalizations this process has been lost and the head is itself nominal ([+N, -V]). They formally represent this process as follows:

75. $[+N, -V]$ "

$[+N, -V]$ INFL   → $[+N, -V]$ INFL

$[+N, +V]$ ± Tns   ± AGR $[+N, -V]$ ± AGR
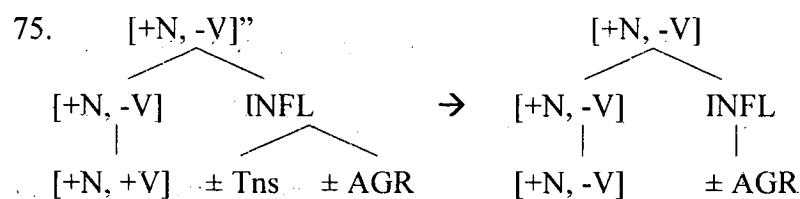
The most important part of the assumption is that the categorial status of the head changes from nominalized verb ([+N, +V]) to noun [+N, -V] with a direct consequence

394

that affixes involved in the nominalization are semantically redefined, plural is coded with exclusively nominal inflection, and participants are grammatically encoded as nominal (i.e. there is no agent in lexical nominals, only a possessor). Furthermore, since no tense projection is present no PRO can be licensed in lexical nominals, while loss of the [+V] feature results to the inability of lexical nominals to assign accusative case.

The problem with this approach is that two identical forms are assigned different lexical content because they have different syntactic properties. Thus, the form *suwaq*, formed by attaching the agentive nominalizer/relativizer *-q* to the verb *suwa/*'rob' can mean either 'one who robs' or 'thief', its interpretation decided by the categorial status of the head *suwa* before it enters the derivation (in the first case [+N, +V] and in the second [+N, -V], and not by the syntactic content. But, it is the syntactic content that ultimately determines the properties of the form. Let us consider Lefebvre & Muysken's (1988) arguments for treating the two forms as distinct.

The first argument comes from the fact that only relative clauses can take DP arguments while participant nominalizations can only appear as synthetic compounds (Compare the nominalization of (73.b) to the headless relative of (76):

76.   papa.yki   suwa.q
        potato.2   rob.NML
        'the (one who) robs your potatoes'

Lefebvre & Muysken (1988) argue that objective case is assigned only by [+V] elements and thus in the context of a [-V] element such as a lexicalized nominal no objective case can be assigned. But as we have seen accusative case is assigned in its own projection above the VP. If this projection (AspP) is not available in the structure then we would expect no accusative case in these nominals. Assuming that $-q$ behaves like f- in Malagasy, in that it can attach at different levels in the derivation then the properties of participant (lexical) nominals follows straightforwardly. The structure in (73.b) is simply not large enough to accommodate a case-marked DP argument. Lefebvre & Muysken's argument has to do only with accusative case marking and it does not explain why for example a DP cannot appear with these nominals. In the framework adopted here this property also follows straightforwardly as AspP is the projection where internal arguments check definiteness features. Lack of AspP explains why the only chance for an internal argument to be realized overtly is in a synthetic compound formation (see discussion in Section 3.1.1.1.2)

Similarly, nominalizations like the one in (73.b) license possessors while the ones in (76) force an agentive reading:

77.   suwa.q.ni.y

396

rob.NML.EUPH[14].1
'my thief ('*the one who robbed me')

There is nothing in the string of (77) that excludes the translation in the parenthesis and in fact Lefebvre & Muysken (1988: 66) indicate that (some) of the relative clause translations that they provide are correct but refer to the inflectional nominalizations rather than the derivational ones. In the framework assumed here the distinction between inflectional and derivational processes is not a valid one as all processes are assumed to be syntactic in nature. Clearly, it is not the case that choice of the nominalizer/relativizer has an effect on the morphosyntactic properties of the strings involved. In addition, stipulating that the base verb has different categorial status in the two strings seems to miss an obvious generalization. The pattern of agent/possessor licensing parallels that of Malagasy *f*-CT instrumental nominals discussed in section 2.1.3, which involves the following pair of examples:

78. a. **ny   f.an.doah.an-drindrin-dRabe**   dia ny   fantsika
        D   NML.AT.drill.CT/LNK-wall.LNK-Rabe   TOP D   nail
        'Rabe's (instrument for) drilling walls is a nail.'

    b.* n.an.dritry ny adiny telo **ny f.an.doah.an-dridrin-dRabe**
        PST.AT.last D   hour three D NML.PFX.drill.CT/LNK-wall. LNK-Rabe
        'Rabe's drilling wall(s) lasted for three hours'

---

[14] Euphonic element inserted between two consonants at a morpheme boundary.

397

As claimed in Chapter 2, the structure in (78.a) involves a possessor, which is licensed within the nominal domain, in a small clause structure headed by a null preposition. In the structure in (78.b) on the other hand, the projection where the agent is licensed is available within the nominalization and thus the interpretation of the linked DP is that of an agent and not of a possessor. A similar argument can be constructed for the Quechua data.

A final argument comes from the distribution of the plural markers *–ku*, which is ordinarily used with clausal nominalizations, and *–kuna*, which is used with common noun phrases and 'lexical' nominalizations. Some examples are provided in (80):

79. a. wasi.kuna
        house.PL
        'houses'

80. a. pukla.na.n.ku
        play.NML.3.PL
        'their going to play'

    b. pukla.na.n.kuna
        play.NML.3.PL
        'his toys'

81. a. suwa.q.ku
        rob.NML.PL
        'ones who used to rob'

    b. suwa.q.kuna
        rob.NML.PL
        'thieves'

398

From the glosses of (81.a-81.b) it is not immediately clear what the distribution of the markers is. According to Lefebvre & Muysken (1988) –*kuna* marks nouns (i.e. common noun phrases and lexical nominals, as well as some pronominal forms), while –*ku* marks verbal pronominal arguments (plural agreement on the verb). However, in some of the examples that Lefebvre & Muysken (1988) provide –*kuna* seems to appear with clausal strings:

82. a.   maqa.q.ni-yki-chis-kuna
          beat.NML.EUPH.2.2PL.PL
          'ones who beat you(pl.)'

    b.   [suwa.q.   ni.   yki.chis. kuna.ta]   hap'i.nki.chis
         rob.   NML.EUPH.2.   2PL.   PL.   AC   catch.2.   2PL
         'You (pl.) will catch (the ones) who stole from you.'

If Lefebvre & Muysken (1988) are correct and lexical nominals cannot appear containing overt arguments (except in synthetic compounds) then the appearance of pronominal arguments in (82.a-82.b) means that the strings are not lexical nominalizations but clausal strings. But if this is true how do we explain the presence of the plural marker –*kuna* as we have seen that arguments of clausal strings are marked with –*ka*? Thus the argument that –*kuna* marks lexical nominals is not valid. In the approach adopted here participant nominalizations and headless relatives have similar structures and thus the presence of -

399

kuna is expected in both (81.b) and (-82.b). In both cases –*kuna* marks the plurality of the null generic noun that occupies the specifier of the relative CP:

Summarizing, there is nothing in the syntactic behavior of headless relatives and participant nominalizations that cannot be derived directly from the syntactic structures involved in the formation of the two, without refuge to stipulations about the categorial status of the base elements, which are not supported by independent evidence and are theoretically shaky.

The second case that I would like to discuss comes again from Austronesian and involves a number of Formosan languages. In a collection of papers on nominalizations in Formosan (Zeitoun 2002) a few papers address the issue of nominalization versus relativization and put forward the claim that the two are syntactically distinct. The case is put forward more strongly in the papers on Tsou (Chang 2002) and Kavalan (Chang & Lee 2002; see also Hsieh & Chen 2006). In Tsou low 'lexical' nominalizations are formed without any additional morphology. A number of clearly syntactic nominalizations are formed with the particle *hia* (which has semantic content meaning 'degree; manner'). The nominalization process resembles *f*-nominalizations in Malagasy in that the particle *hia* seems to replace tense/mood morphology on the preverbal auxiliary, while the rest of verbal functional morphology remains the same. Thus, voice morphology, adverbial modification, accusative case marking of internal arguments and

400

aspect and agreement morphology on the auxiliary remain intact. Compare the clause of

(83.a) to the *hia*-nominalization of (83.b):

83. a. m.i.ta   cocv.o   to   yangui 'e   pasuya   TSOU
        AT.REAL.3S$_A$ laugh.AT   OBL   Yangui NOM   Pasuya   Chang (2002:339)
        'Pasuya laughs at Yangui.'

    b. m.o   aumtu umnu   'o   (*m.i.ta)   hia(.ta) cocv.o   to   yangui
        AR.REAL real(AT) good(AT) NOM AT.REAL.3S$_A$ NML.3S$_A$ laugh.AT OBL   Yangui
        ta pasuya
        GEN Pasuya
        'The manner of Pasuya's laughing at Yangui is really good.'
        'Pasuya's laughing at Yangui is really good.'

As seen in (83.b), the tense marker is not possible but the agreement suffix can

(optionally) appear after the nominalizing particle *hia*. The rest of the clause remains

intact with the only difference being that the trigger is realized with genitive case and not

with nominative as in the clause of (83.a). I will assume then that the structure is similar

to that of Malagasy *f-*CT manner nominals (Section 3.1.2) where the actor is realized as a

linked argument (i.e. genitive case) while internal arguments appear with accusative case,

adverbial modification is possible, and the tense morphology is missing.

Chang (2002) provides also a type of manner relative clause which is formed by *hia* but

retains all the clausal properties:

401

84. m.o   aumtu umnu 'o (m.i.ta)   hia   cocv.o 'e pasuya
    AR.REAL real(AT) good(AT) NOM AT.REAL.3S$_A$ NML.3S$_A$ laugh.AT NOM Pasuya
    'The manner of Pasuya's laughing is really good.'

As can be seen in (84), the relative clause retains the tense/mood prefix *m-* (optionally) and the trigger is marked with nominative case. Chang provides further examples showing that the particle *hia* in (84) occupies the same position in terms of word order as modifying adverbs and infers that *hia* in (84) is the head of an internally headed relative clause translated as 'the manner of Ving' while in (83.b) *hia* is a nominalizer. However, it is not clear from the gloss that *hia* is only a nominalizer in (83.b). There are two interpretations possible, a manner nominalization and a gerundive one that seems to be a factive nominalization. It may be the case that *hia* has been reanalyzed as a nominalizer for the second interpretation, but the first interpretation seems like a reduced version of the relative clause in (84). The two clauses are identical apart from the fact that in (83.b) tense morphology is not available and the trigger appears in genitive case. This resembles the parallelism between Malagasy *f*-CT manner nominals and manner headless relative clauses. The two have identical structure except that in *f*-CT nominals the nominalizer replaces tense morphology and the actor appears linked to the predicate (traditionally genitive/possessive case). The difference between Malagasy and Tsou is that in Malagasy the nominalizer/relativizer is overt (the prefix *f-*) while in Tsou the nominalizer is null and the generic NP in the specifier of the relative CP is the particle *hia* interpreted as 'manner'.

402

The choice of having either the generic noun in spec-CP or the nominalizer/relativizer overt seems to be a valid universal generalization. In the formation of most participant nominalizations either one or the other are overt but there are no cases, to my knowledge, of both being overt. This generalization by itself provides support for the claim that participant nominalizations are a type of relative clauses. This is because of the well-known 'Doubly-Filled Comp Filter' (Chomsky & Lasnik 1977), which filters out relative clauses where a specifier and the head of CP are both filled:

85. a. * the person who that John met
    b. * the thing which that Mary borrowed

Koopman (1996) generalizes the doubly-filled filter to all projections and derives it from the linear correspondence axiom (Kayne 1994). If this is on the right track then the unavailability of both filled specifier and head in a participant nominalization is explained as a case of application of the doubly-filled comp filter.

5.4.3 On the nature of nominalizers/relativizers

The crosslinguistic cases discussed so far are divided into several groups depending on how the relative clause/participant nominalization is formed. In languages like Chinese and Qiang the nominalizer/relativizer is unique and the referent of the nominalization/ headless relative is either ambiguous or identified by other morphosyntactic means. Thus,

403

in Malagasy where the nominalizer *f-* is prefixed to form nominals of different types, the referent of the nominalization is identified by the voice morphology on the verb. In Qiang where the [+ANIMATE] suffixed relativizer can be interpreted as either the agent or the theme, an agentive marker is inserted in the latter case to disambiguate the structure (see example in (70.c).

In some of these languages participant nominalizations and headless relative clauses are identical morphologically (c.f. examples (63.b-63..c) from Chinese Mandarin) and the only difference seems to be that participant nominalizations are 'headless', i.e. the 'head' NP is null and has a generic meaning. We can schematically represent these languages as follows:

86.

```
            DP
          /    \
            CP
          /    \
      NP/i    /    \
           C      XP
                 /   \
               t/i   {F/i}
```
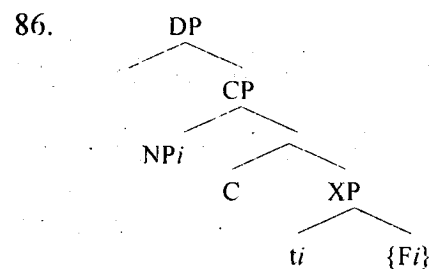
In (86) the generic NP in spec-CP moves from some projection inside the relative clause having triggered some sort of agreement relation that identifies the position of origin. This relation is either morphologically expressed (e.g. voice morphology in Malagasy, insertion of agentive particle in Qiang) or is identified by word order (Chinese).

404

In the same group are languages that build relative clauses and nominalizations with the same morphosyntactic means but which distinguish different verbal arguments as referents by using different nominalizers/ relativizers. Languages such as Quechua and most Tibeto-Burman languages belong in this group, as well as Formosan languages like Tsou. As we have seen, for example, in Lhasa Thibetan -*mkhan* is always interpreted as agentive while =*yag* is interpreted as the theme of the verb. Similarly, in Lahu, the relativizer/nominalizer pā is interpreted as agentive while for locative and purposive relatives/nominals the nominalizers kɨ and tù are inserted respectively. In Quechua when the subject is relativized the suffixed relativizer –*q* is used. In all other cases the relativizer –*sqa-* is used followed by a person marker when the action denoted by the verb is realized and –*na-* (followed by a person marker) when the action is not realized.

There are different directions to pursue here. One possible assumption is that in many cases the form of the relativizer is determined by the featural content of the relativized generic NP. This can be roughly represented as follows:

87.

```
            DP
           /  \
             CP
            /  \
      NPi      /  \
      [+F]   C      XP
           [+F]    /  \
             ti
```
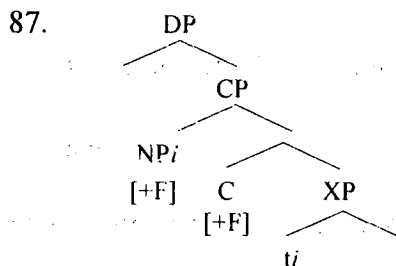
The structure in (87) indicates that features of the generic NP are copied onto the complementizer under spec-head agreement. Thus the complementizer encodes features of the relative NP, for example [+ANIMATE] or [+HUMAN], and so on. However, no such strategy would work for a relativizer that reflects the thematic role/structural position of the relative generic NP, unless we assume that thematic roles are expressed as features related to specific structural positions. If this were the case one would expect to possibly find a morpheme that expresses a pure thematic head (with a unique theta role). However, this type of atom seems to be unavailable – thematic roles are related to particular syntactic configurations – and therefore such a direction does not seem to be empirically supported. We have to assume therefore, that what is encoded with specific relativizers/nominalizers is not a thematic role but rather a structural position (i.e. external argument, internal argument and so on). In this respect the morphosyntactic relation of a relativizer to a specific structural position resembles the well-known phenomenon of *wh*-agreement. *Wh*-agreement designates the use of agreement to mark the domain of extraction in an A'-chain. There is evidence for such agreement on complementizers (for example Irish, McCloskey 1979.) and on verbs (Chamorro, Chung 1998; c.f. also Pearson 2001; 2005 for Malagasy).

Finally, for complementizers that encode aspectual restrictions we can assume that the aspectual head acts as a relativizer (c.f. Quechua). There are a number of other languages where the relativizer encodes some feature of the verbal functional domain. These

include cases where a specialized relativizer/nominalizer replaces agreement morphology as in Hopi (Grune 1995), or tense as in Greenlandic (Fortescue 1984) or Tamil (Kothandaraman 1984). This turns the relative into a participial relative i.e. a reduced structure.

A different direction that seems to be valid for some of the structures examined here is to assume that the morphosyntactic atom that appears in some headless relatives/participant nominalizations is not a C^0 but rather encodes the features of the generic NP itself. This would be for example the case with Tsou where the element that appears in both manner participant nominalizations and manner relative clauses is *hia* which is roughly translated as 'manner; degree' in English. In these cases I assume that the complementizer is null and represent them with the following configuration:

88.

```
           DP
          /   \
             CP
           /    \
        NPi     /  \
              C     XP
                   /  \
                 ti
```
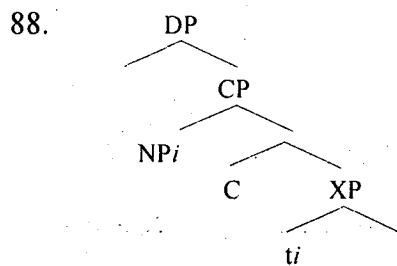
The only difference between relative clauses and participant nominalizations in these types of languages has to do with the size of the involved structures, Thus, relative clauses contain the full or near-full range of functional projections while participant

407

nominalizations contain less material and are missing at least the tense projection (c.f. examples (83-84) from Tsou).

In all the cases examined above relative clauses and participant nominalizations pattern with respect to the morphology used in their derivation and differ minimally in syntactic structure and more precisely on the number of available projections, participant nominalizations being reduced headless relative clauses. However, the analysis presented here does not preclude cases of languages where participant nominalizations differ not only structurally but also morphologically from relative clauses. These would be languages where participant nominalizations use different morphology in their derivation and possibly have lost their more general function of nominal modifiers, i.e. they cannot appear with an overt 'head' noun. One of the Tibeto-Burman languages discussed in the introduction of this section, Lahu (Matissof 1973), uses two different relativizers to form agentive relative clauses and agentive nominalizations:

89. a. i-si   sa   pa   LAHU
         fruit pick AG   Matissof (1973: 454)
         'the one(s) who pick fruit'

    b. * i-si sa   pa   ya.ne
         fruit pick AG   young.men
         'the young men who pick fruit'

    c.   i-si sa   ve   ya.ne
         fruit pick REL   young.men
         'the young men who pick fruit'

408

As seen in (89.a-89.c), the nominalizer/relativizer that is used in the formation of participant nominalizations/headless relatives is not possible in the formation of prenominal headed relative clauses. A different relativizer must be used. Judging from the data and description in Mattisof (1973), it is not clear whether the headless relative is reduced in some way, or what its possible interpretations are (e.g. tenseless, habitual, and so on). I leave this for future research.

Obviously, the cases where relative clauses and participant nominalizations depart completely involve most better studied languages where participant nominalizations have their own unique 'derivational' morphology while relative clauses are formed with the use of language specific complementizers/relativizers. Such a case is English where a participant nominalization cannot appear as a nominal modifier functioning as a relative clause[15]:

---

[15] It seems that some examples, especially with predominately generic nouns as 'heads', can be constructed. The following examples are drawn from a Google search but I am sure that numerous similar examples are available:
    i. See when people are free and stop by on your own, not with your friendly **introducer person**.
    ii. **House cleaner person** needed once a month.
    iii. I have a couple of **helper-people** who aren't on my contract.
    iv. 10 **Killer Ways** To Make People Click.

The emergence of such cases may suggest a reinterpretation of –er as a complementizer rather than the generic NP. In other words, *cleaner* in (ii) is interpreted as 'who cleans' rather than 'one who cleans', and thus a separate generic NP can be introduced as the external argument and move to spec-CP to form the relative clause/participant nominalization. This brings to mind the case of Qiang (Tibeto-Burman;

90. a. the fruit-picker
    b. *the fruit-picker man (in the restrictive sense, c.f. the fruit-picking man)
    c. the man that picks fruit

The ungrammaticality of 90.b is predicted under the analysis proposed here because the agentive NP –er and the NP *man* compete for the same syntactic position – i.e. the specifier of the relative CP. In addition, *man* and –er have to merge in spec-VoiceP, as they both realize the external argument of the verb.

Summarizing, in some languages some sort of agreement (either on the nominalizer/relativizer as in Quechua, or on the verb as in Malagasy) facilitates the interpretation of the nominalization. Thus, agentive nominalizations use exclusively the nominalizer –q in Quechua and AT voice morphology *man-/mi-*, in Malagasy. On the other hand, the generic 'head' may actually be overt in which case identification is facilitated by the shape/morphological form of the head or its agreement effects on the actual complementizer. Thus in Lahu –pa is identified as the agent of the relative clause while in English the same is true for –er.

LaPolla & Huang 2003), (c.f. examples (69-71), where the NP mi /'person' becomes a suffixal relativizer –m, and can subsequently be doubled by an additional NP:

    v.   qa.panə.dele.m   mi
    vi. 1SG.thing.give.REL person
    vii. 'the person who gave me something…'

5.5 Idiosyncrasies and the Division of Labor between Lexicon and Syntax

Given the fully syntactic analysis of nominalizations proposed here, there are a number of issues that need to be addressed, most notably whether there are any properties of nominalizations that cannot be understood as effects of independently applying principles that form an integrated part of the syntactic component. If this is the case one would have to assume that additional mechanisms that belong to a separate component need to be adopted. The dichotomy between 'lexical' and 'syntactic' domains for certain operations has been implemented even in frameworks that assume syntactic operations in the sub-lexical level (c.f. Hale and Keyser 1993). Hale & Keyser (1993) propose that processes such as denominal verbalization are subject to syntactic operations, which however take place in the lexicon. They call this l(exical)-syntax as opposed to s(yntactic)-syntax which operates in the computational system. Travis (2000) extends this proposal to the syntax of causative structures in Malagasy and Tagalog. Her research is focused on the exact point of division between l-syntax and s-syntax in the syntactic structure and she proposes that this point is located in a type of 'binding' category, which she calls EventP and which is located between VP (= [vp[AspP[VP]]]) and TP. EventP has scope over the entire event denoted by the verb, interacting with the actuality of the event and often giving realis/irrealis distinctions. Given that lexical entries cannot introduce more than one CAUSEs and since EventP binds the higher VP that introduces the external

411

argument/causer it follows that EventP marks the boundary of the lexical entry. Evidence for this comes from the fact that causative verbs formed below EventP present all the characteristics of a "lexical " derivation, including category-changing, and semantic, phonological, and lexical idiosyncrasies. On the other hand, causatives that are derived above EventP are 'syntactic' in that they exhibit none of the above idiosyncrasies. The interesting assumption is that Travis locates the Malagasy nominalizer *f-* at EventP and consequently predicts that *f-*nominalizations in Malagasy are lexical and not syntactic. The prediction is that *f-*nominalizations should exhibit the cluster of properties associated with l-syntax: category-changing, non-productivity, phonological idiosyncrasies, and meaning shift (non-compositional semantics). Although Travis (2000) does not discuss *f-* nominalizations, the predictions that her approach makes are extended to the domain of nominalizations in Paul (1996a).

The idiosyncrasies that Paul (1996a) attributes to *f-*nominals include:

- idiosyncratic meaning: for example, *f-* prefixed to the AT form of the verb can derive instrumental, manner, and very rarely agentive nominals while *f-* attaching to the CT form of the verb derives action, manner, and locative nominals
- limited productivity: *f-*AT instrumentals have limited productivity (around 30-40 forms), others like *f-*AT agentives are not productive at all (a couple of forms attested in the language). Other forms are unattested (for example *f-* prefixed to TT forms derived by attaching *-ina* to a root)

The issue of productivity has been addressed in the previous section so I will concentrate here on the issue of semantic idiosyncrasy. As we have already seen (Chapter 3) Malagasy is not one of the best languages to explore semantic idiosyncrasies since the morphology involved is quite transparent and the interpretation of the derived words is compositional. However, it is true that identical (in the surface) nominalizations (e.g. *f*-CT nominals) may be interpreted as action/abstract nominals but also as instrumental, manner, or locative nominals, depending on the context (see section 3.1.2):

91. a. n.an.ditry   ny adiny telo **[ny f.an.doah.an-dRabe   ridrina]**
         PST.AT.last D hour three D NML.AT.drill.CT/LNK-Rabe   wall
         'Rabe's drilling wall(s) lasted for three hours'

    b.   **[ny f.an.doah.an-dRabe   ridrina]** dia ny   fantsika
         D NML.AT.drill.CT/LNK-Rabe wall   TOP D   nail
         'Rabe's (instrument for) drilling walls is a nail.'

92. a. n.an.ditry ny adiny telo **[ny f.i.amben.an'   ny miaramila ny fahavalo]**
         PST.AT.last D hour three DNML.AT.watch.CT/LNK' D soldier   D enemy
         'The soldiers' watching of the enemy lasted for three hours'

    b.   **[ny f.i.amben.an'   ny miaramila]** dia ny.   vahavady
         D NML.AT.watch.CT/LNK'   D soldier   TOP D   gate
         'The soldiers' (place for) watching is the gate.'

However, as we have seen here, this is not a valid argument as the shape of the resulting nominalization does not reflect its syntactic structure. Thus an instrumental *f*-CT nominal is formed by moving a null generic noun (interpreted as [INSTRUMENT]) from the

413

specifier of InstrP or ApplP to the specifier of the nominal CP, while a manner nominalization is formed by moving a null generic NP, interpreted as [MANNER], from MannerP (the projection above VoiceP where manner adverbials attach).

A more valid case for semantic idiosyncrasy is made for a few cases of *f-* nominals in Keenan & Ralalaoherivony (2000:83) where an idiomatic *f*-CT nominal appears with a linked element following the incorporated internal argument (which in Chapter 2 was shown to indicate that the linked argument is a possessor and not an internal agent):

93. a. m.am.indra   fo   ami.nao   Rabe
        ASP.AT.move   heart to.2SG/GEN Rabe
        'Rabe takes pity on you.'

    b. am.indra.ny   fo   ianao
        AT.move.CT/3GEN   heart 2SG/NOM
        'He pities you.'

    c. ny f am.indra.m.po.n-dRabe   ami.nao
        D NML.AT.move.CT. heart.LNK-Rabe   to.2SG/GEN
        'Rabe's compassion towards you...'

As seen in (93.c) the *f*-CT nominalization appears with the internal argument of the verb (*po/* 'heart) incorporated to the verb, while the internal agent is linked outside the incorporated theme. This seems to indicate that the linked element is structurally not in the agent position but in the possessor position (c.f. Section 2.1.3), an unexpected

414

configuration, given that action *f*-CT nominals never allow for the theme to appear between the predicate and the linked actor (c.f. Section 3.1.1.2):

94. a. * n.an.dritry ny adiny telo **ny f.an.doah.an-dridrin-dRabe**
     PST.AT.last D hour three D NML.PFX.drill.CT/LNK-wall. LNK-Rabe
     'Rabe's drilling wall(s) lasted for three hours'

In addition, the interpretation of the nominalization is somewhat idiomatic, given the less idiomatic meaning of the CT form of the verb on which it is built (93.b). This seems to be some sort of 'idiomaticization', a semantic process involving the loss of semantic transparency and thus directly related to the semantic non-compositionality observed in such forms. Such an approach would unify cases of special meanings of words and the special meanings of phrases (Jackendoff 1996; Marantz 1997b). The process of idiomaticazation involves assigning idiosyncratic meaning to an already established syntactic structure. We have already examined an example in Section 5.3.2, when discussing i-within-i effects in English nominalizations. One of the examples used involved the English agentive nominalization *lover*, which in an example such as 'lover of fine art' retains its compositional meaning. This is supported by the fact that in certain dialects it escapes 'i-within-i' effects (example (57) repeated here as (95):

95. a. ? The lover$_i$ of his$_i$ mother's art collection will get to inherit it.

   b. * The lover$_i$ of his$_i$ mother's hairdresser will get many wigs.

415

The second, 'idiomatic' sense of *lover*, is probably idiom-formation on a relative clause that is stripped of the internal argument (or has a null internal argument). The string that follows the nominal is then a possessor and this explains the strong i-within-i effect: the nominal has the distribution of a common noun phrase.

A final argument for treating morphological processes as 'lexical' has to do with the application for certain phonological rules. Travis (2000), discussing Malagasy causatives, treats *an-* prefixed causatives as lexical and *amp-* prefixed causatives as syntactic. The operations involved in the formation of the two types of causatives are assumed to be syntactic in nature, but the former are treated as operating in l-syntax (below the lexical level) and the latter in s-syntax (above the lexical level). Travis (2000:174-175) shows that certain phonological processes are lexical (e.g. fusion), while others are post-lexical (prenasalization). Let us consider her data from Malagasy:

96. Lexical Rule (fusion)
   a. $[n] + [p] \rightarrow m$ man + petraka $\rightarrow$ mametraka   '*to put*'
   b. $[n] + [s] \rightarrow n$ man + sitrika $\rightarrow$ manitrika   '*to hide*'

   Post-lexical rule (pre-nasalization)
   c. $[n] + [p] \rightarrow {}^{m}p$ pentson + RED $\rightarrow$ pentso ^{m}pentsona   'N. *chatter*'
   d. $[n] + [s] \rightarrow {}^{n}ts$ m+an + sampon + RED $\rightarrow$ manampo ^{n}tsampona 'V. *to stop*'

As seen in (96), the same environment seems to trigger different outputs, depending on whether the rule applies at the l-syntax or s-syntax level. Thus voiceless obstruents delete

after a nasal when the AT affix attaches to the verb root (96.a-96.b) but they do not when a base is reduplicated (96.c-96.d). The situation however is slightly more complicated than the examples indicate. One difference between the processes in (96.a-96.b) and (96.c-96.d) is that in the second case we have an underlying [n] which assimilates to the following labial consonant or triggers mutation of the initial consonant of the base. In (96.a-96.b) on the other hand Paul (1996b) has argued that there is no underlying [n] but rather an unspecified segment with the feature [+NASAL] which triggers the observed phonological processes. Beyond historical considerations, Paul provides support for her analysis from the distribution of the locative prefix an-. Even though the AT prefix aN- and the locative prefix an- seem identical in surface order, the latter does not trigger fusion with voiceless obstruents:

97. a. aN + tsaingoka → manaingoka   'to remove'
    b. an + tsena   → an-tsena   'at market'

Prefixation of the locative an- is a process that under most accounts (presumably including Travis 2000) takes place at the l-syntax (it has idiosyncratic semantic properties as it sometimes denotes location but other times it functions as a possessive or accusative marker). Travis (2000) would predict voiceless obstruent deletion in this environment but the data contradicts the analysis and therefore the argument that such a process can be a diagnostic for 'lexical' status is invalid.

417

Before closing this section let us consider one final argument why arbitrary divisions of syntactic operations into lexical and syntactic proper is theoretically and empirically inadequate. The problem lies in the height of the application of 'derivational' processes such as nominalization. Travis (2000) takes the projection EventP to mark the boundary between l-syntax ands-syntax. EventP is where the nominalizer *f-* resides in her account. As we have seen (Section 3.0) Paul (1996a) takes this as an indication that *f-* nominalizations are lexical in nature. Travis (2000:184) decomposes the syntactic causative prefix *amp-* to the lexical causative *an-* plus the nominalizer *f-* (*an-* + *f-* → *amp-*). Thus a nominal base *hofa* 'rent' can be made verbal by attaching the causative *an-* *manofa* (to rent) and form a syntactic causative like *mampanofa* (to rent (to)) with the following structure:

98.
```
              VP
            /    \
         NP       V'
       causer    /  \
              V       EP
             an-    /    \
          _ _ _ _ E _ _ VP _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
                  f-    /   \
                     NP      V'
                   causee   /  \
                         V      AspP
                        an-    /    \
                            Asp     √P
                                   /   \
                                 NP     √'
                                       /  \
                                     √
                                   hofa
```
S-syntax

L-syntax

418
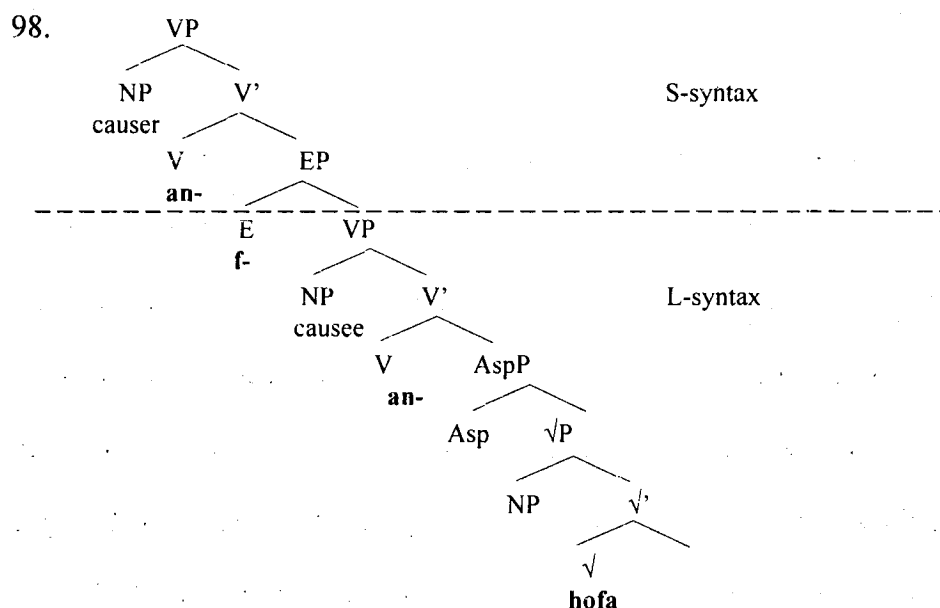
This means that the verbal domain that hosts the lower causative *an-* is part of l-syntax, while the higher causative *an-* is part of the s-syntax and thus not likely to exhibit phonological, semantic or lexical idiosyncrasies. The nominalizer *f-* sits in the boundary of this distinction. As I have said the problem with this approach is the property of nominalizers to attach at different heights. Thus the VP that takes EventP as its complement can in turn be nominalized creating the action *f*-CT nominalization *fampanofana* 'act of renting to someone'. In this case the nominalizer is presumably the head of the EventP in the higher verbal domain. The CT suffix *-an* is part of the verbal complex and introduces a verbal oblique so it must be part of the l-syntax (although the tree does not include the suffix to maintain the analogy with the tree in (98)):

99.

```
      EP
     /  \
    E    VP
    f-   / \
       NP   V`                    S-syntax
     causer / \
          V    EP
         an-  / \
_ _ _ _ _ _ _E _VP_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
            f-   / \
              NP   V'
            causee / \             L-syntax
                 V    AspP
                an-  /  \
                   Asp   √P
                        /  \
                      NP    √'
                           / \
                          √
                        hofa
```

419
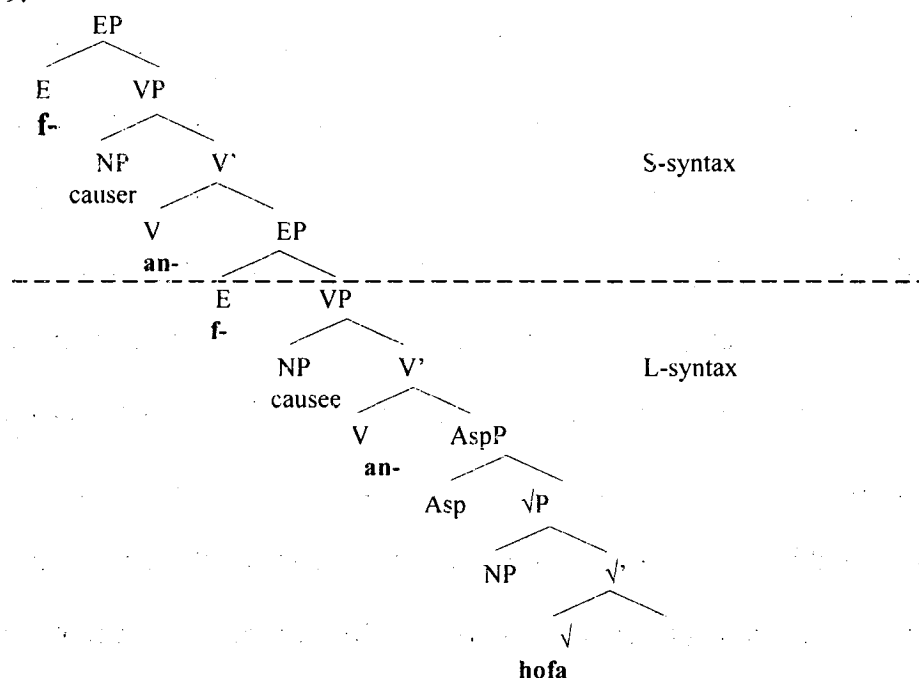
But if this is correct we are dealing here with recursive *f*-nominalizations, formed at different parts of the structure: the lower nominalization *fanofana* (the act of renting) is formed in l-syntax and the higher nominalization *fampanofana* 'act of renting to someone' is formed in the s-syntax. This by itself argues against the assumption that (all) *f*-nominals are lexical since some of them (these that contain a causative morpheme) are formed in the s-syntax. But if *f*- marks the boundary between s-syntax and l-syntax what about the higher *f*-, which is exclusively in the s-syntax domain? Notice here that the semantics of the two nominalizations are compositional (each morphosyntactic unit contributes to the meaning of the whole without any meaning shift or other idiosyncratic aspect). Considering the two nominals as formed in different domains without any independent evidence for this assumption leads to loss of an otherwise obvious generalization.

Summarizing then, there seem to be no strong semantic, or phonological arguments for treating *f*-nominalizations in Malagasy as 'lexical'. Syntax operates uniformly at all levels and all stages in the derivation of syntactic structures. So called idiosyncrasies can be explained by independent principles that also operate at different levels of structure but no 'visible' divide exists between a lexical and a syntactic cycle. More likely, the morphosyntactic means that each language has at its disposal play a role in where idiosyncrasies are more likely to appear. Manipulation of morphosyntactic strings to

create idiosyncratic means of expression (i.e. semantic shifts) may be facilitated by 'simpler' or 'smaller' structures but is not restricted to the 'word' level.

CHAPTER 6

CONCLUDING REMARKS

In this dissertation I have discussed issues related to the morphosyntax of nominalizations using Malagasy as a test case. I have shown that the internal structure and external distribution of deverbal and clausal nominal strings in Malagasy can be accounted for by using strictly syntactic mechanisms without refuge to a separate morphological grammatical component. This result points towards a simplification of the theory of structure-building mechanisms in grammar, which is a desired consequence. I have shown that traditionally termed 'lexical' *f*-nominalizations in Malagasy are built on a verbal core with a number of additional verbal functional layers. The differences in internal syntax and distribution of these nominals were attributed to different attachment sites for the nominalizer *f*-. In particular, it is proposed that *f*- attaches at the edges of CP-like domains that contain a voice and an aspectual projection and form a type of 'phase', broadening Chomsky's (2001) original idea of the concept. Finally, it was proposed that participant nominalizations in Malagasy are built in the same way as headless relative clauses, a claim that has far-reaching consequences for the syntax of participant nominalizations crosslinguistically.

422

The research in this dissertation was based on a number of theoretical assumptions which are laid out in detail in Chapter 1. The most important of these assumptions are: an antisymmetric view of the way syntactic structures are built; the idea that all syntactic relations are 'strictly' local; the idea that functional material is hierarchically organized (the 'cartography' project); and the assumption that there are no 'morphological' processes that operate outside the syntactic component – all structure-building mechanisms are syntactic and operate uniformly.

In Chapter 2 I presented a detailed overview of Malagasy verbal and nominal morphosyntax and discussed the core syntactic approaches to Malagasy clausal structure as well as the different views on the status of the rightmost prominent DP in the Malagasy clause. I presented a novel view on the function of linking in Malagasy, providing a general mechanism for linking structures in both the nominal and verbal domains. I presented data that show structural variation between verbal and nominal linking and explained this variation as the direct result of the implementation of the linking mechanisms at different levels in the structure.

Chapter 3 discussed Malagasy nominalizations formed by attaching the prefix *f-* to a verbal stem. I provided evidence that supports a syntactic analysis of these nominalizations and showed that their properties are straightforwardly explained if we assume that the nominalizer *f-* does not have 'fixed' subcategorization properties but rather attaches at different heights resulting in strings with diverse morphosyntactic

423

properties. I argued that the projections where nominalizers attach are phase-boundaries, where phase is understood more broadly than Chomsky (2001, 2005) as any reduced CP-like aspectual domain that licenses verbal arguments outside the thematic domain.

In Chapter 4 I turned to the discussion of nominalized clauses in Malagasy. I showed that these strings form two different types of clausal nominals: headless relative clauses and sentential nominalizations. I supported the existence of the first type with a number of syntactic arguments, including the observation of movement constraints; reconstruction and crossover effects; long-distance dependencies; and binding facts. I only discussed briefly the second type of clausal nominals, supporting its nominal character and how it bears on issues of finiteness in the language.

Finally, Chapter 5 brought together the structures of f-nominals and headless relative clauses arguing that the two are built via the same syntactic mechanism. I proposed that participant nominals are in fact headless relative clauses with a reduced structure (i.e. missing specific functional layers). I supported this claim with empirical data from the distribution of voice morphology in Malagasy, as well as from the application of binding principles and other A' effects in participant nominalizations. Finally, in the last part of the chapter, I provided some thoughts on a possible typology of participant nominals and patterns expected to emerge given the proposed structures, as well as patterns actually attested.

424

The research presented here raises a number of interesting issues related to how structures of different sizes are built and how 'derivational' processes interact with the syntax-phonology and the syntax-semantics interface. If nominalizers can attach at different heights in the structure, what are the universal principles that constrain this distribution? It was suggested here that nominalizers attach at 'phase' boundaries, where 'phase' is understood as each CP-cycle in a clause built by iteration of small CP-domains. But clearly more data is needed in order to test the validation of such a hypothesis. In addition, given the claim that nominalizations contain an 'inner' verbal core and an 'outer' nominal periphery, there should be a general mechanism that regulates the distribution of verbal/nominal features. The exact properties of this mechanism are not completely understood and any attempts to gain better insights on how the mechanism operates are foiled by the strong intralinguistic and crosslinguistic variation in exactly this distribution of verbal/nominal properties in derived nominals. Finally, the brief typological discussion of participant nominals/headless relative clauses points towards promising future research. However, it is clear that a lot more data from a variety of different languages need to be examined for the hypothesis that participant nominalizations and headless relative clauses are structurally related to gain strong empirical support.

Abney, Steven P. (1987) The English Noun Phrase in Its Senential Aspect, Ph.D. dissertation, MIT.

Adger, David and George Tsoulas. (2004). Circumstantial adverbs and Aspect. In S. Engelberg, J.R. Austin, G. Rauh, (eds.) *The Syntax of Adverbials*, John Benjamins, 2004.

Alexiadou, Artemis. (1997). *Adverb placement: A case study in Anti-symmetric syntax*. Amsterdam: John Benjamins.

Alexiadou, Artemis. (2001a) *Functional Structure in Nominals: Nominalization, and Ergativity*. Amsterdam: John Benjamins.

Alexiadou, Artemis. (2001b). Adjective Syntax and Noun Raising: Word Order Asymmetries in the DP as the Result of Adjective Distribution. *Studia Linguistica 55:3*, 217-248.

Alexiadou, Artemis. (2001c). Nominal vs. verbal -*ing* constructions and the development of the English progressive. Poster presented at the 32nd Annual Meeting of the North East Linguistic Society, CUNY Graduate Center & New York University, October 19-21, 2001.

Alexiadou, Artemis (2005) Argument Structure in Nominals. In A. Alexiadou, L. Haegeman & M. Stavrou, *Noun Phrases: a Generative Approach*. Mouton de Gruyter.

Alexiadou, Artemis & Elena Anagnostopoulou. (1999). Raising without Infinitives and the Nature of Agreement. *WCCFL 18*, 15- 25.

Allen, W. S. (1964) Transitivity and Possession. *Language 40*:337-343.

Anderson, Mona. (1983). Prenominal Genitive NPs. *The Linguistic Review 3*, 1-24.

Anderson, Stephen R. (1992). *A-morphous Morphology*. Cambridge: Cambridge University Press.

Anderson, Stephen R. (2005). A-Morphous Morphology. *Encyclopedia of Language and Linguistics*, second edition. Vol. 1, Amsterdam: Elsevier, 198-203.

Andrianierenana, Clément Luc (1996) Morphological Causatives in Malagasy. In M. Pearson & I. Paul (eds.) *The Structure of Malagasy, UCLA Occasional Papers in Linguistics 17*, Department of Linguistics, UCLA, 58-75.

Aronoff, Marc. (1976). *Word Formation in Generative Grammar*. Cambridge, Mass.: MIT Press.

Bach, Emmon. (1968). Nouns and Noun Phrases. In In E. Bach and R. Harms (eds.) *Universals in Linguistic Theory*, New York: Holt, Rinehart and Winston, 90-122.

Baker, Mark. (1985). The Mirror Principle and Morphosyntactic Explanation. *Linguistic Inquiry 16:3*, 373-415.

Baker, Mark. (1988). *Incorporation*. Chicago: The University of Chicago Press.

van den Berg, René. (1989). *A grammar of the Muna language*. Ph.D. dissertation. The University of Leiden.

Barker, Chris. (1998). Episodic –ee in English: A Thematic Role Constraint on New Word Formation. *Language 74:4*, 695-727.

Belletí, Adriana. (1990). *Generalized Verb Movement*. Turin: Rosenberg and Sellier.

Belletti, Adriana. (2002). Aspects of the low IP area. In L. Rizzi (ed.) *The Structure of IP and CP. The Cartography of Syntactic Structures; vol.2.*

Belleti, Adriana and Luigi Rizzi. (1988). Psych-verbs and Theta-Theory. *Natural Language and Linguistic Theory 6*, 291-352.

Bernstein, Judy. (1993). Topics in the Syntax of Nominal Structure across Romance. Unpublished Ph.D. dissertation, City University of New York.

Bever, Thomas G. (1970). The Cognitive Basis for Linguistic Structures. In D. Hayes (ed.), *Cognition and the Development of Language*, John Wiley & Sons, New York, pp. 279–362.

Bhatt, R (1999). Covert modality in non-finite contexts. Doctoral Dissertation, University of Pennsylvania.

Bianchi, Valentina. (1999). *Consequences of Antisymmetry*. Berlin/New York: Mouton de Gruyter.

Bianchi, Valentina. (2000). The raising analysis of relative clauses: a reply to Borsley. *Linguistic Inquiry 31*, 123–40.

Binnick, Robert I. (1979). *Modern Mongolian*, University of Toronto Press.

Blom, A. & S. Daalder. (1977). Syntaktische theorie en taalbeschrijving. Muiderberg: Coutinho.

Bloomfield, Leonard. (1917). *Tagalog Texts with Grammatical Analysis*. 3 vols. Urbana, Ill.: University of Illinois.

Blust, Robert (2003) Three Notes on Early Austronesian Morphology. *Oceanic Linguistics 42:2*, 438-478.

Bobaljik, Jonathan D. and Susi Wurmbrand. (2002). Seven prefix-suffix asymmetries in Itelmen. In M. Andronis, C. Ball, H. Elston, and S. Neuvel, (eds.), *Papers from the 37th Meeting of the Chicago Linguistic Society (CLS 37.2: The Panels)*, Chicago Linguistic Society, Chicago, Ill., 205-220.

Borer, Hagit. (1988). On the Morphological Parallelism between Compounds and Constructs. In Booij and van Marke (eds.), *Yearbook of Morphology*, 45-65.

Borer, Hagit. (1991). The Causative-Inchoative Alternation: A Case Study in Parallel Morphology, *The Linguistic Review 8*, 119-158.

Borer, Hagit, (1993). Derived nominals. University of Massachusetts at Amherst. Unpublished manuscript.

Borer, Hagit. (1994). The projection of arguments. In E. Benedicto and J. Runner (eds.) *Functional projections*, University of Massachusetts Occasional Papers 17. 19-47. GLSA, Amherst MA.

Borer, Hagit. (1999). Deconstructing the construct. In: Johnson, K., Roberts, I.G. (eds.), *Beyond Principles and Parameters*. Kluwer, Dordrecht, 43–89.

Borer, Hagit. (2003). Exo-skeletal vs. endo-skeletal explanations. In J. Moore and M. Polinsky (eds). *The Nature of Explanation in Linguistic Theory*. Chicago: CSLI and University of Chicago Press, 31-67.

Borer, Hagit and Kenneth Wexler. (1987). The Maturation of Syntax. In T. Roeper and E. Williams (eds.), *Parameter Setting*, D. Reidel Publishing, Dordrecht, 123-172.

Borsley, R.D. and J. Kornfilt (2000). Mixed extended projections. In R.D. Borsley (ed.), *The Nature and Function of Syntactic Categories*, New York: Academic Press, 101-131.

Bošković, Željko. (1997). The syntax of nonfinite complementation: An economy approach. Cambridge, Mass: MIT Press.

Bošković, Željko. (2005). On the locality of Move and Agree. Ms., University of Connecticut, Storrs.

Bresnan, Joan. (1971). Sentence stress and syntactic transformations. *Language 47*: 257-280.

Bresnan, Joan. (1972). Theory of complementation in English syntax. Ph.D. dissertation, Cambridge: MIT.

Bresnan, Joan & Jane Grimshaw. (1978). The Syntax of Free Relatives in English. *Linguistics Inquiry, 9*: 331-391.

Bresnan, Joan & Sam Mchombo. (1995). The lexical integrity principle: evidence from Bantu. *Natural Language and Linguistic Theory 13*, 181-254.

Broschart, Jürgen. (1997). Why Tongan Does It Differently: Categorial Distinctions in a Language without Nouns and Verbs, *Linguistic Typology* 1:123-165.

Buell, Leston Chandler. (2005). Issues in Zulu Verbal Morphosyntax. PhD Dissertation, Department of Linguistics, UCLA.

Builles, J.-M. (1988). La Voix Agento-Stative en Malgache. In *Etudes d'Ocean Indien, 9*, Paris, INALCO.

Bury, Dirk (2002). Phrase Structure and derived heads. Doctoral dissertation, University College London.

Butler, Jonny. (2004). Phase Structure, Phrase Structure, and Quantification. PhD Dissertation, Department of Language and Linguistic Science, University of York.

Campbell, Richard. (1996). Specificity operators in SpecDP. *Studia Linguistica 50/2*: 161-188.

Caponigro, Ivano (2002). Free relatives as DPs with a silent D and a CP complement. In Vida Samiian (ed.), *Proceedings of the Western Conference on Linguistics 2000 (WECOL 2000)*, Fresno, CA: California State University.

Cardinaletti, Anna. (2004). Towards a cartography of Subject Positions. In L. Rizzi (ed,) *The structure of CP and IP. The cartography of syntactic structures*, Volume 2. Oxford Studies in Comparative Syntax.

Cardinaletti, Anna and Michael Starke (1999) The typology of structural deficiency: A case study of the three classes of pronouns. In Riemsdijk H. van (ed.), *Clitics in the Languages of Europe. Empirical Approaches to Language Typology*. Berlin/New York: Mouton de Gruyter, 145-233.

Carnie, Andrew and Andrew Barss. (to appear). Phases and Nominal Interpretation. *Research in Language.*

Chang, Melody Ya-yin (2002). Nominalization in Tsou. *Language and Linguistics* *3.2*:335-348.

Chang, Yung-Li & Lee, Amy Pei-jung (2002). Nominalization in Kavalan. *Language and Linguistics 3.2*:349-368.

Chomsky, Noam. (1965). *Aspects of the Theory of Syntax.* Cambridge, Mass. MIT Press

Chomsky, Noam (1970) Remarks on Nominalizations, in R Jacobs and P. Rosenbaum, P. (eds.) *Readings in English Transformational Grammar.* Waltham, MA: Blaisdell, 184-221.

Chomsky, Noam. (1973). Conditions on Transformations. In S.R. Anderson and P. Kiparsky (eds.) *A Festschrift for Morris Halle*, New York: Holt, Rinehart & Winston.

Chomsky, Noam. (1977). On Wh-movement. In P.W. Culicover, T. Wasw and A. Akmajian (eds.) *Formal syntax*, Academic Press, San Francisco, London.

Chomsky, Noam. (1981). *Lectures on government and binding.* Dordrecht: Foris.

Chomsky, Noam. (1986a). *Knowledge of Language.* New York: Praeger.

Chomsky, Noam. (1986b). *Barriers.* Cambridge, MA: MIT Press.

Chomsky, Noam. (1993). A Minimalist Program for Linguistic Theory. In K. Hale and S.J. Keyser, eds., *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger* (MIT).

Chomsky, Noam. (1995) *The Minimalist Program.* MIT Press. Cambridge, Mass.

Chomsky, Noam. (1998) Minimalist Inquiries: The Framework. *MIT Occasional Papers in Linguistics, 15*, Cambridge, Mass.

Chomsky, Noam. (2001). Derivation by Phase. In M. Kenstowicz (ed.), *Ken Hale: a life in language.* Cambridge, MA: MIT Press, 1–52.

Chomsky, Noam. (2005). On Phases. Ms. MIT.

Chomsky, Noam and Howard Lasnik. (1977). Filters and Control. *Linguistic Inquiry 8*, 425-504.

Chung, Sandra. (1998). *The Design of Agreement: Evidence from Chamorro.* Chicago: University of Chicago Press.

Chung, Sandra. (2006). Properties of VOS Languages. In M. Everaert and H. van Riemsdijk (eds.), *The Blackwell Companion to Syntax (Syncom),* 685-720. Blackwell.

Cinque, Guglielmo. (1980). On extraction from NP in Italian. *Journal of Italian Linguistics 5*, 47-100.

Cinque, Guglielmo. (1990). *Types of A-bar dependencies.* Cambridge, MA: MIT Press.

Cinque, Guglielmo (1999). *Adverbs and Functional Heads: A Cross-Linguistic Perspective.* Oxford: Oxford University Press.

Cinque, Guglielmo. (2001). Restructuring and the order of aspectual and root modal heads, in G.Cinque and G.Salvi (eds.) *Current Studies in Italian Syntax. Essays Offered to Lorenzo Renzi.* Amsterdam, Elsevier,137-155.

Cinque, Guglielmo. (2002). Complement and Adverbial PPs: Implications for Clause Structure. Paper presented at the *25th GLOW Colloquium*, Amsterdam, April 9-11, 2002.

Cinque, Guglielmo (ed.) (2002). *The structure of DP and IP – The Cartography of Syntactic Structures, Vol. 1*. Oxford University Press, New York.

Cinque, Guglielmo. (2005) Deriving Greenberg's Universal 20 and Its Exceptions. *Linguistic Inquiry 36:3*, 315-332.

Collins, Chris. (2005a). A Smuggling Approach to Raising in English. *Linguistic Inquiry 36, 2*: 289-298.

Collins, Chris. (2005b). A Smuggling Approach to the Passive in English. *Syntax 8, 2*: 81-120.

Collins, Chris and Thrainsson, H. (1996). VP-Internal Structure and Object Shift in Icelandic. *Linguistic Inquiry 27(3)*: 391-444

Comrie, Bernard. (1976). The syntax of action nominals: a cross-language study. *Lingua 40*, 177-201.

Comrie, Bernard and Sandra A. Thompson (1985) Lexical nominalization. In T. Shopen (ed.) Language Typology and Syntactic Description Vol. 3. CUP Cambridge, 349-398.

Cowper, Elizabeth. 2002. Finiteness. Ms, University of Toronto.

Croft, William. (1991). *Syntactic categories and grammatical relations: The cognitive organization of information*. Chicago: University of Chicago Press.

Dahl, O. C. (1986). Focus in Malagasy and Proto-Austronesian. FOCAL 1, Pacific Linguistics, 21-45.

Dahl, O. C. (1991). Migration from Kalimantan to Madagascar. *Institute for Comparative Research in Human Culture series B, 82*, Oslo: Norwegian University Press.

Dahl, O. C. (1996). Predicate, subject, and topic in Malagasy. *Oceanic Linguistics 35*:167-179.

Demuth, K. and C. Harford. (1999). Verb Raising and Subject Inversion in Bantu Relatives. *Journal of African Languages and Linguistics 20 (1)*: 41-61.

Dez, Jacques (1980). *La syntaxe du malgache*. Lille, France. Atelier de reproduction des thèses.

Dez, Jacques (1990). *Cheminements Linguistiques Malgaches*. Editions Peeters. SELAF 307 Paris, France.

den Dikken, Marcel (to appear) Specificational copular sentences and pseudoclefts. *The Syntax Companion*.

den Dikken, Marcel. (2006). *Relators and Linkers. The Syntax of Predication, Predicate Inversion, and Copulas*. Cambridge, MA: MIT Press.

DiSciullo, Anna Maria & Edwin Williams. (1987). *On the definition of word*. Cambridge, MA: MIT Press.

Donati, Caterina. (2006). On wh-head-movement. In Cheng L. L-S. and N. Corver (eds.) *Wh-Movement: Moving On*, Cambridge MA: The MIT Press, 21-46.

430

Dowty, David. (1989). On the Semantic Content of the Notion of Thematic Role. In . Chierchia, B. H. Partee, and R. Turner (eds.) *Properties Types and Meaning Volume II: Semantic Issues*. Dordrecht: Kluwer Academic Publishers, 69-130.

Embick, David. (1998). Voice systems and the syntax/morphology interface. In H. Harley (ed.) *MIT Working Papers in Linguistics 32: Papers from the UPenn/MIT Roundtable on Argument Structure and Aspect*, Cambridge, Mass.: MITWPL, 41–72.

Embick, David. (2004). On the Structure of Resultative Participles in English. *Linguistic Inquiry 35, 3*: 355-392.

Epstein, Samuel David and T. Daniel Seely. (2002). Rule applications as cycles in a level-free syntax. In S.D. Epstein & T.D. Seely (eds.) Derivation and Explanation in the Minimalist Program, Oxford: Blackwell, 65-89.

Fabb, N. (1984). Syntactic Affixation. Doctoral dissertation, Massachusetts Institute of Technology, Cambridge.

Farmer, A. (1987). On the Analysis of Deverbal Adjectives and Nouns with Self-. Paper presented at the Annual Meeting of the LSA, San Francisco, California.

Ferrand, Gabriel. (1904). Un Préfixe Nominal en Malgache Sud-Oriental Ancien. In *Mémoires de la Société de Linguistique de Paris*, Tome 13. Paris. France, 91-101.

Fortescue, Michael. (1984). *West Greenlandic*. London, Croom Helm.

Fox, Danny. (1998). Economy and Semantic Interpretation. Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts

Fox, Danny. (1999). Reconstruction, variable binding and the interpretation of chains. *Linguistic Inquiry 30*, 157–196.

Fox, Danny & David Pesetsky. (2004). Cyclic Linearization of Syntactic Structure. Ms., MIT,. Cambridge, Mass. To appear in *Theoretical Linguistics*.

Franks, Steven, and Željko Bošković. (2001). An argument for multiple spell-out. *Linguistic Inquiry 32*: 174–183.

Fraser, Bruce. (1970). Some Remarks on the Action Nominalization in English. In R.A. Jacobs and P.S. Rosenbaum, eds., *Readings in English Transformational Grammar*, Ginn, Waltham, MA, 83-98.

Fu, Jingqi. (1994). On Deriving Chinese Derived Nominals.: Evidence for Parallel Morphology. Doctoral Dissertation. University of Massachusetts at Amherst.

Fu, Jingqi, Thomas Roeper & Hagit Borer (2001) The VP within Process Nominals: Evidence from Adverbs and the VP Anaphor Do-So. *Natural Language and Linguistic Theory 19*, 549-582.

Fugier, Huguette (1999). *Syntaxe malgache*. Bibliothèque des Cahiers de l'Institut de Linguistique de Louvain. Peeters, Louvain-La-Neuve.

Giambrone, N. (1987). *Ny any aminay*. Fianarantsoa Madagascar: Ambozontany. (A first grade reader).

Gil, David. (1995). Parts of Speech in Tagalog, in M. Alves (ed.), *Papers from the Third Annual Meeting of the Southeast Asian Linguistics Society*, Arizona State University, Tempe. 67-90.

Gil, David. (2005). Word Order Without Syntactic Categories: How Riau Indonesian does it. In A. Carnie, H. Harley and S. A. Dooley (eds.), *Verb First*, 243–263.

Giorgi, A. and G. Longobardi. (1991). *The syntax of Noun Phrases. Configuration, Parameters, and Empty Categories.* Cambridge: Cambridge University Press.

Givon, Talmy. (1990). *Syntax: A functional-typological introduction.* Volume II. Amsterdam: John Benjamins.

Grimshaw, Jane (1990) *Argument Structure.* Cambridge MA: MIT Press.

Grimshaw, Jane (2000) Locality and Extended Projection. In P. Coopmans, M. Everart, and J. Grimshaw, (eds.) Lexical Specification and Insertion. John Benjamins. Amsterdam/Philadelphia, 115-133.

Grohmann, Kleanthes K. (2003). *Prolific Domains: On the Anti-Locality of Movement Dependencies.* John Benjamins. Amsterdam. The Netherlands.

Groos, Anneke and Henk van Riemsdijk. (1981). Matching effects in free relatives: a parameter of core grammar. In A. Belletti et al. (eds.), *Theory of Markedness in Generative Grammar,* Scuola Normale Superiore, Pisa, 171-216.

Grune, Dick. (1995). *Hopi: Survey of an Uto-Atzecan Language.* Joseph Biddulph Publisher, Pontypridd (Wales)

Guilfoyle, Eithne, Henrietta Hung, and Lisa Travis. (1992). Spec of IP and Spec of VP: Two subjects in Austronesian languages, *Natural Language and Linguistic Theory 10,* 375-414.

de Haan, Ger J. d. and K. Tuijnman. (1988). Missing Subjects and Objects in Child Grammar. In P. Jordens and J. Lalleman (eds.) *Language Development,* Foris, Dordrecht, 101-122.

Haegeman, Liliane. (1995). Root Infinitives, Tense, and Truncated Structures in Dutch, *Language Acquisition 4, 3,* 205–255.

Hale, Ken & Jay S. Keyser. (1993). On argument structure and the lexical expressionof syntactic relations. In Hale, K. & S. J. Keyser (eds.) *The view from Building 20,* Cambridge, MIT Press.

Hallanger F. S. (1973). Diksionera Malagasy-Englisy. Andro Vaovao sy Trano Printy Fiangonana Loterana Malagasy, Antananarivo.

Halle, Morris & Alec Marantz. (1993). Distributed Morphology and the Pieces of Inflection. In K. Hale and S. J. Keyser (eds.) *The View from Building 20,* Cambridge: MIT Press, 111-176.

Hallman, Peter. (1997). Reiterative Syntax. In J. R. Black & V. Motapanyane (eds.) *Clitics, Pronouns and Movement,* Amsterdam: John Benjamins, 87–131.

Halvorsen, P. K. 1978. The Syntax and Semantics of Cleft Constructions. Ph.D. Thesis, University of Texas.

Hankamer, Jorge and Laura Knecht (1976). The role of the subject/non-subject distinction in determining the choice of relative clause participle in Turkish. *NELS 4:*123-135

Harley, Heidy. & Ralph Noyer. (1998). Mixed nominalizations, short verb movement, and object shift in English. In P.N. Tamanji & K. Kusumoto (eds.) *Proceedings of NELS 28,* Amherst: GLSA, University of Massachusetts, Amherst, 143–157.

Hatakeyama, Yuji (2002). Some Notes on the *i-within-i* Condition. *Explorations in English Linguistics 17.*

Hay, J. (2001). Lexical frequency in morphology: Is everything relative? *Linguistics, 39.4,* 1041-1070.

Hay, J. & Baayen, H. (2002). Parsing and productivity. In G. Booij & J. van Marle (Eds). *Yearbook of Morphology 2001.* Dordrecht/Boston/London: Kluwer, 203-235.

Hazout, I., (1991). Verbal nouns: theta theoretic studies in Hebrew and Arabic. Ph.D. dissertation, University of Massachusetts, Amherst.

Higginbotham, James. (1983). Logical Form, binding, and nominals. *Linguistic Inquiry 14,* 395-420.

Himmelmann, P. Nikolaus (2005a). Tagalog. In A. Adelaar and N. P. Himmelmann (eds.) The Austronesian languages of Asia and Madagascar. London: Routledge, 350-376.

Himmelmann, P. Nikolaus (2005b). The Austronesian languages of Asia and Madagascar: Typological characteristics. In A. Adelaar and N. P. Himmelmann (eds.) The Austronesian languages of Asia and Madagascar. London: Routledge, 110-181.

Himmelmann, P. Nikolaus (to appear). Lexical categories and voice in Tagalog. In Musgrave, Simon and Peter K. Austin (eds) *Voice and Grammatical Functions in Austronesian Languages.* CSLI Publications, Center for the Study of Language and Information, Stanford University, California.

Hopple, Paulette M. (2003). The structure of nominalization in Burmese. Ph.D. thesis. University of Texas at Arlington.

Hornstein, Norbert. (1984). *Logic as grammar.* Cambridge, Mass.: MIT Press.

Hornstein, Norbert. (1999). Movement and control. *Linguistic Inquiry 30:* 69-96.

Hornstein, Norbert. (2003). On Control. In R. Hendrick (ed.). *Minimalist Syntax.* Oxford: Blackwell, 6-81.

Horrocks Geoffrey & Melita Stavrou. (1987). Bounding Theory and Greek Syntax: Evidence for Wh-movement in NP, *Journal of Linguistics 23,* 79-108.

van Hout, Angelika. (1996). Event semantics of verb frame alternations: A case study of Dutch and its acquisition. Doctoral dissertation, Tilburg University. In press with Garland.

van Hout, Angelika, and Thomas Roeper. (1998). Events and Aspectual Structure in Derivational Morphology. *MIT Working Papers in Linguistics 32,* 175-200.

Hsieh, Fuhui & Chen, Chihsin. (2006). Nominalization and Relativization Constructions in Kavalan Revisited. Paper presented at Tenth International Conference on Austronesian Linguistics (ICAL). January 17-20, 2006. Palawan, Philippines.

Huang, M. Lillian. (2002) Nominalizations in Mayrinax Atayal. *Language and Linguistics 3.2:* 197-225.

Hung, Henrietta (1988) *Derived Verbs and Nominals in Malagasy,* Unpublished Manuscript, Department of Linguistics, McGill University, Montreal, Canada.

Hyams, Nina, Dimitris Ntelitheos and Cecile Manorohanta. (to appear) The Acquisition of the Malagasy Voicing System. *Natural Language and Linguistic Theory.*

Iatridou, Sabine. (1993). On Nominative Case Assignment and a Few Related Things. In Colin Phillips (ed.) *Papers on Case and Agreement II, MIT Working Papers in Linguistics 19*, MIT, Cambridge, MA, 175–196.

Iatridou, Sabine, Elena Anagnostopoulou, and Roumyana Izvorski. (2001). Observations about the Form and Meaning of the Perfect. In M. Kenstowicz (ed.) *Ken Hale: A Life in Language*. MIT Press, 189-238. Re-printed in A. Alexiadou, M. Rathert, and A. von Stechow (eds.) (2003) *Perfect Explorations*. Mouton de Gruyter.

Jackendoff, Ray. (1996). *The Architecture of the Language Faculty*. Cambridge, Mass.: MIT Press.

Jacobson, Pauline. (1993). i-within-i Effects in a Variable Free Semantics and a Categorial Syntax. In P. Dekker and M. Stokhof (eds.), *Proceedings of the Ninth Amsterdam Colloquium*. University of Amsterdam: ILLC/Department of Philosophy, 349-369.

Jacobson, Pauline. (2004). Binding without pronouns (and pronouns without binding). In G-J. Kruijff & R. T. Oehrle, (eds.) *Resource-Sensitivity, Binding and Anaphora. Studies in Linguistics and Philosophy, Vol. 80*. Amsterdam: Kluwer Academic Publishers.

Jelinek, Eloise and Richard Demers. (1994). Predicates and Pronominal Arguments in Straits Salish. *Language 70:4*, 697-736.

Johns, Alana (1992) Deriving Ergativity. *Linguistic Inquiry 27*:57-87.

Julien, Marit. (2003). *Syntactic Heads and Word Formation*. Oxford: Oxford University Press.

Kamiya, Masaaki. (2005). Frozen Phenomena and VP-within-Nominalization. Presented at the 35th *Meeting of the Michigan Linguistics Society*, Michigan State University, Lansing, MI, October 15th, 2005.

Kamp, H. & A. Rossdeutscher. (1994). Remarks on lexical structure and DRS construction. *Theoretical Linguistics 20 (1)*, 97-164.

Kayne, Richard. (1994). *The Antisymmetry of Syntax*, MIT Press.

Kayne, Richard. (1998). Overt vs. Covert Movement, *Syntax 1*, 128–191.

Kayne, Richard. (1999). Prepositional Complementizers as Attractors, *Probus 11*, 39-73.

Kayne, Richard. (2000). *Parameters and Universals*, Oxford University Press.

Kayne, Richard. (2002). On some Prepositions that Look DP-internal: English *of* and French *de*. *Catalan Journal of Linguistics 1*, 71-115.

Kayne, Richard. (2003). Antisymmetry and Japanese. *English Linguistics, 20*, 1-40.

Kayne, Richard. (2005). *Movement and Silence*. Oxford: Oxford University Press.

Keenan, Edward L.(1972). Relative Clause Formation in Malagasy. In P. M. Paranteau, J. N. Levi & G. C. Phares (eds.) *The Chicago Which Hunt: Papers from the Relative Clause Festival*, Chicago: Chicago Linguistic Society, 169-189.

Keenan, Edward L. (1976). Remarkable subjects in Malagasy. In Charles Li (ed.), *Subject and Topic*. New York: Academic Press, pp. 247-301.

Keenan, Edward L. (1985). Relative clauses. In T. Shopen (ed.), *Language Typology and Syntactic Description, vol II: Complex Constructions*. Cambridge University Press, 141-170.

Keenan, Edward L. (1995). Predicate-argument structure in Malagasy. In C. S. Burgess, K. Dziwirek, and D. Gerdts (eds.), *Grammatical Relations: Theoretical Approaches to Empirical Questions*. Stanford: CSLI, 171-216.

Keenan, Edward L. (2005). Extraction without Movement: Is Malagasy a Perfect Language?, ms. Department of Linguistics, UCLA.

Keenan, Edward L. & Jean Paulin Razafimamonjy (1996) Malagasy Morphology: Basic Rules. In M. Pearson & I. Paul (eds.) *The Structure of Malagasy, UCLA Occasional Papers in Linguistics 17*, Department of Linguistics, UCLA, 31-48.

Keenan, Edward L. & Maria Polinsky. (1998). Malagasy (Austronesian). In A. Spencer & A. Zwicky (eds.) *The Handbook of Morphology*, Oxford: Oxford University Press, 563-623.

Keenan, Edward and Baholisoa Simone Ralalaoherivony. (2000). Raising from NP in Malagasy. *Lingvisticæ Investigationes* 23:1, 1–44.

Keenan, Edward L. & Cecile Manorohanta. (2001). A Quantitative Study of Voice in Malagasy. *Oceanic Linguistics 40, 1*, 67-85.

Keenan, Edward L. & Jean Paulin Razafimamonjy (2004) Reciprocals in Malagasy. *Oceanic Linguistics 43, 1*, 177-207.

Kester, Ellen-Petra. (1996). *The Nature of Adjectival Inflection*, OTS, Utrecht.

Keyser, S. Jay and Thomas Roeper. (1984). On the middle and ergative constructions in English. *Linguistic Inquiry 15*, 381-416.

Keyser, S. Jay and Thomas Roeper. (1992). Re: the Abstract Clitic Hypothesis. *Linguistic Inquiry 23*, 89-125.

Kleeman, Anja. (2006). Distribution and Interpretation of the German Focus Particles *nur* (only) in Sentences and DPs, *Queen Mary's Occasional Papers Advancing Linguistics*.

Koopman, Hilda. (1984). *The syntax of Verbs: from Verb movement rules in the Kru languages to Universal Grammar*. Dordrecht: Foris Publications.

Koopman, Hilda. (1996). The spec-head configuration. In Garrett. E and Lee F. (eds.) *Syntax at Sunset*, UCLA Working Papers 1, Los Angeles, 37-64.

Koopman, Hilda (2005a). On the parallelism of DPs and clauses: Evidence from Kisongo Maasai. In A. Carnie, H. Harley and S. A. Dooley (eds.), *Verb First*, 281–301.

Koopman Hilda (2005b). Malagasy Imperatives. In J. Heinz & D. Ntelitheos (eds.) *Proceedings of the 12th Conference of the Austronesian Formal Linguistics Association (AFLAXII)*. UCLA Working Papers in Linguistics, no. 12. 141-160.

Koopman, Hilda. (2005c). Korean and Japanese morphology from a syntactic perspective: a reply to Sells. *Linguistic Inquiry, 36, 4*, 601–633.

Koopman, Hilda and Dominique Sportiche . (1991). The Position of Subjects. *Lingua 85*: 211-258.

Koopman, Hilda and Szabolcsi Anna. (2000). *Verbal Complexes*. Current Studies in Linguistics 34, Cambridge, Mass: MIT Press.

Koptjevskaja-Tamm, Maria. (1993). *Nominalizations*. London: Routledge.

Kothandaraman, P. (1984). Relative clause and participal noun in Tamil: a new perspective. *International Journal of Dravidian Linguistics (Trivandrum) 13:1*, 68-109

Kroeger, Paul. (1993). *Phrase structure and grammatical relations in Tagalog*. Stanford, CA: Center for the Study of Language and Information.

Kroeger, Paul. (1998). Nouns and verbs in Tagalog: A reply to Foley. Paper presented to the LFG98 Conference, The University of Queensland, Brisbane.

deLancey, Scott. (1986). Relativization and nominalization in Tibetan and Newari. Presented at the 19th Annual Meeting of the International Conference on Sino-Tibetan Languages and Linguistics.

Landau, Idan (2004). The Scale of Finiteness and the Calculus of Control. *Natural Language and Linguistic Theory, 22*, 811–877.

Langdon, Margaret. (1970). *A Grammar of Diegueño: The Mesa Grande Dialect*. Berkeley: University of California Press.

Lapointe, Steven. (1980). A theory of grammatical agreement. Doctoral dissertation, University of Massachusetts, Amherst, Mass.

LaPolla, Randy, J. & Chenglong Huang. (2003). *A Grammar of Qiang with annotated texts and glossary*. Berlin: Mouton de Gruyter.

Larson, Richard. (1988). On the double object construction. *Linguistic Inquiry 19*:335-392.

Larson, R.K. and N. Takahashi. (2004). Order and interpretation in prenominal relative clauses. Paper presented at *WAFL-2*. Bogazici University, Istanbul, Turkey (October 12, 2004).

Lasersohn, Peter. (1995). *Plurality, Conjunction, and Events*. Kluwer, Dordrecht.

Lasnik, Howard and Timothy Stowell. (1991). Weakest crossover. *Linguistic Inquiry 22*:687-720.

Launey, Michel. (2004). The Features of omnipredicativity in Classical Nahuatl. *Sprachtypologie und Universalienforschung 57*: 49-69.

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

Law, Paul. (2005). Questions and Clefts in Malagasy. In J. Heinz & D. Ntelitheos (eds.) *Proceedings of AFLA XII*, UCLA Working Papers in Linguistics 12. Department of Linguistics, UCLA, 195-209.

Lebeaux, David. (1986). The Interpretation of Derived Nominals. In A. Farley, P. Farley, and K. McCullough (eds.) *Chicago Linguistic Society 22*, 231-247.

Lees, B. Robert. (1960) The grammar of English nominalizations, Indiana University Press, Bloomington.

Lefebvre, Claire and Pieter Muysken. (1988). *Mixed Categories: Nominalizations in Quechua*. Dordrecht: Kluwer.

Lehmann, Christian. (1988). Towards a typology of clause linkage. In J. Haiman & S. A. Thompson (eds.), *Clause combining in grammar and discourse*. Amsterdam & Philadelphia: J. Benjamins (Typological Studies in Language, 18), 181-225

Lehmann, Christian. (1995). *Thoughts on Grammaticalization*. Muenchen, Lincom Europa.

Levi, Judith N. (1978). *The Syntax and Semantics of Complex Nominals*. New York: Academic Press.

Levin, Beth and Hovav M. Rappaport. (1988). Non-event *-er* Nominals: a Probe into Argument Structure, *Linguistics 26*, 1067-1083.

Levin, Beth & Malka Rappaport. (1995). *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge, Mass. MIT Press

Lieber, Rochelle. (1992). *Deconstructing morphology: Word Formation in Syntactic Theory*. Chicago: University of Chicago Press.

Lieber, Rochelle (2004) *Morphology and Lexical Semantics*. Cambridge: Cambridge University Press.

Llombart-Huesca, Amália. (2002). Anaphoric One and NP-Ellipsis, *Studia Linguistica 56-1*, 59-89.

Mahajan, Anoop. (1997). Universal Grammar and the Typology of Ergative Languages. In A. Alexiadou and T. Allan Hall (eds.) *Studies on Universal Grammar and Typological Variation*. Amsterdam: John Benjamins, 35-57.

Mahajan, Anoop. (2000). Eliminating Head Movement. *The GLOW Newsletter 44*: 44-45.

Malchukov, Andrej L. (2004) *Nominalization/Verbalization: Constraining a Typology of Transcategorial Operations*. Muenchen: Lincom Europa.

Malzac, Victorin (1960). *Grammaire malgache*. Paris, Société d'Editions Géographiques, Maritimes et Coloniales. 4th edition.

Marantz, Alec. (1995). A late note on Late Insertion. In Y. Kim (ed.) *Explorations in generative grammar*, Seoul: Hankuk, 396-413.

Marantz, Alec. (1997a). No escape from syntax: don't try morphological analysis in the privacy of your own lexicon. In A. Dimitriadis, L. Siegel, C. Surek-Clark & A. Williams (eds.) *University of Pennsylvania Working Papers in Linguistics, Vol. 4.2, Proceedings of the 21st Annual Penn Linguistics Colloquium*. 201-225.

Marantz, Alec. (1997b). Cat as a phrasal idiom: stem suppletion, or the arbitrariness of the sign. Paper presented at the Université de Paris VIII.

Marantz, Alec. (1999). *Creating verbs above and below little v*. Cambridge: MIT.

Maratsos, M., D. Fox, J. Becker, and M. Chalkley. (1985). Semantic Restrictions on Children's Early Passives, *Cognition 19*, 167-191.

Martin, Roger Andrew. (1996). A minimalist theory of PRO and control, Ph.D. Dissertation, University of Connecticut, Storrs. [Distributed by: MIT Working Papers in Linguistics.]

Martin, Roger Andrew. (2001). Null case and the distribution of PRO. *Linguistic Inquiry 32.1*:141-166.

Martinez Fabian, Constantino and D. Terence Langendoen. (1996). Sobre las Llamadas Cláusulas Relativas en Yaqui. In Z. E. Fernández, M. Figueroa Esteva, and G. López Cruz (eds.) *III Encuentro de Lingüística en el Noroeste, 1:2*. Available in English on the web as 'On so-called relative clauses in Yaqui'.

Marvin, Tatjana. (2002). Past participles in reduced relatives. Ms. University of Lund.

Massam, Diane. (2001). Pseudo noun-incorporation. *Natural Language and Linguistic Theory 19*:153-197.

Massam, Diane, and Carolyn Smallwood. (1997). Essential features of predication in English and Niuean. In K. Kusumoto (ed.) *Proceedings of NELS 27*, Amherst, Mass: Graduate Linguistic Student Association, 363–372.

Matisoff, James A. (1972). Lahu nominalization, relativization, and genitivization. In J. Kimball (ed.) *Syntax and Semantics, Vol. 1*, 237-57.

Matisoff, James A. (1973). *The Grammar of Lahu*. Berkeley: University of California Press.

McCawley D. James. (1988). *The Syntactic Phenomena of English*. Chicago: The University of Chicago Press.

McCloskey, James. (1979). *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish*. D. Reidel: Dordrecht

Milner, Jean-Claude. (1982). *Ordres et Raisons de Langue*, Le Seuil, Paris.

Mills, Anne E. (1985). The Acquisition of German. In D. I. Slobin (ed.), *The Crosslinguistic Study of Language Acquisition: Volume 1: The Data*, Lawrence Erlbaum, Hillsdale, New Jersey, 141–254.

Moortgat, M. (1987). Compositionality and the Syntax of Words. In Groenendijk, J., D. de Jong, and M. Stockhof (eds.), *Foundations of Pragmatics and Lexical Semantics*, Foris Publications.

Mosel, Ulrike and Even Hovdhaugen. (1992). *Samoan Reference Grammar*. Oslo: Scandinavian University Press.

Müller, Gereon (2000): Shape Conservation and Remnant Movement. In: M. Hirotani, A. Coetzee, N. Hall & J.-Y. Kim, eds., *Proceedings of NELS 30*. GLSA, Amherst, Mass., 525–539. A revised and extended version appeared in A. Alexiadou, E. Anagnostopoulou, S. Barbiers, & H-M Gärtner (eds.), (2002) *Dimensions of Movement*, Amsterdam: Benjamins, 209-241.

Müller, Gereon. (2004). Verb-second as vP-first. *Journal of Comparative Germanic Linguistics 7*: 179-234.

Munn, Alan. (1993). Topics in the Syntax and Semantics of Coordinate Structures. Ph.D. Thesis, University of Maryland.

Munn, Alan. (2000). Three types of coordination asymmetries. In: Schwabe, K., Zhang, N. (Eds.), *Ellipsis in Conjunction*. Max Niemeyer, Tubingen, 1–22.

Murasugi, Kumiko. (1990). The Derivation of Derived Nominals, Ms., MIT.

Naylor, Paz Buenaventura. (1995). Subject, Topic and Tagalog syntax. In D. Bennett, T. Bynon and G. Hewitt, (eds.), *Subject, Voice and Ergativity: Selected Essays*. London: School of Oriental and African Studies, University of London.

Naylor, Paz Buenaventura (2001) Nominal Syntax in Verbal Predications. Paper presented in the Fifth International Symposium on Malay/ Indonesian Linguistics, 16 - 17 June 2001 Max-Planck-Institute for Mathematics in the Sciences, Leipzig, Germany.

Newmeyer, Frederick J. (1970). The Derivation of the English Action Nominalization. *Papers from the Sixth Regional Meeting of the Chicago Linguistic Society*, Chicago: Chicago Linguistic Society, 408-15.

Noonan, Michael. (1985). Complementation. In T. Shopen (ed.) *Language typology and syntactic description: Complex constructions.* Volume 2. Cambridge, England: Cambridge University Press, 42–140.

Noonan, Michael. (1997). Versatile Nominalizations. In J. Bybee, J. Haiman and S. A. Thompson (eds.) *Essays on Language Function and Language Type*, Amsterdam: John Benjamins, 373-394.

Ntelitheos, Dimitris. (2004) Syntax of Elliptical and Discontinuous Nominals. M.A. Thesis, Department of Linguistics, UCLA.

Ntelitheos, Dimitris. (2005) Malagasy Participant Nominalizations: A Structural Account. In J. Heinz & D. Ntelitheos (eds.) *UCLA Working Papers in Linguistics, no. 12: Proceedings of the Twelfth Annual Conference of the Austronesian Formal Linguistics Association (AFLA XII).* UCLA Department of Linguistics. 313-327.

Ntelitheos, Dimitris. (2006) Malagasy Instrumental Nominalizations. In D. S. Bigham, F. Hoyt, N. Seifert, A. Teodorescu, and J. White (eds.) *Topics in the Morphosyntax of Underrepresented Languages. Papers from the 9th Texas Linguistics Society conference.* CSLI Publications, Stanford, California.

Ntelitheos, Dimitris (forthcoming). The Morphosyntax of Nominalizations: A Case Study. Doctoral Dissertation, University of California, Los Angeles.

Ntelitheos, Dimitris and Cecile Manorohanta. (2006). Default Pronouns and Root Infinitives in Malagasy Acquisition. In Deen, K.U., J. Nomura, B. Schulz and B.D. Schwartz (eds), *The Proceedings of the Inaugural Conference on Generative Approaches to Language Acquisition–North America,* University of Connecticut Occasional Papers in Linguistics, 4, 249-260.

Palmer, F. R. (1974). *The English verb.* London: Longman.

Parker, G. W. (1883). *A Concise Grammar of the Malagasy Language.* London: Trübner & Co.

Paul, Ileana (1996a) F-words and other (Malagasy) nominals. *Proceedings of Canadian Linguistics Association, Calgary Working Papers in Linguistics,* 321-332.

Paul, Ileana. (1996b). The Active Marker and Nasals in Malagasy. In M. Pearson & I. Paul (eds.) *The Structure of Malagasy, UCLA Occasional Papers in Linguistics 17,* Department of Linguistics, UCLA, 49-57.

Paul, Ileana (ed.). (1998). *The Structure of Malagasy. Volume II.* Department of Linguistics, UCLA.

Paul, Ileana. (1999). Malagasy Clause Structure. PhD Dissertation, Department of Linguistics, McGill University, Montreal, Quebec, Canada.

Paul, Ileana. (2001a). Concealed pseudo-clefts. *Lingua 111,* 707-727.

Paul, Ileana. (2001b). *Ve* as a second position clitic. *Oceanic Linguistics 40:* 135-142.

Paul, Ileana. (2003). On the lack of *wh*-movement in Malagasy. Paper presented at the Tenth Meeting of the Austronesian Formal Linguistics Society, University of Hawaii.

Paul, Ileana. (2004). NP versus DP Reflexives: Evidence from Malagasy. Oceanic Linguistics 43:1, 32-48.

Paul, Ileana. (2006). Bare nouns in Malagasy syntax. Nominal Incorporation and Its Kind. Ms. University of Ottawa. February 20-22, 2006.

Paul, Ileana and Jeannot F. Ranaivoson. (1998). Complex verbal constructions in Malagasy. In I. Paul (ed.). *The structure of Malagasy II. UCLA Occasional Papers in Linguistics 20*, 111-125.

Paul, Ileana and Lucie Rabaovololona. (1998). Raising to object in Malagasy. In Ileana Paul (ed.). The Structure of Malagasy II. UCLA Occasional Papers in Linguistics 20. Los Angeles: UCLA Department of Linguistics, 50-64.

Pearson, Matthew. (1998a). Rightward Object Shift and the Syntax of Adverbs. In I. Paul (ed.) *The Structure of Malagasy, vol. II, UCLA Occasional Papers in Linguistics 20.* Department of Linguistics, UCLA, 34-64.

Pearson, Matthew. (1998b). Event structure and the syntax of themes and instruments: The case of the Malagasy Translative Voice (a-passive). AFLA-V, University of Hawai'i.

Pearson, Matthew. (2000). 'Tense' marking on Malagasy obliques and the syntax of telic events. In: C. Smallwood and C. Kitto (eds.) *Proceedings of AFLA VI, C. Toronto Working Papers in Linguistics.* University of Toronto.

Pearson, Matthew. (2001). The Clause Structure of Malagasy: A Minimalist Approach, UCLA Dissertations in Linguistics 21, Department of Linguistics, UCLA.

Pearson, Matthew. (2005). The Malagasy Subject/Topic as an A' –Element, *Natural Language & Linguistic Theory 23*, 381–457.

Pearson, Matthew and Paul, Ileana, (eds.) (1996). *The Structure of Malagasy, Volume 1, Occasional Papers in Linguistics, N. 17*, Department of Linguistics, UCLA.

Perlmutter, David. (1971). *Deep and Surface Structure Constraints in Syntax.* New York: Holt, Rinehart, and Winston

Pesetsky, David. (1992). Zero syntax II: An essay on infinitives. Ms., MIT, Cambridge, Mass.

Pesetsky, David and Esther Torrego. (2001). 'T-to-CMovement: Causes and Consequences', in Michael Kenstowicz (ed.), *Ken Hale: A Life in Language.* MIT Press, Cambridge,MA, 355–426.

Phillips, Vivianne. (2000). The Interaction between Prefix and Root: The Case of Maha- in Malagasy. In I. Paul, V. Phillips & L. Travis (eds.) *Formal Issues in Austronesian Linguistics*, Dordrecht: Kluwer, 85-104.

Picallo, M. Carme. (1984). The Infl Node and the Null Subject Parameter, *Linguistic Inquiry 15*, 75–102.

Picallo, M. Carme. (1991). Nominals and nominalization in Catalan. *Probus 3:* 279-316.

Picallo, M. Carme. (2001) Nominalized clauses, clausal arguments and agreement. In *Catalan Working Papers in Linguistics 9*, 69-84.

Poeppel, David and Kenneth Wexler. (1993). The Full Competence Hypothesis of Clause Structure in Early German, *Language 69*, 1–33.

Polinsky, Maria, and Eric Potsdam. (2002). Backward control: Evidence from Malagasy. In *The Proceedings of the Eighth Austronesian Formal Linguistics Association*, (MIT Working Papers in Linguistics 44.) Cambridge, Ma., 257-272.

Polinsky, Maria, and Eric Potsdam. (2003). Control in Malagasy. *Cornell Working Papers in Linguistics 19*: 173-187.

Polinsky, Maria and Eric Potsdam. (2005). Malagasy Control and its implications for linguistic theory. *BLS 30*.

Pollock, Jean-Yves. (1989). Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry 20*: 365-424.

Postal, Paul. (1971). Cross-over phenomena. New York: Holt, Rinehart, and Winston.

Potsdam, Eric. (2004). Patterns of Control in Malagasy and their Theoretical Implications, The University of Maryland, February 2004.

Potsdam, Eric. (to appear). The cleft structure of Malagasy wh-questions. In: Gaertner, H.-M., Law, P., Sabel, J. (eds.), *Clause Structure and Adjuncts in Austronesian Languages*. Mouton de Gruyter, Berlin.

Rabenilaina, Roger-Bruno. (1983) *Morpho-syntaxe du malgache. Description structurale du dialecte Bara*. Paris, France. SELAF.

Rabenilaina, Roger-Bruno. (2004). Déverbatif et diathèse en malgache. In L. Christian, É. Laporte, M. Piot and M. Silberztein (eds.), Lexique, Syntaxe et Lexique-Grammaire/ Syntax, Lexis & Lexicon-Grammar. Papers in honour of Maurice Gross. Lingvisticæ Investigationes Supplementa 24. John Benjamins Publishing Company.

Rackowski, Andrea. (1998). Malagasy Adverbs. In I. Paul (ed.) *The Structure of Malagasy, vol. II, UCLA Occasional Papers in Linguistics 20*, Department of Linguistics, UCLA, 11-33.

Rackowski, Andrea & Lisa Travis. (2000). V-initial languages: X or XP movement and adverbial placement. In: A. Carnie & E. Guilefoyle (eds.) *The syntax of verb-initial languages*, Oxford University Press, 117-141.

Rackowski, Andrea and Norvin Richards. (2005). Phase edge and extraction: a Tagalog case study. *Linguistic Inquiry 36.4*:565-599.

Rahajarizafy, R. P. A. (1966). *Essai sur la grammaire malgache*. Antananarivo: Imprimerie Catholique.

Rajaona, Siméon. (1972). *Structure du malgache. Etudes des formes préedicatives*. Librairie Ambozontany, Fianarantsoa, Madagascar. [Origine: Thèse pour le Doctorat d'Etat en Linguistique, Université de la Sorbonne Nouvelle, Paris, France.

Rajaona, Siméon. (1977) *Problèmes de Morphologie Malgache*. Librairie Ambozontany, Fianarantsoa, Madagascar.

Rajemisa-Raolison, Régis. (1971). *Grammaire malgache*. Editions Ambozontany, Fianarantsoa 7th edition.

Rajemisa-Raolison, Régis. (1985). *Rakibolana Malagasy*. Editions Ambozontany, Fianarantsoa.

Rajohanesa, Philippe. (1963). *Ilay Kintana Mamirapiratra* (That (aforementioned) Shining Star). Imprimerie Luthérienne.

Randriamasimanana, Charles. (1986). *Causatives of Malagasy*. Honolulu: University of Hawaii Press.

Rappaport Hovav, M. and Beth Levin. (1992). -er Nominals: Implications for a Theory of Argument Structure. In T. Stowell and E. Wehrli, (eds.), *Syntax and Semantics 26: Syntax and the Lexicon*. Academic Press, New York, NY, 127-153.

Rau, D. Victoria. (2002). Nominalization in Yami. *Language and Linguistics 3.2*: 165-95.

Rasoloson, Janie Wermter & Carl Rubino. (2005). Malagasy. In N. Himmelmann and K.A. Adelaar (eds.).*The Austronesian Languages of Asia and Madagascar*. London: Routledge, 456-488.

Richards, Norvin. (1996). Syntax versus semantics in Tagalog wh-movement. In M. Pearson (ed.) *UCLA Occasional Papers in Linguistics 21: Recent papers in Austronesian linguistics*. Los Angeles: UCLA, 259-275.

Richards, Norvin. (2000). Another Look at Tagalog Subjects, in I. Paul, V. Phillips and L. Travis (eds.), *Formal Issues in Austronesian Linguistics*, Kluwer Academic Press, Dordrecht, the Netherlands, 105-116.

Richardson, James. (1885) *A New Malagasy-English Dictionary*. LMS, Antananarivo. Reprinted in 1967 by Gregg Press, Farnborough, Hants.

Ritter, Elizabeth. (1991). Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. In Rothstein (ed.) *Syntax and Semantics 25*. New York: Academic Press, 37-62.

Ritter, Elizabeth and Sara Thomas Rosen. (1998). Delimiting Events in Syntax. In M.Butt and W. Gelber (eds.) *The Projection of Arguments: Lexical and Compositional Factors*, CSLI: Stanford, 135-164.

Rizzi, Luigi. (1982). *Issues in Italian syntax*. Foris, Dordrecht.

Rizzi, Luigi. (1990). *Relativized Minimality*. Cambridge, MA: MIT Press.

Rizzi, Luigi. (1997). The Fine Structure of the Left Periphery. In L.Haegeman (ed.), *Elements of Grammar*, Kluwer, 281-337.

Roberts, Ian. (1985). The Representation of Implicit and Dethematized Subjects. Doctoral dissertation, University of Southern California.

Roeper, Thomas. (2005). Chomsky's Remarks and the transformationalist hypothesis. In P. Stekauer and R. Lieber (eds.) *The Handbook of English Word Formation*, Dordrecht: Kluwer, 125-46.

Ross, J.R. (1967). Constraints on variables in syntax. Doctoral dissertation, MIT.

Roussou, Anna. (1991). Nominalized Clauses in the syntax of Modern Greek. *UCL Working Papers in Linguistics 3*, 77-100.

Rouveret, A. (1994). *Le syntaxe du gallois*. Paris, France: Editions CNRS.

Sabel, Joachim. (2002). Wh-questions and extraction asymmetries in Malagasy. In Andrea Rackowski and Norvin Richards (eds.), *Proceedings of AFLA 8* (MIT Working Papers in Linguistics 44). Cambrige, MA: MITWPL, 309-324.

Schachter, Paul. (1976). The Subject in Philippine Languages: Topic, Actor, Actor-Topic or None of the above. In C. Li (ed.) *Subject and Topic*, New York: Academic Press, 491-518.

Schachter, Paul. (1987). Tagalog. In Bernard Comrie (ed.), *The World's Major Languages*, Oxford University Press, 936-958.

Schachter, Paul and Otanes, F.T. (1972) *Tagalog reference grammar*, Berkeley: University of California Press.

Schueler, David (2004) Extended Projection, Categorization, and the English Morpheme *–ing*. Paper presented at the Western Conference of Linguistics (WECOL) 2004, University of Southern California, Los Angeles, Novenber 12-14, 2004.

Shkarban, Lina I. (1992). Syntactic Aspect of Part-of-Speech Typology, in S. Luksaneeyanawin (ed.), *Pan-Asiatic Linguistics*, Proceedings of the Third International Symposium on Language and Linguistics, Chulalongkorn University, Bangkok, Volume 1, 261-275.

Siegel, Laura. (1998). Gerundive Nominals and Aspect. In J. Austin and A. Lawson (eds.), *Proceedings of ESCOL '97*. CLC Publications.

Siloni, T. (1997). *Noun Phrases and Nominalizations*. Kluwer, Dordrecht.

Spencer, Andrew (2005) Lecture Notes for *Morhology-LG572*, Linguistics Department, University of Essex.

Sportiche, Dominique. (1992). Clitic Constractions, in L. Zaring & J. Rooryck (eds.) *Phrase Structure and the Lexicon*, Bloomington: IULC.

Sportiche, Dominique (2005) Division of Labor between Merge and Move: Strict Locality of Selection and Apparent Reconstruction Paradoxes. LingBuzz, available at http://ling.auf.net/lingbuzz/@OlUETTjffmWuiVMq/GnKnPeKC.

Sproat, R. (1985). On Deriving the Lexicon. PhD Dissertation, MIT, Cambridge.

Spruiell, William C. (1990) Perspectives on Nominalization. Ph.D. Dissertation, Rice University.

Spruiell, William C. (1994). Possible Sources of Participant Nominalizers: Implications for Typology. *Proceedings of the 21st LACUS Forum*, 13-26.

Starosta, Stanley, Andrew Pawley and L. Reid (1982) The evolution of focus in Austronesian. *Pacific Linguistics C75*. 145-170.

Stowell, Timothy. (1982). The Tense of Infinitives, *Linguistic Inquiry 13*:561-570.

Stowell, Timothy. (1996). The Phrase Structure of Tense. In J. Rooryck & L. Zaring (eds.) *Phrase Structure and the Lexicon*. Dordrecht: Kluwer.

Sugisaki, K. (1997). Japanese Passives in Acquisition. Paper presented at the 12th Annual Meeting of the Sophia Linguistic Society, Sophia University.

Svenonius, Peter. (2005). Extending the extension condition to discontinuous idioms. *Linguistic Variation Yearbook, 5, 1*, 227-263.

Szabolcsi, Anna. (1994). The noun phrase. In F. Kiefer & K. E. Kiss (eds.) *Syntax and Semantics 27: The Syntactic Structure of Hungarian*, 179-274.

Tenny, Carol. (1994). *Aspectual roles and the syntax-semantics interface*. Kluwer Academic Publishers, Dordrecht.

Thyme, Ann. (1989). Nominalization in Malagasy: A Cognitive Analysis, *Linguistic Notes from La Jolla*, UCSD Department of Linguistics, 105-136.

Thomas-Fattier, Dominique (1982) *Le Dialecte Sakalava du Nord-Ouest de Madagascar*. Paris: Centre National De La Recherche Scientifique.

Travis, Lisa deMena. (1991). Inner aspect and the structure of VP. NELS 22. GLSA, Amherst.

Travis, Lisa deMena. (1994). Event phrase and a theory of functional categories. P. Koskinen (ed.) Proceedings of the 1994 annual conference of the Canadian Linguistic Society, 559-570.

Travis, Lisa deMena. (2000). The l-syntax/s-syntax boundary: evidence from Austronesian. In Paul, I., V. Phillips, and L. Travis, (eds.), *Formal Issues in Austronesian Linguistics*, Studies in Natural Language and Linguistic Theory, Volume 49. Dordrecht: Kluwer, 167-194.

Travis, Lisa deMena. (2000b) Eight Possible Paper Topics on Chamorro and Related Languages. Oceanic Linguistics 39.1: 170-198.

Travis, Lisa deMena. (2005a). VP-internal structure in a VOS language. In A. Carnie, H. Harley and S. A. Dooley (eds.), *Verb First: On the syntax of verb-initial languages*. John Benjamins, 203-224.

Travis, Lisa deMena. (2005b). Passives, States, and Roots in Malagasy. In J. Heinz & D. Ntelitheos (eds.) *Proceedings of AFLA XII*, UCLA Working Papers in Linguistics 12. Department of Linguistics, UCLA, 395-409.

Tuttle, Siri G. (2003). The lexicon-syntax interface in Athabaskan languages. Final report on the project "Lexicon-Syntax Interface". Available at http://ling.kgw.tu-berlin.de/polysynthese/Siri_Tuttle_report.pdf.

Uriagereka, Juan. (1999). Multiple spell-out. In S. D. Epstein and N. Hornstein (eds.) *Working Minimalism*, Cambridge, Mass: MIT Press, 251-282.

Valois, Daniel. (1991). The Internal Syntax of DP. Doctoral Dissertation, University of California, Los Angeles.

Varlokosta, Spyridoula. (1993). Control in Modern Greek. in Carol A. Mason, Susan M. Powers, and Cristina Schmitt (eds.), *University of Maryland Working Papers in Linguistics, Vol. 1*, 144-163.

Vendler, Zeno (1968). *Adjectives and Nominalizations*. The Hague: Mouton.

Vergnaud, J. R. (1974). *French Relative Clauses*, PhD Dissertation, MIT.

Verkuyl, Henk. (1989). Aspectual Classes and Aspectual Composition. *Linguistics and Philosophy 12*:39-94.

Verrips, Maaike. (1996). *Potatoes Must Peel: The Acquisition of the Dutch Passive*, Holland Academic Graphics, The Hague.

Weber, David John. (1989). *A Grammar of Huallaga (Huánuco) Quechua*. Berkeley: University of California Press.

Williams, Edwin. (2003). *Representation Theory*. MIT Press, Cambridge MA

Wu, Zoe Xiu-Zhi. (2000). Grammaticalization and the Development of Functional Categories in Chinese. Doctoral Dissertation, University of Southern California.

Zagona, Karen. (1990). Times as Temporal Argument Structure. MS, Univ. of Washington.

Zeitoun, Elizabeth (ed.). (2002). *Nominalization in Formosan Languages. Language and Linguistics 3, 2: Special Issue*. Institute of Linguistics, Academia Sinica, Taipei, Taiwan.

Zribi-Hertz, A. and L. Mbolatianavalona. (1999). Towards a modular theory of linguistic deficiency: Evidence from Malagasy personal pronouns. *Natural Language and Linguistic Theory 17*: 161-218.

Zwart, C. Jan-Wouter. (2005). Verb second as a function of Merge. In M. den Dikken and C. M. Tortora, (eds.) *The function of function words and functional categories*. Amsterdam: John Benjamins, 11-40.

Zwart, C. Jan-Wouter. (2006). Local Agreement. In C. Boeckx (ed.) *Agreement Systems*, John Benjamins, 317–339.