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Projecting possessors: A Morphosyntactic Investigation of Nominal Possession in

Tigrinya

By

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Abstract

In this dissertation, I examine the grammatical expression of possession in Tigrinya, a lesser-studied Semitic language of Ethiopia and Eritrea. I show that possession in Tigrinya is encoded by two strategies, which differ in both structure and function: (i) PREDICATIONAL STRATEGY has the particle *nay* and is used for alienable possession; (ii) ARGUMENTAL STRATEGY or BARE POSSESSION has no *nay* and is used for inalienable possession. To account for such differences, I propose different treatments for both types of possession.

For alienable or *nay*-marked possession, I consider two competing hypotheses that have been proposed for a similar element *yā-* in Amharic, a very closely related language: Either *yā-* is a genitive case-marker (Ouhalla 2004) or *yā-* is a LINKER (den Dikken 2007a). I argue that the two hypotheses are untenable because they fail to account for all the facts of Tigrinya. I develop an alternative proposal and claim that *nay* is a nominal copula and that its role is to introduce a predication relation between the *nay*-marked predicate (e.g., possessor) and its subject (e.g., possessee).

For inalienable or bare possession, I first compare them with similar constructions in Hebrew: Construct state nominals (CSNs). I show that Tigrinya bare possessive nominals (BPNs) are a type of CSN. I also consider two competing hypotheses previously proposed for Semitic CSNs: Head movement (SHM) (Ritter 1991) and snowballing phrasal movement (SPM) (Shlonsky 2004). I argue that SPM is both theoretically and empirically inadequate for Tigrinya and that HM should be recast in line with current Minimalist assumptions (Chomsky 1995b *et seq.*). I develop an alternative analysis arguing that both Tigrinya and Hebrew CSNs involve a non-standard head

movement – head-to-Spec movement accompanied by Morphological Merger (Matushansky 2006) in their DP structure.

Additionally, I claim that differences between Tigrinya and Hebrew arise due to unique properties of the categories N and D: While Hebrew Ns are inherently specified for a [DEF] feature, Tigrinya Ns are not. Also, while the [DEF] feature of the D head in Hebrew is inherently unvalued and strong ([_{DEF}*]) and causes the N to move to D, the [DEF] feature of the D head in Tigrinya is inherently valued ([±DEF]) and does not cause the noun to move.

Finally, generalizing from the proposal of possession herein, the dissertation makes predictions about alienable and inalienable possession in natural languages in general. It proposes that cross-linguistic variation arises due to the availability of both an argumental and a predicative strategy for expressing alienable possession. Each of these strategies requires different functional categories and induces substantial differences in the syntactic structure.

Acknowledgements

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Abbreviations

1	1 st person	S	Subject
2	2 nd person	SG	Singular
3	3 rd person		
ACC	Accusative		
AGR	Agreement head		
AUX	Auxiliary		
C	Complementizer		
CAUS	Causative		
D	Determiner		
DEF	Definiteness feature		
DEM	Demonstrative		
F	Feminine		
FOC	Focus		
FUT	Future		
IMPF	Imperfective aspect		
IFL	Inflectional head		
L	Linker		
M	Masculine		
NEG	Negative marker		
NM	Nominalizer		
NUM	Number		
O	Object		
OM	Object marker		
PASS	Passive		
PF	Perfective aspect		
PL	Plural		
R	Relator		
REL	Relative clause marker		

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Chapter 1

Introduction

1 General background

1.1 Research question

This dissertation asks fundamental questions about the linguistic expression of nominal possession in Semitic languages, with particular attention to Tigrinya. It mainly raises the question of how to account for possession syntactically, and how Tigrinya encodes possession in its grammar.

Possession is a heterogeneous linguistic concept that refers to the relation between two entities, usually referred to as POSSESSOR and POSSESSEE¹ (see Barker 2010, Heine 1997, among others). The major distinction within the domain of possession is between “inalienable” and “alienable” possession. An inalienable possession (hereafter IAP) refers to a lexically determined semantic relationship between the possessor and the possessee (e.g., *John’s son* where *John* is the father), whereas an alienable possession (henceforth ALP) refers to a contextually determined semantic relationship between the possessor and the possessee (e.g., *John’s book* where *John* could own, like, etc. the book) (Barker 2010).

¹ Note that the terms ‘possessee’ and ‘possession’ are interchangeably used to refer to the possessed head noun in the literature. In this dissertation, I use the term ‘possessee’ throughout just for convenience.

² Different classes of IAP have different properties in Tigrinya. The scope of this dissertation is limited to kin terms, which fundamentally distinguish between ALP and IAP; I put aside body parts and part whole terms as a topic for future work.

³ Throughout the dissertation, I will use the terms *Move*, *Internal Merge* and *Re-Merge* interchangeably to indicate the displacement of a constituent in a derivation.

In Tigrinya, nominal possession is expressed with one of the following two strategies: (i) [*nay* Possessor Possessee] and (ii) [Possessee Possessor], with strategy (i) used for ALP and strategy (ii) for IAP, as illustrated in (1).

- (1) a. *nay ħagos mäs'ħaf*
 NAY Hagos book
 ‘Hagos’s book’
 b. *wəddi ħagos*
 son Hagos
 ‘Hagos’s son’

Based on these observations, I further refine my research questions as: What is the structure of strategies (i) and (ii), and is there a principled reason for the correlation between the syntax and semantics of nominal possession in Tigrinya?²

Other Semitic languages have two different strategies for expressing possession. These strategies are commonly referred to as free state and construct state (see Gray 1934 and Margolis 1896 for early grammatical description). For instance, in Hebrew, free state nominals are encoded by using the structure [Possessee *ʔel* Possessor], while construct state nominals are encoded by using the structure [Possessee Possessor] (see Borer 1988, Ritter 1988, among others, for a detailed description of these examples).

² Different classes of IAP have different properties in Tigrinya. The scope of this dissertation is limited to kin terms, which fundamentally distinguish between ALP and IAP; I put aside body parts and part whole terms as a topic for future work.

- (2) a. ha-bayit fel ha-mora
 the-house of the-teacher
 ‘the house of the teacher’
- b. beyt ha-mora
 house the-teacher
 ‘the teacher’s house’
- (Ritter 1991: 40-42)

However, in Semitic languages other than Tigrinya, both strategies can be used for both IAP and ALP. This dissertation explores the question of whether the Tigrinya strategy in (i) is an instance of free state possession, and the Tigrinya strategy in (ii) an instance of construct state possession, and if so, why only in Tigrinya do the structures correlate with the semantic opposition between ALP and IAP.

1.2 The proposal

I hypothesize that the semantic distinction between ALP and IAP is a reflection of a syntactic difference between the two. Based on a number of syntactic phenomena, I argue that ALP and IAP in Tigrinya are syntactically encoded in two differing structures; they particularly differ in the morphosyntactic properties of their possessors, which correlate with their status as predicates or arguments. I propose that crosslinguistically an inalienable possessor (henceforth IA-Pssr) is always an argument and must be Merged in an argument position, but an alienable possessor (henceforth AL-Pssr) may be a predicate or an argument and is therefore Merged either in a predicate or argument position. In Tigrinya, AL-Pssrs are predicates, but in other Semitic languages, namely Hebrew, they

are arguments. Therefore, Tigrinya uses a different strategy for AL-Pssrs than other Semitic languages. However, IA-Pssrs are arguments in all languages and the Tigrinya strategy for expressing IAP is an option available in other Semitic languages for both IA and AL-Pssr arguments. This hypothesis explains why in Tigrinya there is a correlation between structure and interpretation of nominal possession, but in other Semitic languages there is not.

I address the specific research questions by proposing that both the semantic and morphosyntactic difference between the two types of possession can be accounted for by a difference in Merge structure. This is based on the observation in chapter 2 that ALP and IAP are syntactically encoded by two differing strategies in Tigrinya. Tigrinya marks inalienable kinship relations differently from alienable ownership relations. Generally, this would mean that if a language formally distinguishes between ALP and IAP, it is expected that IAP must have a different syntactic structure than that of ALP.

Tigrinya IAPs share the defining properties of (Hebrew) construct state nominals (CSNs). To account for their common as well as unique properties, I develop a head movement analysis based on the Minimalist principle of feature valuation (Chomsky 1995a and later work (see discussion in section 2 below)). The details of the analysis are given in Chapter 4.

1.3 Overarching themes

The research focus of this dissertation fits into well-accepted traditions of research on macro- and micro-variation in generative syntax and Semitic languages, contributing both to the development of linguistic theory and to the description of linguistic phenomena.

Two overarching themes are addressed throughout the dissertation. The first theme concerns the proper description and analysis of possessives in Tigrinya, a lesser-studied Semitic language spoken in Ethiopia and Eritrea. Throughout the dissertation, descriptive generalizations are made that relate the facts of Tigrinya to broader universal and typological tendencies. On the analytical side, the dissertation aims to develop thorough and well-motivated analyses of the major phenomena of the Tigrinya possessives.

The second theme concerns a particular area of theoretical investigation: Minimalist syntax. Much of the most fruitful and influential research of the past forty years has focused on the Principles and Parameters (Government and Binding) framework. However, in the last two decades or so, with the advent and growth of the Minimalism Program (Chomsky 1993 *et seq.*), previous theoretical assumptions have been recast and new ways of asking questions about syntax have emerged. This dissertation focuses on the Minimalist assumptions of Move (or Internal Merge)³, the operation Agree, and the syntactic position and realization of phi-features and predicates, contributing to the development of the Minimalist research program. Each chapter includes a discussion of the implications of the analysis of Tigrinya for a Minimalist theory of syntax.

The remainder of this chapter is structured as follows. In section 2, relevant background on the theoretical framework adopted in this dissertation, i.e., the Minimalist Program, is outlined. The basic tenets of the framework are laid out in this section, although key notions are discussed again when they arise in the body of the dissertation.

³ Throughout the dissertation, I will use the terms *Move*, *Internal Merge* and *Re-Merge* interchangeably to indicate the displacement of a constituent in a derivation.

In section 3, the source of the data is presented. Finally, in section 4, the organization of the dissertation is outlined, along with a preview of the contents of the chapters to come.

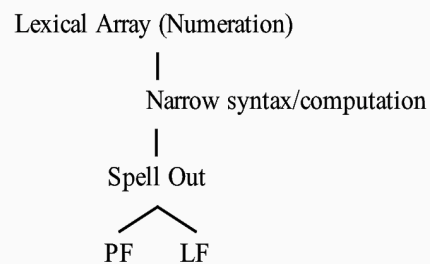
2 Theoretical background

This dissertation is written within the Minimalist Program (Chomsky 1993 *et seq.*) of the Principles and Parameters framework. This section lays out the fundamental ideas of Minimalist syntax, which are used throughout the dissertation. Minimalist assumptions that are key to this dissertation are that displaced elements target the root of a structure (i.e., the EXTENSION CONDITION) and that MOVE (also known as INTERNAL MERGE or RE-MERGE) is triggered by feature valuation. I rely on Minimalist notions such as the operation AGREE and feature valuation as formalization of agreement. These theoretical notions are extensively discussed as they come up in the thesis; this background section simply focuses on the main assumptions and underpinnings of the Minimalist Program.

The basic assumption of the Minimalist framework is the idea that language is optimally designed and that this should be reflected in linguistic theory (cf. Occam's Razor). Minimalist approaches to syntax aim to eliminate redundant and sub-optimal syntactic principles, recasting many assumptions, principles and projections without strict motivation. More specifically, Minimalism assumes that syntax reduces the levels of representation to two: Articulatory-perceptual "Phonetic Form" (PF) and conceptual-intentional "Logical Form" (LF). Under this system, since the basic function of language is to bring together sound and meaning, these two levels are called "interfaces" and building any syntactic structure passes through these levels, as illustrated in (3). In the Minimalist Program, it is assumed that the human language faculty consists of a Lexicon and a Computational System, also known as "narrow syntax" (Chomsky 1995b *et seq.*).

Building any syntactic structure starts with the lexicon. Elements are drawn from the lexicon in what is known as a “Lexical Array” (LA) or “Numeration.” The computational system uses this LA to build a syntactic structure. After the syntactic structure is built, the derivation is sent to LF for semantic interpretation and to PF for phonological and phonetic interpretation (i.e., Spell-out).

(3)

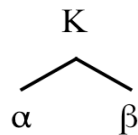


Thus, in this system a derivation proceeds in the following steps: First, lexical items are selected from the numeration. Lexical items are made up of features that are relevant to syntax, semantics and/or phonology. These features can be either interpretable or uninterpretable or valued or unvalued. Interpretable features are interpreted at the interfaces; uninterpretable features need to be eliminated or checked unvalued features must be valued during the course of the derivation before the structure is sent to the interfaces because they are not interpretable at those levels (Chomsky 2000; 2001). For instance, person and number features on nouns are interpretable; these features are relevant for semantic interpretation, and thus they do not need to be eliminated before spell-out. However, other features, such as structural Case are uninterpretable, as they are relevant only to the syntactic part of the derivation, and not to the phonological or

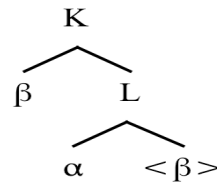
semantic interfaces. Thus, they need to be eliminated before the structure is sent to the interfaces.

Once the lexical items are selected from the numeration, the computational system starts to build structures using the structure building operation called MERGE. Merge takes two items and puts them together creating a set. There are two types of Merge: External and Internal Merge (Chomsky 2000). External Merge takes lexical items that are not in a syntactic derivation and adds or “merges” them into the structure; in contrast, Internal Merge takes previously Merged syntactic items and re-combines or “re-Merges” them within the syntactic derivation.⁴ These two operations are illustrated below:

(4) a. External Merge of α and β



b. Internal Merge of β



The Minimalist Program focuses on the interpretability of formal features at the semantic and phonetic interfaces. Both External Merge and Internal Merge are driven by a need to check features. As long as uninterpretable features are present on the derivation, the

⁴ This Re-Merging operation is often assumed to be copying (Chomsky 1993); the computation takes a previously merged item and remerges it, leaving a copy of the item in its original position. The remerged item and its copy form a chain in which the re-Merged copy c-commands the original element. In other words, the re-Merged copy is in a higher position in the structure.

derivation continues with Merge and feature-checking operations. Note that $\langle \beta \rangle$ refers a trace of ' β ', that ' β ' is moved from that position to a higher position.

In minimalism, the set created by Merge or combining two items receives a label. The label of the set is always the label of one of the items being Merged. For instance, if α and β are merged, the label will be either α or β , depending on which of the two determines the properties of the set. The item that passes its label to the set is the one that “projects” and it is considered the head. (See Citko 2008 for discussion and other alternatives.)

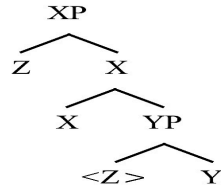
This labeling and projection system constitutes a departure from previous X-bar Theory as developed in Chomsky 1970; 1981; 1986 (see also Jackendoff 1977). In this framework, lexical items necessarily project at least three levels: a head (X^0), an intermediate level (X') and a maximal phrasal level (XP). However, Chomsky (1995b) proposes a bare phrase structure theory where bar levels are not used. In this dissertation, I will adopt a bare phrase structure. However, for ease of exposition, I occasionally retain X' and XP projections.

One other basic operation in the computational system is AGREE. Agree is a relationship between a PROBE and a GOAL, with the Probe c-commanding the Goal. The Probe has an unvalued feature, which needs to be valued and checked by being in an Agree relation with a matching valued feature. Thus, the Probe selects a Goal with a matching feature from within the structure or c-commanding domain. As a result of Agree, the features on the Probe are valued and deleted.

In some cases, the Probe has an EPP feature, which requires a Probe that is a head to have a specifier (Chomsky 2000). When a given Probe has an EPP feature, which needs

to be checked, the Goal will Re-Merge (or be copied) from a c-commanding position of the Probe to its specifier position, as shown below:

(5)



Thus, movement is assumed to occur as a result of a Probe selecting a Goal and causing it to move to a higher position. It is often assumed that both the Probe and the Goal need to be active and in a local c-command relation in order for them to be in a feature-checking relation, such as Agree (Chomsky 1995b; 2000). Both the Probe and the Goal should have some features that need to be valued or checked, and the Agree operation will target all these features. In order for the Goal to check the features of the Probe, the Goal itself must get something out of the relation. For example, the subject DP moves from [Spec, vP] to [Spec, TP], to check T's EPP and c-selectional D features, and in turn T checks the Case feature on the subject. Thus, Move is assumed to occur as a result of a Probe selecting a Goal and causing it to move.

After all the required syntactic operations have taken place, the structure is transferred to the interface levels via an operation called Spell Out (see Hornstein et al. 2005 for a recent discussion). In spell-out, the phonological features of the structure are stripped and sent to PF, where the structure is pronounced. The remaining features would be semantic features, and LF would process those. Under this system, a morphological structure is assumed to be a part of PF; it is a post spell-out level in itself (Chomsky

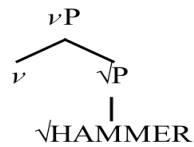
1995a, Marantz 1997). Morphology computes the spelled-out structure and then sends it to phonology to be pronounced. If the structure sent to PF and LF is interpretable at those levels, the derivation is said to CONVERGE. If, however, the structure does not conform to the principles of one or both of the interface levels, the derivation is said to CRASH. These assumptions will be partly relevant for the discussion in chapter 3 and 4, where both alienable and inalienable possessions are argued to involve movement that makes use of feature checking.

I turn next to discussion of theoretical assumptions regarding morpho-syntax and morphology. Recent work within Minimalism and Distributive Morphology has also pursued the idea that all lexical categories are made up of a category-neutral root and a category-determining head (see Arad 2005, Harley 2009, Marantz 1997; 2001).⁵ For instance, a word like *hammer* consists of a root $\sqrt{\text{HAMMER}}$ that can be either a noun or a verb, depending on the type of category-determining head it Merges with: If it Merges with a functional head v that ‘verbalizes’ it, it becomes a verb, but if it Merges with a functional head n that ‘nominalizes’ it, it forms a noun (Arad 2005: 256; see also Kramer 2009).

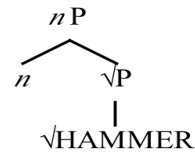
⁵ In the literature, there is a fundamental debate between a lexical approach to morphology and a syntactic approach to morphology. In classical grammars, the contrast between morphology and syntax is sharp — syntax assembles phrases and morphology assembles words. However, Distributive morphology assumes that morphology (including word formation) is part of syntax and that there is no centralized lexicon (see Halle & Marantz 1993). In this dissertation, wherever it is applicable, I assume a syntactic approach to morphology, specifically the theory of Parallel Morphology, where a certain structure can be sent to PF and then the derivation continues (cf. Borer 1988). In this approach, word formation occurs in the syntax and heads or feature bundles are grouped together through Cyclic movement.

(6)

a.



b.



Thus, while (6a) results in the verb *hammer* ‘to pound something’, (6b) results in the noun *hammer* ‘a tool for pounding’. Chomsky (1995b) and others propose that it is not the lexical root, but rather the functional head that selects an external argument, and that the external argument is Merged in the specifier position of the functional projection (see also Kratzer 1996, for a similar external argument introducing functional head VOICE). Building on this view, many assume that different varieties of *v* or *n* introduce different types of external arguments (see Folli & Harley 2004 and Ritter & Rosen 2010a). In chapter 4, these proposals are adopted and, in particular, the role of *n* in introducing different types of possessor arguments is explored.

A final but very important distinction in Minimalism that recurs in the dissertation is that between standard head-to-head movement, where a head moves and adjoins to a higher head (Travis 1984) and head-to-Spec movement, where a head moves and targets the root (Matushansky 2006). Standard head movement is used in the generative literature to account for a wide range of data from a number of languages, including DPs in Semitic languages. The status of this syntactic operation has been challenged by proponents of the Minimalist Program (Boeckx & Stjepanovic 2001, Chomsky 1995b; 2000, Mahajan 2000, among others). In Chomsky (1995b; 2000) a number of arguments are given against keeping head movement as a syntactic movement operation. For

instance, he argues that head movement does not affect interpretation and violates a number of Minimalist principles such as the Extension Condition, which requires that all movement operations extend the root of the structure, and the ECP, a requirement for a moved constituent to c-command its trace/source position. Chomsky suggests that head movement must be confined to the PF part of the grammar because PF-movement does not have to obey the Extension Condition or the c-command requirement, which are constraints on operations in the narrow syntax. (See also Boeckx & Stjepanovic 2001 for empirical motivation.)

However, others argue that head movement should not be eliminated from narrow syntax (see Matushansky 2006, Roberts 2004, among others). These authors not only demonstrate that head-movement does have semantic effects but also provide a way to resolve the issues raised against head movement. Particularly, Matushansky (2006) provides an alternative analysis that keeps head movement in narrow syntax by reformulating the way heads move; she argues that heads, like phrases, can target the specifier position, thus obeying the Extension Condition and other Minimalist principles. This alternative analysis divides the labor between syntax and morphology, with syntactic head-to-Spec movement providing the input for a subsequent morphological merger operation. In this dissertation, I adopt the view that head-movement is a syntactic phenomenon (not a PF phenomenon) in order to explain head movement in Semitic possessive DPs.

3 Data sources

There are two sources for the Tigrinya data used in this dissertation. The first source is my own native intuitions. The second source is published and unpublished works on

Tigrinya, including Amanuel (1988), Berhane (1991), and Tewolde (2002). In general, data from my own native intuition is given primacy in the dissertation, but this is often supplemented by data from other unpublished and published sources. Note that no source is indicated for examples based on my own intuitions, but otherwise the source of all examples is given. All data for other languages discussed in this dissertation are taken from published sources.

4 Why Tigrinya

Although Tigrinya is spoken widely (see the appendix for detailed description), and has a rich literary tradition, little has been written about the structure of the language. This is in stark contrast to the related languages, Hebrew, Arabic, and even Amharic, all of which have been much more extensively studied. However, the grammar of Tigrinya differs in interesting ways from these better-studied members of the language family. It is therefore an important exercise to determine how Tigrinya compares to them. One of the goals of this dissertation is to determine whether approaches that have been developed for possessive constructions in other Semitic languages apply to Tigrinya. Throughout the dissertation, special emphasis is given to Hebrew and Amharic data in the hopes of paving the way for more detailed comparative work in the future.

The syntax of Semitic languages has for centuries been a rich topic of research, from the descriptive work of early grammarians to the large body of analytical studies in the context of modern linguistic theory. Topics such as subject-verb-agreement patterns, DP-internal constituents and word order restrictions have been extensively studied and analyzed both in the classical and modern approaches. However, in most previous Semitic studies, the focus has been predominantly on Hebrew and Arabic, and the Ethio-

Semitic language group has been largely neglected in both descriptive and theoretical studies. In fact, although the Ethio-Semitic languages make up more than 55% of the Semitic family, most of them lack proper description (see Demeke 2003) and have received little attention in the generative tradition. Most of the existing studies on these languages are not easily available, and consist largely of unpublished papers, theses, manuscripts, proceedings, etc.

In this dissertation an attempt will be made to present a detailed description and analysis of the properties of the Tigrinya possessive constructions, with the hope of filling some of the gaps. The main goal of the dissertation is to formulate a Minimalist account of Tigrinya possessive DPs, and to compare the Tigrinya constructions with similar constructions in other Semitic languages in order to determine whether analyses proposed for these sister languages can be extended to account for the facts of Tigrinya.

5 Organization of the dissertation

The dissertation is organized as follows. Chapter 2 describes the two major strategies Tigrinya uses to encode possession and explains how the two strategies are related to two semantically distinct types of possession: ALP and IAP. As noted above, Tigrinya uses a different strategy for ALP and IAP, and this semantic distinction in possessive constructions is correlated with syntactic differences.

Chapter 3 investigates the structure of ALP in Tigrinya, focusing on the role of the possessive marker *nay*. This chapter considers two hypotheses, which have been proposed for a similar element in Amharic, a genetically and areally related language: Either *nay* is a genitive Case marker (Ouhalla 2004 on Amharic *yā-*) or *nay* is a LINKER (den Dikken 2007a on Amharic *yā-*). Evaluating the conceptual and empirical strengths

and inadequacies of these two hypotheses, I develop an alternative analysis of Tigrinya ALP that supports the hypothesis that *nay* is a nominal copula, rejecting the two hypotheses. Evidence is presented that *nay* introduces a predication relation between the *nay*-marked possessor predicate and its possessee subject, based on a number of syntactic phenomena: Possessors as copular predicates, ordering restrictions, extraction out of possessive constructions, etc. Overall, the chapter concludes that the role of *nay* in all *nay*-marked constructions is to introduce a predication relation between the *nay*-marked predicate and its subject. From a broader perspective, the chapter explores the view that languages differ in the strategies they employ to distinguish between alienable and inalienable possession: While the relation between a possessor and its possessee in inalienable possession is uniformly argumental, the relation between a possessor and its possessee in alienable possession is either argumental or predication. In Tigrinya the split between alienable and inalienable possession is formally encoded and an alienable possessor is the predicate of the possessee.

Chapter 4 concerns itself with the syntax of IAP in Tigrinya. Inalienably possessed nouns are realized without any marker of possession on either the possessed noun or the possessor DP. I call these BARE POSSESSIVE NOMINALS (BPNs) for ease of comparison. The chapter compares Tigrinya BPNs with CONSTRUCT STATE NOMINALS (CSNs) in well-studied Semitic languages, namely, Hebrew. Like BPNs, CSNs are realized without any marker of possession. This chapter explores the question of whether Tigrinya BPNs are in fact like Hebrew CSNs. Once it is established that the two are in fact the same, I turn to the question of whether Tigrinya BPNs are amenable to the same analysis as CSNs. Given the enormity of proposals on Semitic CSNs, the chapter is

limited itself to two well-known analyses: Head-movement (aka N-raising) (Ritter 1991) and snowballing phrasal movement (aka roll-up movement) (Shlonsky 2004). Utilizing the current Minimalist assumptions (particularly Matushansky 2006), the chapter adopts a modified version of the first hypothesis, i.e., that Tigrinya BPNs and Hebrew CSNs involve head-to-spec movement, but not snowballing phrasal movement. Overall, the chapter presents a new proposal that straightforwardly accounts for the facts of both Tigrinya BPNs and Hebrew CSNs, while remedying the empirical and conceptual problems raised by the Minimalist program against the standard head-movement analysis.

Finally, chapter 5 concludes, summarizing the main findings, and presenting outstanding issues and avenues for future research.

APPENDIX

1 A GRAMMATICAL PROFILE OF TIGRINYA

1.1 Basic Background

Tigrinya belongs to the Northern branch of the Ethio-Semitic group of the Semitic language family. According to Hetzron (1972), Tigrinya is classified as a member of the Northern Ethio-Semitic subgroup along with Geez (classical Ethiopic) and Tigre (predominately spoken in the western part of Eritrea). Other Ethio-Semitic languages include Amharic, Harari, Argobba and the Gurage languages, all classified as belonging to the Southern Ethio-Semitic subgroup (Hetzron 1972, Bender et al. 1976). Tigrinya takes its name after the region where it is largely spoken, i.e., Tigray (Ghirmai 1999: 50).

Tigrinya is the third dominant language in Ethiopia and the third most widely spoken Semitic language, after Arabic and Amharic with approximately 10 million speakers (see Voigt (2011)). According to recent estimates (see Ethnologue), there are approximately 8.5 million Tigrinya speakers both in Ethiopia and Eritrea. The FDRE office of the Population and Housing Census Commission Central Statistical Authority (CSA 2007) reports that there are approximately 6.7 million Tigrinya speakers in Ethiopia, with approximately 5.9 monolinguals. This estimate, however, is expected to be higher, given that the number of population in Ethiopia has been substantially increased from 81-92 million, according to recent estimates. Ethnologue estimates that there are approximately 2.5 million Tigrinya speakers in Eritrea; although this figure is not recent. Outside Ethiopia and Eritrea, Tigrinya is spoken in Israel, Europe (notably, in Germany, Sweden and the UK) and North America, including both Canada (particularly Toronto) and the United States, (concentrated in Washington, DC, Las Vegas and Colorado).

As a literary language, Tigrinya has a fairly rich literary tradition. There are textual records going back to the 13th – 14th century, and Ghirmai (1999), citing Conti Rossini (1905), estimates that as early as the 13th century Tigrinya was one of the dominant languages of Ethiopia before Geez took over as the language of the government and church, followed by Amharic around the 17th century (Leslau 1995). However, most of the earliest Tigrinya texts were burned and destroyed in wars between domestic landlords and foreign aggressors, and those that have survived are in poor condition and not widely accessible.

However, as an object of linguistic study, Tigrinya has a very small literature, with the earliest descriptive works written by Europeans of various nationalities from the late nineteenth to the early twentieth century (Praetorius 1871, 1974, Conti Rossini 1905, 1940, Cohen 1930, Palmer 1955, 1962). Although many foreigners have contributed to the early description of Ethio-Semitic languages including Tigrinya, Wolf Leslau has been the most prominent scholar in Ethio-Semitic studies for the past more than half a century. His grammatical description of Tigrinya (Leslau 1941) is among his earlier works (see also Kogan 1997, Mason 1996, Ullendorff 1985, Voigt 1988, 2009, among others). There is also a strand of work by Ethiopian and Eritrean scholars, both in Tigrinya, e.g., Ad-Ghebre (1989), Amanuel Sahle (1988), Kassa and Amanuel (2004), and in English, such as, Berhane (1991), Tesfay-Tewolde (2002), Teferra (1979), and Weldeyesus (2001), among others.

The phonology of Tigrinya has received some attention from recent scholars (Berhane 1991, Buckley 1997, 2000, Rose 1997), but little has been written about the syntax of the language. This is in stark contrast to the closely related languages, Arabic,

Hebrew and even Amharic. For example, in these languages, there exists theoretical research in various linguistic subfields and frameworks including syntax (with work in functional linguistics, cognitive linguistics, and generative grammar frameworks), natural language processing and sociolinguistics. For example, in Amharic there is a strand of research in each of these linguistic subfields (see Amberber 1996, 2001, Demeke 2003, den Dikken 2007, Halefom 1994, Kapeliuk 1994, Kramer 2009, Leyew 2003, Mullen 1986, Ouhalla 2004, Schlenker 2003, and Yimam 2008, among others), but none of these is available in Tigrinya. In Chapters 3 and 4 of this thesis, I review some of the current generative works on Amharic DPs that are relevant to the focus of my research.

1.2. Grammatical Sketch

Tigrinya shares a number of defining properties with other Semitic languages, including root and pattern morphology (Leslau 1941), broken plural formation (Palmer 1955), a basic opposition between perfective and imperfective aspect in the verbal morphology (Voigt 2009), and demonstratives that have cognates in many other Semitic languages (Lipi' naki 1997). However, unlike well-studied Semitic languages (Hebrew and Arabic), Tigrinya has a mixed word order: While the clausal structure is head-final, the nominal structure is head-initial. For example, the unmarked word order is SOV (commonly VSO or SVO in other Semitic languages).

- (1) joni ni-ħagos sərif-u-wwo **SOV**
 John OM-Hagos insult.PF-3M.SG.S-3M.SG.O
 ‘John insulted Hagos.’

Auxiliary verbs (e.g., *nəyr-* ‘was’) follow lexical verbs (e.g., *ħaris-* ‘plough’).⁶

- (2) wəllədi-na k'ədəm bi-xəfti yi-ħars-u nəyr-om **V > AUX**
 fathers-our long ago by-ox 3-plough.IMPf-M.PLS **were**-3M.PLS
 ‘Long time ago, our fathers used to plough with oxen.’

Embedded complement clauses precede the verb:

- (3) [CP ʔinəhag^wiʔ-u kəmzi-ʕarəf-a] timali səmiʕ-u **CP > V**
 grandmother-his that-rest.PF-3F.SG yesterday hear.PF-3M.SG.S
 ‘He heard yesterday that his grandmother died.’

However, unlike typical head-final languages, Tigrinya has prepositions, not postpositions.

- (4) [[_{PP} mis-ħaw-u bi-məkina məs'iʔ-u] **P > DP**
 with-brother-his by-car come.PF-3M.SG.S
 ‘He came by car with his brother.’

In addition, determiners are prenominal (D ... > N), never postnominal (N ... > D) (as in Amharic or Arabic).

⁶ The verb can also drop the object agreement clitics when the full object DP is not definite. Note that the agreement clitics order and the actual subj-obj-v surface order do not match, counter to the Mirror image principle (Baker 1985).

(5)	ʔit-i	məs'haf	D > N
	D-M.SG	book	
	‘the book’		

Some typologists attribute this mixed property to the influence of Cushitic languages on Ethio-Semitic languages (see Appleyard 1989 and Tosco 2000; cf. Zaborski 2003). For instance, some argue that before they came in contact with Cushitic languages such as Agew, the syntax of the modern Ethio-Semitic languages was typical of the Semitic family, with a verb-initial structure (VSO) and auxiliaries preceding main verbs, (Appleyard 1989, Hetzron 1975, Leslau 1945, Tosco 2000). It is true that Ethio-Semitic languages have been in contact with Cushitic languages for a very long period of time, and as a result they may have picked up some properties including prepositions from Cushitic languages. However, as Zaborski (2003) points out, it is difficult to reconstruct the direction and chronology due to lack of historical records (see also Kapeliuk 2002 for discussion).

1.2.1 Tigrinya Nominals

In this section I present a brief sketch of the morphosyntax of the Tigrinya nominal. A nominal phrase in Tigrinya consists of an obligatory head noun, accompanied by optional elements such as determiners, numerals, and modifiers (e.g., possessors, adjectives and relative clauses) as illustrated below.

- (6) **ʔit-ən** kilitə [CP timali zi-təgəziʔ-a] [nay joni]
 D-F.PL two yesterday Rel-buy.PF-3M.SG.S NAY John
 [AP ʕabəyti] məs'hafti
 big.PL book.PL
 ‘the two books of John’s that were bought yesterday’

The linear order of elements in (6) is as follows:

- (7) D Numeral RC Pssr AP N

However, as will be discussed in detail in chapter 2, while the position of the determiner and head noun is fixed, the linear order of relative clauses, possessors and adjective phrases is not.

Nominals in Tigrinya show a complex agreement system; they trigger agreement on DP internal modifiers, specifiers and determiners. In what follows, I will present a brief account of DP internal agreement in gender, number, case and definiteness.

1.2.2 Agreement Features

Gender

In Tigrinya, nouns have either masculine or feminine gender. The specification for this feature is largely predictable: Nouns referring to animate or human beings and some culturally significant animals are specified with the referent’s biological (also known as natural or semantic) gender; nouns referring to inanimate objects – concrete or abstract – largely have masculine gender in Tigrinya. Some illustrative examples are given in (8).

(8) a. Animate nouns

Masculine		Feminine	
ʔabbo	‘father’	ʔinno/ʔaddo	‘mother’
səbay	‘man’	səbyti	‘woman’
ʔanbəsa	‘lion’	waʕro	‘lioness’
biʕray	‘bull’	lahmi	‘cow’

b. Inanimate nouns

Masculine		Feminine	
gəza	‘house’	məkina	‘car’
gəbbo	‘mountain’	məret	‘earth’

As noted above, the gender of animate nouns is assigned almost exclusively according to biological gender, with some male and female pairs may have different lexical forms for each gender. These set of different gendered forms are unsurprisingly limited to kinship terms and certain domesticated animals (e.g., *ʔinno/ʔaddo* ‘mother’ vs. *ʔabbo* ‘father’, *biʕray* ‘bull’ vs. *lahmi* ‘cow’, *nəbri* ‘lion’ vs. *waʕro* ‘lioness’). The majority of animate nouns use the same root for both genders. If biological gender is not known or not specified, the default gender is masculine, as the following examples illustrate (see Leslau 1995 for similar examples in Amharic).

- (9) a. ʔit-i his'an wəddi d-iyy-u g^wal ?
 D-M.SG baby male Q-BE-M.SG.S female
 ‘Is the baby a he or a she?’

- b. lomaʕanti **manim** ni-bet-təmhirti ʔay-məs's'-ə-n
 today **nobody** to-school Neg-come.PF-3M.SG.S-Neg
 ‘Today nobody came to school.’

Evidence that the default gender is masculine comes from the fact that the noun ‘baby’ in (9a) takes the masculine definite article, despite its biological gender not being known to the speaker. Further evidence that the default gender is masculine comes from (9b) involving the indefinite pronoun *manim* ‘nobody’. Indefinite pronouns that are restricted to human referents – either male or female, are always specified for grammatical masculine gender in Tigrinya. Note that *manim* triggers masculine agreement on the verb (see Leslau 1995, Kramer 2009 for similar description on Amharic).⁷

In Tigrinya, masculine gender is never morphologically marked. Feminine gender is not universally associated with a particular affix, although as in other Afroasiatic languages such as Classical Arabic or Hebrew (see Arad 2005, Bat-El 1986, Benmamoun 2000, among others), feminine gender is marked by a *-t* suffix or one of a small set of other suffixes. In fact, the feminine suffix *-(a)t* that is shared across the Afro-asiatic language family has been reconstructed as the Proto-Afro-asiatic form (Zaborski 1992: 37). In Tigrinya, this suffix has the form *-(i)*, and appears on both nouns and adjectives.⁸

⁷ Exceptionally, certain nouns referring to animals have a feminine default gender in that they are assigned feminine gender when their biological gender is not known (Teferra 1979: 221). For example, *dimmu* ‘cat’, *bəx’li* ‘mule’, and *ʃərərīt* ‘spider’ are all feminine nouns.

⁸ Another common way to mark feminine gender in Tigrinya adjectives is by changing the vocalic melodies of the masculine counterpart, e.g. from CəCCi/iC to CəCCat, as in the following examples:

- | | | | |
|-----|-----------|----------|----------|
| (i) | Masculine | Feminine | |
| | kəyyih | kəyyah | ‘red’ |
| | haddiʃ | haddaʃ | ‘new’ |
| | mərrir | mərrar | ‘bitter’ |
| | hass’ir | hass’ar | ‘short’ |

(10)	Masculine	Feminine		
	nigus ‘king’	nigis-ti	‘queen’	Animate Nouns
	liʔul ‘prince’	liʕil-ti	‘princess’	
	tigraway	tigrawəy-ti	‘Tigrean’	Ethnic Origin Nouns/Adjs.
	ʕamharay	ʕamharəy-ti	‘Amharic’	
	k’iddus	k’iddis-ti	‘blessed’	Adjectives
	hisum	hisim-ti	‘mean’	

Derived nominals such as agent nominals and some nominals denoting nationality, ethnicity or citizenship take the suffix *-t* to form feminine forms. Note that some nominals that end in *-ay* change this suffix to *-i* before they add the feminine marker. Illustrative examples are given below:

(11)	Masculine	Feminine	
	səʔal-i/-ay	səʔali-t	‘photographer’ Agentive Nouns
	hada-ni/-ay	hadani-t	‘hunter’
	mərəh-i/-ay	mərəhi-t	‘leader’
	ʔityop'yawi	ʔityop'yawi-t	‘Ethiopian (person)’ Citizenship Nouns
	ʔafrikawi	ʔafrikawi-t	‘African (person)’
	kanadawi	kanadawi-t	‘Canadian (person)’
	ʔamerikawi	ʔamerikaw-t	‘American (person)’

Tigrinya also has a set of gender ‘specifiers’ that indicate biological gender (Teferra 1979:191). For human nouns, the specifiers are *təbaʕitay* for males and *ʔanəstəyti* for females.

- | | | | | |
|-----|-------------------|------------------|------------------|-----------------|
| (i) | a. his'an ‘child | təbaʕitay his'an | b. ʔadgi ‘donkey | təbaʕitay ʔadgi |
| | male child | | male donkey | |
| | ʔanəstəyti his'an | | ʔanəstəyti ʔadgi | |
| | female child | | female donkey | |

Tigrinya has only a very few nouns that refer to people that are only masculine and have no corresponding feminine forms. These are mostly religious or military titles, which traditionally have been bestowed only to men. For example, *k'əʃʃi* 'priest', *d̥iyyak'on* 'deacon', *ʔabun* 'bishop', *sərgenti* 'sergeant (marine)' and *bərambaras* or *raʔsi* 'a high rank traditional military title' do not have feminine counterparts. The nouns in this list that denote military ranks are almost obsolete – no longer in use – because they have been replaced by different military names (i.e., recent standardized names of the United Nations). Those that denote church ranks are still in use, but since the Orthodox Tewahdo Christian religion in Ethiopia or Eritrea does not allow female priests or deacons, the names of these ranks remain exclusively masculine.

From the above discussion, one can conclude that Tigrinya shows a masculine-feminine gender opposition; the masculine is the unmarked or default for the simple reason that it is not morphologically marked. The feminine is marked.⁹ Overall, the above gender description is atypical for an Ethio-Semitic language:¹⁰ Almost all modifying adjectives agree in gender in Tigrinya, unlike for example in Amharic, where only a handful of them do so (Leslau 1995, Kramer 2009). In addition, second and third person pronouns with plural number have separate gender forms; e.g., there is third person masculine plural and a third person feminine plural form in Tigrinya. However, this is not

⁹ Gender seems to be an inherent property of nominals, given that unlike number and definiteness, the gender of a noun is fixed. This intuition has led to the proposal that gender is a lexical property (see Carstens 2000, Ritter 1993, among others), although occasionally it has been also assumed that the gender feature must originate elsewhere (see Picallo 1991, Lowenstamm 2008, among others; see also Kramer 2009 for discussion).

¹⁰ Geez, which is a sister to Tigrinya and closely related to Proto-Ethio-Semitic, also has both masculine and feminine gender (Lambedin 1978). It is clear that the gender system in both Tigrinya and Geez is much more robust than in other Ethio-Semitic languages, such as Amharic, although it is difficult to determine whether feminine inanimate nouns are more common in Geez than in Tigrinya.

the case with Amharic: Amharic pronouns do not show gender opposition in the plural (see Leslau 1995, Yimam 1996). Similarly, cardinal and ordinal numbers, relative pronouns and participles all agree in gender in Tigrinya, but not in Amharic. Other Semitic languages, however, may share some of these properties: For example, Hebrew and Arabic distinguish gender in the plural.

Number

Tigrinya distinguishes two numbers - singular and plural, with singular the unmarked value. The plural is expressed in two ways; a regular plural suffix *-(t)at*, and an irregular alternation of vowel melody that combines with the root consonants to form the noun stem, which is referred to as the BROKEN PLURAL (Palmer 1955). Since singular nouns in Tigrinya occur in a variety of templates it is not usually easy to determine whether a given noun will have a regular or irregular plural form. One can, in fact, find various plural forms for many singular nominals, without any change in meaning. For this reason many (e.g., Teferra 1979) assume that the singular and plural forms of each noun must be learned as if they were two separate items of vocabulary.

The regular plurals are formed by adding a suffix, with or without a change in the stem of the nominal. These regular plurals are similar to what is known AS SOUND PLURALS in Arabic and other Semitic languages (see McCarthy & Prince 1990, among others). There are a number of different suffixes that are used to mark regular plural number in Tigrinya. Among these, *-(t)at*, *-an*, *-o(t)*, *-ut*, and *-ti*. Note that plural nouns in Tigrinya do not show gender distinction, although the verbal agreement specifies it.

(12)	Singular nouns	Regular plural nouns	
	dərho	dərho-tat	‘chicken(s)’
	səb	səb-at	‘person/people’
	bis'uʔ	bis'uʔ-an	‘beatitude(s)’
	kibur	kibur-an	‘eminence(s)’
	g ^w asa	g ^w as-ot	‘shepherd(s)’
	goyta	goyt-ot	‘noble(s)/lord(s)’
	ʔax'aħa	ʔax'uħ-ut	‘good(s)’
	səbʔay	səbʔ-ut	‘man/men’
	təmaharay	təmahar-o(t)	‘student(s)’
	ʃəkk'alay	ʃəkk'alo	‘worker(s)’
	ʃəkk'alay	ʃəkk'əl-ti	‘worker(s)’

As noted above, the irregular plurals are formed by an internal vowel change in the stem of the singular noun, with or without the addition of any plural affix.¹¹ The following are the most common irregular plural patterns for Tigrinya nominals.

(13)	a. Singular nouns	Broken irregular plural nouns with CəCaCiC	
	ħakkim	ħaxayim	‘physician(s)’
	məftuħ	məfatih	‘key(s)’

¹¹ In the Arabic literature, it has been shown that the relationship between the form of the broken plural and its singular counterpart is not arbitrary (McCarthy & Prince 1990). Semantically, broken plurals also argued to separate singulative from collective interpretations; however, it remains to be seen whether Tigrinya shows similar semantic oppositions or a systematic relationship between the broken plural and its singular counterpart.

b. Singular nouns	Broken irregular plural nouns with ʔa-CCiC		
ʔazabʔ	ʔazabiʔ	‘hyena(s)’	
laḥmi	ʔalaḥim	‘cow(s)’	
c. Singular nouns	Broken irregular plural nouns with ʔa-CCaC		
xəlbi	ʔaxlab	‘dog(s)’	
ʔom	ʔəʔwam	‘tree(s)’	
d. Singular nouns	Broken irregular plural nouns with ʔa/ə-CCC-ti		
bəx'li	ʔabk'il-ti	‘mule(s)’	
zərʔi	ʔazriʔ-ti	‘seed(s)’	
e. Singular nouns	Broken irregular plural nouns with CəC(C)aC-u		
mənta	mənat-u	‘twin(s)’	
dimmu	dəmam-u	‘car(s)’	

There are also nominals whose plural forms are not based on the above patterns. These include *ʔag^walat/ ʔawalid* ‘girls’ from *g^wal* ‘girl’ and *ʔabɬur* ‘oxen’ from *biɬray* ‘ox’.¹² However, exceptional plurals are not uncommon among (Afro-asiatic) languages in general (see Ratcliffe 1998, Acquaviva 2008, among others). In addition, there are double

¹² Certain nouns also undergo partial reduplication to encode plural meaning in Tigrinya:

(i)	Singular nouns	Plural reduplicated nouns
	k'os'li	k'os'laməs'li ‘leaves or varieties of leaves’
	ʃəx'ət'	ʃəx'ət'aməx'ət' ‘businesses or varieties of businesses’

plural marking strategies in Tigrinya; the most common of these is a combination of the irregular and regular plurals for the noun *xəlbi* ‘dog’ as in *ʔaxlab-at* ‘dogs’.¹³

Definiteness

In Tigrinya, demonstratives encode both definiteness (uniqueness or familiarity) and deictic distinctions (distal vs. proximal relations to speech act participants). Tigrinya demonstratives are of two types. The demonstrative *ʔiz-* ‘this’ refers to animate and inanimate entities near to the speaker.¹⁴ By contrast, the demonstrative *ʔit-* ‘that’ refers to animate and inanimate entities located at a distance from the speaker. Both demonstratives are inflected for gender and number, each with a short and a full variant. For example, the masculine plural proximate short form is *ʔiz-om* while its full or long form is *ʔiziʔat-om*. The complete set of proximal and distal demonstratives is listed in the table below. Note that plural demonstratives have two full forms – one with *-at* and one without. For example the masculine plural proximate demonstrative ‘these’ has the full forms *ʔiziʔat-om* **and** *ʔiziʔzom*.

¹³ It remains to be determined whether double marking strategies are available for all nouns in Tigrinya, and if they only apply to a subset of nouns. Also, how double plural marking is accounted for in the grammar of the language needs further research.

¹⁴ Demonstratives are commonly divided into pronominal demonstratives, which substitute for a noun phrase, and adnominal demonstratives, which co-occur with a co-referential noun. Some languages, like Tigrinya, use the same demonstrative forms for both, but others use different series of demonstratives in these positions. Many studies confine the term demonstrative to deictic expressions serving one of these two functions, but the notion is broader, subsuming not only pronominal and adnominal demonstratives, but also locational deictics such as English *here* and *there* (Dissel 1999, Lehmann 1995). Some languages do not have demonstrative determiners and use instead demonstrative pronouns with a noun in apposition. Other languages lack a demonstrative pronoun and use demonstrative determiners or a nominal particle in lieu of a demonstrative pronoun. In Tigrinya pronouns and demonstratives have the same morphosyntactic properties, but it is not immediately clear whether they are derivationally related. Further investigation is required to determine whether demonstratives and pronouns have the same roots.

Table 1 Demonstratives in Tigrinya (full forms are bolded)

	Proximal Demonstratives		Distal Demonstratives	
	Singular	Plural	Singular	Plural
Masculine	ʔiz-i	ʔiz-om	ʔit-i	ʔit-om
	ʔiz-uy	ʔiziʔ(at)-om	ʔit-uy	ʔitiʔ(at)-om
Feminine	ʔiz-a	ʔiz-ən	ʔit-a	ʔit-ən
	ʔiziʔ-a	ʔiziʔ(at)-ən	ʔitiʔ-a	ʔitiʔ(at)-ən

In Tigrinya, the distal demonstrative *ʔit-* ‘that’ is also used as a definite determiner. Given that in many languages definite and demonstrative determiners have very similar semantics, in that both denote uniqueness or familiarity (Roberts 2002), it is not surprising that Tigrinya uses the same element for both (see Diessel 1999, Lyons 1999, Lehmann 1995 for a typological description of demonstratives and definite articles).

In Tigrinya definite noun phrases headed by a common noun are always marked by a definite determiner *ʔit-*, as shown in (14a, b). Indefinite nominals, by contrast, are either unmarked or marked with the numeral one, as shown in (14a’, b’).

- (14) a. ʔit-i nigus a'. (ħadə) nigus
 D-M.SG king one.M king
 ‘the king’ ‘a king’
- b. ʔit-a nigsti b'. (hanti) nigusti
 D-F.SG queen one.F queen
 ‘the queen’ ‘a queen’

Semantically, definite nominals given (14a) and (14b) can be felicitously uttered in Tigrinya only if a unique or previously mentioned, salient king or queen is presupposed; these expressions are infelicitous if multiple (or no) kings or queens are presupposed to exist. In contrast, the indefinite nominals given in (14a') and (14b') can be felicitously used even if multiple kings or queens are presupposed to exist because indefinites do not carry a presupposition of uniqueness.

The morpho-phonology and morpho-syntax of the definite determiner in Tigrinya is straightforward. They are morpho-phonologically independent in that they can stand on their own, and are morphologically complex in that they have inflectional suffixes indicating number and gender. They appear at the left edge of the DP, suggesting, yet again, that Tigrinya DPs are head-initial. The following examples illustrate these facts:

- (15) a. [ʔit-ən məmahiran] nabəy kəyd-ən ? **D > N**
 D-F.PL teachers where go.PF-F.PL.S
 ‘Where did the teachers go?’
- b. [ʔit-ən gəzəfti məmahiran] nabəy kəyd-ən ? **D > A > N**
 D-F.PL fat.PL teachers where go.PF-F.PL.S
 ‘Where did the fat teachers go?’
- b. [ʔit-om nay-joni məs'hafti] mən **D > Pssr > N**
 D-M.PL NAY-John books who
 wəsīd-u-wwom ?
 take.PF-3M.SG.S-M.PLO
 ‘Who took John’s books?’

- c. [ʔit-om kab-yunβəristitə zɪ-təʔakkəbu məs'hafti]
 D-M.PL from-universities Rel-gather.PF-M.PL books
 mən wəsɪd-u-om? **D > RC > N**
 who take.PF-3M.SG.S-M.PL.O

‘Who took the books which are collected from the universities?’

- d. [ʔit-om kab-yunβəristitə zɪ-təʔakkəbu hədəʔti məs'hafti]
 D-M.PL from-universities Rel-gather.PF-M.PL new.PL books
 mən wəsɪd-u-om? **D > RC > A > N**
 who take.PF-3M.SG.S-M.PL.O

‘Where did the new books which are collected from the universities go?’

The above examples show that even when the noun phrase contains a possessor, a relative clause and/or an adjective, the definite determiner always appears at the left edge of the noun phrase. This is not atypical for a Semitic language (see Shlonsky 2004:1472-1475 for evidence that in other Semitic languages, the definite determiner attaches to the left edge of the entire noun phrase).

Demonstratives and definite determiners co-occur in a number of languages (e.g., Greek, Rumanian), and this has led to the proposal that a demonstrative is not (necessarily) a D head, but instead may belong to a distinct category, Dem head, which is the head of DemP, rather than DP. In Tigrinya, the demonstrative and the determiner can co-occur, and when this happens, the full form of the demonstrative occurs post-nominally to highlight the exact denotation of the previously mentioned referent. For example, the expression in (16) is used in a situation where there are a number of

individuals that are located in different positions relative to the speaker and hearer and the speaker wants to highlight the ones that are far from the speech act participants.¹⁵ The examples in (17a,b) show that demonstratives cannot appear prenominally; (17c) shows that a short form demonstrative is ungrammatical in postnominal position in Tigrinya,

- (16) a. ʔit-om səbat ʔitiʔat-om bəʃal-mən ʔiyy-om ?
 D-M.PL people that-M.PL so&so-who BE-M.PL.S
 ‘Those people, who are they?’
- b. ʔit-ən məmahiran ʔitiʔat-ən ʔay-səmʕ-a-n
 D-F.PL teachers that-F.PL Neg-hear.PF-F.PL.S-Neg
 ‘Those teachers, they did not hear.’
- (17) a. *[ʔit-ən ʔitiʔat-ən məmahiran] ʔay-səmʕ-a-n
 D-F.PL that-F.PL teachers Neg-hear.PF-F.PL.S-Neg
 ‘Those teachers, they did not hear.’
- b. *[ʔitiʔat-ən ʔit-ən məmahiran] ʔay-səmʕ-a-n
 that-F.PL D-F.PL teachers Neg-hear.PF-F.PL.S-Neg
 Intended: ‘Those teachers, they did not hear.’

¹⁵ In the literature, there are two approaches concerning the syntax of demonstratives (DemP): (i) DemPs are specifiers of some functional projections between D and NP (similar to adjectives, under Cinque’s 1994 analysis of adjectives) or (ii) Dems are heads that take DP complements.

(i) a. [_{DP} D [_{FP} DemP F [_{NP} N]]] Dem as a Specifier
 b. [_{DemP} Dem [_{DP} D [_{NP} N]]] Dem as a head

The DemP-as-Spec approach is adopted in much of the work on Romance demonstratives (see Giusti 1997, 2002), whereas the Dem-as-Head approach has been developed in recent accounts of demonstratives in Scandinavian languages (Julien 2005). For Semitic languages, both kinds of analyses have been proposed (see Shlonsky 2004). Since this issue is not relevant to the main goal of this section of the dissertation; i.e., presenting a descriptive sketch of the DP structure of Tigrinya, I will leave the question of how best to analyze Tigrinya demonstratives that co-occur with determiners to future research. I will, however, assume that demonstratives used as determiners are in fact D heads.

c. *[ʔit-ən məmahiran ʔit-ən] ʔay-səmɕ-a-n
 D-F.PL teachers that-F.PL Neg-hear.PF-F.PL.S-Neg

‘Those teachers, they did not hear.’

Summarizing, Tigrinya indefinite nominals are generally unmarked, while definite nominals are marked by the element ʔit- ‘the/that’ that inflects for both gender and number. Definite determiners in Tigrinya encode uniqueness and familiarity in the context of the discourse.

Case

The case system in Tigrinya is rather minimal, which is somewhat atypical for an SOV language (see Greenberg 1996, universal 41: If in a language the verb follows both the nominal subject and nominal object (SOV) as the dominant order, the language almost always has a case system). As observed above, Tigrinya is SOV but its Case system is limited to a distinction between nominative accusative cases; Nominative case is completely unmarked; in contrast, accusative case is marked by the prefix *n-*, which also serves as a directional preposition in the language (e.g., *n-kanada* ‘to Canada’). However, accusative Case is marked only if the direct object is definite (see Aissen 2003 on this phenomenon in general; Weldeyesus 2004, on differential object marking in Tigrinya). Dative case is marked by attaching the same prefix *n-* to the indirect object when it is specific, definite marked or cross-referenced by an agreement affix attached on the verb (18c).

- (18) a. joni birtʃ'ik'o səyr-u
 John.NOM glass break.PF-3M.SGS
 'John broke (a) glass.'
- b. joni **ni**-t-a birtʃ'ik'o səyr-u-wwa
 John ACC-D-F.SG glass break.PF-3M.SG.S-3F.SG.O
 'John broke the glass.'
- c. joni **ni**-hagos məs'haf hib-u-wwo
 John DAT-Hagos book give.PF-3M.SG.S-3M.SG.O
 'John gave a book to Hagos.'

Thus, Tigrinya is a nominative-accusative language. Direct objects that have definite and specific reference are overtly marked with a prefix *n-*. However, subjects and indefinite direct objects do not bear any Case-marking element.¹⁶

1.2.3 Tigrinya Verbs

Verbs in Tigrinya are richer and more morphologically complex than nouns. The morphology of Tigrinya verbs, like those in other Semitic languages, is characterized by a root-and-pattern, or templatic, structure. The root consists of a set of consonants and carries the core lexical meaning of the verb, while the vocalic pattern or template encodes grammatical information. The root usually consists of three consonants, also known as

¹⁶ This has led to a few analyses of the prepositions as complicated Case-marking elements (see Hetzron 1970, Tremblay and Kabbaj 1990 on Amharic; see also Kramer and Baker 2012 on Amharic prepositions as semantic Case markers at PF). It would be an interesting endeavor to examine Tigrinya prepositions in light of these previous analyses of Amharic prepositions. I leave this project for future research.

radicals, but the number of root consonants in a verb can vary from three to five, with three and four radical roots the most common types for verbs in Tigrinya, e.g. *sbx* ‘preach’ and *mskr* ‘witness/testify’.¹⁷

Patterns are the result of the combination of a root with a set of different vocalic melodies. In other words, when the set of vowels combine with the root consonants, the result is an identifiable sound pattern. This root and vowel pattern may be accompanied by agreement affixes to form full verbal paradigms. For instance, the verb *kədan-* ‘to cover’ is derived by combining the root *kdn* whose meaning is generally associated with the idea of ‘covering’ and the pattern Cə(C)CəC– which signals ‘perfect aspect’ or ‘simple past’. The same pattern can be used with a quadri-radical root *mrmr* ‘examine’ to derive the verb *mərmər-* ‘to examine’. This is different from Hebrew and Arabic verb patterns that are associated with different argument structures.

In Tigrinya, verbs containing the same root but different vocalic melodies usually have shared lexical content attributable to the meaning of the root, and different grammatical content due to differences in the melody and inflectional affixes they contain. For instance, the root *blʕ* whose meaning is ‘to eat’ may be used with different patterns and affixes to realize different tenses, aspects, agreement and argument structure (active, passive, causative, reciprocal, etc.) options, as the following examples illustrate.

¹⁷ There are two-radical roots, but most of these appear in nouns, e.g. *haw* ‘brother’,

(19)	Root	Pattern	Verb	Gloss
	blɿ	CəCəCə	bələɿə	‘he ate/has eaten’
	"	CəCiCu	bəliɿu	‘he ate/has/having eaten’
	"	yiCəCCiC	yibəlliɿ	‘he eats’
	"	miCCaC	miblaɿ	‘to eat/eating’
	"	CiC(C)uC	biluɿ	‘eaten’
	"	təCə/aC(ə)C	təbəɿə	‘it was eaten’
	"	ʔaCCəC	ʔabləɿə	‘he caused someone to eat’
	"	təCaCi/əC	təbaliɿu	‘they eat one another’
	"	ʔaCCaCəC	ʔabbaləɿə	‘he caused them to eat one another/ he helped someone to get it eaten’

The verb system has a clearly defined limited number of paradigms each consisting of a root of the verb and one of a small number of patterns.¹⁸ The affixes that are added to verbal stems encode grammatical functions such as gender, number, person as well as aspect and mood. Like in other Semitic languages, verbs in Tigrinya distinguish two aspects for each verb – perfective and imperfective: Perfective verbs involve subject

¹⁸ According to Berhane (1991) there are about 41 verbal paradigms in Tigrinya. These are perfective, gerund, imperfective, jussive/imperative, infinitive and passive perfective, passive gerund, passive imperfective, passive jussive, causative perfective, causative gerund, causative imperfective, causative jussive, frequentative perfective, frequentative gerund, frequentative imperfective, frequentative jussive, frequentative infinitive, passive frequentative perfective, passive frequentative gerund, passive frequentative imperfective, passive frequentative jussive, passive frequentative infinitive, reciprocal perfective, reciprocal gerund, reciprocal imperfective, reciprocal jussive, reciprocal infinitive, causative reciprocal perfective, causative reciprocal gerund, causative reciprocal imperfective, causative reciprocal jussive, frequentative causative perfective, frequentative causative gerund, frequentative causative imperfective, frequentative causative infinitive, causative reciprocal frequentative perfective, causative reciprocal frequentative gerund, causative reciprocal frequentative imperfective, and causative reciprocal frequentative jussive. Most of these paradigms are derivatives from one another and not all are productive for all the three verb types (Type A, B, C; see discussion below) in Tigrinya. (See Berhane’s 1991 thesis appendix for specific verb conjugations on these paradigms.)

agreement suffixes, whereas imperfective verbs involve both prefixes and suffixes. In Ethio-Semitic languages including Tigrinya, these aspectual distinctions are also ‘recycled’ to indicate tense (see Demeke 2003; see also Mezhevich 2008 on other languages such as Russian and Hebrew): While perfectives are used to express simple past, imperfectives are used to express non-past tense. For instance, a tri-radical root verb *blʕ* ‘eat’ may form a perfective simple past with a pattern CəC(C)əC and a third person masculine singular subject suffix –ə, as in *bələʕ–ə* ‘he ate.’ This form is usually used as a basic entry in a dictionary and its function is only restricted in narrations as an expression of remote past or an action that already happened at a certain point in the past. In contrast, the same root verb *blʕ* ‘eat’ may form an imperfective non-past with a pattern –CəC(C)iC and a third person singular masculine subject prefix *y–*, as in *y– bəlɨʕ* ‘he eats/is eating’.

Tigrinya has another perfective form with the pattern CəC(C)iC– referred to in the literature as “gerundive/gerund” (Leslau 1941, Mason 1996, Kogan 1997, Tewolde 2002, Vogit 2009, Weldyesus 2004, among others). The term, however, is a misnomer, given that these verb forms in Tigrinya (and also in other Ethio-Semitic languages) can be inflected for aspect or tense and agreement and independently occur as predicates in a main clause. Thus, gerundives can be referred to as simple perfect aspects, which describe a simple or near past tense.

Overall, a perfective verb has subject suffixes and encodes a completed action, while an imperfective verb has a combination of prefixes and suffixes and denotes an uncompleted event that may occur habitually or a non-past action. Note that Tigrinya jussives or imperatives are like the imperfectives in that they take both subject agreement

prefixes and suffixes and express a non-past action; they are however different in that they only express commands or permission not tense (in its strict sense).¹⁹ Examples that illustrate the two perfective forms, imperfectives and jussives are given below:

(20)	a.	Perfective	Gloss	
		səbəx-u	‘they preached’	remote past
		səbix-om	‘they (have) preached’	simple/near past
	b.	Imperfective	Gloss	
		yi-səb(i)x-u	‘they preach/are preaching’	non-past
		yi-sbəx-u	‘let them preach’	jussive/imperative

In the perfective forms, the suffix *-u* and *-om* encode a 3M.PL subject, whereas in the imperfective forms, the prefix *yi-* encodes a third person subject and the suffix *-u* encodes a fusion of the gender and number features of the subject.

In Ethio-Semitic languages, unlike in other Semitic languages (for example, Arabic and Hebrew), verbs are divided into Types A, Type B and Type C, based on the different patterns in which the consonants and vowels of the verb stem are arranged (see Cohen 1970, Hetzron 1972, Leslau 1941, 1975; Bender et al. 1976, among others).²⁰ Note that these verb types are not different versions of the same template. They do not involve the typical *binyanim* templatic structures found in languages like Hebrew and Arabic. They are independent verb forms with different types of meanings associated with them. The three types are based on differences in the stem or word internal phonological

¹⁹ The imperative form in Tigrinya includes the direct imperative, which involves only the 2nd person, and the indirect imperative or commonly known as jussive, which involves the 1st and 3rd persons.

²⁰ In some South Ethio-Semitic languages such as Chaha, there is a fourth verb type D (Sharon 1997).

properties, mainly variation in vocalic template and presence or absence of gemination of penultimate radicals (Leslau 1941 and Berhane 1991). For example, Type A verbs are characterized by a templatic pattern CVCVC- with the vocalic element having the same quality [ə] in the perfective and the absence of gemination of the penultimate radical (except when there are subject agreement suffixes in the imperfective). On the other hand, Type B verbs are characterized by a templatic pattern CVCCVC- with the vocalic vowel being similar to that of Type A and the presence of gemination of the penultimate radical throughout the paradigm. Type C verbs, in contrast, are characterized by a templatic pattern CVCVC- that has a vowel [a] between the first and second radicals and no gemination of the penultimate consonant. The following Tigrinya verb conjugations (with only 3M.SG subject agreement affix involved for convenience) illustrate the facts:

(21)		Perfective	Gloss	Imperfective	Gloss
	Type A	səbəx-ə	‘he preached	yi-sə bb ix	‘he’s preaching’
				yi sə bx- u	‘they’re preaching’
	Type B	lə mm ən-ə	‘he begged’	yi ləmm in	‘he’s begging’
	Type C	las'əy-ə	‘he shaved’	yi las 'iy	‘he’s shaving’

Note that although the morpho-phonological properties clearly distinguish the three types of verbs, whether a verb belongs to a Type A, Type B or Type C does not seem to be predictable. According to Berhane (1991), the fact that the different classes of Tigrinya verbs are unpredictable is a signal that assigning a root to any of the types takes place as early as the lexicon. Leslau (2000) also states, for the closely related language, Amharic,

that “these types of verbs [are] conditioned neither by the nature of the consonants nor by the meaning of the verb. Indeed, verbs in any of these types may be active, transitive, verbs of state and so on, and may consist of any kind of consonants. The types are therefore to be considered lexical items.” However, when in doubt, the tendency is to assign unfamiliar or borrowed verbal roots to Type B. Although a verb may unpredictably belong to any of the three types, the grouping is not random or arbitrary. It is so systematic that the classification of Tigrinya verbs into Type A, Type B and Type C is contingent upon, as pointed out above, vowel quality and the presence or absence of consonant gemination.

Tigrinya verbs are also classified into triradical and quadriradical verb classes, depending on the number of consonants in the verb root. The examples given above are all triradical verbs; i.e., verbs with roots consisting of three consonants. However, Tigrinya verbs also are based on quadrilateral roots as illustrated in the following examples:

(22)	root	stem	gloss
	ħnks	ħankəs-ə	‘he limped’
	mnzʕ	mənzəʕ-ə	‘he snatched something’
	glbtʼ	gəlbətʼ-ə	‘he flipped over or overturned something’

Tigrinya quadriradical verbs, like triradical verbs, fall under the three types of verbs outlined above. For instance, the first quadriradical verb in (22), i.e., *ħankəs-ə* ‘he limped’ falls under Type C as the verb begins with a guttural followed by the vowel [a].

The others fall under Type B, as there are consonant clusters that are said to have some commonalities with the geminated consonants in this type (assuming that clusters of two different consonants are like geminates in that they occupy two adjacent consonant positions).²¹

1.3 Summary

Overall, in this section, we have seen some of the basic properties of Tigrinya nouns and verbs that will be relevant for the issues investigated in this dissertation. We have seen that Tigrinya is a predominantly head-final language, although it has some mixed word order properties. It is a morphologically complex Ethio-Semitic language, which shares basic Semitic properties such as root-and-pattern morphology, broken plurals and the opposition between perfective and imperfective forms. Nouns, which inflect for inherent gender, number, and case, have significantly unpredictable patterns but verbs, which inflect for gender, number and person agreement as well as aspect and mood have a systematic or predictable pattern. Tigrinya is also distinctive as a Semitic language in that its clausal structure is SOV, not VSO or SVO predominant in other well-studied Semitic languages, namely Arabic and Hebrew.

²¹ Tigrinya verbs can appear often as biradicals (e.g., *ḥazə* ‘he caught/seized’) and pluriradicals (e.g., *təkənawənə* ‘became completed’). However, these verbs are very rare and argued to be undergone root reduction and extension (cf. Buckley 2000; see Yimam 1999 for similar arguments in Amharic). In the case of biradicals, it is argued that they involve three radicalis and that their surface appearance as biradical is due to root reduction process. In the case of pluriradicals, it is argued that the verbs involve quadriradicals and that the surface appearance is due to root extension (addition of affixes).

Chapter 2

Alienable and Inalienable Possession in Tigrinya

1 Introduction

The goal of this chapter is to investigate the expression of possession in Tigrinya. Cross-linguistically, possessive constructions are classified into alienable possession (hereafter ALP) and inalienable possession (hereafter IAP) based on the semantic relationship between the possessor and the possessee (see Barker 2010, Heine 1997, Stolz et al. 2008, among others).

IAP is defined as a permanent semantic relationship between the possessor and the possessee; prototypical members of the class of possessed nouns are kinship terms, body parts and part-wholes (Heine 1997). In IAP, the relationship between the possessor and the possessee is determined by the meaning of the possessee. Consequently, the relationship between inalienably possessed nouns and their possessors is often considered as analogous to the thematic relations between verbs and their arguments (Barker 1995; 2010). For example, kinship terms, such as, *son* as in *John's son* (1a) are semantically dependent on a possessor, i.e., it is a requirement of a *son* that he be the son of somebody. Similarly, human body parts, such as *ears*, as in *John's ears*, (1b), are also considered another subtype of IAPs as they have a fixed semantic relation with respect to a typical individual, who consists of a nose, two eyes, two ears, a mouth and so on (see Alexiadou

2003).²² In other words, inalienably possessed *ears* are an inherent part of some body. This however varies from language to language.

- (1) a. John's son
 b. John's ears

ALP, on the other hand, is defined as a contextually dependent semantic relationship between the possessor and the possessee; the semantic relationship between the possessor and the possessee usually refers to ownership or preference (Heine 1997, among others). Unlike IAP, the two nominals entering the ALP relationship do not show any semantic dependency and there is no restriction on the type of possessor alienably possessed nouns take. For example *book* in *John's book*, (2), is not interpreted as being part of, or inherently related to, *John*. In other words, there is no semantic dependency between *John* and the *book*; *John's book* has a plethora of possible interpretations: It could refer to a book that *John* borrowed, bought, owns and so on. It is in this sense that it is generally assumed that alienably possessed nouns do not have an argument structure in their lexical entry as opposed to their inalienably possessed counterparts (see for example Barker 2010). Rather, a general modifier-head (or predicate-head) type of relationship allows them to acquire a possessor, the nature of whose relationship with the possessee is pragmatically determined.

²² There is another class of nouns, which has properties of both IAP and ALP, and tends to show a semantic relation between the possessor and the possessee – part-whole relation (e.g., *top* or *roof*) as illustrated below:

- (i) a. the roof of the house b. the trunk of the car

I will set aside discussion of such relational nouns, because, unlike kinship nouns, part-whole nouns show mixed properties in Tigrinya. For the sake of clarity, I will therefore simply focus on kinship nouns in the dissertation.

(2) John's book

Many languages make a distinction between the two types of possession as part of their grammar, even though the nature of the distinction varies from language to language (see Heine 1997 for a review of distinctions in different language families).

In this chapter, I examine the syntactic properties of both IAP and ALP in Tigrinya and demonstrate that they are syntactically encoded in distinct structures. Generally, possessive constructions in Tigrinya take the form [*nay* Possessor Possessee] or [Possessee Possessor], as illustrated in (3a) and (3b), respectively. Each of these will be further discussed in section 2.

- (3) a. *nay* *joni* *məs'haf*
 NAY John book
 'John's book'
- b. *wəddi* *joni*
 son John
 'John's son'

Based on a number of syntactic diagnostics, I argue that ALP and IAP in Tigrinya differ in the position of their possessors, and propose that this structural difference correlates with their status as modifiers or arguments. Particularly, I propose that an alienable possessor (henceforth AL-Pssr) is a modifier (or adjunct) and should be Merged in a

modifier position, but an inalienable possessor (henceforth IA-Pssr) is an argument and should be Merged in an argument position.²³ Focusing mainly on inalienable kinship nouns and primitive (non-derived) nouns, I provide various syntactic phenomena in support of the structural distinction between ALP and IAP in Tigrinya.

The remainder of this chapter is organized as follows: In section 2, I describe the strategies Tigrinya uses to express possession, particularly ALP and IAP in more detail. In section 3, I present five further syntactic diagnostics that help distinguish between IAP and ALP in Tigrinya. In this section, I show that IAP and ALP differ in the Merge position of their respective possessors, and that this difference in position correlates with their status as arguments or modifiers. Finally, in section 4, I present my conclusions and identify outstanding issues.

2 Distinguishing ALP and IAP in Tigrinya

Tigrinya uses two different strategies to encode possession.²⁴ The two strategies differ in two respects: word order of the possessor and the possessee, and the presence or absence of the particle *nay*. When it comes to the word order, the possessor can either precede or follow the possessee. (Based on the position of the possessor, I will henceforth refer to the first as *prenominal possession*, and the second as *postnominal possession*.) The particle *nay* also distinguishes the two types of possession, by introducing the prenominal

²³ In many languages modifiers serve as predicates (see Grimshaw 1990, among others). In fact, in chapter 3, I will argue that modifiers are predicates in Tigrinya.

²⁴ A portion of this chapter is published in Gebregziabher 2012. An anonymous reviewer wonders whether Tigrinya has construct state nominals (CSNs), which are quite common in other well-studied Semitic languages (Arabic and Hebrew). In chapter 4, I will show that postnominal (or bare possessive nominals (BPNs), as I call them throughout that chapter) are CSNs. See chapter 4 for a detailed analysis.

possessor, but not the postnominal one.²⁵ The two types of possession are schematized in (4) below:

- (4) a. Prenominal Possession: [*nay*-Pssr > Pssee]
 b. Postnominal Possession: [Pssee > Pssr]

These two types of possession correspond to ALP and IAP. That is, prenominal possession is primarily used for ALP, while postnominal possession is primarily used for IAP. This is illustrated by the contrastive examples in (5) and (6) (the possessee is bolded for convenience). The examples in (5) and (6) illustrate both the structural differences between the two types of possession, and the distinct semantic relationships between the possessor and possessee in each possession type. As noted above, either (*nay* and) the possessor precedes the possessee, as in (5a), or the (bare) possessor follows the possessee, as in (6a). This structural difference correlates with the semantic difference between ALP and IAP as follows: In (5a) the possessor *ʔit-i məmhir* ‘the teacher’ can have a plethora of relations with the possessee *məs'haf* ‘book,’ depending on the pragmatic context, whereas in (5b), it can only have a fixed meaning, a *parent–child* relationship, with the possessee *wəddi* ‘son’.

- (5) a. *nay-t-i* *məmhir* ***məs'haf*** *nay*-Pssr > Pssee
 NAY-D-M.SG teacher book
 ‘the teacher’s book’

²⁵ An anonymous reviewer of the published part of this chapter also asks whether the element *nay* is a prepositional Case marker. Indeed, this is a very important question and deserves a separate treatment. In chapter 3, it will be argued that *nay* is not a Case marker; rather, it is a nominal copula (in the sense of den Dikken 2006). See chapter 3 for a detailed analysis on the status and role of *nay*.

- b. **nay*-t-i məmhir **wəddi** *nay*–Pssr > Pssee
 NAY-D-M.SG teacher son
 ‘the teacher’s son’
- (6) a. **wəddi**-t-i məmhir Pssee > Pssr
 son-D-M.SG teacher
 ‘the teacher’s son’
- b. ***məs'haf**-t-i məmhir Pssee > Pssr
 book-D-M.SG teacher

Thus, this formal distinction is consistent with the semantic distinction of ALP and IAP in Tigrinya. As the contrastive examples clearly illustrate, ALPs in Tigrinya are syntactically and semantically different from IAPs: The prenominal possessives only allow ALPs (but not IAPs), whereas the postnominal possessives only allow IAPs (but not ALPs). The examples in (5b) and (6b) are therefore both ruled out because they have the wrong syntactic structure for ALP and IAP, respectively.

In many languages, the distinction between the two types of possession is clearly encoded as part of their grammar, even though the nature of the distinction varies from language to language (see Heine 1997, Nichols 1992, Seiler 2001, among others). As Heine (1997) points out, languages differ in coding the different types of possession: Some use morphological markers, others employ prosodic cues, and a very few others manipulate their morpho-syntactic structures to differentiate ALP from IAP. Even these languages that exhibit formal distinction between the two types of possession belong to very few linguistic areas and language families, mainly in North American, Australian,

Oceanic, and Niger-Congo languages (Heine 1997, Nichols 1992). In this respect, Tigrinya is one of the few languages (and probably the only (Ethio-)Semitic language as far as I know) that make a formal morpho-syntactic distinction between ALP and IAP. More examples that further illustrate this formal distinction between the two types of possession in Tigrinya are given in (7) and (8):

- (7) a. ḥaw joni a'. *nay ḥaw joni
 brother John NAY brother John
 'John's brother'
- b. ḥafti ḥagos b'. *nay ḥafti ḥagos
 sister Hagos NAY sister Hagos
 'Hagos's sister'
- (8) a. nay joni məkina a'. *məkina joni
 NAY John car car John
 'John's car'
- b. nay ḥagos gəza b'. *gəza ḥagos
 NAY Hagos house house Hagos
 'Hagos's house'

It is therefore important to observe that the (in)alienability correlation is firmly established in the grammatical system of Tigrinya: ALP is only possible with the *nay*-marked prenominal possessors, as in (5) and (8), and IAP is only possible with the non-

nay-marked postnominal possessors, as in (6) and (7). Table 1 summarizes the key formal distinction between ALP and IAP in Tigrinya.

Table 1. The distinction between IAP and ALP in Tigrinya

	ALP	IAP
<i>nay</i> Pssr > Pssee	✓	*
Pssee > Pssr	*	✓

The question now is how to account for such differences between ALP and IAP in Tigrinya. Before I proceed to presenting the analysis, however, a caveat is in order about pronominal possession, where the possessor is encoded as a pronoun.

In Tigrinya, pronominal possessors are similar to full DP possessors in that they appear either prenominally with *nay* or postnominally bare (without *nay*), but they differ in that they are realized as bound morphemes, rather than full words.²⁶ Prenominal pronouns are affixed to *nay*, and postnominal pronouns are affixed to the possessed noun, as schematized in (9).

(9) a. Prenominal Possession: [*nay* – PRONOUN_{Pssr} N_{Pssee}]

b. Postnominal Possession: [N_{Pssee} – PRONOUN_{Pssr}]

²⁶ It has long been debated whether such elements in Ethio-Semitic languages are agreement affixes or clitics. (See, for example, Yimam 1994, Amberber 1996 for arguments against a clitic analysis, and Mullen 1986 and Yabe 2001 for arguments in favor of a clitic analysis for Amharic object markers; see also Kramer (2011) for a recent reopening of the debate on Amharic verbal affixes.). Although there is an important theoretical distinction between the two notions, since nothing in this dissertation hinges on the choice, I will call these elements affixes, following the traditional grammatical description of Tigrinya (Amanuel 1988, Tewolde 2002, among others), but see Anderson (2005) for a detailed discussion of the distinction between the two notions.

As the examples in (10) and (11) illustrate, pronominal possessors show a slightly different pattern compared to their full-DP counterparts. Postnominal bare possession is used for both IAP and ALP, as shown by the grammaticality of both (10a) and (10b). However, pronominal possession with *nay* is only used for ALP, as is the case with full DP possessor, as shown by the contrast between (11a) and (11b). That is, unlike the full-DP possessors, the pronominal possessors can be freely attached to both inalienable and alienable nouns.²⁷

- (10) a. *nat-u* **məs'haf** *nay*-Pssr > Pssee
 NAY-3M.SG book
 book-his
 'his book'
- b. **məs'haf-u** Pssee > Pssr
 book-his
 'his book'
- (11) a. **nat-u* **wəddi** ^*nay*-Pssr > Pssee
 NAY-3M.SG son
 son- 3M.SG
 'his son'
- b. **wədd-u** Pssee > Pssr
 son- 3M.SG
 'his son'

²⁷ It is important to note that while 'son' and 'daughter' are inalienable nouns, they may have an AL interpretation when they have a different meaning. While 'son' can be used as a noun meaning 'boy' or 'child', 'daughter' can be used as a general term for a 'young girl'. This suggests 'son' and 'daughter' are lexically ambiguous: 'daughter' is ambiguous between an AL interpretation 'a girl' and an IA interpretation 'a female sibling/offspring', and 'son' is ambiguous between an AL interpretation 'a boy', and an IA interpretation 'a male sibling/offspring', depending on the context. While (ia) has both IA and AL interpretations, (ib) only has the latter interpretation, referring to boys/girls.

- (i) a. *kilitə* *ʔawədat/ʔag^walat* *ʔall-u/a-nni*
 two sons/daughters HAVE-3M/F.SG.S-1SG.O
 'I have two sons/daughters'
- b. *kilitə* *ʔawədat/ʔag^walat* *ʔab* *wiʃt'i* *ʔit-i* *gəza* *ʔall-ə-ww-u/a*
 two boys/girls at inside D-M.SG house HAVE-3SG.S-3M/F.SG.O
 'There exist/are two boys/girls inside the house'

I take this contrast as evidence that IAP and ALP must be syntactically distinguished. That is, regardless of the nature of the possessor – pronoun or full DP – accompanying the possessee, the two types of possessive DPs – *nay*-marked and non-*nay*-marked – are clearly distinct and should be accounted for.^{28 29} Nevertheless, since pronouns in general and the pronominal marking strategy for forming possessed noun phrases in particular are complex and deserve independent research, they are not further discussed here. Table 2 summarizes the distinction between ALP and IAP in Tigrinya.

Table 2. The distinction of IAP and ALP in Tigrinya

	ALP		IAP	
	Pssr-Full DP	Pssr-Pro	Pssr-Full DP	Pssr-Pro
<i>nay</i> -Pssr > Pssee	✓	✓	*	*
Pssee > Pssr	*	✓	✓	✓

Summarizing the result of this section, I have shown that Tigrinya exhibits a syntactic distinction between ALP and IAP. The two strategies for marking possession – a

²⁸ Note that the fact that the postnominal strategy is used to encode ALP with a pronominal possessor (cf. (10b)) is surprising given the assumption that pronominal possessors have the same structure as full-DP possessors, and that they are distinguished only by the fact that pronominal possessors are bound affixes whereas full-DP possessors are not. However, as Cardinaletti (1994) and Panagiotidis (2003) point out, pronouns and full DPs are not structurally identical (see also Déchaine & Wiltschko 2003 and Ritter 1995, for arguments against the claim that pronouns are uniformly of category DP (cf. Abney 1997)). Following the authors, if we assume that Tigrinya pronouns are not the same as full DPs, then, the data in (10b) does not come as a surprise anymore. It is possible to maintain that ALP and IAP are syntactically distinct. I will leave the issue open for future research.

²⁹ In fact, in many languages pronouns are not a syntactically homogeneous group (see Ritter 1995, among others). For example, in English while 1st and 2nd person pronouns can function as determiners (i.e., precede nouns), 3rd person pronouns cannot (see Postal 1966).

(i) a. we linguists vs. us linguists
b. you linguists vs. you linguists
c. *they linguists vs. *them linguists

prenominal possessive with *nay* and a bare postnominal possessive – correspond to the opposition between ALP and IAP in the grammar of Tigrinya. Now, the question is how do we account for both semantic and syntactic differences between ALP and IAP in Tigrinya. In what follows, I argue that such semantic and syntactic differences follow from the hypothesis that AL-Pssrs are modifiers/adjuncts and IA-Pssrs are arguments.

3 AL-Possessors are modifiers but IA-possessors are arguments

In the previous section, I established that ALP and IAP in Tigrinya are syntactically as well as semantically different. In this section, I will particularly address the question posited above: How do we account for the syntactic differences between IAP and ALP in Tigrinya observed in section 2? Based on different syntactic considerations, I argue that both the syntactic and semantic differences between ALP and IAP derive from the nature of the relationship between the possessor and the possessee. In particular, using a number of syntactic diagnostics, I show that AL-Pssrs are modifiers while IA-Pssrs are arguments.

3.1 Syntactic diagnostics for distinguishing ALP and IAP

Linguists, regardless of their theoretical differences, have long assumed that notions such as ‘argument’ and ‘modifier’ play an essential role in describing syntactic patterns of the world’s languages (see Chomsky 1981, Larson 1988, Kaplan & Bresnan 1982, Pollard & Sag 1994, among others). Most theories of grammar, as Larson (1988) points out, draw a fundamental distinction between arguments and adjuncts (or modifiers) within any

phrasal category.³⁰ The essential difference between these two is that while arguments are semantically selected by their heads, modifiers are not. While this distinction is conceptual, over the years different syntactic criteria have been suggested, particularly within the Principles and Parameters approaches (Chomsky 1981; 1986) that distinguish between arguments and adjuncts in a variety of languages (see Adger 2003, Jackendoff 2002, Larson 1988, Radford 1997, and references cited therein). In this section, I discuss some of the syntactic diagnostics that distinguish between arguments and adjuncts, and apply these to demonstrate that IA-Pssrs are arguments whereas AL-Pssrs are modifiers in Tigrinya.

Many syntactic approaches, including the Minimalist Program (Chomsky 1995b and later work), maintain the distinction between arguments and adjuncts, although the types of diagnostics they use vary within and across languages. In this section, I will present five syntactic diagnostics of two types that have been used in the literature to distinguish between arguments and adjuncts. The first type of diagnostic involves general principles such as positional constraints that apply broadly in different categories (see Grimshaw 1990, Radford 1997, among others). The second type of diagnostic focuses on properties of specific classes of lexical items. For example, the subcategorization frames of relational and non-relational nouns or the (in)transitivity of individual verbs (see Hale & Keyser 1993, Levin & Rappaport-Hovav 1995, among others) that serve to distinguish between arguments and adjuncts. Subcategorization frames are assumed to specify the number and types of arguments (but not adjuncts) that a lexical head can take (Chomsky 1973, Grimshaw 1990, Haegeman 1994, among others).

³⁰ I will use the terms “adjunct”, and “modifier” interchangeably throughout the chapter without any theoretical implication attached to them.

In what follows, I present evidence based on the following five syntactic diagnostics. The first diagnostic comes from syntactic restrictions of possessors in copular constructions. The second diagnostic is based on word order alternations of possessors and nominal modifiers, while the third diagnostic comes from the optionality/obligatoriness of possessors. The fourth diagnostic is based on iteration of possessors. Finally, the fifth diagnostic is derived from the subcategorization frame of the possessee. Tigrinya data based on all these diagnostics are consistent with the claim that AL-Pssrs are modifiers and IA-Pssrs are arguments.

3.1.1 Possessors as Predicates

The first syntactic diagnostic that separates arguments from adjuncts in Tigrinya comes from the occurrence of possessors inside copular clauses. In Tigrinya, most copular constructions have the verb *ʔiyy-* ‘be’ as their main verb, in combination with a non-verbal predicate, which always occurs preceding the copula.³¹ The schematized representations in (12) gives the structure of the Tigrinya copular clauses exemplified in (13):

- (12) a. [Subject [AdjP Copula]]
 b. [Subject [D/NP Copula]]

³¹ Note that when the copula *ʔiyy-* is used in the past tense, it has two forms: *nəyr-* or *nəbər-* as in *ʔit-i məs'haf ʔabyi nəyr-u* /the book big WAS-3M.SG.S/ ‘the book was big (but not any longer).’ and *ʔit-i səbʔay məmhīr nəbər-ə* /the man teacher WAS-3M.SG.S/ ‘the man was a teacher (but not any longer).’ Note also that, such copulas, like any other verb, including the copula *ʔiyy-*, host a subject agreement enclitic.

- (13) a. [DP ʔit-i məs'haf] [[ʔabyi ʔiyy-u]]
 D-M.SG book big.M be-3M.SG.S
 ‘The book is big.’
- b. [DP ʔit-i səbʔay] [[məmhɪr ʔiyy-u]]
 D-M.SG man teacher be-3M.SG.S
 ‘The man is a teacher.’

When the non-verbal predicate is a possessor, there is a restriction: Only an AL-Pssr is allowed to appear across a copula, (14a); an IA-Pssr is never allowed to appear as the predicate in a copular construction (14b).³²

- (14) a. [DP ʔiz-i **məs'haf**] [VP nay-t-i məmhɪr ʔiyy-u]
 this-M.SG book NAY-D-M.SG teacher be-3M.SG.S
 ‘This book is the teacher’s.’
- b. *[DP ʔiz-i **wəddi**] [VP ʔit-i məmhɪr ʔiyy-u]
 this-M.SG son D-M.SG teacher be-3M.SG.S
 ‘This son is the teacher’s.’

³² Copular clauses in Tigrinya also include equational (*nik'ədimos nik ʔiyy-u* ‘Nicholas is Nick’), locational or existential (*məs'haf ʔab mədardəri ʔall-o* ‘A book/books is/are on the shelf’ or ‘There is/are a book/books on the shelf’), and possessive constructions (*nay yəwhanis məs'haf ʔiyy-u* ‘It is John’s book’). Also, Tigrinya usually uses the verb *ʔall-* ‘be, exist, have’ to encode existential and locational copular constructions (see footnote 6). This same verb also is used to express clausal possession, as the following examples illustrate:

- (i) a. hadə səbʔay ʔab-t-i gəza ʔall-o
 one man at-D-M.SG house exist-3M.SG.S
 ‘There is a man in the house.’ or ‘One man is in the house.’
- b. joni kilitə k'olʔu ʔall-u-ww-o
 John two kids have-3M.SG.S-3M.SG.O
 Lt. ‘There are two kids for John.’ or ‘John has two kids.’

Crosslinguistically, it is not unusual to find languages bundling up the expression of possession and location (see Lyons 1968 for early general description of the fact, and Kayne 1993, Freeze 1992, for a detailed account; see also Boneh & Sichel 2010 for a recent account of clausal possession on Palestinian Arabic). I do not treat clausal possession here, but it is an interesting question to pursue whether clausal possession and nominal possession, on the one hand, and clausal possession and locative constructions on the other, show a derivational relationship in Tigrinya.

The syntactic restriction in (14) clearly shows that IAP and ALP in Tigrinya are syntactically distinct. However, this raises the question of why AL-Pssrs (but not IA-Pssrs) are allowed in copular constructions. I argue that this is due to the fact that only predicates (but not arguments) are possible across a copula (see Grimshaw 1990, Quirk et al. 1985, among others, for similar arguments).

One of the syntactic diagnostics that has been observed to distinguish between modifiers and arguments is the appearance of a constituent in a copular construction (see Grimshaw 1990, among others). Grimshaw observes that modifiers (but not arguments) are possible across a copula because they are predicates. One of the classic examples often used to illustrate the difference between nominal modifiers and arguments is the ambiguous English DP given in (15) and its copular parallel given in (16):

(15) the English teacher

a. the teacher from England *English* is a modifier

OR b. the teacher of English *English* is an argument

(16) The teacher is English.

a. The teacher is from England *English* is a predicate

NOT b. The teacher is a teacher of English *English* is an argument

If Grimshaw's characterization of the restriction on copular clauses is correct, then, the facts of Tigrinya presented in (14) receive a straightforward explanation. That is, AL-Pssrs are modifiers/predicates and thus are permitted across a copula, while IA-Pssrs are arguments and thus are not permitted across a copula. (See Schütze 1995 for similar

arguments.) Therefore, the appearance of possessors in a copular construction confirms not only the view that IAP must be syntactically distinguished from ALP but also my claim that AL-Pssrs are modifiers/predicates but IA-Pssrs are arguments.

3.1.2 Order of Possessors and Nominal modifiers

The second syntactic diagnostic that distinguishes ALP from IAP is the ordering of possessors and nominal modifiers. This section looks into two types of nominal modifiers – relative clauses (RCs) and adjectives – and shows that there are different restrictions for the two types of possessor, providing further evidence for my claim that ALP and IAP must be syntactically distinct and that AL-Pssrs are modifiers but IA-Pssrs are arguments in Tigrinya.

3.1.2.1 Relative Clauses

Relative clauses (RCs) in Tigrinya are prenominal and externally headed. While in many languages a special form of pronoun called a relative pronoun is used to introduce RCs, in Tigrinya the prefix *zi-* is used instead. The element *zi-* always attaches to the relativized finite verb, as schematically represented in (17a). Tigrinya allows relativization of different complements, however, I will, for convenience, use only object relativization (17b) to illustrate the nature of relativization in Tigrinya.³³

³³ Note that Tigrinya is a morphologically rich pro-drop language and arguments can be phonetically empty as long as they are recovered from the agreement enclitics attached to the verb. The verb always obligatorily bears the subject agreement enclitic, and the direct object or indirect object or oblique argument enclitics; as a result, in Tigrinya the verb with its attached enclitics can independently form a sentence, as illustrated below:

- (i) bəliʃ-u-(ww)-o
 eat.PF-3M.SG.S-3M.SG.O
 ‘He ate it (him).’

The order of pronominal affixes in (i) violates Baker’s (1985) Mirror Principle, a typological generalization, which claims that syntactic and morphological orderings stand in a symmetrical relation.

- (17) a. [[RC ... *zi* – verb ...] N]
 b. [Elsa *zɨ-s'əħaf-ət(t)-o_i*] məs'haf_i
 Elsa REL-write.PF-3F.SG.S-3M.SG.O book
 'a book that Elsa wrote'

As one can see from (17), RCs, like all other nominal modifiers in Tigrinya, are prenominal. One possible way to interpret this data is to assume that there is a gap inside the RC and, in this case, the gap has the grammatical function of a direct object, (as the co-indexation with the object marker on the verb reveals). In Tigrinya, the relativized item and the gap are always identified by the agreement affixes obligatorily attached to the verb of the RC. This is consistent with the typological observation that gapped RCs are the most common type in verb-final languages (like Tigrinya) with prenominal RCs (Greenberg 1966, Dryer 2005).³⁴ Irrespective of whether the gap analysis is correct or not, what is important to observe is that Tigrinya RCs are prenominal (not postnominal).

RCs in Tigrinya may co-occur with DP-internal possessors, and when they do, the order of the possessor with respect to the RC exhibits interesting restrictions that correlate with the distinction between ALP and IAP. Both AL-Pssrs and RCs appear prenominally in Tigrinya, and their order is not fixed. IA-Pssrs, on the other hand, appear postnominally. Consequently, while an AL-Pssr can either precede or follow a RC, an IA-Pssr can only follow a RC, as the following schematic representations show:

³⁴ In this respect, Tigrinya is a counterexample to the typological generalization that prenominal relative clauses almost always contain a non-finite verb (cf. Keenan 1985).

- (18) a. RC AL-Pssr N³⁵
b. AL-Pssr RC N
- (19) a. ✓ RC N IA-Pssr
b. * N IA-Psrr RC
c. * N RC IA-Pssr

The minimal pairs in (20) and (21) illustrate the facts schematically represented in (18) and (19); that is, a RC can occur either before or after an AL-Pssr, but only before an IA-Pssr. Note that I have already established above that, in Tigrinya, RCs, like AL-Pssrs, always precede the head noun, but IA-Pssrs follow it.

(20) AL-Pssr

- a. [[_{RC} joni zi-fətw-o_i] [nay-t-i məmhir] məs'haf]
John Rel-like-3M.SG.O NAY-D-M.SG teacher book
‘a book of the teacher that John liked’
- b. [[nay-t-i məmhir] [_{RC} joni zi-fətw-o_i] məs'haf]
NAY-D-M.SG teacher John Rel-like-3M.SG.O book
‘a book of the teacher that John liked’

³⁵ Tigrinya does not relativize possessors directly, as in (ia) and (iia), unless a pronominal copy of the possessor is attached on the possessee, which appears inside the RC, as in (ib) and (iib) (Gebregziabher 2005):

- (i). a. *[Joni t_i mäs'haf zi-fətw-o] [nay-t-i məmhir]_i
John book Rel-like-3M.SG.O nay-D-M.SG teacher
b. [Joni mäs'haf-u_i zi-fətw-o] [məmhir]_i
John book-his Rel-like-3M.SG.O teacher
‘a teacher whose book John liked’
- (ii). a. *[Joni t_i g^wal zi-fətw-a] [məmhir]_i
John daughter Rel-like-3F.SG.O teacher
b. [Joni g^wal-u_i zi-fətw-a] [məmhir]_i
John daughter-his Rel-like-3F.SG.O teacher
‘the teacher whose daughter John liked’

It is not clear why Tigrinya possessors are not relativized. This opens a future research on relativization.

(21) IA-Pssr

- a. [[_{RC} joni zi-fətw-a_i] [**g^wal** [ʔit-i məmhir]]]
 John Rel-like.PF-3F.SG.O daughter D-M.SG teacher
 ‘a daughter of the teacher who John liked’
- b. *[[**g^wal** [_{RC} joni zi-fətw-a] [ʔit-i məmhir]]]
 daughter John Rel-like.PF-3F.SG.O D-M.SG teacher
- b. *[[_{RC} joni zi-fətw-a] [ʔit-i məmhir] **g^wal**]
 John Rel-like.PF-3F.SG.O D-M.SG teacher daughter

The examples in (20) and (21) illustrate that the order of an AL-Pssr relative to a RC is not fixed, suggesting that perhaps the AL-Pssr and the RC occupy similar positions, namely a modifier position; in contrast, it is clear from the fact that RCs precede the noun while IA-Pssrs follow it that the IA-Pssr and a RC occupy distinct positions – in other words, IA-Pssr are not in a modifier position.³⁶

Therefore, I can conclude based on the examples in (20) and (21) that the position of IA-Pssrs with respect to RCs is restricted but that of AL-Pssrs is not. I hypothesize that these differences are due to the fact that IAP and ALP are syntactically distinct in

³⁶ Note that, though marked, for information packaging purpose, RCs can also follow the possessed head noun as they do with simple nouns:

- (i) a. ʔit-i **məs'haf** [_{RC} joni zi-fətw-o]
 D-M.SG book John Rel-like-3M.SG.O
 ‘the book that John liked’
- b. nay-t-i məmhir **məs'haf** [_{RC} joni zi-fətw-o]
 NAY-D-M.SG teacher book John Rel-like-3M.SG.O
 ‘a book of the teacher’s that John liked’

Crucially, though, this marked structure, which plays a role in information packaging in a discourse such as ‘an afterthought’, is not fully acceptable with IA-Pssr, as illustrated in (ii).

- (ii) ?? [**g^wal** [ʔit-i məmhir]]_i [_{RC} Joni zi-fətw-a_i]
 daughter D-M.SG teacher John Rel-like-3F.SG.O
 ‘a daughter of the teacher that John liked’

Note that (ii) can be grammatical under the reading of an appositive ‘the teacher’s son, who John liked’. Under this interpretation, the possessor usually separates from the RC with a pause.

Tigrinya, and specifically that IA-Pssrs are arguments while AL-Pssrs are modifiers. If this hypothesis is correct, it predicts that other nominal modifiers such as adjectives should order freely with AL-Pssrs but not with IA-Pssrs. As shown immediately below, this prediction is borne out by the Tigrinya data.

3.1.2.2 *Adjectives*

Adjectives in Tigrinya, unlike in many other Semitic languages (e.g., Arabic and Hebrew), are always prenominal (except in pragmatically marked contexts – see also the description of comparative binominal noun phrases), as schematically represented in (22a). The example in (22b) illustrates the schematic representation.

- (22) a. [[AP] N]
 b. [[ʔabiyi] məs'haf]
 big.M.SG book
 ‘a big book’

When it comes to the syntactic position of adjectives with respect to possessors, the expectation is that they should pattern like other modifiers. This expectation is met, as the syntactic position of adjectives with respect to possessors is analogous to that of RCs and possessors (compare (18) & (19) and (23) & (24)). Thus, like RCs, the order of adjectives with respect to possessors distinguishes AL-Pssrs and IA-Pssrs: Both AL-Pssrs and adjectives are prenominal, and they can appear in either order, as shown schematically in

(23). IA-Pssrs, in contrast, are postnominal, so their order is fixed relative to adjectives, as schematized in (24).³⁷

- (23) a. AP AL-Pssr N
 b. AL-Pssr AP N
- (24) a. ✓AP N IA-Pssr
 b. * N IA-Pssr AP
 c. * N AP IA-Pssr

The examples given in (25) and (26) illustrate the asymmetry between AL-Pssr and IA-Pssr schematically represented in (23) and (24).

- (25) AL-Pssr
- a. ?it-i [nay-t-i məmhir] [ʔabiyi] məs'haf
 D-M.SG NAY-D-M.SG teacher big.M.SG book
- b. ?it-i [ʔabiyi] [nay-t-i məmhir] məs'haf
 D-M.SG big.M.SG NAY-D-M.SG teacher book
 ‘the teacher’s big book’
- (26) IA-Pssr
- a. ?it-i [ʔabiyi] [wəddi-t-i məmhir]
 D-M.SG big.M.SG son-D-M.SG teacher
 ‘the teacher’s big son’

³⁷ Note however that adjectives, unlike RCs, do not seem to have a rightward extraposition possibility for information packaging.

- | | | | | |
|----|--------|------------|----------|----------|
| b. | *ʔit-i | [wəddi-t-i | məmhɪr] | [ʔabiyi] |
| | D-M.SG | son-D-M.SG | teacher | big.M.SG |
| c. | *ʔit-i | [wəddi-t-i | [ʔabiyi] | məmhɪr] |
| | D-M.SG | son-D-M.SG | big.M.SG | teacher |

These examples clearly suggest that AL-Pssrs and IA-Pssrs are syntactically distinct. While AL-Pssrs are freely ordered with respect to RCs and adjectives, IA-Pssrs are not. The question that arises from the Tigrinya data is why such a restriction exists? As it will be clear from the discussion below, I attribute this restriction to the nature and position of the two types of possessors: AL-Pssrs are modifiers or adjuncts and IA-Pssrs are arguments.

Early generative syntax established that the order of constituents readily distinguishes arguments from adjuncts (Chomsky 1973, Jackendoff 1977, Quirk et al. 1985; see also Adger 2003, Radford 2004, among others, for a recent discussion). Constituents that appear to be freely ordered with respect to one another are characterized as adjuncts while those that appear to have a fixed position are characterized as arguments (Chomsky 1973, Larson 1988, Radford 1997), as illustrated in (27) and (28). In (27) *of linguistics* is an argument of the noun *student*, whereas *with gray hair* is an adjunct. The only acceptable order is the one in which the argument precedes the adjunct. In (28), both *with gray hair* and *from Ethiopia* are both adjuncts. Since they have the same status, they can appear in either order.

- (27) a. a student [of linguistics] [with gray hair]
 b. *a student [with grey hair] [of linguistics]

- (28) a. a man [from Ethiopia] [with gray hair]
 b. a man [with gray hair] [from Ethiopia]

The hypothesis that Tigrinya AL-Pssrs are adjuncts (modifiers) while IA-Pssrs are arguments predicts that only the former will have free order with respect to other DP-internal adjuncts. In other words, IA-Pssrs are arguments, and as a result, they cannot be freely ordered with respect to DP-internal modifiers because their syntactic position is fixed. By contrast, AL-Pssrs are modifiers, and as such they can be freely ordered with respect to other nominal modifiers because their syntactic position is flexible and they need not be adjacent to the head noun. This prediction is borne out by the facts of Tigrinya that we have already observed, as summarized in (29) and (30). (See (25) and (26) for illustrative examples.)

- (29) a. [AL-PSSR RC/ADJ PSSEE]
 b. [RC/ADJ AL-PSSR PSSEE]
 (30) a. [RC/ADJ PSSEE IA-PSSR]
 b. *[IA-PSSR PSSEE RC/ADJ]

Thus, the fact that AL-Pssrs - but not IA-Pssrs - have a free ordering with respect to nominal modifiers (APs and RCs), not only suggests that (in)alienability is syntactically encoded but also determines the argument or modifier-status of each possessor. The observation that the distribution of AL-Pssrs (but not IA-Pssrs) consistently matches that

of nominal modifiers is again consistent with my claim that AL-Pssrs are modifiers but IA-Pssrs are arguments.³⁸

3.1.3 Optionality or obligatoriness of possessors

A third syntactic diagnostic that may help separate arguments from adjuncts is optionality or obligatoriness of a possessor. It is true that optionality/obligatoriness is not always helpful as a diagnostic to distinguish between arguments and adjuncts in all languages; this is particularly true in the clausal structure (see Dowty 2003 and Jackendoff 2002). However, here, in the nominal structure, it happens that optionality is useful to distinguish between ALP and IAP in Tigrinya. Larson (1988) and Quirk et al. (1985) (see

³⁸ NP-ellipsis is often used as a syntactic diagnostic to make a structural distinction between arguments and adjuncts. Ellipsis is usually taken as deletion of material that has an antecedent (Lasnik 1995, among others). The question is, is it possible to elide the possessee, as in *I kissed Mary's cat/sister*, and *Bill kissed [John's ~~cat/sister~~]* type, in Tigrinya? If so, does NP-ellipsis distinguish between adjuncts and arguments? Tigrinya generally allows ellipsis of an alienably possessed noun, but not an inalienably possessed one, as illustrated in (i) and (ii):

- (i) a. [[nay-hagos] məkina] kab [[nay-joni] ____] ti-bəllis'
 NAY-Hagos car from NAY-John 3F.SG.S-better.IMPF
 'Hagos's car is better than John's [~~car~~].'
 b. [[nat-ka] məkina] kab-[[nat-əy] ____] ti-nihir
 NAY-2M.SG car from-NAY-my 3F.SG.S-fast.IMPF
 '[Your car] is faster than [mine/my ~~car~~].'
 c. [[nay-hagos] məshaf] ʔanbib-əyy-o [[nay-joni] ____] ginna
 NAY-Hagos book read.PF-1SG.S-3M.SG.O NAY-John but
 ʔay-ʔanbəb-ku-wwə-n
 Neg-read.PF-1SG.S-3M.SG.O-Neg
 'I have read Hagos's book, but I haven't read [DP John's [NP ~~book~~]]'
 (ii) a. *[wəddi [hagos]] kab [____] [joni]] yi-x'unju
 son Hagos from John 3M.SG.S-handsome.IMPF
 Intended: 'Hagos's son is more handsome than John's [~~son~~].'
 b. *[wəddi [hafti-ka]] kab [____] [haft-əy]] yi-has'ir
 son sister-your from sister-my 3M.SGS-short.IMPF
 Intended: '[your sister's son] is shorter than [my sister's ~~son~~].'
 c. *[hafti [hagos]] rəxib-ə-yya [____] [joni]] ginna ʔay-rəxəb-ku-wwə-n
 sister Hago find.PF-1SG.S-3F.SG.O John but Neg-read.PF-1SG.S-3F.SGO-Neg
 Intended: 'I have met Hagos's sister, but I haven't met [John's ~~sister~~]]'

This is consistent with the observation that IAPs are syntactically distinct from ALPs in Tigrinya. However, it is not completely clear whether this alternation supports the view that IA-Pssrs are arguments but AL-Pssrs are adjuncts. In many languages, NP-ellipsis is allowed either in both adjunct and argument (e.g., English) or only adjuncts (e.g., Tigrinya). Thus, I leave this issue for future research, as it requires close understanding of the phenomenon in other languages. Nevertheless, the Tigrinya data on ellipsis also show that the grammar distinguishes ALP from IAP.

also Jackendoff 2002) note that modifiers are optional, but arguments are obligatory; this is because arguments, but not adjuncts, are required to meet selectional requirements of the head. That is, because heads select their arguments, but not their adjuncts, arguments tend to be obligatory. If this is true, then, we expect AL-Pssrs as modifiers to be optional, but IA-Pssrs as arguments to be obligatory; this expectation is met by the data, as illustrated in (31). In (31a), the AL-Pssr *nay joni* ‘John’s’ is optional, and the DP is acceptable with or without the AL-Pssr, whereas in (31b), the IA-Pssr *joni* ‘John’ is obligatory; omission of this constituent renders the DP ungrammatical.

- (31) a. [(*nay-joni*) *məs'haf*] *timali* *tə-sərix'-u*
 (NAY-John) book yesterday PASS-steal.PF-3M.SG.S
 ‘John’s book is stolen yesterday.’
- b. [*hafti* **(joni)*] *timali* *tə-mərɕiyy-a*
 sister (john) yesterday PASS-married.3F.SG.S
 ‘John’s sister is married yesterday.’

The obligatoriness of IA-Pssrs is not an isolated case in Tigrinya. In many languages, particularly those languages that make a formal distinction between ALP and IAP, this property is clearly observed. For example, in many North American languages, such as, Plains Cree and Blackfoot, the head noun of IAP does not exist without a possessor affix. (See Mühlbauer 2007 for discussion on Plains Cree and Ritter & Rosen 2010a on Blackfoot).

3.1.4 Iteration of possessors

Iteration is often taken as a syntactic diagnostic to tease apart arguments from adjuncts, and may confirm that AL-Pssrs are modifiers but IA-Pssrs are arguments. As Larson (1988) points out, adjuncts and arguments are typically identified according to a number of criteria, two major ones being iterativity and optionality. As discussed in section 3.1.3, optionality proved to be helpful to tease apart ALP from IAP. Iteration is similarly a useful diagnostic for separating ALP from IAP. It is observed that since there is no licensing and/or thematic restriction on adjuncts, they may be iterated (and in principle there could be an infinite number of adjuncts). On the other hand, since arguments are lexically licensed or thematically restricted, they cannot be iterated (and, in fact, there cannot be more than two arguments for a nominal head).³⁹ Thus, adjuncts are both optional and iterative, but arguments are not (Larson 1988, Radford 1997). This is mainly because arguments are lexically encoded via argument structure and limited in number (maximum two per argument-taking nominal) as heads can only assign a given type of thematic role once. Assuming this to be the case, then, we expect it should be possible to iterate AL-Pssrs, but not IA-Pssrs as arguments. This expectation is borne out by the Tigrinya data as illustrated in (32). While (32a) illustrates the fact that iterating AL-Pssrs is possible, (32b) illustrates the fact that iterating IA-Pssrs gives rise to ungrammaticality.

- (32) a. nay-joni nay marta məs'haf
 NAY-John NAY-Martha book
 ‘John’s book of Martha’s’

³⁹ The observation that nouns take one or two arguments, but verbs take one, two or three, has a long history within the generative tradition, going back to Chomsky’s (1970) Remarks on Nominalization (see Adger 2003, Grimshaw 1991, Marantz 1997, among others for discussion).

- b. *wəddi marta joni
 son Martha john
 ‘John’s son of Martha’

The examples suggest that multiple AL-Pssrs are possible, as long as each has a different contextually determined relation to the possessed noun, e.g., owner and admirer, but multiple IA-Pssrs are not possible as there is only one lexically determined IAP relation for each noun. For instance, (32a) has the interpretation, among other things, that *John* is the borrower of the book that *Martha* owns. However, in (32b), ‘Maratha’ and ‘John’ do not have differing interpretation in relation to ‘son’. Thus, the fact that (32a) is grammatical while (32b) is ungrammatical suggests that AL-Pssrs such as *nay joni* ‘John’s’ and *nay marta* ‘Martha’s’ have a different role in relation to the possessee ‘book’, and thus are both modifiers, whereas IA-Pssrs such as *joni* ‘John’ and *marta* ‘Martha’ have the same role in relation to the possessee *wəddi* ‘son’ and thus are both arguments. In other words, AL-Pssrs can iterate (32a) because they are modifiers, but IA-Pssrs cannot, because they are arguments (32b).

By iteration of the possessor, what I mean is that it is possible to have two AL-Pssrs for a single noun, but only one IA-Pssr. Note that I am not referring to the possibility of embedding one possessed DP inside another. This is certainly an option even for IAP as in *John’s daughter’s son*, but in this case *John* is the IA-Pssr of *daughter* and *John’s daughter* is the IA-Pssr of *son*. Here, too, each possessee has exactly one IA-Pssr.

Iteration in the context of this thesis refers to the possibility of having multiple possessors for a single possessed noun. The evidence suggests that this is an option for

AL-Pssrs, but not IA-Pssrs, and thus provides additional evidence that the former are adjuncts while the latter are arguments.

3.1.5 Subcategorization frame of the possessee

The fourth syntactic diagnostic drawing a structural distinction between the two types of possession derives from derivation facts, specifically knowledge of idiosyncratic properties of different nouns. I refer to this property as a subcategorization requirement, adopting the verbal terminology (or as ‘head dependence’ in sense of Quirk et al. 1985). In their analysis of Blackfoot possession, Ritter and Rosen (2010b) put forward the view that kinship possessors are internal arguments of the possessed noun, and kinship nouns obligatorily subcategorize for possessors. They provide the English example in (33) in support of their claim. If we compare their examples in (33) and the examples in (34), we see a clear contrast between inalienable and alienable possession.

- (33) a. **the child’s** father/mother
 b. Leslie fathered/mothered **the child**.
- (34) a. the child’s house / book⁴⁰
 b. (*)Leslie housed/booked **the child**.

In (33b), it is shown that the IA-Pssr *child* has the role of an internal theta-marked argument of the verb derived from an inalienably possessed noun. In contrast, an

⁴⁰ It is not clear whether Tigrinya primitive AL-nouns such as *məs’haf* ‘book’ are derived from the verb *s’əhaf-ə* ‘he wrote’ or the other way round. Traditionally, it has been assumed that both nouns and verbs are derived from basic roots consist of consonantal radicals, in this case, *s’h* for both ‘book’ and ‘write’, but as far as the basic meaning of this root goes, its not clear; nor does the etymology is certain.

alienably possessed noun cannot be the source of a derived verb that selects an AL-Pssr argument. For instance, in (34b) Leslie's housing of the child could be true as long as Leslie is a landlord or someone who helps children in need of shelter. However, it cannot mean that Leslie causes the child (or his/her family) to have a house. Similarly, Leslie may book the child for a meeting or reserve an accommodation or a table in a restaurant for the child, but this use of *book* has nothing to do with the child's possession of a book as signified by the possessive DP (whence (*)). In other words, the AL-Pssr *child* is not an internal argument and cannot receive an AL-possessor role from the verb derived from an alienably possessed noun.⁴¹ Although, unfortunately, we cannot reproduce these data in Tigrinya, as IA-kinship nouns in Tigrinya do not serve as the source of derived verbs, this piece of data indeed further strengthens the view that IA-Pssrs are arguments and must be distinguished from AL-Pssrs.

Finally, if this hypothesis is correct, we expect complements of other argument-taking nouns, such as deverbal nouns, to pattern with inalienably possessed nouns (and not alienably possessed ones). This expectation is met, as the following Tigrinya example illustrates:

- (35) a. ζ inwət ?it-a kətəma
 destruction D-F.SG city
 ‘destruction of the city’
- b. ??nay ?it-a kətəma ζ inwət
 NAY D-F.SG city destruction

⁴¹ It is true that the noun ‘book’ and the verb ‘book’ are derivationally related. According to the Online Etymology Dictionary of English, the verb ‘book’ is derived from the noun ‘book’, meaning, “to enter into a book, record” or “to enter for a seat or place...” However, it is unclear to me why the noun usage “written document” is no longer reserved on the noun as the noun “grammaticalizes” into a verb.

The deverbal noun *ḡinwət* ‘destruction’ in (35a) inherits its argument-taking property from its verbal counterpart ‘destroy’ and thus it licenses the internal argument *ʔit-a kətama* ‘the city’ as its complement. Thus, the fact that deverbal nouns consistently pattern with IAP but not with ALP is predicted by the hypothesis that IA-Pssrs are arguments, and like other types of arguments, they are Merged in an argument position, while AL-Pssrs are modifiers, and like other types of modifiers they are Merged in an adjunct position.

3.2 Summary

Summarizing the results of section 3, I have shown, using a number of syntactic diagnostics, that an AL-Pssr is a modifier while an IA-Pssr is an argument of the possessed noun. This claim allows us to straightforwardly capture the observed semantic and syntactic differences between IAP and ALP in Tigrinya. Recall that the contrasts between IAP and ALP have been attributed to a fundamental semantic difference between the two types of possessed nouns, i.e., the fact that IA nouns are inherently relational whereas AL nouns are not (see Barker 2010, among others).

Thus, the hypothesis that IA-Pssrs are arguments and AL-Pssrs are modifiers of the possessed noun follows from the assumption that the semantic difference between the two types of possession brings about a difference in syntactic structure. In addition, this hypothesis simply captures a range of related contrasts between the two types of possessors: AL-Pssrs serve as predicates but IA-Pssrs do not; AL-Pssrs are freely ordered with respect to other types of modifiers, notably relative clauses and adjectives, but IA-Pssrs have a fixed position relative to these classes of modifiers; AL-Pssrs are optional

but IA-Pssrs are obligatory; AL-Pssrs iterate but IA-Pssrs do not; and finally, AL-Pssrs are not subcategorized for by the possessed noun but IA-Pssrs are. In short, ALP consistently pattern with adjuncts, while possessors in IAP consistently pattern with arguments. These differences are summarized in table 3.

Table 3: Summary of diagnostics for IAP and ALP

Syntactic Diagnostics	IAP	ALP	Argument	Adjunct
Pssrs serve as predicates	*	✓	*	✓
Pssrs & RCs order freely	*	✓	*	✓
Pssrs & APs order freely	*	✓	*	✓
Optionality	*	✓	*	✓
Iteration	*	✓	*	✓
Subcategorization requirement	✓	*	✓	*

Previous treatments of IAP and ALP in other languages have attributed the observed syntactic differences to a fundamental semantic difference between the two types of possession; i.e., to the fact that IAPs express permanent relations whereas ALPs do not (see Heine 1997, Seiler 2001, among others). Based on a number of syntactic diagnostics, I have demonstrated that this semantic difference also has syntactic consequences in Tigrinya. Specifically, I have demonstrated that IA-Pssrs are realized as arguments of the possessee while AL-Pssrs are realized as modifiers of the possessee, and that the contrasts described above follow from this syntactic difference. Now the question is how

the syntax handles these differences between ALP and IAP in Tigrinya. Chapter 3 takes up the syntactic analysis of ALP, while chapter 4 develops a morphosyntactic analysis that captures both the semantic and syntactic properties of IAP. In these next two chapters, I argue that both the syntactic differences between ALP and IAP derive from the nature of the semantic relationship between the possessor and the possessee. Particularly, I argue that such semantic and syntactic distinctions follow from the hypothesis that IAP involves a distinct DP-internal structure compared to ALP that captures both the semantic and syntactic differences described in this chapter. Building on the conclusion I just arrived at – that IA-Pssrs are arguments and must be Merged in argument position, whereas AL-Pssrs are adjuncts or modifiers and must be Merged in adjunct position – I will present a refined syntactic structure of ALP and IAP in Tigrinya.

4 Conclusion

The primary goal of this chapter was to describe and analyze ALP and IAP in Tigrinya. I have shown that IAP and ALP in Tigrinya are encoded via two distinct syntactic structures. Based on several syntactic diagnostics, I argued that the syntactic and semantic distinctions between ALP and IAP in Tigrinya are due to the nature of the relationship between the possessee and its possessor. To account for the syntactic as well as semantic distinctions between the two, I have proposed that IA-Pssrs are arguments and must be Merged in an argument position and AL-Pssrs are modifiers and must be adjoined in a modifier position.

Many questions remain open regarding the Tigrinya DP structure, however. A theoretical issue left open concerns the syntactic position of AL-Pssrs and IA-Pssrs. In the Minimalist literature (see Chomsky 1995b *et seq.*), it has been argued that both the

nominal and clausal structures involve both lexical and functional projections. Particularly, it has been proposed that a nominal structure may contain projections of functional categories D, Num, and *n*, much as the clausal structure contains projections of functional categories T/Infl, Asp, and *v* (see Alexiadou et al. 2007 for a detailed review of different proposals along these lines). However, it is not clear whether Tigrinya requires the same functional projections in its nominal structure. In order to fully account for the exact position of IA and AL possessors, it is very important to address the following question: What is the internal structure of a Tigrinya DP? What are the Merge positions of nominal arguments and modifiers, and in particular, AL and IA possessors? Another question that remains open in the overall discussion of the chapter is the role and nature of *nay* in Tigrinya. We have seen that *nay* is one of the distinguishing elements of ALP, but throughout the chapter I have not said anything about its category or its function. These issues and other related outstanding questions will be addressed in the upcoming chapters. In order to give a full account of these facts, in chapter 3, I develop an analysis of ALP that centers on the role of *nay*.

In chapter 4, I propose a more articulated DP structure in Tigrinya and argue that each possessor is introduced by a light functional head *n* (the nominal counterpart of Marantz's 1997 *v*), and that different flavors of *n* introduce different argument types, much like different flavors of *v*, introduce different types of arguments (cf. Folli & Hale 2004).

Chapter 3

An analysis of alienable possession in Tigrinya

1 Introduction

The previous chapter set out to introduce the two types of possessive DPs in Tigrinya. The central finding of that chapter was that Tigrinya has two structurally distinct types of possessives, *nay*-marked and bare (non-*nay*-marked), which correlate with the two semantic types of possession, alienable (ALP) and inalienable (IAP), as the contrastive examples in (1) and (2) illustrate. Note that ALPs are only grammatical with *nay* (1), whereas IAPs are only grammatical without *nay*, i.e. with a bare possessor (2).

- | | | | | | |
|-----|----|---------------------------|---------------|----------------|--------------|
| (1) | a. | <i>nay</i> -t-i | <u>məmhɪr</u> | məs'haf | Pssr > Pssee |
| | | NAY-D-M.SGteacher | | book | |
| | | ‘the teacher’s book’ | | | |
| | b. | * <i>nay</i> -t-i | <u>məmhɪr</u> | wəddi | Pssr > Pssee |
| | | NAY-D-M.SGteacher | | son | |
| | | ‘the teacher’s son’ | | | |
| (2) | a. | wəddi -t-i | <u>məmhɪr</u> | | Pssee > Pssr |
| | | son-D-M.SG teacher | | | |
| | | ‘the teacher’s son’ | | | |
| | b. | * məs'haf -t-i | <u>məmhɪr</u> | | Pssee > Pssr |
| | | book-D-M.SG teacher | | | |
| | | Int. ‘the teacher’s book’ | | | |

Thus, in Tigrinya, ALPs are different from IAPs both in their semantic interpretation and morphosyntactic structure; for instance, the semantic relationship between the possessor and the possessee in (1a) is context-dependent and may have a range of interpretations: The teacher can be the owner, borrower or even admirer of the book. However, the semantic relationship between the possessor and its possessee in (2a) is lexically determined and may only have a single interpretation: The teacher is the father of the son; in other words, there is only a kinship relationship. In addition, ALPs are introduced by the element *nay* (1a), but IAPs are not (1b). Finally, the linear order in ALPs is possessor preceding possessee (1a), while in IAPs the linear order is possessor following possessee (2a). Based on these observable differences and a number of other syntactic considerations, in chapter 2, I argued that *nay*-marked alienable possessors (AL-Pssrs) are modifiers of the possessed noun, but inalienable possessors (IA-Pssrs) are arguments. This chapter addresses the question of why *nay* is required in ALP and other *nay*-marked constructions. It explores two alternative hypotheses based on two competing analyses developed for Amharic, a closely related language, (Ouhalla 2004, den Dikken 2007a). The first hypothesis asserts that *nay* is a Case marker, and I will refer to it as Hypothesis A. By contrast, the second hypothesis asserts that *nay* is a Linker and I will refer to it as Hypothesis B.

(3) Hypothesis A: *nay* is a Case marker

Hypothesis B: *nay* is a Linker

I begin by comparing competing analyses by Ouhalla 2004 and den Dikken 2007a for Amharic possessives (and relative clauses).⁴² Both discuss the role of the Amharic *yâ-* (closely related to the Tigrinya *nay*), which obligatorily appears in relatives and possessive constructions. Both also attempt to give a unified account for the Amharic *yâ-*. (Ouhalla's and den Dikken's analyses will be discussed separately in sections 2 and 3). The objective of this chapter is therefore to determine whether either of the analyses can be extended to account for the facts of Tigrinya, particularly to address the question of why ALP in Tigrinya needs the element *nay*.

It is important to note that the element *nay* also appears in other constructions, such as, nominal clauses (4) and comparative binominal noun phrases (5).⁴³ Amharic has *yâ-* in similar constructions; however, both Ouhalla and den Dikken only discuss nominal clauses like those in (4a) in their treatment of Amharic possessives and relative clauses. I propose to determine whether either treatment can be extended to account for the full range of uses of *nay* exemplified below.

⁴² For Amharic, different authors have proposed different analysis of *yâ-*, including that *yâ-* is a complementizer (Fullas 1972), an agreement morpheme (Desalegn 2011), a Case marker (Ouhalla 2004) and a Linker (den Dikken 2007a). However, since Tigrinya *nay* does not behave like any other complementizers or agreement morphemes in the language (I believe, irrespective of claims to the contrary, this is also true with the Amharic *yâ-* as well), in this chapter, I simply focus on the first two proposals (den Dikken's and Ouhalla's) and examine whether either proposal accounts for the facts in Tigrinya. Moreover, den Dikken's and Ouhalla's analyses go beyond Amharic, whereas those of Desalegn's and Fullas's are Amharic specific. Due to these reasons, I will not consider treatments of *nay* inspired by Desalegn and Fullas in this chapter.

⁴³ The element *nay* also sometimes appears with reduplicated nouns (ia) and adjectives (ib), to express superlative comparison. (See Demeke 2012 for similar constructions in Amharic). These are less productive in the language and thus will not be further discussed in this chapter.

(i)	a.	nay səb səb	b.	nay dixa dixa
		NAY person person		NAY poor poor
		‘the person of all the persons’		‘the poorest of all/the poor’

(4) Nominal Clauses

- a. **nay**-hugo ʃabez mi-mwat timali səmiʃ-ə
NAY-Hugo Chavez NM-die.PF yesterday heard.PF-1SG.S
‘I heard yesterday that Hugo Chavez is dead.’ or
‘I heard about Hugo Chavez’s death yesterday.’
- b. (**nay**)-hugo ʃabez **nay**-mi-muwat-u nəgər/wərə
NAY-Hugo Chavez NAY-NM-die.PF-his thing/news
timali səmiʃ-ə
yesterday heard.PF-1SG.S
‘I heard yesterday the fact/news that Hugo Chavez is dead.’ or
‘I heard the fact/news of Hugo Chavez’s death yesterday.’

(5) Comparative Binominal Noun Phrases

- a. **nay** k'olʃa fəllat'
NAY child wise
‘for a child, an (unusually) wise one’
- b. **nay** məmhır dənək'oro
NAY teacher ignorant
‘for a teacher, an (unusually) ignorant one’

In this chapter, I argue that neither hypothesis A – *nay* is a Case marker – nor hypothesis B – *nay* is a Linker – is tenable for Tigrinya. I show that although hypothesis B fares better compared to hypothesis A, both are conceptually and empirically implausible for Tigrinya. Alternatively, I propose that all *nay*-marked constituents are predicates and that

nay is a nominal copula (in the sense of den Dikken 2006) that signals a predication relationship between two nominal dependents that serves as a predicate and a subject.

The remainder of this chapter will be organized as follows. In section 2, I will present hypothesis A and show that it is empirically and conceptually untenable. Particularly, I present Ouhalla's (2004) discussion of Amharic relatives and possessives and show that it is not viable if we try to extend it to Tigrinya. Section 3 introduces hypothesis B focusing on the syntax of predication and predicationally meaningless functional elements. In this section, I review den Dikken's (2007a) analysis of Amharic and point out some problems that arise in attempting to extend it to Tigrinya. Section 4 presents an alternative analysis for Tigrinya ALPs that accounts for the facts of Tigrinya and resolves some of the problems that den Dikken's and Ouhalla's analyses independently face. Section 5 extends the alternative analysis to the other *nay*-marked constructions in Tigrinya illustrated above. Section 6 presents the conclusion and summarizes the main findings of the chapter. Finally, the appendix discusses the categorial status of *nay* and its placement in the syntactic structure.

2 Hypothesis-A: *Nay* as a Case-marker

2.1 Ouhalla's (2004) analysis of Amharic *ya*-

Ouhalla (2004) develops a parametric account of the syntax of complex noun phrases, such as possessives and relative clauses (RCs), in Semitic languages. The center of his analysis is that in languages like Amharic, RCs and possessors (Pssrs) are DPs and that both are base-generated in the same DP-internal position. Ouhalla's analysis is based on the observation that RCs vary parametrically with respect to whether they are introduced

by a complementizer, as in English and Hebrew, or by a determiner, as in Amharic and Arabic. In other words, Ouhalla argues for parametric variation between languages like Amharic and Arabic, where possessives and RCs have the same DP structure, and languages like Hebrew and English, where possessives and RCs have distinct DP and CP structures, respectively. For instance, for Amharic possessives and RCs given in (6a) and (7a), respectively, Ouhalla offers a unified analysis, given in (6b) and (7b), respectively.

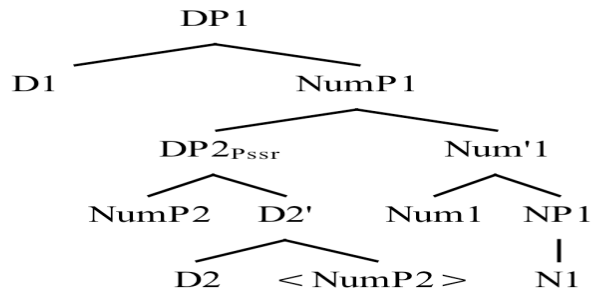
- (6) a. yâ-lijj-u dâbtâr
 GM-boy-DEF notebook
 ‘the boy’s notebook’ (Mullen 1986: 307; Ouhalla 2004: 295)
- b. [DP1 [NumP1 [DP2 [NumP2 GM-boy] the] [Num [NP notebook]]]]
- (7) a. lijj-u yâ-gâddâlâ-w ibab
 boy-DEF GM-killed-DEF snake
 ‘the snake the boy killed’ (Mullen 1986: 386; Ouhalla 2004: 294)
- b. [DP1 D1 [NumP [DP2 [TP [boy-the GM-killed] the] [Num [NP snake]]]]]

Under Ouhalla’s analysis, RCs in Amharic originate the same specifier position where possessors are based-generated, i.e., [Spec, NumP.] In order to derive the surface word order, Ouhalla proposes that the possessor’s NumP and the RC’s TP raise to [Spec, DP2], giving rise to a word order in which the D head of both the RC and the possessor surfaces in final position.

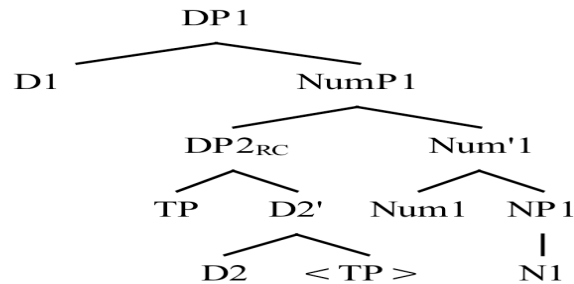
The tree structures in (8a) and (8b) constitute alternative representations to the bracketed strings provided in (6b) and (7b) (Ouhalla 2004: 296). They show that both

RCs and possessors are DPs in Amharic. For an RC, the D head (D2) takes a TP complement, whereas for a possessor the D head takes a NumP complement. Note that, in Amharic, the D head always surfaces in final position, as a suffix. In order to derive the surface word order, Ouhalla postulates raising of NumP to [Spec, DP2] in the possessor phrase, and raising of the TP to Spec, DP2 in the RC.

(8) a.



b.



What is more relevant to my discussion here is Ouhalla's unified treatment of Amharic *yā-*. Ouhalla uses the surface appearance of the Amharic *yā-* in RCs as evidence for his argument that Amharic RCs are basically DPs "that occupy Spec, NumP (the genitive

position)” (Ouhalla 2004: 296). Ouhalla asserts “ [...] Amharic relatives include more direct evidence that their relative clause is a DP and that it occupies the genitive position within the relative noun phrase. The evidence has to do with the prefix *yâ-* that appears on the verb of the relative clause [...].” Note, however, that *yâ-* in Amharic attaches not only to the verb in RCs but also to the subject of what Manahlot (1977) refers to as ‘factive complement clauses’ (hereafter nominalized clauses), illustrated in (9).⁴⁴

- (9) [*yâ*-kassa-n *mâkina mâ-gzat*] *sâmma-hu*
 Yâ-Kassa-OM car NM-buy hear.PF-1SG.S

‘I heard that Kassa (has) bought a car.’

‘I heard of Kassa’s buying a car.’ (Manahlot 1977: 123; Ouhalla 2004: 296)

Ouhalla notes that “[t]he analysis of the prefix *yâ-* compatible with its distribution in [possessive, RC, and nominalized clause] contexts is one that treats it as a genitive Case marker” (Ouhalla 2004: 297). For Ouhalla, the fact that possessors and nominalized clauses (including RCs), are DPs, and the fact that they occupy the same genitive Case position (Spec, NumP) is precisely what is expected and is the reason that they all “bear a

⁴⁴ Factive complements are clauses introduced by verbs such as *regret, forget, remember, know, hate*, etc. and distinguished from non-factives, which are introduced by verbs such as *think, say*, etc., in that the complement CP of a factive verb is presupposed as true by the speaker, while the complement of a non-factive is not (see Kiparsky & Kiparsky 1971). In English, factives are usually introduced with or without the phrase ‘the fact that’. However, in Amharic, the term ‘factive complement clauses’ as it is originally used in Manahlot (1977) and later adopted by Ouhalla (2004) & den Dikken (2007a) seems a misnomer for the following reasons: (i) there is no lexical restriction on the part of the verb (any verb can select this type of clause) (ii) the head of this clause is an infinitival or deverbal noun which is always introduced by a nominalizer *m-* and (iii) the nominalized clause can be a subject or an oblique adjunct (not restricted to a complement). To avoid this misnomer, I will refer to such constructions neutrally as nominalized clauses hereafter.

genitive Case marker” *yā-* (Ibid: 297).⁴⁵ This has an initial appeal as it partially explains the distribution of *yā-* and attempts to capture its role in both possessives and RCs in Amharic.

However, as I show below, extending a Case-based analysis like Ouhalla’s to Tigrinya is both conceptually and empirically problematic. In the remainder of this section, I will show why. If the proposal I pursue in the rest of this chapter is right, it has implications for other constructions: The analysis provides a straightforward syntactic account for other *nay*-marked constructions, which are completely unexpected under the Case-based treatment.

2.2 Extending the Case-based analysis of *yā-* to Tigrinya *nay*

In this section, I examine the Case-based treatment of the Amharic *yā-* (Ouhalla 2004) and show that it faces a number of challenges (both empirical and theoretical) if we try to extend it to Tigrinya. However, I first point out some *prima facie* advantages of the Case-based approach to Tigrinya, and then discuss some potential problems.

2.2.1 The advantage of extending the Case-based analysis of *yā-* to Tigrinya *nay*

Tigrinya *nay*-marked constructions are remarkably similar to their corresponding Amharic *yā*-marked constructions (see discussion below). Given that both languages are closely related, it is not surprising that Amharic *yā-* and Tigrinya *nay* show similarity in

⁴⁵ Ouhalla does not make his assumptions about Case-marking and its properties precise; he implicitly assumes that all DPs are subject to Case licensing as evidenced by his claim that “an analysis for Amharic ... that treats a RC as a DP that occupies the genitive [Case] subject position of the relative noun phrase is not only possible, but also more desirable, [as it offers] a consistent account of the prefix *yā-* in all contexts as a Case morpheme that marks DPs located in Spec, Num.” (2004: 297). It is not clear from Ouhalla’s discussion how Case is checked in Amharic.

distribution and role. It is therefore entirely desirable to try and extend the Case-based analysis proposed to Amharic *yâ-* to Tigrinya *nay*.

As pointed out in section 2.1, Ouhalla (2004) argues that in some Semitic languages both possessives and nominalized clauses (including RCs) are DPs and that the element accompanies them, such as Amharic *yâ-*, is a genitive Case marker. In Tigrinya, as in Amharic, alienable possessors and nominalized clauses are obligatorily marked with the element *nay*, as we saw in (1) and (4) above, repeated below for convenience as (10) and (11).

- (10) **nay** joni gəza
 NAY John house
 ‘John’s house’

- (11) [**nay**-hugo]abez mi-m^wuat] timali səmiʕ-ə
 NAY-Hugo Chavez NM-die.PF yesterday heard.PF-1SG.S
 ‘I heard yesterday that Hugo Chavez is dead.’ or
 ‘I heard of Hugo Chavez’s death yesterday.’

At first look, the fact that Tigrinya *nay*-marked possessives and nominalized clauses show the same distribution as their Amharic *yâ*-marked counterparts is expected and a welcome result for Ouhalla’s Case-based analysis, as the elements both languages use to mark such constructions generally behave the same. In other words, the analysis of the element *nay* as a Case marker, as Ouhalla (2004) proposes for Amharic *yâ-*, seems, at first glance, viable given their similar distribution in the context of possessives and nominalized clauses. That is, *nay*’s appearance on the possessor in possessive

constructions (10), as a Case marker, seems *prima facie* self-evident, given the assumption that all argument DPs must bear Case and that the role of Case is to license arguments (Chomsky 1986; 1995b). Its appearance on the subject of nominalized clauses (11) does not seem unexpected either, given that nominalized clauses are known to have nominal properties across languages (see, for example, Kiparsky and Kiparsky 1971).

However, unlike Amharic, Tigrinya relatives are introduced with the element *zi-* (not *na-*), as illustrated in (12). Thus, the fact that Amharic *ya-* in addition marks RCs but Tigrinya *na-* does not, seems to cast doubt on the viability of an analysis that extends Ouhalla's treatment of Amharic into Tigrinya.

- (12) ʔit-i təməharay **zi-**ʃʃət't'-o dəftər
 D-M.SG student Rel-sell.PF-3M.SG.S notebook
 'the notebook that the student sold'

Closer inspection, however, reveals that Ouhalla's analysis in fact predicts not only the appearance of *na-* in possessives and nominalized clauses, but also its absence in RCs in Tigrinya.⁴⁶ That is, the fact that Tigrinya RCs do not bear *na-* is precisely what is expected because Tigrinya RCs pattern with Hebrew and English in that they are CPs and *not* DPs. As pointed out above, Ouhalla argues that RCs vary parametrically with respect

⁴⁶ In some borrowed constructions mainly from Geez, a classical Ethio-Semitic language, *zi-* introduces nominal compounds, by linking two nouns, as the following examples illustrate.

- (i) a. ʔinsisa zə-bet b. ʔinsisa zə-gədam
 animal Linker-house animal Linker-monastery
 'house/domestic animals' 'wild animals'

Although *zi-* is used to introduce clauses such as RCs, its function in (i) is clearly to link the two nouns to form a compound. One might wonder whether there exists a historical connection between the Geez *zi-* and the Tigrinya *zi-*. This issue is orthogonal to my purpose, and I will leave it aside for future research.

to whether they are introduced by a C head, as in Hebrew, or by a D head, as in Amharic, as schematized in (13) (Ouhalla's (2004: 290) (8)).

- (13) Variation in the categorial identity of the relative clause
- a. CP with a [_{CP} C [TP]] structure in some languages (e.g., Hebrew)
 - b. DP with a [_{DP} D [TP]] structure in others (e.g. Amharic)

Thus, it simply follows from Ouhalla's analysis that *zi-* in Tigrinya is a complementizer and that the genitive Case-marker *nay* should not be expected where genitive Case is not needed to license a DP.⁴⁷ Note that for Ouhalla (2004) the hypothesis that Amharic RCs are DPs is mainly based on the observation that Amharic RCs, like possessive DPs, take the genitive Case marker *yā-*. By the same argument, the hypothesis that RCs are not DPs (rather they are CPs) in Tigrinya seems plausible because, unlike possessive DPs, they do not take the element *nay*. Thus, adopting Ouhalla's typology, Tigrinya should be part of the group of languages with CP RCs, as in (13a).

Apart from its initial appeal, however, I argue that Ouhalla's Case-based analysis cannot be extended to Tigrinya. In what follows, in support of my position, I present both conceptual and empirical problems that cast serious doubt on the Case-based hypothesis.

⁴⁷ Further evidence for the fact that *zi-* is a complementizer comes from its appearance in other constituents. Tigrinya uses *zi-* in clauses in the complement of the raising verb *msl* 'seem, appear' as in (i). The analysis of these cases should probably take its cue from the analysis of raising constructions developed by Hornstein (1999) for English and other languages, and Yimam (1994) for Amharic, among others.

(i) Hagos nə-t-i wərqi **zi-**ʃət't'-o yi-məsɪl
Hagos OM-D-M.SG gold REL-sell.PF-3M.SG.O 3M.SG.S-seem.IMPF
'It seems that Hagos sold the gold.' Or
'It seems that Hagos is intending to sell the gold.'

The account for *zi-* in nominal compounds, which is different from those in (i), may come from a differing treatment of the two. In (fn. 46), *z-* is a borrowed linker, which connects two nominal compounds, in borrowed compound expressions from G'eez, whereas *z-* in (i) is a complementizer that introduces a dependent clause (see Gebregziabher 2005 for a detailed account of Tigrinya RCs).

2.2.2 Potential problems of extending the Case-based analysis of *yā-* to Tigrinya *nay*

The first problem for an analysis of *nay* as a Case marker concerns the nature of *nay*-marked possessors. We have seen in chapter 2 (section 3.2 and 3.3) that *nay*-marked alienable-possessors (AL-Pssrs) have the same distribution as nominal modifiers or non-arguments in Tigrinya, and that the different diagnostics indicate that *nay*-marked possessors consistently behave like all other nominal modifiers. That is, in Tigrinya, AL-Pssrs and other nominal modifiers, namely, adjectives (APs) and RCs, appear in the same syntactic positions, occurring either as pre-copular predicates, as in (14), or as DP-internal modifiers, in which case they show free syntactic order with respect to each other, as in (15) and (16):

- (14) a. [TP DP_{SUBJ} [NP/AP_{PRED} COPULA]]
- b. [ʔit-i mäs'haf [ʔabyi ʔiyy-u]]
D-M.SG book **big.M** be-3M.SG.S
‘The book is big.’
- c. [ʔit-i səbʔay [məmhīr ʔiyy-u]]
D-M.SG man teacher be-3M.SG.S
‘The man is a teacher.’
- d. [TP DP_{SUBJ} [PSSR_{PRED} COPULA]]
[ʔit-i mäs'haf [nay-t-i məmhīr ʔiyy-u]]
D-M.SG book **NAY-D-M.SG teacher** be-3M.SG.S
‘The book is the teacher’s.’

- (15) a. [DP_{PSSR} AP/RC PSSEE]
 b. [ʔit-i [nay-t-i məmhir] [ʔabiyi] məs'haf]
 D-M.SG NAY-D-M.SG teacher big.M.SG book
 'the teacher's big book'
- (16) a. [DP_{AP/RC} PSSR PSSEE]
 b. [ʔit-i [ʔabiyi] [nay-t-i məmhir] məs'haf]
 D-M.SG big.M.SG NAY-D-M.SG teacher book
 'the teacher's big book'

Given this distribution, a Case-based analysis needs to answer the question of why *nay*-marked possessors in Tigrinya behave like modifiers (or predicates); i.e., if possessors are Case-marked argument DPs (as Ouhalla argues for Amharic), then, (i) why do they appear in the position of predicates in (14d), and (ii) why do they freely order with respect to DP-internal modifiers in (15) and (16)? These questions could be taken as part of a more general problem: How do we distinguish arguments from adjuncts (or modifiers) in the nominal domain?

In chapter 2, I have shown that a variety of approaches distinguish between arguments and adjuncts using different semantic and syntactic diagnostics (see Grimshaw 1990, Kaplan & Bresnan 1982, Pollard & Sag 1994, among others). These syntactic diagnostics include: Copular paraphrase, subcategorization frame (or head dependence), ordering, obligatoriness/optionality, and iterativity of constituents. For example, subcategorization frames are proposed for arguments only, on the assumption that, unlike arguments, non-arguments do not depend on their lexical heads for licensing, and as a result, non-arguments can co-occur with a greater range of different heads. However,

arguments can only appear with heads by which they are lexically selected. This is indeed true in Tigrinya as we have seen in chapter 2 in the distinction between *nay*-marked and non-*nay*-marked possessors, and reproduced here in (17): *Nay*-marked possessors do not occur with relational nouns, such as kinship terms even though relational nouns normally lexically license arguments.⁴⁸

- (17) a. *nay-joni* *məs'haf/kəlbi/gəza/dəftər/bet-timhirti*
 NAY-John book/dog/house/notebook/school
 ‘John’s book/dog/house/notebook/school’
- b. **nay-joni* *wəddi/g^wal/ʔabbo/ʔaddo/haw/hafti*
 NAY-John son/daughter/father/mother/brother/sister

As Barker (2010) points out, relational nouns are argument taking because they lexically subcategorize for arguments (see also Alexiadou 2003, for similar arguments on Greek, among others). In Tigrinya, as I have shown in chapter 2, relational nouns such as kinship terms indeed take argument DPs, but importantly their argument DPs are never *nay*-marked. Under the Case-based hypothesis, this is completely unexpected if *nay* is a Case marker. In other words, if *nay* were a Case marker that licenses any DP argument, it would also be expected to Case license DP arguments of relational nouns, including kinship terms. However, *nay* is impossible with DP arguments of argument-taking

⁴⁸ Here, one could ask whether the restriction is due to the presence of *nay* or the absence of a bare inalienable possessed noun. Although this issue is orthogonal to my argument here, my analysis in chapter two suggests that both restrictions could as well be true: It has been observed that some languages do not allow bare inalienable possessed nouns while others do (see Barker 2010); however, the way languages implement the restriction may vary as well (see Heine 1997 and Seiler 2001 for a typological observation).

relational nouns; rather they are realized as bare DPs. Therefore, *nay* is not an argument licenser; i.e., not a Case-marker.

Similarly, if we consider other diagnostics such as iterativity, which is used to distinguish arguments from adjuncts, it also consistently shows that *nay*-marked possessors are different from non-*nay*-marked ones: In Tigrinya, it is possible to have multiple *nay*-DPs (18a) (*nay*-DPs embedded inside *nay*-DPs), while this is not possible with bare DPs (18b).

- (18) a. [nay-joni [nay-marta məs'haf]]
 NAY-John NAY-Martha book
 ‘John’s Martha’s book’
- b. *[wəddi [marta joni]]
 son Martha John
 ‘John’s Martha’s son’

Note that arguments are normally closer to the head than non-arguments, and that consequently, arguments cannot be freely ordered relative to non-arguments.⁴⁹ By contrast, non-arguments can be iterated (18a) and are not required to be adjacent to the head noun as in [nay-joni] *gəzif məs'haf* and *gəzif [nay-joni] məs'haf* ‘John’s big book’ (see chapter 2 section 3.3.2 for a detailed discussion). Also, arguments are limited in number (maximum two per syntactic nominal predicate) but non-arguments are not (in

⁴⁹ It is true that sometimes the adjacency condition between a head and an argument can be disrupted under certain conditions as in French where adverbs can intervene between a verb and an argument. This is, however, argued to be due to movement of the head or the argument (see Pollock 1989 for details).

principle there could be an infinite number of non-arguments).⁵⁰ Note also that this is true for adjectives and RCs but not for all *nay*-marked possessors.

Based on these and other diagnostics, in chapter 2, I determined that *nay*-marked possessors in Tigrinya are modifiers or adjuncts, and not arguments. If we assume that argument DPs need Case (Chomsky 1986; 1995a), then, it is entirely mysterious why *nay* appears with the modifier AL-Pssrs in Tigrinya, and not with the argument IA-Pssrs. I conclude that *nay* is not a Case-marker and that an analysis of *nay*-marked possessors as Case-marked arguments (as Ouhalla does for Amharic *yâ*-marked constituents) is at best unmotivated and at worst theoretically problematic, given the observation that *nay*-marked possessors generally share the distribution of other DP-internal modifiers in the language.⁵¹

The other problem with the Case-based treatment of *nay* concerns the appearance of *nay* with other categories. Early generative theories assume that Case-marking is a strategy for identifying noun phrases' arguments with respect to some heads (usually verbs or prepositions) (see Chomsky 1981; 1986, Larson 1985, among others). Despite a shift in perspective from Case-assignment to Case-checking, in the Minimalist Program, it is still assumed that all noun phrases (or DPs) must have Case (see Chomsky 1995b *et seq.*). In other words, Case markers attach only to (argument) DPs, but not other categories. If this line of argument is true, and *nay* is a Case marker, we would expect it to appear only with DPs (not other categories). In Tigrinya, *nay* appears with non-DP

⁵⁰ This is especially true if we consider modifiers with a single semantic type (see Cinque 1994, Scott 2002). For example, it is not possible to say *a red blue book*, because it is semantically odd. Similarly, it is normally not possible to say *John's Martha's book*, unless both 'John' and 'Martha' have different semantic roles relative to 'book', for e.g., author and owner (meaning, a book of Martha's that is John's). See chapter 2 for details.

⁵¹ My arguments against Ouhalla's analysis are equally applicable to others who assume that elements like *yâ*- in Amharic and *nay* in Tigrinya are Case-markers (see Haileyesus 1998, among others, for similar view on Amharic *yâ*-).

categories, namely, clauses and adjectives, as the examples in (19a) and (19b), respectively, illustrate.⁵²

- (19) a. [ʔit-om [p'ap'as **nay**-mimat-om] wərə] səmiɕ-ə
 D-M.PL patriarch **NAY**-die-3M.PL.S news heard.PF-1SG.S
 ‘I heard the news that the patriarch died.’ OR
 ‘I head the news of the patriarch’s death.’
- b. nay-haftam dixa
 NAY-rich poor
 ‘(unusually) poor for a rich (person)’

If *nay* is a Case-marker, it is surprising that it appears with these other categories.

The above data also raises another problem for the Case-based approach to *nay*. The problem particularly concerns the position of *nay* in nominalized clauses. Although Ouhalla (2004) himself points out the position of the Case-marker in Amharic varies, depending on whether it attaches to a possessed DP or a nominalized clause, he never

⁵² Another problem with Ouhalla’s (2004) analysis concerns the placement of *yâ*- in possessed noun phrases and nominal clauses. Although Ouhalla follows Kayne’s (1994) antisymmetry to derive head-final from head-initial structures, he does not make his proposal entirely clear in deriving the correct word order, and particularly in deciding where his genitive Case marker (*yâ*-) resides in the derivation. Ouhalla (2004: 296) assumes the representation given in (ib) for possessives, where the internal D head originates as the head of the possessor and the outer D as the head of the whole complex possessed noun phrase.

- (i) a. yâ-lijj-u məs'haf
 YÂ-boy-DEF book
 ‘the boy’s book’
- b. [DP2 D2= [NumP2 [DP1 D1=-u [NumP1 yâ-lijj]] [Num2 [NP məs'haf]]]]

Although Ouhalla is correct in assigning an independent D head for the possessor and the possessee, it is not clear how the D head of the possessed noun phrase relative to *yâ*- is derived. As den Dikken (2007a: 310) correctly points out, “[...] Ouhalla does not identify which syntactic position *yâ*- occupies; [Ouhalla] calls *yâ*- a genitive Case marker but does not tell the reader where it resides in the tree.”

explains why: Amharic *yā-* attaches to the left edge of the possessor DP, but it attaches inside the nominalized clause, prefixed to the nominalized verb or to both the nominalized verb and its subject. Consider the examples in (20). Note that Ouhalla does not discuss the data in (20c). (See also Demeke 2012 for other uses of *yā-* in Amharic.)

- (20) a. **yā**-astemari-w məs'haf
 YÅ-teacher-DEF book
 'the teacher's book'
- b. [**yā**-astemari-w-n bet mə-gizat] səmma-hu
 YÅ-teacher-DEF-OM house NM-buy heard.PF-1SG.S
 'I heard that the teacher bought a house.'
 'I heard of the teacher's buying a house.'
- c. [(**yā**₁)-astemari-w bet **yā**₂-mə-gəzat-u-n wəre] səmma-hu
 YÅ-teacher-DEF house Yā-NM-buy-his news heard.PF-1SG.S
 'I heard the news that the teacher bought a house.' or
 'I heard the news of the teacher's buying a house.'

There is similar distributional variation in Tigrinya, as we can see from (21); *nay* attaches to the left edge of the possessed DP (21a), but it attaches to the left edge of the subject or to the left edge of the verb (and optionally also to the subject) in different types of nominalized clauses (21b, c).

- (21) a. *nay-t-i* *məmhɪr* *gəza*
 NAY-D-M.SGteacher house
 ‘the teacher’s house’
- b. [*nay-t-i* *məmhɪr* *gəza* *mi-gzaʔ*]
 NAY-D-M.SGteacher house NM-buy
 ʔa-grim-u-ll-əy *ʔall-o*
 CAUS-surprise.3M.SG.S-1SG.O have-3M.SG.S
 ‘I am surprised (by) the fact that the teacher bought a house.’ or
 ‘I am surprised (by) the fact of the teacher’s buying a house.’
- c. [(*nay*₁)-t-i *məmhɪr* *məkina nay*₂-mi-gziʔ-u *wərə*]
 NAY-D-M.SGteacher car NAY-NM-buy-his news
 səmiŋ-ə
 heard.PF-1SG.S
 ‘I heard the news that the teacher bought a car.’ or
 ‘I heard the news of the teacher’s buying a car.’

The bracketed constituent in (21b) and (20b) can arguably reduce to the possessed noun phrase type (21a) and (20a), respectively, if we assume that they are nominalized clauses, with the prefix *m-* ‘NM= Nominalizing Marker’ (Ouhalla’s CM=Clause Marker), as a nominalizing element prefixed on the verb, and with the subject as the possessor, bearing *yâ-/nay*.⁵³ However, the fact that these bracketed strings can potentially reduce to nominal

⁵³ “Factive” complement clauses can be seen as instances of nominalization in Tigrinya (as in Ethio-Semitic languages in general), where the finite verbal category is nominalized by the nominalizing element *m-*, inflected for agreement (but not tense). This finite verbal noun corresponds to a form variously known as the gerund, infinitive and *masdar* in the Arabic tradition.

phrases does not guarantee that *yå-* or *nay* is a Case marker, as Ouhalla argues. This is mainly because such an analysis (an approach to *yå-* or *nay* as a Case marker) would need to explain: (i) why *nay* or *yå-* attaches to different positions in (20c) and (21c), (ii) why *yå-* or *nay* becomes optional in (20c) and (21c)? In other words, if *yå-/nay* is a Case-marker, it is not clear why it shows up on the subject/possessor when there is no overt noun, but on the finite verb of the nominalized clause when the nominalized clause appears as the subject (or predicate) of an overt noun, such as *wərə* ‘news’, as in (21c) or (20c). And in this last construction type, why is there an optional second instance of *yå-* or *nay* on the subject of the verb/possessor? If these elements were Case-markers, this distribution would be surprising.

Moreover, if we assume that Case-markers are always obligatory, it is unexpected that *nay* is optional in (21c) and (see (20c) for similar facts in Amharic). As we will see in section 3.2, on the alternative hypothesis that *nay* is a linking element, the appearance of the two *nays* is expected, as one is required to license the nominalized clause (and is attached to its head)⁵⁴ while the other is required to license the possessor-subject of the nominalized clause. In contrast, if *nay* is a Case marker, the optionality of the *nay*₁ on the subject of the nominalized clause is surprising.

Another occurrence of *nay* that does not seem to self-evidently involve genitive Case marking is its occurrence in the A-A or N-A comparative noun phrases. Recall that in Tigrinya adjectives are prenominal. In this respect, Tigrinya differs from canonical

⁵⁴ It is worth noting that when the nominalized clause includes an auxiliary in addition to the main verb, *nay* and the NM, *m-*, appear attached to the auxiliary. In (i), it is the past tense auxiliary *nəβər-* that hosts the NM, *m-*:

(i) wədix'-u **nay-mi**-nbar-u mərtəfo ʔall-ə-nni
 fall.PF-3M.SG.S NAY-NM-be-HIM evidence exist-3M.SG.S-1SG.O

‘I have evidence/proof for it/he had fallen down.’

This maintains the generalization that *nay* is systematically attached to the head of the nominal clause not as a Case marker but, as we will see in the analysis section, as a linking element of the two dependents.

Semitic languages, in which adjectives are mainly postnominal. Exceptionally, the A-A or N-A comparative noun phrases have postnominal adjectives, as illustrated below.⁵⁵

- (22) a. *nay* *haftam dixā*
 NAY rich poor
 ‘(unusually) poor for a rich (person)’
- b. *nay* *səb* *riḡum*
 NAY person unkind
 ‘(unusually) unkind for a person’
- c. *nay* *k'olṣa fəllat'*
 NAY child wise
 ‘(unusually) wise for a child’

In these examples, it is not clear whether *nay* has any function of Case.⁵⁶ For example, in (22a), *nay* appears with two antonymous adjectives (in either order), with the first adjective being used nominally. This construction is usually used when there is an

⁵⁵ The meaning of the *nay*-A-A constructions can often be idiomatic or context-dependent as the adjectives usually encode opposite attributes. (22a) could refer to a country with a lot of untapped resources that happens to be ‘poor’ or it could refer to a person who has wealth but acts ‘poor’ or is poor in other respects. Similarly, *nay-haftam t'əmaṣ NAY-rich stingy* ‘(unusually) stingy for a rich (person)’ can be used in reference to a rich person who is ungenerous in general or in a particular context. Note that adjectives can often be used as DPs as they can serve as a subject in a sentence.

- (i) a. *dixā kulifaṣ dixā ʔiyy-u*
 poor always poor be-3M.SG.S
 ‘A poor is always a poor’
- b. *jigna ʔay-nəbri-n (ʔiyy-u) tarix-u ʔiyy-u zi-wirəs*
 brave Neg-lived-Neg be-3M.SG.S history-his be-3M.SG.S Rel-inherited
 ‘A brave (person) never lives but his legacy does forever.’

⁵⁶ One could argue that the *nay* in these adjectives is different from the one in the other nominal constructions. In section 5, I will present an analysis that ties the different occurrence of *nay* together under the same analysis.

assertion that the property ascribed to the nominal is surprising or exceptional. Chomsky (1986) proposes that both nouns and adjectives (as [+N] categories), can assign genitive Case, and that this is morphologically realized via *of*-insertion in English, as in *the enemy's destruction *(of) the city* and *proud *(of) his son*. At first glance, it appears that Tigrinya *nay* performs the same function as English *of*. However, on closer inspection, this turns out to not to be the case, because unlike these English examples, where *destruction* and *proud* are theta-related to their complements, there is no intrinsic thematic relationship between the property-denoting adjectives ‘poor,’ ‘wise’ and ‘kind’ and the *nay*-marked N or A in Tigrinya. Rather, the relationship is simply predicational; i.e., the adjectives ascribe additional properties to the *nay*-marked constituents; for example, in (21a), the property ascribed is ‘being poor (for a rich person), in (21b) ‘being unkind (for a person)’, and in (21c), ‘being wise (for a child)’. It is therefore safe to conclude that *nay* has nothing to do with Case in the above A-A or N-A combinations.⁵⁷

⁵⁷ The occurrence of *nay* in N-N compounds as in (i) is unexpected under the Case-based treatment of *nay*.

- | | | | | | | | | |
|-----|----|--|------------|----------------|----|--------------------------------------|---------------|------------|
| (i) | a. | <i>nay</i> | <i>bet</i> | <i>ʔinsisa</i> | b. | <i>nay</i> | <i>kətəma</i> | <i>səb</i> |
| | | NAY | house | animal | | NAY | city | person |
| | | ‘animal of a house or domestic animal’ | | | | ‘person of a city or a city dweller’ | | |

Note that these compounds are bare N-N compounds (not DP-DP compounds), as the head of the compound cannot be independently modified by an adjective, or preceded by a determiner, as the ungrammatical examples in (ii) illustrate.

- | | | | | | | | | | | |
|------|----|---|--------------------|------------|----------------|----|---|--------------------|---------------|------------|
| (ii) | a. | * <i>nay</i> | <i>ʕit-i/ʕabyi</i> | <i>bet</i> | <i>ʔinsisa</i> | b. | * <i>nay</i> | <i>ʕit-i/ʕabyi</i> | <i>kətəma</i> | <i>səb</i> |
| | | NAY | D-M.SG/big | house | animal | | NAY | D-M.SG/big | city | person |
| | | Int. ‘big domestic animal’ or ‘animal of the house’ | | | | | Int. ‘a big city dweller’ or ‘the city dweller’ | | | |

In (i), *nay* appears to link a combination of two nouns (N₁-N₂) to form a compound to express the material (N₁) out of which an object (N₂) is made, or N₁ used as a source for N₂. (See Leslau 1995 for similar constructions in Amharic). What is important to note is that if Case licenses DP arguments, not bare nouns, (see Longobardi 1994, among others), then, the analysis of *nay* as a Case marker in bare N-N compounds is unexpected. Thus, in compounds, the treatment of *nay* as a Case marker simply fails.

Note that there are similar examples in English as in *a men's wear* and *a children's book*. I think that these are lexicalized possessive constructions – meaning, they have become conventional phrases for salient referents in the English-speaking world – and arguably not real compounds. The fact that such constructions are often syntactically idiosyncratic and, as Barker (2010: 17) points out, semantically idiomatic (for instance, *men's room* has an idiomatic meaning ‘bathroom’), seem to suggest that no lexical process is involved in these constructions. Thus, there is no Case-marking involved.

The most serious challenge for a Case-based analysis of Tigrinya *nay* comes from the facts of inalienable possession (IAP), and specifically from the fact that this purported Case-marker never appears with IA-possessors. It has been well established that inalienable nouns are argument-taking heads (Barker 2010, Alexiadou 2003, among others). If *nay* were a Case marker, why does it not appear in IAP. In other words, if the role of (genitive) Case markers were simply to license argument DPs (as Ouhalla argues), we would expect these constructions to be ungrammatical when they appear without Case-markers, but in fact IA-possessors in Tigrinya never take *nay*. As the examples in (23) illustrate, IAPs are required to appear without the alleged Case-marker *nay*.

- (23) a. wədd-t-i (*nay) məmhır
 son-D-M.SG (NAY) teacher
 ‘the teacher’s son’
- b. həfti (*nay) yəwhanis
 sister (NAY) John
 ‘John’s sister’

These facts are entirely unexpected on a Case-based analysis: IA-Pssrs are necessarily bare DP arguments. If *nay* were the genitive Case-marker, it should also be obligatory (or at least possible) with this class of arguments.

2.2.3 Summary

Summarizing the discussion of this section, I have shown that the hypothesis that *nay* is a Case-marker is both empirically and conceptually undesirable.⁵⁸ If one assumes that the role of Case is to license (argument) DPs, then the fact that *nay* never occurs on IA-possessors, which are genitive argument-DPs, is highly problematic. Moreover, the appearance of *nay* in non-argument (nominalized and clausal) DPs in Tigrinya is completely surprising for the view that *nay* is a Case marker. The Case-based treatment is also problematic because it fails to explain why *nay/yâ-* is optional in some constructions and obligatory in others.

In conclusion, the hypothesis that *nay* is a Case marker is highly problematic for Tigrinya and should be rejected. In section 3, I will show that the hypothesis that *nay* is a nominal copula (in the sense of den Dikken 2006) can resolve the problems identified here and account straightforwardly for the fact that *nay*-marked possessors have the distribution of modifiers (or predicates).

3 **Hypothesis B: *Nay* as a nominal copula**

In the remainder of this chapter, I defend the hypothesis that *nay* is a nominal copula that mediates two elements in a predication relationship, inside a complex noun phrase. Extending den Dikken's (2007a) account of Amharic *yâ-*, I show that a predication-based analysis of *nay* fares better compared to a Case-based alternative along the lines of

⁵⁸ Ouhalla (2004) takes the appearance of *yâ-* in Amharic possessives and relatives to analyze both as DPs. However, as den Dikken (2007a) correctly points out, not only that the status of *yâ-* as a Case-marker is dubious, but also the DP status of RCs does not in itself warrant that it is subject to the Case Filter (recast in Chomsky 1986 as the Visibility Condition on arguments). In addition, the fact that predicates (i.e., adjectives) appear with some sort of Case morphology does not imply that they should be assigned structural Case. (See den Dikken 2007a for similar discussion).

Ouhalla (2004). However, in order to fully account for the Tigrinya facts, den Dikken's (2007a) analysis must also be recast. Before I do so, in section 3.1, I briefly present relevant background for the predication analysis, summarizing den Dikken's (2006) proposal regarding the role of copulas in predication constructions; then, in section 3.2, I discuss how the predication analysis is applied to Amharic *yā*- constructions, which are parallel to Tigrinya *nay*-marked constructions, pointing out problems with den Dikken's proposal. In section 4, I recast den Dikken's analysis of Amharic *yā*-, and present an alternative analysis for Tigrinya possessives and nominalized clauses that addresses the problems to be pointed out in this section.

3.1 Background for the syntax of predication: Relators and Linkers

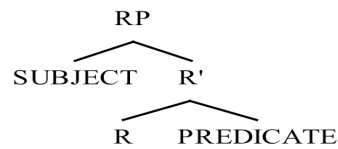
Den Dikken (2006) extensively discusses the syntax of predication and creates a new system of accounting for the predication relationship by bringing together a broad range of intriguing data from clausal and nominal (copular) constructions. His discussion focuses on meaningless functional elements that play pivotal roles in the establishment of predication relationships. He identifies two important meaningless elements. The first one, which he calls a RELATOR, mediates a predication relation between two dependents (the predicate and its subject). A Relator, according to den Dikken (2006: 15), is an abstract functional head or a 'placeholder' for any functional head in a structure that "[...] mediates the relationship between a predicate and its subject in the base representation of predication structures." For instance, the Relator head can be any one of the bolded items in (24): A copular verb as in (24a), a prepositional element as in (24b) and (24c), or an empty head as in (24d). Note that the copula *is* in (24b-d) is also a

Relator that connects the subject *Imogen* and the predicate *beautiful as a dancer, clever for a five-year-old* or *a beautiful dancer*, respectively. Note also that the Relator is often optional, as in (24d), and does not have any semantic content; all it does is enable the predication relation between the predicate and its subject.

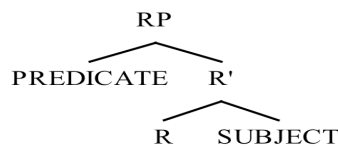
- (24) a. The earth **is** round.
 b. Imogen is [beautiful **as** a dancer].
 c. Imogen is [clever **for** a five-year-old].
 d. Imogen is [a beautiful **ø** dancer].

In this system, all predication relationships are syntactically asymmetrical and non-directional, in terms of the way the predicate and the subject are mediated by a Relator (represented below as R); consequently, there are two ways to link a predicate to its subject: Either the predicate Merges in the complement position of R as in (25a) or it Merges in its specifier position as in (25b). Den Dikken 2006 calls these two basic predication structures predicate-complement and predicate-specifier, respectively. Examples of a predicate in a predicate-complement structure include (24a) and all the constructions mediated by the copula *is* in (24). This type of predication is referred to as a canonical (or straight) predication. Examples of a predicate in a predicate-specifier structure are the bracketed strings given in (24b-d). This type of predication is called reverse-predication.

(25) a. Predicate-Complement structure



b. Predicate-Specifier structure



The second meaningless element den Dikken (2006) identifies in predication relations is a LINKER. A Linker, like a Relator, connects a predicate with its subject, but unlike the Relator, it is obligatory and signals a syntactic operation called Predicate Inversion – a movement operation by which a predicate raises across its subject into a higher specifier position (cf. Moro 1997). For example, in English, the copula *be* can be either a Relator or a Linker; when it serves as a Linker it is obligatory but when it serves as a Relator it is optional. Consider the clausal complements given in (26). In (26), the noun phrase *Brian* is the subject of the nominal predicate, *my best friend*, and the copula *to be* is absent in (26a) but appears on the surface in (26b). Note that because verbs like *consider* have the option of selecting an infinitival or small clause complement, the copula *be* is a Relator and thus may be phonetically null or optional.

- (26) a. I consider [Brian my best friend].
 b. I consider [Brian to be my best friend]. (den Dikken 2006: chap. 3)

In contrast, when the order of the subject and the predicate is inverted, the copula becomes obligatory as illustrated in (27). Observe that the small clause in (27a), which contains a copula *be*, is acceptable, but the one in (27b), without a copula *be* is not. This suggests that whenever there is an inverse predication embedded under a verb like *consider* the copula must be present.

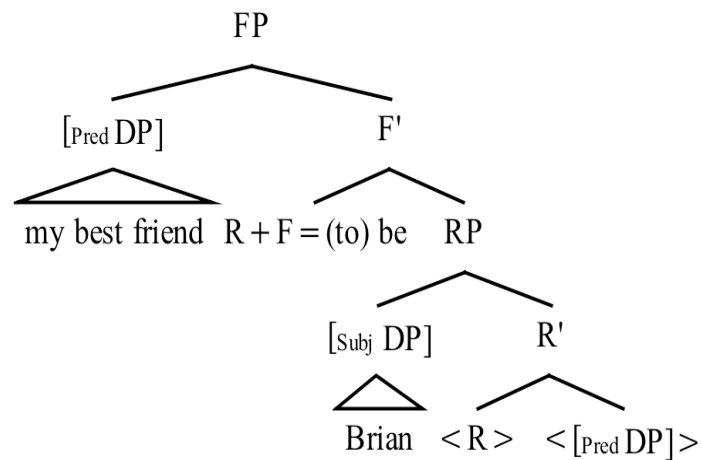
- (27) a. I consider [my best friend to be Brian]
 b. *I consider [my best friend \emptyset Brian].

Thus, for den Dikken, the obligatory copula in (27a) is a Linker, which signals the process of Predicate Inversion (PI), in this case, movement of the predicate *my best friend* across the subject *Brian*. Recall that, in this system, all subject-predicate relationships are mediated by a Relator head R (which is often null), and realized in an RP. On the other hand, (26a) is an example of a canonical-predication with predicate-complement structure, involving a null R-head and no Linker. The lack of alternation in (27) as opposed to (26), thus, signals *be* in (27a) is a Linker while in (26b) is a Relator.

Den Dikken (2006) proposes that a Linker like *be* originates in a functional head (represented in (28) as F), and that F attracts the null Relator head into it, with subsequent movement of the inverted predicate up into its specifier position immediately above RP in overt syntax. This is illustrated for (27a), where movement of *my best friend* into

subject position causes to realize the Linker as *(to) be* (see den Dikken 2006: Chapter 2 for a detailed discussion). The relevant structure is given in (28):

(28)



Thus, for den Dikken, the obligatory use of a copula simply signals the application of inversion of a predicate across its subject: Whenever there is a Linker there ought to be PI in the course of the syntactic derivation. Den Dikken's (2006) treatment allows for two strategies to achieve predicate-subject order: Either the predicate can be Merged in Spec, R in the predicate-specifier structure, or it can undergo PI, raising across the subject to [Spec, FP].

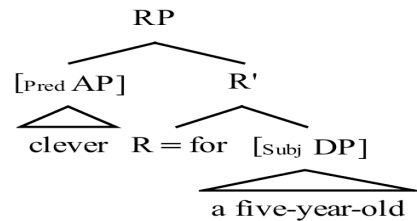
3.2 The difference between inverse and reverse predication

The fact that den Dikken's analysis achieves predicate-subject order in two different ways begs the question of how an inverted predication (the result of PI) differs from a reverse predication (the result of Merging the predicate in a predicate-specifier

structure)? Den Dikken (2006, chapter 4) proposes that reverse predication structures are most common with prepositional and adjectival modification in a complex noun phrase. They are mediated by different Relator-heads, such as English *of*, *as*, and *for* and crucially, involve a base-generated predicate-specifier structure. The examples given in (24b-c) above illustrate these facts. For example, the reverse predication structure for (24c), repeated here as (29a), is depicted in (29b), abstracting away from irrelevant details.

(29) a. Imogen is [clever **for** a five-year-old].

b.



For den Dikken (2006), these predicational constructions are semantically attributive and involve a predicate-specifier structure, which is different from other types of predicational structures. As an indication of this base-generated structure, they also involve a different Relator head, namely *as*, *for*, or *of* in English, that mediates between the predicate and its noun phrase subject.

One may wonder, then, if PI constructions could be treated in the same way as reverse predication of the type given in (29), with the nominal predicate Merged in [Spec, RP]. Den Dikken (2006) asserts that they cannot and contends that reverse predication constructions differ both semantically and syntactically from PI constructions.

Semantically, PI constructions involve a narrow focus interpretation on the subject of the inverted predicate, but reverse predication, which has a base-generated predicate-specifier structure, does not, as illustrated by the contrastive examples in (30a) and (30b) below. The post-copular subject of the PI construction in (30a) can receive a narrow-focus and focal-stress (indicated by the capital letters), but the same subject in a reverse predication structure, such as *a five-year-old* in (30b), cannot.

- (30) a. Imogen considers [the best candidate to be JOHN].
 b. Imogen is [clever for a five-year-old].

Syntactically, den Dikken (2006: 83) provides evidence from extraction facts for the claim that the two are different: While extraction of the subject in reverse predication constructions is possible (often slightly degraded), extraction of the subject in PI constructions is not (i.e., completely blocked).⁵⁹

- (31) a. Imogen is [clever for a five-year-old].
 b. *[What/Who] do you think Imogen is clever for <what/who>?

- (32) a. Imogen considers [the best candidate to be JOHN].
 b. *[Who] do you think Imogen considers the best candidate to be <who>?

⁵⁹ The grammaticality judgments given here are provided by den Dikken. The speakers I consulted do not necessarily agree.

For these reasons, den Dikken concludes that PI and reverse predication constructions are different, and that the former involves movement of the predicate into a higher specifier position, while the latter derives a predicate-specifier structure by application of Merge.

Summarizing this subsection, den Dikken (2006) proposes that: (i) all predication relations involve a subject and a predicate and have a small-clause structure (RP) headed by a meaningless copula called a Relator, and (ii) predicate inversion (unlike reverse predication) requires a meaningless copula called a Linker, which facilitates the inversion of the predicate around its subject.

Den Dikken subsequently broadens the scope of his analysis to include a number of other instances of PI inside nominal phrases, including possessed noun phrases and relative clauses. What is particularly relevant for my purpose here is den Dikken's (2007a) analysis of complex noun phrases in Amharic. In what follows, I will review his analysis of Amharic *yā-* marked constituents.

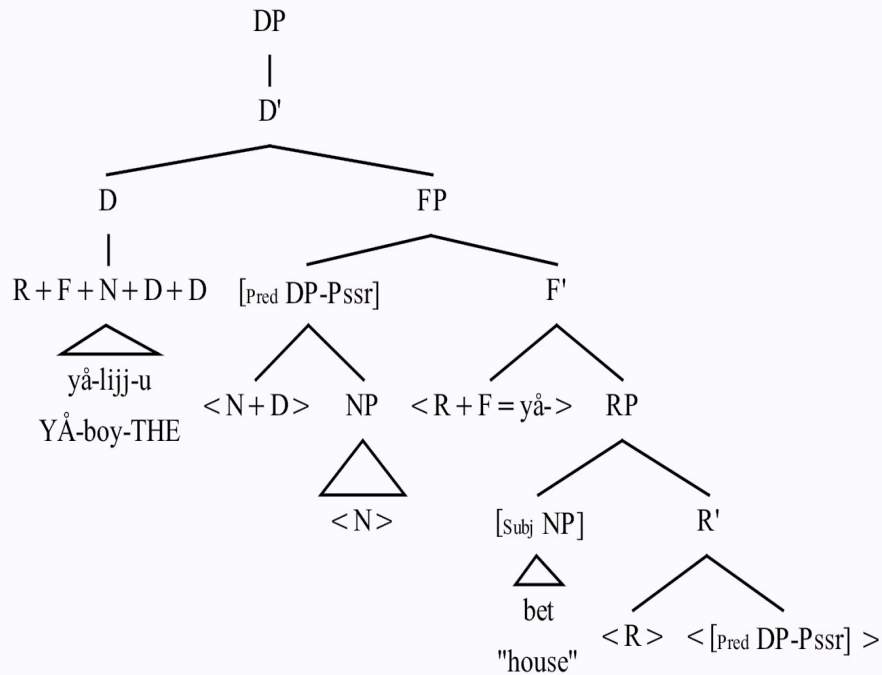
3.3 Extending the predication analysis to Amharic *yā-*

As we have seen above, Amharic possessives and relatives are obligatorily introduced with the element *yā-*. Restricting his analysis to possessed DPs and RCs, den Dikken (2007a) argues that *yā-* functions as a Linker of the possessor or RC, which he analyses as the predicate and the head noun, which is then its subject. In his view, *yā-* serves the same purpose as English *is* in constructions like *my best friend is Brian*, as discussed in section 3.1 above (or as den Dikken puts it as *of* in constructions like *the land of the free* and *the home of the brave* or *that oven of an office*). He takes this obligatory occurrence of *yā-* as a reflex of the operation of PI. Den Dikken proposes that both possessors and

RCs are predicates in Amharic, that both are Merged in the same syntactic position, and that both raise to a specifier position via PI, as illustrated in (33) and (34).⁶⁰

- (33) a. **yâ-lijj-u** **bet** A Possessive DP
 Yâ-boy-DEF.M house
 ‘the boy’s house’

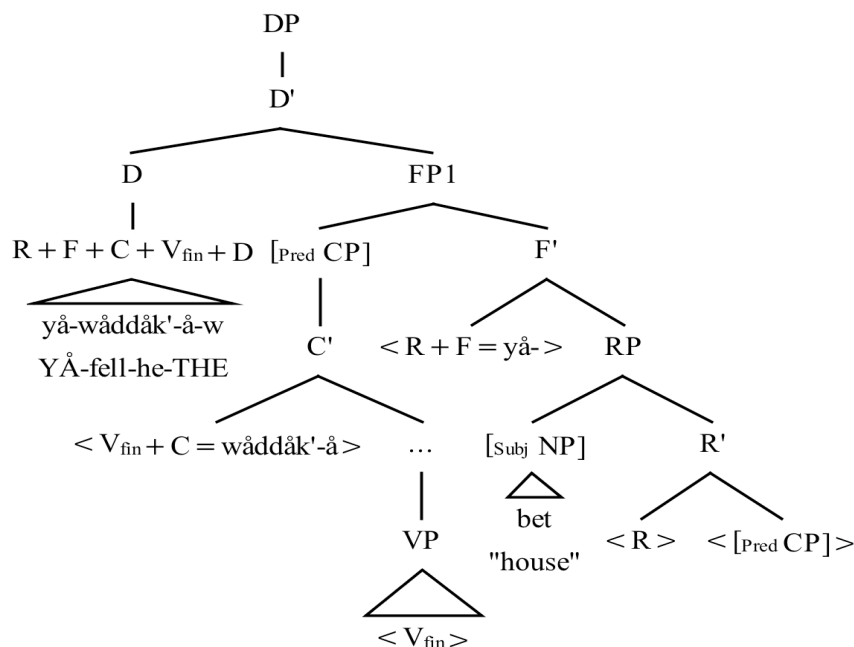
b.



- (34) a. **yâ-wæddək'-â-w** **bet** A Relative Clause
 Yâ-fell.PF-3m.sg-DEF.M house
 ‘the house that fell down’

⁶⁰ The tree diagram is my interpretation of den Dikken’s bracketed structures; den Dikken never draw tree structures.

b.



As the structures in (33) and (34) show, for den Dikken the inverted predicate in relativized noun phrases is a CP, whereas in possessed noun phrases, it is a possessor DP.⁶¹ In order to derive the correct word order – with *yâ-* realized as a prefix on the predicate, den Dikken proposes that the head of the RC or the possessor and the Linker *yâ-* may further raise up to the D-head of the complex noun phrase, as depicted in (33b) and (34b) for (33a) and (34a), respectively.⁶²

Thus, for den Dikken, the Linker *yâ-* in Amharic complex DPs, which features a possessor and a RC, is a by-product of the application of PI. This approach is substantially different from the Case-based treatment of Ouhalla's (2004) discussed in

⁶¹ The question of whether Amharic RCs are CPs, as den Dikken (2007a) assumes, or DPs, as Ouhalla (2004) proposes, is beyond the scope of this thesis.

⁶² The question whether head movement is a single syntactic operation is discussed at length in chapter 4. However, the answer to this question will not affect the discussion here.

section 2. While Ouhalla Merges possessors and RCs in [Spec, NumP], den Dikken Merges them as predicates and raises them to what is likely a different specifier position via PI. Also, while *yâ-* appears as a Case-marker in Ouhalla's analysis, it arises as a by-product of the operation of PI, in den Dikken's analysis. Thus, according to den Dikken (2007a), the syntax of all of the Amharic examples presented here involves PI, with *yâ-* serving as a Linker. However, there are some problems with den Dikken's (2007a) predicate inversion-based analysis of Amharic, which I take up in the next section.

3.4 Potential problems of extending the PI-based analysis of *yâ-* to Tigrinya *nay*

Den Dikken's (2007a) PI-based analysis fares better than Ouhalla's (2004) Case-based analysis in accounting for some of the facts of Amharic. The fact that he treats Amharic *yâ-* as a Linker and that *yâ*-marked possessors and RCs as non-canonical predication is essentially on the right track. This approach may carry over to Tigrinya as well.

However, den Dikken (2007a) claims that all *yâ*-marked possessors and RCs involve predicate inversion without offering any syntactic (i.e., extraction) or semantic (i.e., focus) evidence for this position. In particular, he does not demonstrate that Amharic *yâ*-marked possessives and RCs involve a PI, as opposed to reverse predication (i.e., a base-generated predicate-specifier structure). According to den Dikken (2006), as discussed above, predicate inversion constructions always give rise to narrow-focus on the subject and resist extraction of it, but predication reversal constructions have neither of these properties. In Tigrinya *nay*-marked constructions do not behave like PI constructions: Normally, they do not involve any focus, but they do allow subject

extraction across the predicate, which gives rise to focus on the subject, as the contrastive examples in (35) illustrate. (I believe the same is true in Amharic).

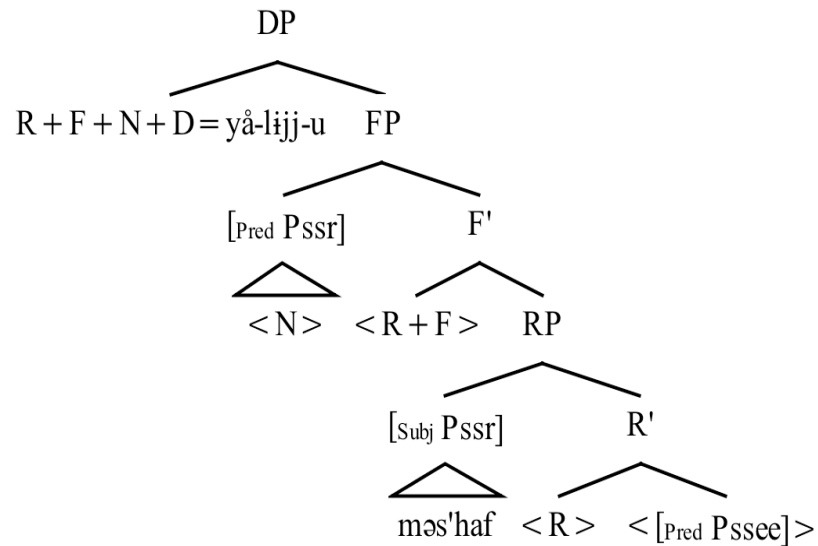
- (35) a. [[nay-t-i timali zi-məs'-ə] səbʔay] gəza
 [NAY-D-M.SG yesterday Rel-come-3M.SGS man house
 ‘The house of the man who came yesterday’
- b. GƏZA [[nay-t-i timali zi-məs'-ə] səbʔay]
 HOUSE [NAY-D-M.SG yesterday Rel-come-3M.SGS man
 ‘The HOUSE of the man who came yesterday’

If the above constructions were derived via predicate inversion, we would not expect them to allow the possessee to move across the alienable possessor. (See section 3.1 for more discussion.) Note that (35) has properties of both inversion and reverse predication; i.e., predicate in specifier position and focus is involved. If this is true, then, either den Dikken’s assumption that Relator heads are optional is wrong, or inversion does not necessarily require narrow focus and unextractibility of the subject. A more likely solution lies in abandoning the assumption regarding the optionality of the Relator head, because it is not clear what it follows from. In contrast, we would expect that raising the subject across the predicate to [Spec, FP] would give rise to narrow focus and block further movement of the predicate.

In addition, den Dikken’s (2007a) movement of the head F (=yâ-) in (33b) further to D head looks very stipulative, and in any event, derives the wrong word order if we try to extend it to Tigrinya ALPs. First, the derivation results in unattested order because the

order of the possessor relative to the D-head in both Tigrinya and Amharic is different. Consider the derivation in (33b) for simple Amharic possessive given in (33a) repeated below as (36) for convenience.

(36)



In (36), the derivation may derive the correct word order for Amharic possessives, but extending it to Tigrinya ALP will derive an unattested order. This is simply because in Tigrinya, the D-head of the complex noun phrase is always at the left edge of the DP and is never a suffix on the possessor – unlike Amharic *-u/w*. This is illustrated in (37):

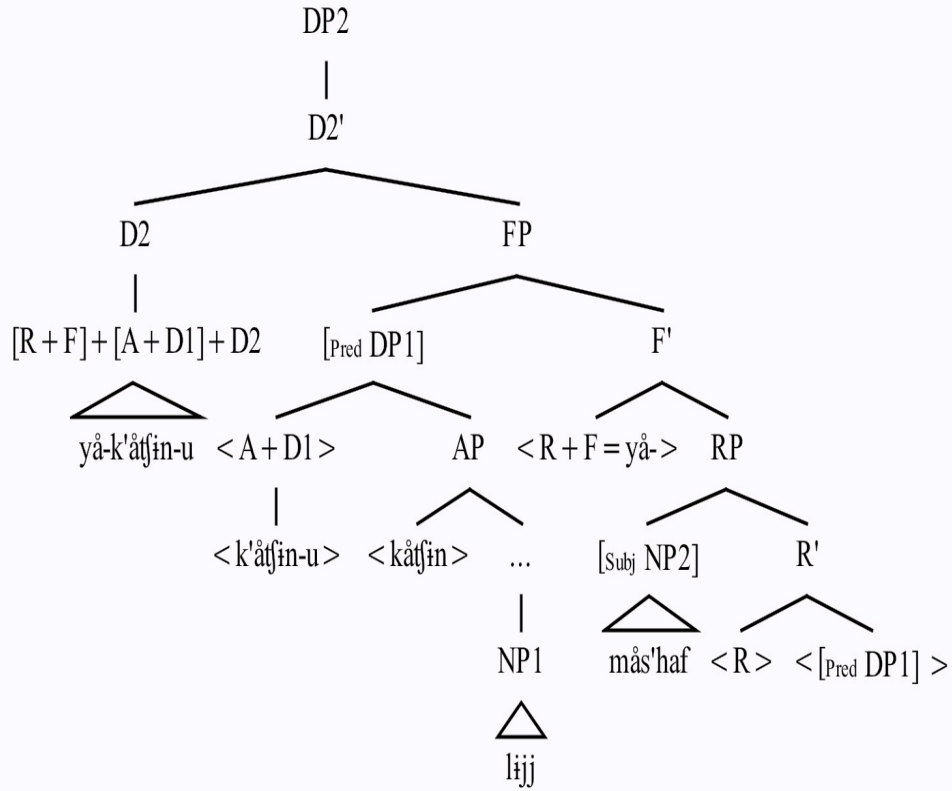
- (37) a. **ʔit-i** nay-t-i məmhır mäs'haf
 D-M.SG NAY-D-M.SGteacher book
 ‘the teacher’s book’

- b. *nay-t-i məmhir ʔit-i məs'haf
 NAY-D-M.SGteacher D-M.SG book

Second, movement of the head of the predicate possessor in (36) looks even more stipulative when we consider complex possessor DPs; this is mainly because den Dikken is required to assume remnant movement of the predicate (NP in possessives and/or TP in RCs or any constituent lack thereof) to Spec DP preceded by movement of F to D which are not independently motivated. Note that remnant movement of the predicate is independently required in den Dikken's analysis in order to derive the right word order of the Amharic complex noun phrase (see (34b)). For example, in simple possessors, as in (33a), the head of the possessor, which Merges in [Spec FP], is the possessor noun itself and as a result, it raises to the D-head of the complex noun phrase as the derivation in (33b) illustrates. In complex possessors, whose possessor noun is modified by an adjective, den Dikken assumes that the head of the possessor is the modifying adjective. In this case, it is the adjective itself that raises to D and left-adjoins to the D head of the complex noun phrase. This is illustrated in (38b) for the Amharic adjective modified complex possessor in (38a).

- (38) a. yā-k'āf'in-u lij məs'haf
 YÅ-skinny-the boy book
 'the skinny boy's book'

b.



The derivation in (38b) is similar to the one in (33b) except that the raising head of the possessor predicate is an adjective (as opposed to the noun itself) in this case. The derivation proceeds as follows: First R raises to F, as a result, *yâ* spells-out or lexicalizes the head F; then, the possessor undergoes predicate inversion to [Spec, FP]. Next, the head of the possessor predicate, in this case, the adjective that modifies the noun itself, raises to the outer D-head. Finally, the surface order (*yâ* > AP > Pssr) is derived through head movement of *yâ-* to the outer D-head of the complex noun phrase, of which the adjective has just been targeted. However, it is not clear whether there is any motivation

for movement of the adjective to the outer D-head and whether the adjective can indeed be the head of the complex possessor noun phrase. Movement of the adjective as a head seems a stipulation assumed by den Dikken in order to derive the suffixation of the Amharic definite marker (= –u/w) to the adjective.

In fact, den Dikken (2006) assumes that EPP is the trigger for movement of the predicate across the subject: den Dikken proposes that FP is an extended phase, whose head F=yâ- has an EPP feature that attracts the predicate possessor to its specifier (Spec, FP) crossing the subject possessee. If we follow the same reasoning, we would expect DP to be an extended phase that results from head movement of F=yâ- to D, and that D would have an EPP feature that attracts the remnant NP further to Spec DP, (as it does in RCs given in (34b)). However, as den Dikken (2007a: 309-310 fn. 10) himself points out, “it remains unclear [...] what is triggering the requisite [...] remnant movement to Spec DP.”⁶³ In any event, if DP is an extended phase and D comes up with an EPP feature which forces remnant movement, it results in an unattested order both in Amharic (39a) and Tigrinya (40a).

- (39) a. *lijj yâ-k’âf’in-u mâs’haf
 boy Yâ-skinny-the book
- b. yâ-k’âf’in-u lij mâs’haf
 Yâ-skinny-the boy book
 ‘the skinny boy’s book’

⁶³ There is also a problem with the remnant movement of NP/TP to [Spec, DP]: The trace of the moved possessor head, A/N or V_{fin}, left behind is apparently not c-commanded by its antecedent.

- (40) a. *k'olɕa nay-t-i k'ətt'in mäs'haf]
 boy NAY-D-M.SGskinny book
- b. nay-t-i k'ətt'in k'olɕa mäs'haf
 NAY-D-M.SG skinny boy book
 'the skinny boy's book'

Moreover, allowing the adjective to be the head of the possessor noun it modifies, requires den Dikken to assume that APs must be part of the extended projection of the noun phrase (NP) (i.e., [DP D [AP A [NP N]]]). This assumption raises the question of whether there is independent evidence for Amharic APs to be a head of the nominal phrase, as den Dikken (2007a) assumes for Amharic. However, as Kramer (2009: 48-49), following Hankamer & Mikkelsen (2005) and Dost & Gribanova (2006), points out, there is no independent motivation for Amharic adjectives to be part of the extended projection of NP, as den Dikken assumes for Amharic. This is because the adjective does not fulfill Zwicky's (1985) criteria for a head of a nominal phrase: It is not obligatory, and does not affect the features on the NP it modifies. It is therefore not clear under what circumstance AP without NP would form a constituent and would be able to move to D.

Finally, den Dikken's (2007a) analysis is also not compatible with Minimalist assumptions about movement, despite his claims to the contrary. In current Minimalist approaches, standard head movement is banned from narrow syntax, as it does not extend the root and violates Minimalist principles (cf. Chomsky 1993, *et seq.*; see also chapter 4 for a detailed discussion). Den Dikken assumes standard head-to-head movement in order to derive the right surface order of constituents in Amharic, and generally to motivate the syntax of predication. In addition, as den Dikken himself points out (2007a:

317, fn. 7), the appearance of *yā-* in nominalized clauses and other *yā-*-marked constructions does not self-evidently involve “Predicate Inversion.” In the next section, I will present an alternative analysis that resolves these problems and fully accounts for the facts of Tigrinya.

3.5 Summary

To summarize this section, we have seen that there are two important meaningless elements through which all predication relationships are mediated. The first is a Relator that mediates the two basic predication relationships, which are structurally encoded as Predicate-Specifier and Predicate-Complement structures. The Relator is a ‘placeholder’ for any (optionally null) functional head in a predication relation that mediates the subject and the predicate in both nominals and clauses (see Moro 1997, among others).

The second meaningless element through which predication relationships are encoded is a Linker. A Linker, as opposed to a Relator, signals application of the operation of Predicate Inversion – a movement operation that inverts the underlying order of subject and predicate by raising the latter across the former (cf. Moro 1997). In this view, it is the role of the Linker element to signal the inverted relationship between the predicate and its subject in a syntactic structure. Thus, a Linker is always obligatory while a Relator can be optional.

We have also seen how Amharic *yā-* obligatorily appears in both possessives and RCs. Den Dikken (2007a) interprets the obligatoriness of *yā-* as evidence that PI has occurred, and that *yā-* is a Linker, rather than a Relator. As it stands, however, his analysis of Amharic cannot be extended to Tigrinya. In section 4, I discuss some further

potential problems posed by Tigrinya *nay*-marked constructions, and present an alternative account that salvages these problems and accounts for the fact of Tigrinya *nay*-marked possessives, nominalized clauses, and comparative binominal noun phrases.

4 An alternative analysis to Tigrinya *nay*-marked constructions

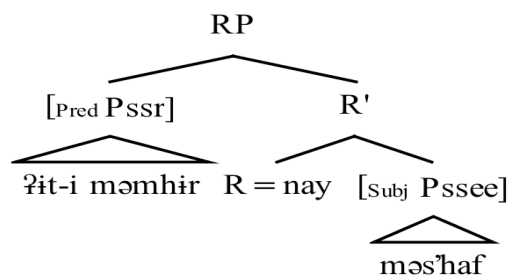
In this section, I provide an alternative analysis to den Dikken’s (2007a) predicate inversion analysis of Amharic *yā-* that better accounts for the facts of Tigrinya ALPs. While I adopt den Dikken’s insight in analyzing *nay* as a nominal copula, I argue that *nay*-marked ALPs in Tigrinya involve reverse predication with a base-generated predicate-specifier structure, rather than predicate inversion, which involves movement of the predicate to a higher specifier to derive the predicate-specifier structure. Before I present my analysis, however, let me first briefly elaborate on my assumptions about nominal predication, *nay* as a nominal copula, and what the terms “subject” and “predicate” signify in a nominal predication.

4.1 Tigrinya ALPs: *Nay* is a nominal copula

I propose that *nay* in Tigrinya ALPs is a nominal copula (in the sense of den Dikken 2006) that signals a predicate-specifier predication structure involving a predicate possessor and a subject possessee. Under this proposal, a simple ALP like (41a) will have the predication structure in (41b).

- | | | | | |
|------|----|----------------------|---------|---------|
| (41) | a. | nay-t-i | məmhir | məs'haf |
| | | NAY-D-M.SG | teacher | book |
| | | ‘the teacher’s book’ | | |

b.



In this analysis, *nay* serves neither as a Case-marker (contra Ouhalla 2004), nor, as in den Dikken’s analysis, as a Linker signaling for PI. Before we proceed, let me briefly explain why ALPs in Tigrinya warrant a predication treatment and why *nay* is best analyzed as a nominal copula. Notice that the word order of *nay* relative to the two dependents in the tree does not match the word order in (41a); I will address this issue later in section 4.3.3.

4.2 ALPs as predication constructions and *nay* as a nominal copula

As mentioned in section 1, Tigrinya has a number of constructions that involve the element *nay*, and ALPs are one of them. ALPs in Tigrinya are obligatorily marked with the element *nay*, and *nay* is always attached to the left edge of the DP possessor as illustrated in (42).

(42) ALP

- a. **nay** [DP hagos] məś'haf
 NAY-Hagos book
 ‘Hagos’s book’

- b. **nay** [_{DP} -t-i məmhir] məs'haf
 NAY-D-M.SG teacher book
 ‘the teacher’s book’

In chapter 2, I showed that *nay*-marked alienable possessors (AL-Pssrs) are modifiers. In many languages, modifiers function as predicates because they both ascribe and predicate a property to the things they modify or predicate of (see den Dikken 2006, among others). In Tigrinya, I argue that AL-Pssrs are indeed predicates because they ascribe a property to the referent they modify. Here, I provide three pieces of evidence in support of my claim that AL-Pssrs are predicates (but see chapter 2 for detailed discussion). The first piece of evidence comes from copular clauses. It has long been observed that when non-verbal categories (e.g., APs, NPs, and PPs) are clausal predicates, they often appear together with a copular verb (see Stowell 1981, Williams 1980, among others; see also den Dikken 2006 and references cited therein for a recent discussion). Recall that in chapter 2, section 3.2, it was observed that AL-Pssrs (but not IA-Pssrs) in Tigrinya serve as clausal predicates, appearing “across” a copula. This is illustrated below.

- (43) a. ʔiz-i məs'haf [_{VP}[**nay** hagos] ʔiyy-u]
 this-M.SG book **NAY** Hagos be-3M.SG.S
 ‘This book is Hagos’s.’
- b. ʔiz-a məkina [_{VP}[**nay** hagos] ʔiyy-a]
 this-M.SG car NAY Hagos be-3F.SG.S
 ‘This car is Hagos’s.’

- c. ʔit-om p'ap'as **nay-mumat-om** wərə VP predicate
 D-M.PL patriarch NAY-die-3M.PL news

ʔay-tə-səmɕ-ə-n

NEG-Pass-heard.3M.SG.S-NEG

‘The news that the patriarch is dead was not heard.’

‘The news of the patriarch’s death was not heard.’

Finally, the third piece of evidence comes from the order of AL-Pssrs with respect to nominal modifiers, viz., adjectives and relative clauses. As has been observed (see discussion in chapter 2), in Tigrinya, AL-Pssrs are freely ordered with respect to adjectives and relative clauses. This is illustrated below:

- (45) a. [[_{RC} joni zi-fətw-o_i] [nay-t-i məmhir] **məs'haf_i**]
 John Rel-like-3M.SG.O NAYD-M.SG teacher book

‘a book of the teacher’s that John liked’

- b. [[nay-t-i məmhir] [_{RC} Joni zi-fətw-o_i] **məs'haf_i**]
 NAY-D-M.SG teacher John Rel-like-3M.SG.O book

‘a book of the teacher ‘s that John liked’

- (46) a. [ʔit-i [nay-t-i məmhir] [ʔabiyi] məs'haf]
 D-M.SG NAY-D-M.SG teacher big.M.SG book

‘the teacher’s big book’

- b. [ʔit-i [ʔabiyi] [nay-t-i məmhir] məs'haf]
 D-M.SG big.M.SG NAY-D-M.SG teacher book

‘the teacher’s big book’

Thus, in Tigrinya AL-Pssrs like other nominal modifiers are modifiers or predicates of the head noun possessee.

Based on the above three pieces of evidence, and other arguments provided in chapter 2, I therefore conclude that ALPs involve a predication relation between the AL-Pssr predicate and its possessee subject. Now the question is how is the predication relation in Tigrinya ALPs syntactically represented? Hypothesizing that Tigrinya *nay* is a copula that mediates between the predicate and its subject, it remains to be determined whether *nay* mediates a predicate inversion or reverse predication. I will address this question in section 4.3 below. Before we proceed, however, let me briefly explain what the terms ‘subject’ and ‘predicate’ signify in the nominal predication of ALPs.

4.2.1 Predicate and Subject in nominal predication

In this chapter, I adopt den Dikken’s (2006) use of the terms PREDICATE and SUBJECT throughout the discussion of nominal predication. Den Dikken (2006: 10) characterizes a predicate as a syntactic constituent that denotes “a property ascribed to the subject.” For instance, in a noun phrase like *a beauty of a dancer*, *a beauty* is a predicate that ascribes a property of ‘being beautiful’ to the referent ‘dancer’. The term SUBJECT refers to any syntactic constituent to which a predicate ascribes a property.⁶⁵ Importantly, this notion of ‘subject’ generalizes beyond the grammatical relation, subject of a clause. In particular, noun phrases may contain a subject. For instance, in a noun phrase, such as, *a beauty of a dancer*, ‘beauty’ is the property-denoting predicate and ‘dancer’ is its subject. Thus,

⁶⁵ On this view, a subject needs not be an external argument (as in for example Williams 1980). This is necessary to capture the fact that unaccusative predicates such as ‘fall’ or ‘die’, which have no external argument, do have a subject; (they are after all, as den Dikken (2006) points out, property denoting expressions).

nominal predication in this context, as den Dikken (2006) points out, could be thought of as an “intersective relationship” between two sets, one (the predicate) denoting a property ascribed to the other (the subject).

With this background, it should be clear that when I say Tigrinya ALPs involve a predication relation between an AL-Pssr and its possessee, the AL-Pssr is the predicate and the possessee is the subject. Now if the syntactic relationship between a predicate and its subject is always mediated by a functional head that takes the predicate and its subject as its dependents, and if ALPs in Tigrinya are indeed predication, then, the question is, what serves as a functional head mediating between the two dependents in ALPs? I propose that *nay* serves this role. More specifically, I analyze *nay*, as a meaningless nominal copula that mediates the Pssr predicate and the possessee subject in ALPs. Below, I briefly explain what a nominal copula is, and demonstrate that this is a fitting characterization for Tigrinya *nay*.

4.2.2 What is a nominal copula?

Copulas are generally assumed to be functional verbs that serve to mediate between a non-verbal predicate of a clause and its subject (see Bowers 1993, den Dikken 2006, among others). In many languages, they carry inflection (including agreement) and encode a predication relation between their two dependents (for example, between the two nominals as in *The doctor is an idiot*).⁶⁶

⁶⁶ Copulas are also argued to be functionally type shifters (from $\langle e \rangle$ to $\langle e, t \rangle$ type) (see Barker 2010, Vikner and Jensen 2002, among others). As Barker (2010) points out, possessives provide compelling support for type shifting as a general principle of syntactic and semantic composition using semantically inert elements. For example, Barker assumes that, in alienable or non-relational noun possessives, there is a free variable, which enables alienable nouns to shift to a pragmatically controlled relation. I therefore take that *nay* is a type-shifter (in the sense of Barker 2010) that mediates a pragmatically controlled relation between an alienable noun and its possessor in Tigrinya ALP. (See Barker 2010 for discussion of type shifters on possessive constructions).

Similarly, what a DP-internal nominal copula does is mediate between the (non-verbal) DP-internal predicate and its subject. It also carries inflection (including agreement) and encodes a predication relation between two nominal dependents.

Given this characterization, it is clear that Tigrinya *nay* has the properties of a nominal copula: It hosts inflectional agreement affixes like its clausal counterpart *ʔiyy-* ‘be’. This is illustrated in (47).

- (47) a. **ʔiyy-**ə/ka/ki/a/u/na/kum/kin/om/en
 be-me/you(M)/you(F)/her/him/us/you(PL.F)/you(PL.M)/them(F)/them(M)
 ‘I am\you are\she/he is\we/you/they are’
- b. **nat-**əy/ka/ki/a/u/kum/kin/om/en⁶⁷
 NAY- me/you(M)/you(F)/her/him/us/you(PL.F)/you(PL.M)/them(F)/them(M)
 ‘mine/your(F)/your(M)/her/his/our/your/their’

Moreover, in many constructions, *nay* enables predication by encoding possession or other predication relations. For example, in the Tigrinya ALP, such as *nay-joni məs'haʃ* ‘John’s book,’ the nature of the possessive relationship between ‘John’ and ‘book’ comes from the linguistic and extra-linguistic context, rather than the lexical meaning of the possessed noun (see Partee & Borschev 2003, Barker 2010, among others). ‘John’ has a plethora of interpretations in relation to ‘book:’ John can be the owner, reader, or even admirer of the book. Thus, *nay* can be interpreted as a signal that the predicate ‘John’ is in a contextually determined semantic relationship with the subject ‘book.’ In other

⁶⁷ The alternation between [nay] and [nat-] is due to phonological change; in fact, in many dialects of Tigrinya *nay* is preferred in stead of *nat-* in these pronominal forms. Note also that the agreement affixes attached to a verbal copula *ʔiyy-* and a nominal copula *nay* are all the same except for first person singular: It is [-əy] with *nat-* but [-ə] with *ʔiyy*. In fact, the 1sg agreement affix has a different form when it attaches to the perfective verb (e.g., səbər-**ku** ‘I broke’).

words, *nay* signals a general relation (“R_{POSS}” in the sense of Partee & Borschev 2003), between the AL-Pssr, interpreted as the predicate/modifier of the possessed noun, rather than as its argument.⁶⁸

As den Dikken (2006) also indicates, it is possible to think of the semantics of predication as an “intersective relationship” between two sets, one denoting a property (the predicate) ascribed to the other (the subject), and the copula mediating this intersective relationship. Thus, *nay* can be seen as an expression of intersective relation between the set of entities denoted by the subject and the set of attributes denoted by the predicate. In this case, *nay* can be analyzed as a purely syntactic marker that signals the set of books that stand in a pragmatically determined predication relation to ‘John.’

In the next subsection, I develop the hypothesis that *nay* is a nominal copula that mediates a predication relationship between the possessor predicate and its possessee subject in ALPs. In particular, I argue that *nay* in ALPs signals a reverse predication, i.e., predication expressed with a base-generated predicate-specifier structure.

4.3 The analysis of Tigrinya ALP: *Nay* a signal for reverse predication

In this section, I argue, contra den Dikken 2007a, that ALPs do not involve PI; rather, they involve a reverse predication with a base-generated predicate-specifier structure, and that *nay* serves to signal this predication structure. In what follows, I first show that ALPs do not involve predicate inversion, and then explain how the base-generated predicate-specifier structure straightforwardly accounts for the facts of Tigrinya ALPs.

⁶⁸ See also Barker (2010) on English, or Mühlbauer 2007 on Algonquian languages, for a recent discussion on the semantic relation between the possessor and the possessee.

4.3.1 ALPs do not involve Predicate Inversion

In order to demonstrate that Tigrinya ALPs do not involve predicate inversion, I show that they lack the semantic and syntactic properties associated with this operation. In particular, I show that they lack the focal stress and narrow-focus interpretation associated with the subject of the inverted predicate, and that the subject of ALP is extractable, unlike the subject of PI.

Although the prosodic structure (e.g., stress) of Tigrinya is poorly understood, it is clear that there is no focus interpretation of the possessed noun involved in ALP because in Tigrinya, focus is usually expressed by movement to the left periphery of a DP, as in (48). In this example, the possessee receives narrow-focus interpretation as a result of movement to the left edge of the DP across the AL-Pssr. Again, this is inconsistent with what den Dikken's predicate inversion treatment would lead us to expect. Note that for den Dikken (2006), failure to undergo extraction is an unambiguous indication that the construction in question involves a predicate inversion (see discussion in section 3.1.1 above).⁶⁹

⁶⁹ Tigrinya also allows AL-Pssrs to move to the left periphery of the outer DP, receiving a restrictive appositive interpretation. Such constructions include a pause or some kind of accentuation marker. This is again surprising if ALPs involve PI, especially if we assume that free ordering of constituents in DP-internal structures is a kind of A-bar movement (in the sense of den Dikken 2007a).

- (i) a. [nay joni], ʔit-i timali zi-tə-gəziʔ-ə məs'haf
 NAY John D-M.SG yesterday Rel-PAS-buy-3M.SG.S book
 'John's book, the one bought yesterday'
- b. [nay-t-a məmhir], ʔit-a ʔaziya ʕabay məkina
 NAY-D-F.SG teacher D-F.SG very.F big.F car
 'the teacher's car, the one that is very big'

The analysis of these data, which I don't treat here, may take its cue from the extended projection of functional layers developed in Rizzi (1997), featuring phrasal movement operations similar to the ones explored in the chapter (see Abel 2002 for a similar analysis on English double (in)definite possessives).

- (48) a. MƏS'ĤAF [nay-t-i timali zi-məs'-ə] səbʔay
 book [NAY-D-M.SG yesterday Rel-come-3M.SG.S man
 ‘The BOOK of the man who came yesterday’
- b. MƏKINA [nay-t-a ʔaziya rāg^wad məmhir]
 car [NAY-D-F.SG very.F fat.F teacher
 ‘The CAR of the very fat teacher’s’

If ALPs were derived by predicate inversion, we would not expect it to be possible to move the subject possessee across the predicate AL-Pssr, as illustrated in (48). In den Dikken’s (2006; 2007a) analysis, the post-copular subject in a predicate inversion construction is in a complement position of a phase head, and as a result, it is frozen or “impenetrable for outside probes” (2007b: 5); hence, extraction is impossible. Thus, the fact that this movement is available in Tigrinya, and arguably can be taken as an extraction of the DP-internal subject in the complex noun phrase, provides evidence against the view that ALPs involve predicate inversion.

Based on the above considerations, I conclude that ALPs in Tigrinya do not involve Predicate Inversion. In the next section, I provide an alternative analysis that accounts for the facts of Tigrinya, developing the hypothesis that ALPs in Tigrinya involve a base-generated predicate-specifier structure instead of one derived by movement.

4.3.2 Alternative analysis of Tigrinya ALPs: Reverse predication

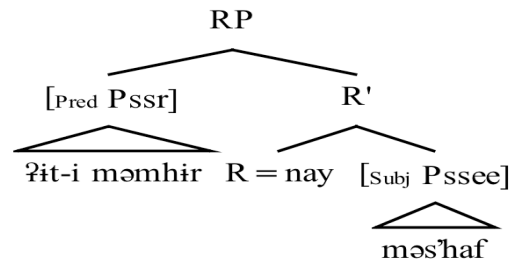
In this section, I present my alternative analysis of Tigrinya ALPs further endorsing the proposal presented at the beginning of section 4; that is, that ALPs are predicational and *nay* is a nominal copula. I propose that ALPs in Tigrinya involve reverse predication. In

other words, they have a base-generated predicate-specifier structure, expressing a predication relationship between the possessor predicate and its subject possessee. I argue that *nay* is a Relator head (represented throughout as R) that introduces a predication relationship in a nominal small-clause (in the sense of den Dikken 2006).⁷⁰ However, I depart from den Dikken in assuming that Relators, like Linkers, are not always optional. I take that the predicate-specifier structure is marked by the obligatory presence of the Relator; this is consistent with the observation that it is often missing/null in predicate-complement predication but rarely in predicate-specifier predication.

Under my analysis, the simple ALP given in (49a) would have the reverse predication structure, given in (49b).

- (49) a. *nay-t-i* *məmhir* *məs'haf*
 NAY-D-M.SG teacher book
 ‘the teacher’s book’

b.



⁷⁰ The precise categorical label of a small clause is a contentious issue, one that, for my purpose, I can abstract away from – see den Dikken 2003 and references therein for detailed discussion of the internal structure of small clauses. See also Bowers 1993, Suzuki 1991, for different views on the types of category labels for small clauses.

This analysis has a very minimal structure and accounts for the basic predication relation between the predicate possessor and its subject possessee in Tigrinya ALP. The present analysis does not posit predicate inversion, i.e., movement of the possessor across the possessee, but rather a base-generated predicate-specifier structure in which the possessor is Merged as a specifier of the Relator head and the possessee is Merged as its complement.

Notice, however, that (49b) does not account for the position of *nay* in (49a), because *nay* follows, rather than precedes the Pssr DP in this structure. As pointed out in section 3.3 above, den Dikken (2007a) attempts to solve a similar problem with Amharic *yâ*-marked possessors, using movement of both *yâ*- and the head of the possessor to the outer D-head of the complex noun phrase. However, as pointed out in that same section, such an analysis is problematic if we try to extend it to Tigrinya ALPs. In what follows, I will present my alternative treatment of the word order facts of Tigrinya.

4.3.3 The position of the nominal copula *nay*

As discussed above, Tigrinya AL-Pssrs are obligatorily marked with the element *nay*. I agree with den Dikken (2007a) that obligatory *yâ*- in Amharic is a signal for predication relation, and hypothesize that Tigrinya *nay* has the same function. However, my analysis of *nay* differs from his analysis of *yâ*- in two crucial points: First, instead of placing possessors in a predicate-complement structure underlyingly, and subsequently raising them to Spec, FP via Predicate Inversion, I base-generate them as specifiers in a

predicate-specifier structure. I assert that the obligatory occurrence of the element *nay* is thus a reflex of reverse predication, rather than predicate inversion.

In order to derive the right word order of ALPs in Tigrinya, I assume that the nominal copula *nay* must move to a higher functional projection. Consistent with current Minimalist assumptions, I assume that the landing site cannot be the higher head position (cf. Chomsky 1995b, and chapter 4 below), and adopt Matushansky's (2006) head-to-spec alternative.⁷¹ This alternative entails that head movement, like phrasal movement, must target the root of the tree, landing on the edge of the structure in what could be considered the specifier of the attracting head, and then subsequently undergoes a morphological merger operation. Applied to Tigrinya ALPs, I propose that *nay* targets the specifier of the immediately higher head F, and then subsequently undergoes morphological merger with F. Under this proposal, the derivation of Tigrinya ALP in (50a) would consist of a syntactic part where R moves and re-Merges at the root, as schematized in (50b), and a morphological part where R undergoes an operation of M(orphological)-Merger, a partial post Spell-Out operation, with the result that it is realized in F, as schematized in (50c).

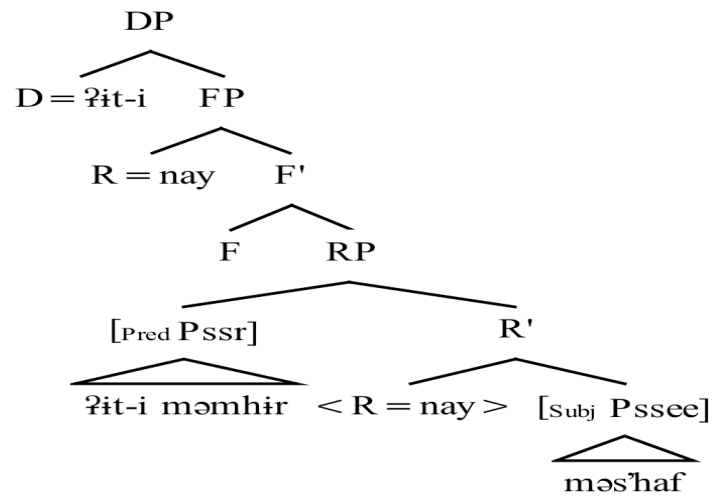
⁷¹ In early generative syntactic theories, standard head movement was considered a major part of syntactic derivations, and heads were assumed to move and adjoin to other head positions, because of the distinction between head positions and phrasal positions (see Travis 1984, among others). This head to head adjunction has been a major experimental tool in accounting for a broader array of structures in different languages including construct state nominals in Semitic (see Borer 1996, for example).

Current Minimalist approaches, however, assume that head movement is incompatible with the Minimalist principles such as the Extension Condition (see Chomsky 1995b, *et seq.*). In order to resolve the problem, some propose that head movement must be banned from surface syntax reducing it to post-syntactic level (see Boeckx & Stjepanovic 2001, among others). Others opt for minimizing the differences between head and phrasal movement into a single head-to-Specifier type of movement (see Matushansky 2006, among others). In this dissertation, I adopt the second proposal (for a detailed discussion, see chapter 1 and chapter 4).

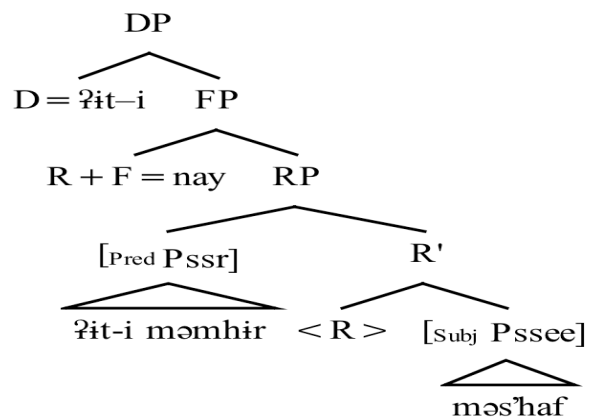
- (50) a. **ʔit-i** nay-t-i məmhir məs'haf
- D-M.SG NAY-D-M.SG teacher book

‘the teacher’s book’

- b. Head-to-Spec movement



- c. M-Merger



The analysis given here significantly differs from den Dikken's (2007a) treatment of Amharic *yā-* in several respects: First, the predicate-subject order is a basic predication structure that involves reverse predication, rather than predicate inversion, between the predicate and its subject. Second, reverse predication requires (at least in Tigrinya) movement of the Relator into a specifier of an immediately higher head, FP. Third, there is no subsequent movement of F+R to D in Tigrinya. Finally, since the landing site of head movement targets the root (and does not adjoin to another head position as in standard head movement), head-to-Spec movement is always followed by a morphological operation (M-Merger) that effectively results in head-to-head movement. This operation will be further discussed and motivated in chapter 4.

Now one might wonder what triggers the movement of R to Spec F.⁷² For Tigrinya ALPs, I argue that the trigger for the head movement of R is an EPP feature on F. Thus, in (48b), head-to-Spec movement is the result of the attracting head F having an EPP feature, which arguably can be checked by moving R and remerging it at the root, in a specifier position. This assumption in fact is not new. For example, den Dikken (2006) assumes EPP as the trigger for predicate inversion constructions. Chomsky (1995a and later work) uses it as a trigger for movement of a constituent into an edge position. It is therefore entirely reasonable to assume that EPP is the feature that motivates movement of R to [Spec, F] (after all, R is targeting the root of F not adjoined to it).

Note also that movement of the functional head (R) of the nominal small clause within which the underlying predication relation is established to an immediately higher functional head (F) is in the spirit of den Dikken's movement of the Amharic *yā-* into F

⁷² One might also wonder what exactly FP is and what is the semantic contribution of such as head. I will address these questions in the appendix once I have addressed the categorial status of *nay*.

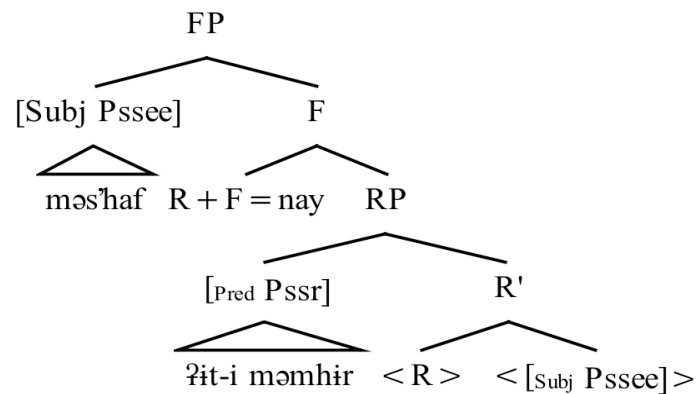
as a lexicalization of the head F. In both cases, the predicate is realized as a specifier and not a complement of a nominal copula. The only difference is that *nay* is not introduced as a by-product of the application of Predicate Inversion which results in a derived predicate-specifier structure, as den Dikken argues for Amharic *yā*-. Rather, it is a signal for a reverse predication with a base-generated predicate-specifier structure. This analysis is more elegant and simpler than den Dikken's analysis of Amharic.

One immediate consequence of this analysis of Tigrinya ALP is that it can be extended to account for the alternation that gives rise to narrow focus on the subject possessee. In Tigrinya, ALPs normally have a [*nay* Possessor Possee] order, but when the subject possessee is focused, the order changes to [Possessee *nay* Possessor]. Consider the contrastive examples given in (51). In (51a), the noun phrase *məs'haf* 'book' is the subject of the nominal predicate *ʔit-om təmaharo* 'the students,' and receives a narrow focus. Note that this construction is only possible in a very restricted context where the speaker wants to highlight contrastively that 'books' are among the set of entities that 'the student' owned, borrowed, etc. and can be paraphrased as 'the book, that of the student's.' In contrast, in (51b), when the order of the subject and the predicate is reversed, no narrow or contrastive focus of the subject is possible.

- (51) a. *məs'haf* **nay** *ʔit-om* *təmaharo*
 book NAY D-M.PL students
 'The student's book'
- b. **nay-t-om** *təmaharo* *məs'haf*
 NAY-D-M.PL students book
 'The student's book'

Thus, if we assume that the predicate-specifier is the base structure for all predicational ALPs in Tigrinya, including those with narrow or contrastive focus interpretation, (51b) can be straightforwardly derived via movement of the subject possessee across the predicate possessor to the specifier of F. This is illustrated in (52) for (51a). Recall that the subject-predicate relationship is syntactically projected in the form of a so-called small-clause represented here as RP, where R is a functional head that mediates the predication relationship between the possessor predicate and the subject possessee.

(52)



The movement of the focused subject to Spec, FP, across the predicate possessor, however, includes an apparent violation of the Minimal Link Condition (Chomsky 1995b).

(53) Minimal Link Condition (MLC): K attracts A only if there is no B, B closer to K than A, such that K attracts B

(Chomsky 1995b: 311)

The MLC is essentially similar to other movement-restricting principles in syntactic theory, such as Relativized Minimality (Rizzi 1990) or the Head Movement Constraint (Travis 1984). It bans any constituent from being attracted or moved if there is a closer constituent that can potentially be targeted. The MLC appears to be violated in (52) because the possessee subject moves across the predicate possessor, which is a closer potential target for F to attract into its specifier. However, as den Dikken (2007a) in his treatment of Amharic *yâ*- points out, movement of the functional head R (den Dikken's X) to the functional head, F will render the movement of the subject licit. This is because movement of R to F makes [Spec, FP] (the landing site of the raised subject) and Spec RP (the small-clause predicate position) equidistant. For den Dikken, RP is a phase (in the sense of Chomsky 2000; 2001) and movement of R to F extends the phase-hood of RP up to FP. Thus, following den Dikken (2006), movement of R to [Spec, FP] can salvage the derivation in (52) by making [Spec, RP] and [Spec, FP] equidistant. This rescues the derivation by avoiding a violation of the MLC.⁷³

Note that movement of the subject possessee across the predicate possessor becomes legitimate as a result of R moving to [Spec, FP]. Essentially, these two movements seem to target the same specifier position; however, if derivations build from bottom up, once a node is built and spelled-out, it is possible to undergo further syntactic operations as long as it has active features to check. I therefore assume that first R-to-[Spec FP] happens, followed by M-merger; then, the focused subject possessee can target [Spec FP], causing once again FP to project once more. In other words, movement of R to [Spec, FP] has the same effect as movement of R to F, after M-Merger happens;

⁷³ Another solution is to assume that FP is a focus phrase (FocusP) and that the possessee has a [FOC] feature that checks against the focus higher head.

subsequent movement of the subject adds a second [Spec, FP] position, but when FP is sent to spell-out, then the lower [Spec, FP] undergoes M-Merger with F.

Overall, in this analysis, Tigrinya *nay* is a lexicalization of the functional head F, and in ALP it always raises from R to [Spec, FP] in order to signal the predicate-specifier predication structure involved. This is consistent with den Dikken's assumption that the Amharic *yā-* shows up as a lexicalization of the functional head F, featuring a possessor in a non-canonical predication relation. However, the realization of *nay* is a signal for a reverse predication, i.e. a base-generated predicate-specifier structure, which I argue is also a non-canonical predication relation.

If this is true, then, *nay*, is a Relator, not a Linker as den Dikken (2007a) argues for Amharic *yā-*. However, the difference between Relator and Linker may not be a significant one. What is important is that the role of *nay* is to identify the predicate-specifier-structure lexicalizing F in the predication relationship between the possessor predicate and its possessee subject in Tigrinya ALPs and that *nay* may as well be a Linker.

4.4 Summary

Summarizing section 4, I have shown that Tigrinya ALPs involve a predication relation between the possessor serving as a predicate and the possessee serving as a subject. ALPs in Tigrinya, like other predication structures, are mediated by a functional category. In this case, the predication structure is mediated by a nominal copula realized as *nay*. I have also shown that *nay* behaves like other copular elements in that it bears agreement and enables a predication relation between the predicate and its subject. Based on both

semantic and syntactic characteristics of ALPs, I have also argued (contra den Dikken 2007a) that ALPs in Tigrinya involve reverse predication, rather than predicate inversion. This is mainly due to the fact that, unlike predicate inversion constructions, ALPs in Tigrinya do not show narrow or focal stress and do allow extraction out of the possessee subject across the predicate.

Recall that a reverse predication relationship is one where the predicate Merges in a specifier position and its subject in complement position of a predication structure mediated by a Relator. In order to derive the surface word order in Tigrinya ALP, I propose that the Relator moves into the higher functional projection FP, and subsequently M-merges with the head F, and that the result is obligatorily spelled-out as *nay*. On this view, the realization of the head F as *nay* is a signal that ALP has a predicate-specifier structure. More generally, I propose that the presence of FP may signal that the predicate is realized as a specifier, and *nay* lexicalizes F allowing for the subject to be extracted out of RP for contrastive focus reasons.

Now the question is can the analysis of Tigrinya ALPs be extended to other *nay*-marked constructions? As I show below, this may indeed be possible. In particular, I show how the present analysis might be extended to nominalized clauses and comparative binominal noun phrases.

5 Extending the analysis: Additional evidence for *nay* as a nominal copula

The discussion so far has focused on ALPs that obligatorily take the nominal copula *nay* and how the distribution of *nay* in ALPs, which proves to be problematic for the Case-based approach, can be straightforwardly accounted for under the hypothesis that *nay* is a nominal copula.

If this analysis of Tigrinya ALP is correct, it might be possible to extend the analysis to other uses of *nay*. In this section, I present preliminary remarks on three constructions, a comparative binominal noun phrase and two types of nominalized clauses that seem amenable to such an extension. I suggest that the distribution of *nay* in these constructions can also be accounted for if we adopt the hypothesis that *nay* is a meaningless nominal copula whose role is to signal a predication relationship between a subject and its predicate.

5.1 Comparative binominal noun phrases

In this section, I show that the hypothesis that *nay* is a meaningless nominal copula allows a straightforward account for the role of *nay* in comparative binominal DPs. Tigrinya comparative binominal DPs are formally identical to modified DPs, i.e., DPs whose head noun is modified by an adjective, except that the order of the modifier and modified is reversed: Comparative binominal DPs have NA as opposed to AN order. They are very productive, and crucially, they obligatorily take the nominal copula *nay*. Some illustrative examples are given in (54):

- (54) a. *(*nay*) k'olʃa fəllat'
 NAY child wise
 ‘for a child, an (unusually) wise one’
- b. *(*nay*) k'əʃi sərax'i
 NAY priest thief
 ‘for a priest, an (unusually) thieving one’

- c. *(*nay*) *haftam dixa*
 NAY rich poor
 ‘for a rich (person), an (unusually) poor one’

As in ALPs, the nominal copula *nay* always attaches to the left edge of a comparative binominal noun phrase. It does not attach to DP-internal constituents, as illustrated below.

- (55) a. *k'olʕa *nay* fəllat'
 child *NAY* wise
 b. *x'əʃi *nay* səraxi
 priest *NAY* thief
 c. *hafatim *nay* dixa
 rich *NAY* poor

I propose that the difference in interpretation between AN and *nay*-NA is due to the fact that in the latter case, the noun is the predicate and the adjective is the subject. To assume that adjectives are subjects sounds counterintuitive, but if we assume that such adjectives are nominalized adjectives or adjectives followed by a null noun, then, a direct extension of the analysis of ALPs to comparative binominal DPs is possible.⁷⁴ In fact, in Tigrinya adjectives seem to have a nouny property: They take determiners and serve as subjects;

⁷⁴ Similarly, the AA combination on the surface as in ‘*NAY* rich-poor’, the first adjective can be taken as either a nominalized adjective or an adjective followed by a null noun, such as one/person/thing, as in for example, ‘a rich **one**’ type. Either way, no matter how the analysis is worked out, the correct predication relation mediated by a nominal copula *nay* is predicted.

they also take the plural marker *-at* which is productive in nouns. Compare the nominalized adjective ‘wise’ and the noun ‘person’ in (56) and (57):

- (56) a. **ʔit-i** **fəllat’** ʔay-tə-rəxb-ə-n
 D-M.SG wise Neg-Pass-find-3M.SG.S-Neg
 ‘The wise (person) is not found yet.’
- b. ʔit-i səb ʔay-tə-rəxb-ə-n
 D-M.SG person Neg-PAS-find-3M.SG.S-Neg
 ‘The person is not found yet.’
- (57) a. ʔit-om fəllat’-**at**
 D-M.PL wise-PL
 ‘the wise (persons)’
- b. ʔit-om səb-**at**
 D-M.PL person-PL
 ‘the people’

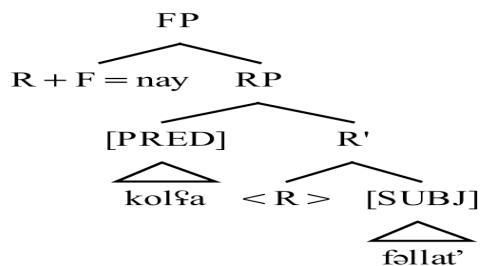
All the above syntactic phenomena indicate that comparative binominal DPs are similar to ALPs: They involve an obligatorily nominal copula that attaches to the left edge of the noun phrase, and *nay* mediates the relationship between two nominal dependents. Semantically, both are similar in contextually-determining the interpretation of the whole construction; i.e., the nominalized adjective in these constructions usually attributes to the least expected property of the head noun. For example, (55a) attributes the property of being wise to the child, and carries the pragmatic implicature that this state of affairs is

unexpected because children are not usually wise. In some contexts, however, this can also be interpreted as meaning that the child is extremely wise. Recall that in ALPs of the type *nay joni məs'haf* 'John's book,' the 'book' attributes contextually determined properties to 'John.' The fact that both their interpretation is contextually determined arguably warrants a unified analysis.

Based on the above both semantic and syntactic facts, it seems entirely reasonable to extend the analysis developed for ALPs to comparative binominal DPs; if a predicate-specifier structure is presumed, the obligatoriness of *nay* is expected. As with ALPs, suppose that the first constituent serves as the DP-internal predicate and the second one as its subject. This is illustrated in (58b) for (58a). The comparative binominal DP in (58a) contains the predicate 'the child' and its subject 'wise (one)' and the nominal copula *nay*, which raises to the specifier of a higher functional head (F) and subsequently undergoes M-Merger with F. Thus, merging of the predicate in a specifier position of RP followed by raising of R to [Spec, FP] accounts for the facts of Tigrinya comparative binominal DPs, as *nay* in these constructions always attaches to left edge of the entire construction.

- (58) a. *nay* *k'olṣa* *fəllat'*
 NAY child wise
 'for a child, an (unusually) wise one'

b.



The analysis of comparative binominal DPs in Tigrinya presented here takes care of the placement of *nay* treating it as a nominal copula of the Relator type that ultimately targets the F head of the whole noun phrase. Thus, under this analysis, the role of *nay* in the comparative binominal DPs, similar to that of ALPs, is simply to mediate the two dependents involved in the predication relation. If this is true, it predicts that the subject (the nominalized adjective here) can be extracted and that there is no narrow focus on the subject in its Merged position. These predictions are indeed borne out by the data. Recall that if the subject needs to be focused, it has to move across the predicate in Tigrinya, and that is exactly what we find in comparative binominal DPs. This is illustrated in (59).

- (59) a. [FƏLLAT' nay k'olʕa] kəma-xa ʔay-rəʔa-xu-n
 WISE NAY child like-2M.SG Neg-see-1SG.S-Neg
 ‘I have never seen a child (unusually) WISE like you.’
- b. [nay k'olʕa fəllat'] kəma-xa ʔay-rəʔa-xu-n
 NAY child wise like-2M.SG Neg-see-1SG.S-Neg
 ‘I have never seen a child (unusually) wise like you.’

Thus, the analysis on ALP can straightforwardly extend to comparative binominal DPs. It is important to note that both the Case-based treatment (e.g., Ouhalla 2004) and the predicate-inversion-based treatment (e.g., den Dikken 2007a) of *yā*-marked constructions have nothing to say about the function or position of *nay* within comparative binominal DPs, while this is straightforwardly explained under the hypothesis that *nay* is a meaningless nominal copula.⁷⁵ In what follows, I will further support the hypothesis that *nay* is a nominal copula by extending it to another *nay*-marked nominal construction, namely, two types of nominalized clauses.

5.2 Nominalized Clauses

The element *nay* in Tigrinya also appears with nominalized clauses. In this section, I discuss two types of nominalized clauses (i) a nominalized clause that is not part of a larger NP, and (ii) a nominalized clause that appears as the complement of a N head like ‘news’. These are illustrated in (60a) and (60b), respectively. The two are different in three respects: First, the *nay* that attaches to the left edge of the nominalized clause is obligatory in (60a) but optional in (60b); second, another *nay* is obligatorily attached to the nominalized verb itself in (60b) but not in (60a). Finally, while the nominalized verb in (60b) hosts a possessive suffix, the one in (60a) does not.

⁷⁵ In Tigrinya, *nay* also appears in some constructions that are not self-evidently involving predication. These constructions include compounds and non-intersective adjectives, as illustrated in (ia) and (ib), respectively.

- (i) a. *nay* *saʃri* *gəza*
 NAY grass house
 ‘a grass house’
 b. *nay* *k’ədəm* *kəntiʃa*
 NAY former mayor
 ‘a former mayor’

Note, however, that these constructions are problematic not only for the predicational-based analysis presented here but also for the Case-based treatment of *nay*. I will set them aside for future research.

- (60) a. [náy-t-i k'olɬa mi-m^wat] səmɪɬ-ə
 NAY-D-M.SG boy NM-die.PF heard.PF-1SG.S
 ‘I heard of the boy’s death.’
 ‘I heard that the boy died.’
- b. [(náy)-t-i k'olɬa náy-mi-m^wat –u wərə] səmɪɬ-ə
 NAY-D-MSG boy NAY-NM-die.PF-his news heard.PF-1SG.S
 ‘I heard the news that the boy died.’
 ‘I heard of the news that the boy died.’

Henceforth, I will refer to nominalized clauses like (60a) as simple nominalized clauses and to those like (60b) as complex nominalized clauses. The question is does *náy* in these nominalized clauses have the same role as in ALPs (and comparative binominal DPs)? In other words, is it possible to extend the analysis of ALP to the two types of nominalized clauses? As I show below, the answer appears to be positive for simple nominalized clauses but partly negative for complex nominalized clauses.

5.2.1 Simple nominalized clauses

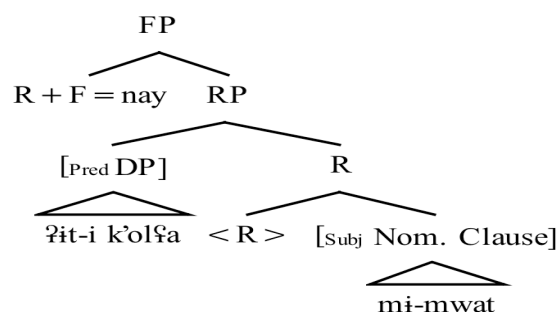
In simple nominalized clauses, such as (60a), observe that the verb bears a nominalizing prefix *mi-* (referred here as Nominal marker (NM)), that *náy* attaches to the left edge of the nominalized clause, and that *náy* is always obligatory. These properties of *náy* are reminiscent of the properties of *náy* found in ALPs, which may allow extending the analysis of ALP to simple nominalized clauses. If we assume that the Merge structure of simple nominalized clauses is the same as ALPs with *náy* serving as a mediating head

between the predicate Merged as the specifier of RP and the subject Merged as the complement of R, then, simple nominalized clauses can be analyzed exactly the same as ALPs discussed above. However, this extension requires us to assume that the nominalized verb is a subject and its *nay*-marked DP as a predicate, which seems surprising. If we look at these constructions closely, however, they seem to share some of the properties of ALPs: Not only do they obligatorily require *nay* at the left edge of the DP, but they can focus the nominalized verb – analyzed here as the subject –by raising it across the *nay*-marked DP (like the contrastively focused subject possessee in ALP). Illustrative examples are given in (61).

- (61) a. [Mf-M^WAT **nay**-t-i k'olʃa] səmiʃ-ə
 NM-die.PF NAY-D-M.SG boy heard.PF-1SG.S
 ‘the boy’s DEATH, I heard.’
 ‘the boy is DEAD, I heard.’
- b. [**nay**-t-i k'olʃa mi-m^Wat] səmiʃ-ə
 NAY-D-MSG boy NM-die.PF heard.PF-1SG.S
 ‘I heard of the boy’s death.’
 ‘I heard the boy is dead.’

Based on these similarities, I tentatively propose to extend the analysis of ALP to simple nominalized clauses, such as (60a)/(61b). On this analysis, this example is assigned the structure in (62) below. Note that treating these like possession is not unique to Tigrinya: The English translation of (60a) and (60b) ‘the boy’s death’ also looks like a possessive structure.

(62)



As in ALPs, simple nominalized clauses involve a predication relation between the *nay*-marked DP and N, in this case a nominalized verb, and subsequent, movement of the nominal copula *nay* to Spec, FP resulting in spell-out of F. Once again the motivation for movement of *nay* is to make FP visible to insure the reverse predication interpretation obtains. Thus, the hypothesis that *nay* is a nominal copula and that its role is to signal a predication relation between a predicate and its subject in a predicate-as-specifier structure can be applied to simple nominalized clauses. The result is that it is the *nay*-marked DP that is analyzed as the predicate and the nominalized verb, the subject.

Overall, the analysis of *nay* as a signal for a predicate-specifier predication structure can be extended to explain *nay*'s appearance and role in simple nominalized clauses. There is, however, a difference between ALP and simple nominalized clauses that is not accounted for by this extension: While the relation between the subject and predicate is not fixed in ALP, it looks as if the semantic relation in simple nominalized clauses is determined by the meaning of the nominalized verb (for example, the verb 'die' requires an accusative object). If this analysis is on the right track it suggests that

the notions of subject and predicate as they are used here are determined by structural, rather than semantic considerations

5.2.2 Complex nominalized clauses

A complex nominalized clause emerges when a simple nominalized clause appears as the complement of N head like ‘fact/news’, generally referred to as ‘factives’ (see Kiparsky and Kiparsky 1970). In this construction there are two instances of *nay*. One is obligatorily attached to the nominalized verb (along with a pronominal affix), as illustrated in (60b), repeated below as (63). The other *nay* optionally attaches to left-edge of the complex nominalized clause.

- (63) [(**nay**)-t-i k'olʃa **nay**-mi-m^wat -u wərə] səmiʃ-ə
 NAY-D-M.SGboy NAY-NM-die.PF-his news heard.PF-1SG.S
 ‘I heard the news that the boy died.’
 ‘I heard of the news that the boy died.’

The fact that there are two instances of *nay* indicates that complex nominalized clauses have two nominal predication relations. I will refer to these as RP1 and RP2. RP1 denotes the predication relation between the factive noun and the nominalized clause, and is signaled by the (optional) appearance of *nay* at the left edge of the nominalized clause. RP2 is the predication relation internal to the nominalized clause and is signaled by obligatory *nay* on the nominalized verb, as schematized in (64) below.

- (64) [RP1 (*nay*-)[RP2 [DP] [*nay*-V-pssr]] N_{factive}]

I begin by consideration of RP2, the predication relation internal to the nominalized clause. RP2 is signaled by the obligatory appearance of *may* on the nominalized verb. This property distinguishes complex nominalized clauses from the simple nominalized clauses discussed in the last subsection. This contrast raises the following question: Why does *may* show up on the nominalized verb, rather than the subject DP, i.e., why is it internal to RP2, rather than on the left edge? Minimally, this contrast indicates that complex nominalized clauses have a different structure from simple ones. The question is what is the structural difference? Given the discussion in sections 3 and 4 above, there are three possibilities - predicate inversion, reverse predication, or canonical predication. I propose that RP2 involves neither predicate inversion, nor reverse predication structure; instead, it involves a canonical predication with *may* signaling a predicate-complement predication structure. The reason that RP2 cannot be analyzed as an instance of predicate inversion is that it fails to manifest core properties associated with this configuration. Recall that in predicate inversion constructions, inversion of the predicate around the subject signals narrow focus, and blocks subsequent extraction of the subject across the predicate (cf. den Dikken 2006). However, RP2 in complex nominalized clauses does not seem to involve either of these properties, first because the predicate follows the subject as illustrated in (61) and (63) above, and second because there is no narrow focus interpretation assigned to these examples.

Given that RP2 does not involve predicate inversion, it might be tempting to treat it as a reverse predication. However, close examination reveals that this is not a viable option either. Recall that in ALP *may* obligatorily attaches to the left edge of the predicate

and signals a reverse predication by lexicalizing F via movement of R to [Spec, FP]. This movement in ALP particularly facilitates extraction of the subject across the predicate, which then gives rise a contrastive focus interpretation of the subject. Relevant examples are repeated as (65) below:

(65) a. Reverse predication in ALP

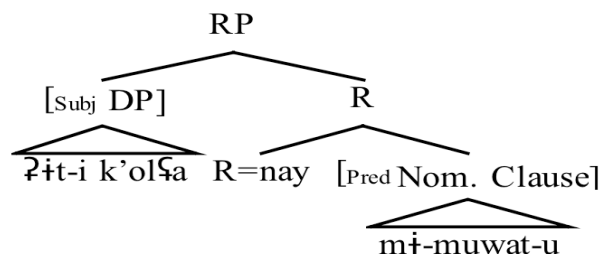
[_{FP} **R+F=nay** [_{RP} [ʔit-i k'olʃa] [_{R'} <R> [məʃ'haf]]]]
 NAY D-M.SG boy book
 'the boy's book'

b. Reverse predication with contrastive focus in ALP

[_{FP} [MƏʃ'HAF] **R+F=nay** [_{RP} [ʔit-i k'olʃa] [_{R'} <R> <[məʃ'haf]>]]]
 book NAY D-M.SG boy
 'a BOOK of the boy's'

If RP2 were reverse predication with the subject contrastively focused, parallel to the ALP example in (61b), the subject should always have the interpretation associated with this information structure, focus, but as noted above it does not. I therefore conclude that RP2 in complex nominalized clauses is not a reverse predication and that *nay* does not signal a predicate-specifier structure; hence, by a process of elimination, RP2 involves a predicate-complement structure. In other words, *nay* in RP2 of complex nominalized clauses obligatorily lexicalizes the Relator head in a predicate-complement structure. The proposed structure for RP2 in complex nominalized clauses is given below:

(66)



This proposal accounts for the difference in the position of *nay* as well as of the predicate and subject, and provides us with answers to some of the questions raised above: Why is *nay* attached to the nominalized verb. I speculate that FP is not projected because there is neither predicate inversion nor predicate reversal. In the absence of FP, there is no movement of R, and it is spelled out in its original Merge position, and this gives rise to a difference in interpretation as explained below.

What remains also to be explained is the obligatoriness of the occurrence of *nay*. This is unexpected if den Dikken (2006; 2007a) is correct that relators must be optionally null in predicate-complement structures. However, it is unclear why this should be always the case. Perhaps this is only a strong tendency, and the obligatoriness of *nay* in RP2 is attributable to the fact that complex nominalized clauses have two predication relations.

Now that we have figured out the structure of RP2 of the complex nominalized clause (RP2), let us turn our attention to RP1, the predication relation between the nominalized clause and the factive noun. This relation appears to be signaled by an

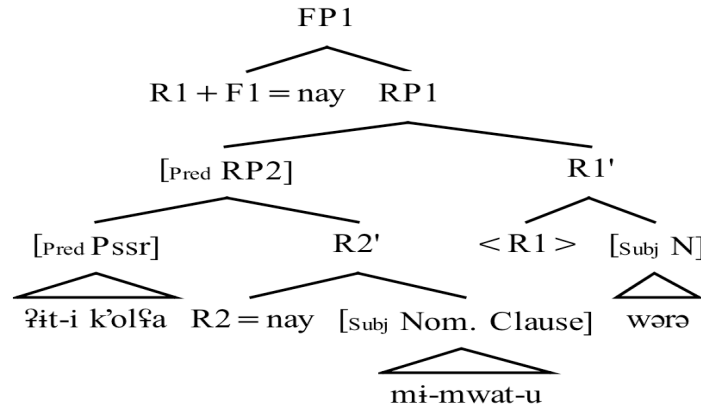
optional occurrence of *nay* on the left edge of the outer clause. Given that elsewhere in Tigrinya *nay* is either obligatory or impossible, I hypothesize that this apparent optionality is due to the fact that there are two different subtypes of complex nominalized clauses – one with obligatory *nay* and one without *nay*. In what follows I will discuss RP1 with *nay* and without *nay* separately. I show that complex nominalized clauses with obligatory *nay*-marked RP1 may involve the same predication structure as ALPs, but complex nominalized clauses without *nay*-marked RP1 may not.

5.2.3 Complex nominalized clauses with *nay*-marked RP1

I consider first the subtype of complex nominalized clause with obligatory *nay* at the left edge of RP1, i.e., in the same position as in ALP and simple nominalized clauses. The question is, can RP1 with obligatory *nay* be given the same analysis as ALP? In other words, does *nay* in this context mediate a predication relationship between the factive noun and the nominalized clause? I speculate that it does. What this means is that, like ALP, RP1 involves a basic predicate-specifier predication structure, with the nominalized clause serving as the predicate and the factive noun as its subject. Once again, the appearance of the nominal copula on the left edge is due to the movement of R to [Spec, FP] to signal that this is a reverse predication. This is shown in (67b) for the factive noun and complex nominalized clause in (67a):

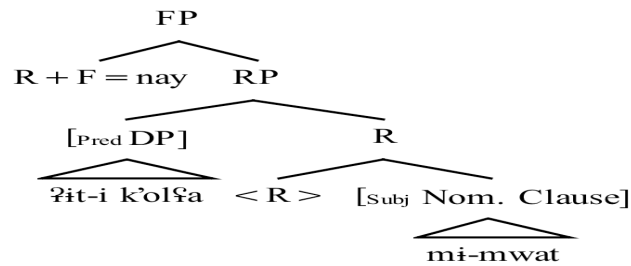
- (67) a. [nay-t-i k'olʃa **nay**-mi- m^wat –u wərə] səmiʃ-ə
 NAY-D-M.SGboy NAY-NM-die.PF-his news heard.PF-1SG.S
 ‘I heard the news that the boy died.’
 ‘I heard of the news of the boy’s death.’

b.



A comparison of (67b) with the structure of simple nominalized clauses in (62), repeated here as (68), shows that *nay* plays a different role in each construction. In simple nominalized clauses it mediates the clause-internal predication relation, but in complex nominalized clauses it mediates a clause external-predication relation.

(68)



Given the structure in (67b), we predict that it should be possible to extract the factive noun, i.e., the subject across the nominalized clause just in case the former is focused. As shown in (69), this prediction is borne out by the data:

- (69) wərə [náy-t-i k'olʃa náy-mi- m^wat -u] səmɪʃ-ə
 news NAY-D-M.SGboy NAY-NM-die.PF-his heard.PF-1SG.S
 ‘I heard the NEWS that the boy died.’
 ‘I heard the NEWS of the boy’s death.’

Here too, the facts are consistent with hypothesis that *nay* signals a simple predicate-specifier structure, and that movement of *nay* facilitates movement of the subject across the predicate.

5.2.4 Complex nominalized clauses without *nay*-marked RP1

I turn now to complex nominalized clauses with no *nay* at the left edge. The question to be addressed is whether the absence of *nay* signals the absence of a second predication relation, i.e., whether this subtype of complex nominalized clause lacks RP1. This seems to be a plausible hypothesis given that elsewhere we have seen that *nay* is obligatory in all types of nominal predication, including not only reverse predication and inverse predication structures, but also canonical predication.

In chapter 2 we observed that inalienable possession (IAP) also lacks *nay*, and attributed this to the fact that inalienable possessors are arguments and not predicates of the possessed noun. Suppose that something similar is going on here, and that the absence of *nay* indicates that the nominalized clause is an argument and not a predicate of the

nominalized noun. This would predict that in the absence of an initial *nay*, such clauses behave like arguments, rather than predicates. For example, it predicts that a nominalized clause cannot occur in a copular construction unless *nay* is present (70), and that a nominalized clause cannot be freely ordered relative to adjectives unless it has an initial *nay* (71).

- (70) a ? ʔit-i wərə **nay** [ʔit-i k'olʃa **nay**-mi- m^wat -u] ʔiyy-u
 D-M.SG news **NAY** D-M.SG boy NAY-NM-die.PF-his be-3M.SG.S
 ‘The news is that the boy died.’
- b. *ʔit-i wərə [ʔit-i k'olʃa **nay**-mi-m^wat-u] ʔiyy-u
 D-M.SG news D-M.SG boy NAY-NM-die.PF-his be-3M.SG.S
- (71) a. ʔit-i [zi-gərim] (**nay**) [ʔit -i k'olʃa **nay**-mi- m^wat -u wərə]
 D-M.SG Rel-surprise NAY D-M.SG boy NAY-NM-die.PF-his news
 ‘the surprising news that the boy died’
- b. *ʔit-i *(**nay**)[ʔit-i k'olʃa **nay**-mi- m^wat -u [zi-gərim] wərə]⁷⁶
 D-M.SG (**NAY**)D-M.SG boy NAY-NM-die.PF-his Rel-surprise news

Preliminary evidence suggests that these predictions are borne out. What this means is that in Tigrinya *nay* is required whenever there is a DP internal predication relation mediated by a nominal copula. Note that both the Case-based treatment (Ouhalla 2004) and the predicate-inversion-based analysis (den Dikken’s 2007a) have nothing to say about these constructions, as indicated in section 2 and section 3, respectively. In fact, as den Dikken (2007a: 316, fn. 17) himself points out regarding a similar use of the

⁷⁶ Note that Tigrinya often uses RCs as adjectives; for e.g., ‘ripe’ is expressed as *zi-bəsələ*/Rel-ripen.

Amharic *yå-*, “[*yå-*]’s appearance on the subject of [nominalized] clauses is not completely expected.”

5.3 Summary

This section has demonstrated that the analysis of *nay* as a nominal copula proposed for ALPs can be extended to three new empirical domains: Comparative binominal DPs and two types of nominalized clauses, all of which are largely mysterious under the Case-based and Predicate Inversion analyses discussed in section 2 and 3, respectively. It was found that *nay* as a signal for a reverse predication between two dependents in a predication relation can correctly predict the appearance of *nay* in at least some of these constructions, and thereby provides independent motivation for this analysis.

6 Conclusion

The primary goal of this chapter was to provide a systematic analysis of alienable possessive constructions (ALPs) and other *nay*-marked constructions in Tigrinya. Particularly, this chapter set out to answer the questions of why Tigrinya ALPs and other *nay*-marked constructions require *nay* and what function *nay* plays in these constructions. To address these questions, two competing hypotheses were presented: (1) *nay* is a Case marker and (2) *nay* is a Linker. Central to the latter hypothesis was den Dikken’s (2007a) characterization of nominal predication as a case of Predicate Inversion. This chapter has demonstrated that neither the Case-based nor the predicate-inversion based approaches are viable options if we try to extend them to Tigrinya ALPs (and other *nay*-marked constructions). It was determined that *nay* is a Relator, meaningless nominal copula that mediates a basic predication structure between a predicate and its subject. The chapter

has developed an alternative analysis that accounts for the facts of Tigrinya, maintaining the view that *nay* mediates a nominal predication relation between a predicate and a subject.

Based on a number of diagnostics, the chapter has also shown that *nay* is a nominal copula, and that *nay*-marked constituents such as alienable possessors in Tigrinya are predicates (not arguments). The analysis presented here solves complex issues in Tigrinya nominal possession, by proposing that ALPs are always mediated by a nominal copula that signals a predication relationship between the possessor predicate and the possessee subject. This analysis is extended to a range of empirical data, namely, nominalized clauses and comparative binominal noun phrases that have been previously problematic for both the Case-based hypothesis and predication inversion-based analysis.

The analysis presented in this chapter is simple and elegant compared to previous proposals. It is a feasible account of nominal predication, consistent with current Minimalist assumptions, that does not appeal to operations such as Case-checking and Predicate Inversion. It allows us to maintain the view that copulas (whether nominal or verbal) are meaningless functional elements that serve to mediate syntactic predication. The analysis also solves previously problematic cases of *nay*-marked constructions in Tigrinya, supporting the view that structural differences introduce useful semantic differences.

The analysis developed here also correctly handles the Amharic facts. Amharic, as discussed in sections 2 and 3, employs the element *nay* to encode possession (72a). Similar to *nay*-marked syntactic constituents, *yā*-marked constituents serve as predicates

because they appear in predicate position such as copular constructions (72b), freely order relative to nominal modifiers (73) and allow the possessee to be focused (74), suggesting that *yå-* is a nominal copula that mediates two nominal dependents in a predication relationship.

- (72) a. *yå-astāmari-w* *mås'haf*
 YÅ-teacher-the book
 ‘the teacher’s book’
- b. *yih* *mās'haf* *yå-astāmari-w* *nå-w*
 this book YÅ-teacher-the be-3M.SG.S
 ‘This book is the teacher’s.’
- (73) a. *tilik'-u* *yå-astāmari-w* (*tilik'-u*) *mås'haf*
 big-the YÅ-teacher-the (big-the) book
 ‘the teacher’s big book’
- b. *yå-wådāk'å-w* *yå-astāmari-w* (*yå-wådāk'å-w*) *mås'haf*
 COM-come-the YÅ-teacher-the COM-come-the book
 ‘the book that had fallen down’
- (74) *mås'haf-u* *yå-astāmari-w*
 book-the YÅ-teacher-the
 ‘the BOOK that of the teacher’

Now a question remains: How widespread is a predication structure of DP-internal possession? There is strong support for it in Tigrinya – ALPs are predication

with the possessor functioning as the predicate. Is it the case that for any language in which there is an alienable-inalienable split and the alienable possessor acts like a predicate, that ALP will involve a predication structure mediated by a nominal copula? For languages that have a two-way split in their possession, such as Arabic and Hebrew, it is clear that possession is realized by two different syntactic structures, but it is not clear that possession is expressed as predication in these languages, because there is no split between alienable and inalienable possession. Future work will determine whether it is possible to apply the predication analysis developed in this chapter to other languages with a structural split between ALP and IAP.

Finally, the analysis presented in this chapter neither explains nor sheds light on the unique properties and internal structure of the other type of possession, inalienable possession. The next chapter develops an analysis of inalienable possession in Tigrinya. Given that both the syntax and semantics of IAP are different, chapter four presents an independent analysis based on similar constructions in other Semitic languages.

APPENDIX

1. The Categorial status of *nay*

I have established that *nay* is a nominal copula (in the sense of den Dikken 2006) and that its role is to link two dependents (e.g., the predicate possessor and its subject possessee) in a predication relationship in a nominal structure. In this section, an attempt will be made to determine the grammatical category of *nay*. Using different morpho-syntactic properties, I will argue that *nay* is a preposition (i.e. it belongs to the category P).

In many languages, prepositions (or more generally adpositions) are used to express relations between objects and events in space and time.⁷⁷ Prepositions are one of the most controversial categories in syntactic theory (see Svenonius 2004). They have sometimes been classified uniformly as either a type of lexical category, forming a natural class with Ns, Vs and As (see Jackendoff 1977, Van Riemsdijk 1990, among others), or as a type of functional category, similar to D and C heads (Grimshaw 1991, 2000) or as a type of semi-lexical category with both lexical and functional status (Emonds 1985). Although the exact categorial nature of *nay* is not crucial for the main claim defended in Chapter 3 of this dissertation, I argue in this appendix, based on its role as a nominal copula, that it is a functional preposition, which connects two dependents in a (predicational) relationship.

1.1 *nay* as a preposition

It has been long observed that prepositions are different from lexical categories (N, V, & A) in that they are closed categories; i.e., they have relatively few members, and they do not easily admit new ones (Emonds 1985). Prepositions in Tigrinya have a set of

⁷⁷ Adpositions, which precede their complements are called prepositions, those which follow their complements are called postpositions, and those that enclose the complement are called circumpositions (see e.g., van Riemsdijk 1990).

properties that set them apart from other categories. In what follows, I will present four morpho-syntactic properties of Tigrinya prepositions and show that *nay* shares all of them.

1.1.1 Tigrinya has prepositions (not postpositions)

According to Greenberg (1966) and Dryer (2005), among others, SOV languages have the following properties: The genitive and the relative precede the head noun, the auxiliary follows the verb, and adpositions are postpositional. These generalizations follow from the parameter of head directionality proposed by Travis (1984).⁷⁸

Typologically, Tigrinya is predominantly SOV and clauses are rigidly verb final (except in some focalized and cleft constructions). The unmarked position of complements (including sentential complements) of verbs and adjectives is always preceding the head (1). Also, auxiliaries normally follow the verb (2), indicating that VP comes before functional heads T/Asp.

- (1) a. ḥagos [VP [DP mish-u] bəliḥ-u] **SOV**
 Hagos lunch-his eat-Perf.3M.SG.S
 ‘Hagos ate his lunch’
- b. [CP kull-om məḥazut-ka kəmzi-fətt-u-ka] **Complement > V**
 all-M.PL friend.Pl-your COMP-like.PF-3M.PL-2M.SG.S
 səmiḥ-ə
 heard.PF-1SG.S
 ‘I head that all your friends like you.’

⁷⁸ See Dryer (1992) for alternative explanations for these correlations.

- c. wəllədi-xa [AP [PP bi-ʔaxa] hībḃunat] **Complement > A**
 parent-yours by-you proud
 ʔiyy-om
 be.PF-3M.PL.S

‘Your parents are proud of you.’

- (2) a. [VP s'ibah ki-ø-məs'iʔ ʔiyy-ə] **VP > Asp/T (=Aux)**
 tomorrow Fut-1sgS-come be.Imprf-1sgS

‘I will come tomorrow.’

- b. [VP himbaʃa yi-βəliʃ nəyr-u] **VP > Asp/T (=Aux)**
 bread 3M.SG.S-eat.IMF be.PF.-3M.SG.S

‘He was eating bread.’

However, Tigrinya is not consistently head-final. A typological surprising fact about this SOV language is that adpositions are always prepositions (not postpositions), taking complements to their right.

- (3) a. [mis [DP ʔabuʔ-u]] yi-nəbīr **P > Complement**
with father-his 3M.SG.S-live.IMPF

‘He lives with [his father]’

- b. [kab-[DP t-om məhazut-ka]] ni-mən **P > Complement**
from D-M.PL friend.Pl-you to-who
 ʔablis'-ka ti-fətt-u
 more-2M.SG.S 2M.SG.S-like-2M.SG.S

‘Of [your friends], whom do you like most?’

- (4) a. *[ʔabuʔ-u] **mis** yi-nəbɪr ***DP>P**
father-his **with** 3M.SG.S-live.IMPF
- b. *[ʔit-om məhazut-ka] **kab** ni-mən ʔablis'-ka ***DP>P**
D-M.PL friend.Pl-your **from** to-who more-2M.SG.S
ti-fətt-u
2M.SG.S-like-2M.SG.S

The nominal copula *nay* shares this property, appearing to the left of its complement.

- (5) a. [**nay** [DP məhazɪʔ-u]] məkina **nay>DP**
NAY friend-his car
‘his friend’s car’
- b. [**nay**-[DP t-i məmhɪr]] məs'haf **nay>DP**
NAY-D-M.SGteacher book
‘the teacher’s book’
- (6) a. *[[məhazɪʔ-u] **nay**] məkina ***DP>nay**
friend-his NAY car
- b. *[ʔit-i məmhɪr] **nay-** məs'haf ***DP>nay**
D-M.SG teacher NAY book

The above data suggests that *nay* is a preposition, because it shares the exceptional property of this category in that it precedes its complement. In Tigrinya, prepositions are head-initial whereas other categories are head-final.

1.1.2 Prepositions in Tigrinya take coordinated DPs

The second property of prepositions that *nay* shares with all other prepositions in Tigrinya is taking coordinated DPs. When two coordinated DPs are associated with a preposition in Tigrinya, the preposition attaches to the left of the whole conjoined structure or to the left of each conjunct (see Miller 1992 for discussion of similar phenomena in other languages).⁷⁹

- (7) a. **mis-** [[_{DP} ʔabuʔ-u]-n [_{DP} ʔadiʔ-u]-n] yi-nəbir
with father-his-& mother-his-& 3M.SG.S-live.IMPF
 ‘He lives with [his fire and his mother]’
- b. **mis-** [_{DP} t-i səbʔay]-n **mis-** [_{DP} t-a səβəyʔit]-n
with D-M.SG man-& **with** D-M.SG woman-&
 ‘with the man and with the woman]’

This phenomenon is also observed with *nay*, as we can see from the following examples:

- (8) a. **nay** [ʔabuʔ-u-n ʔadiʔ-u]-n gəza wəris-u
NAY father-his-& mother-his-& house inherit.PF-3M.SG.S
 ‘He had inherited [his mother and his father]’s house.’
- b. **nay**-[_{DP} t-i səbʔay]-n **nay**-[_{DP} t-a səβəyʔit]-n gəza
NAY D-M.SG man-& **NAY** D-F.SG woman-& house
 ‘[the man’s and the woman]’s house’

It is normally assumed that coordinating conjunctions joins two or more constituents with the same grammatical structure, e.g., two prepositional phrases. However, it is not always the case that all PPs can be coordinated (e.g., **under the table and with the house*),

⁷⁹ This is determined based on the nature of the conjuncts. If both the conjuncts act like a single constituent they take only a single preposition, when they are independent, then, the preposition attaches on each conjunct.

although some PPs can (e.g., *down the stairs and around the house*).

In Tigrinya, although identical prepositions with DP complements can coordinate (8b), different prepositions with DP complements cannot (9).

- (9) a. ***nay** [ʔabuʔ-u gəza]-n **mis**-[ʔadiʔ-u]-n
 NAY father-his house-& with- mother-his-&
 ‘[his father’s house] and [with his mother]’
- b. ***kab** [ʔabuʔ-u]-n **mis**-[ʔadiʔ-u]-n
 from father-his-& **with**-mother-his-&
 ‘[from his father] and [with his mother]’

However, with Tigrinya prepositions that take PP complements, coordination of different PPs is possible; although the list of prepositions which can co-occur with other prepositions is limited to locative (e.g., *ʔab wiʃti/tix’a/mongo* ‘at inside/near/between’) and directional (e.g., *kab/nab* ‘from/to’) prepositions and does not include the whole set of prepositions.

- (10) a. **ʔab** [pp wiʃti gəza-na]-n (**ʔab**)-[pp tihti gəza-na]-n
 at inside house-our-& **at**- below house-our-&
 ‘[inside (at) our house] and [below (at) our house]’
- b. **nab** [pp tix’a-t-i t’ərəp’eza] wəy (**nab**) [pp tihti-t-i ʃarat]
 to near-D-M.SG table or **to**-under-D-M.SG bed
 ‘[near (to) the table] or [under (to) the bed]’

Similarly, *nay* can take coordinated PP complements headed by different prepositions:

- (11) a. **nay** [_{PP} *wi*^f*t'i* gəza-na]-n **(nay)**-[_{PP} *tihti* gəza-na]-n
 NAY inside house-our-& **NAY-** near house-our-&
 ‘[inside our house] and [near our house]’
- b. **nay** [_{PP} *tiX'a-t-i* t'ərəp'eza] wəy **(nay)**-[_{PP} *tihti-t-i* ʕarat]
 NAY near-D-M.SG table or **NAY** under-D-M.SG bed
 ‘[near (of) the table] or [below (of) the bed]’

What is interesting is the parallels between the optionality of prepositions and the optionality of *nay*: As illustrated in (10), the omission of the coordinating prepositions (*at* and *to*) does not give rise to a difference in interpretation, nor does it make the constructions ungrammatical. Similarly, omission of coordinating *nay* is possible, and when it occurs it has no effect on interpretation, as shown in (11), as the glosses are meant to show. This constitutes a second argument that the nominal copula *nay* is a preposition.

In the remainder of this section, I consider morpho-syntactic properties of prepositions in Tigrinya that further strengthen the above argument that *nay* is a preposition. These are determiner cliticization and pronominal cliticization. In Tigrinya, prepositions (including *nay*) can host D and Pronoun encliticization.

1.1.3 Determiner cliticization

Definite determiners in Tigrinya may be realized as independent words or as enclitics. Both free form and clitic form determiners have a suffix, which is specified for the number and gender features of the noun. The free form determiner stem is *ʔit-*, while the

clitic form is $-t$.⁸⁰ In Tigrinya only prepositions host the enclitic determiner as shown in (12).⁸¹

- (12) a. mis-[t-a məmhir] mäs'iʔ-u
 with-D-F.SG teacher come.PF-3M.SG.S
 'He came with the teacher (f).'
- b. kab-[t-a məmhir] wəsɪd-u
 from-D-F.SG teacher take.PF-3M.SG.S
 'He took from the teacher (f).'
- c. *s'əllam-t-a səbəyti
 black-D-F.SG woman
- d. *wəsɪd-t-u
 take.PF- D-3M.SG.S

Like prototypical prepositions, *nay*, may host a clitic determiner, as illustrated below:

- (13) nay-[t-a məmhir] borsa
 NAY-D-F.SG teacher purse
 'the teacher 's purse'

Note that the clitic determiner attached to *nay* has the same phonologically reduced form

⁸⁰ This phenomenon of morphological fusion/fission seems to be quite common in other Ethio-Semitic languages as well. For e.g., in Amharic, when the oblique object marker *l-* and the genitive marker *y-* are attached to the first person singular pronoun *ʔine*, the initial segment of the stem deletes to yield the fused or fissional form: *l+ ʔine → ləne* and *y+ʔine → yəne*. Likewise, in Tigrinya, the directional fused prepositions *kab* 'from' and *nab* 'to' are composed of or a reanalysis of *k+ʔab* (lit. From +at) and *n+ʔab* (lit. to + at), respectively.

⁸¹ Note that sometimes the bare inalienable nouns do also host the enclitic determiner in Tigrinya as shown in (i). This, however, seems possible in a faster speech, suggesting that the possessor and its bare possessee noun should be strictly adjacent and nothing intervenes between the two (see a detailed discussion on this in chapter 4).

(i) wəddi-t-a hakim
 son-D-F.SG doctor
 'the doctor's son'

(13) as the clitic determiner attached to the prepositions in (12). Given that determiner clitics in Tigrinya do not attach to other categories, such as verbs or adjectives, this is strong evidence that *nay* is a preposition.

1.1.4 Pronominal cliticization

In Tigrinya, pronominal complements of prepositions are also realized as enclitics as illustrated below:

- (14) a. **mis-**ay/ka/ki/u/a/na/kum/kin/om/ən
 with-me/you.M.SG/you.F.SG/him/her/us/you.M.PL/you.M.PL/them.M/them.F
 ‘with me/you/him/her/you/us/them’

- b. **kab-**ay/ka/ki/u/a/na/kum/kin/om/ən
 from-

me/you.M.SG/you.F.SG/him/her/us/you.M.PL/you.M.PL/them.M/them.F
 ‘from me/you/him/her/you/us/them’

This is also true for pronominal complements of *nay* (15).

- (15) **nat-**ay/ka/ki/u/a/na/kum/kin/om/ən
 NAY- me/you.M.SG/you.F.SG/him/her/us/you.M.PL/you.M.PL/them.M/them.F
 ‘mine/yours/his/her/ours/yours/theirs’

The above data is consistent with the view that *nay* behaves like prepositions in cliticizing its pronominal complement. Importantly, in Tigrinya all prepositions (including *nay*), only take clitic pronouns; they never take full pronouns, as shown by the ungrammaticality of (16a) and (16b). In contrast, pronominal complements of other categories are realized as independent words. This is illustrated for the category of verbs in (16c).

- (16) a. ***mis-** (ni)ḥiʔu/(ni)ḥaʔa
 with- him/her
 ‘with him/her’
- b. ***nat-** (ni)ḥiʔu/(ni)ḥaʔa
 NAY- she/he/her/him
 ‘hers/his’
- c. [niḥiʔu/niḥaʔa] siḥim-əyyo/a
 him/her kiss.PF-1SG.S-3M/F.SG.O
 ‘I kissed him/her.’

Based on the above morpho-syntactic properties, I therefore conclude that *nay* is a preposition in Tigrinya.

1.1.5 Differences between *nay* and other prepositions

There are two morpho-syntactic properties that differentiate *nay* from other prepositions in Tigrinya. The first concerns allomorphic variation of prepositions. Recall that *nay* can appear as a free form *nay* or as a bound form *nat-* hosting pro-forms (determiners or pronominals). If *nay* is a preposition, we would expect allomorphic variation in other prepositions under the same conditions, and this does not seem to be the case.⁸²

Most prepositions in Tigrinya do not exhibit allophonic variation; for example, they do not show any change when they co-occur with (a) bare NP complement, (b) definite DP complement and (c) clitic pronoun complement as the examples in (17) with the preposition *mis* ‘with’ illustrate: For instance, *mis* does not change to *mit* in any of

⁸² In the widely accepted standard dialect of Tigrinya, there is an allomorphic variation between *nay* and *nat-*, although in other varieties only *nay* is used. While *nay* is a free form, *nat-* is a bound form, always hosting pronominal elements. In this sense, it might be expected prepositions to show similar allomorphic variation; however, this does not seem to be available.

these contexts.

- (17) a. mis(/*t) gorəbet kuli|aʃ sinnit yi-hali-ka
 with neighbor always peace 2-have.IMPF-M.SG.S
 ‘You should always be at peace with a neighbor.’
- b. mis(/*t)-t-om gorəbabt-ka kuli|aʃ sinnit yi-hali-ka
 with-D-M.PL neighbor.PL always peace 2-have-M.SG.S
 ‘You show always be at peace with your neighbors.’
- c. mis(/*t)-anna
 with-1PL
 ‘with us’

However, some prepositions, namely directional prepositions seem to exhibit allomorphic variation, except in the context of pronominal complements. Tigrinya has two forms for the directional prepositions “to” and “from”; both of which have a free form and a bound form – *ki-* ~ *kab* and *ni-* ~ *nab* –, where *ni-* and *ki-* are reduced forms and *kab* and *nab* free forms. Interestingly, either is possible with a bare NP complement, but only the full forms, *kab* and *nab* are possible hosts for the determiner clitic.

- (18) a. ħagos **ni**-bet timhirti kəyd-u
 Hagos to-school go.PF-3M.SG.S
 ‘Hagos went to school.’
- b. ħagos **nab**-bet timhirti kəyd-u
 Hagos to-school go.PF-3M.SG.S
 ‘Hagos went to school.’

- (19) a. ħagos nab-t-i bet timhirti kəyd-u
 Hagos to-D-M.SG school go.PF-3M.SG.S
 ‘Hagos went to the school.’
- b. *ħagos ni-t-i bet timhirti kəyd-u
 Hagos to-D-M.SG school go.PF-3M.SG.S
- (20) a. ħagos **ki**-bet timhirti məs'iʔ -u
 Hagos to-school come.PF-3M.SG.S
 ‘Hagos came from school.’
- b. ħagos **kab**-bet timhirti məs'iʔ -u
 Hagos to-school come.PF-3M.SG.S
 ‘Hagos came from school.’
- (21) a. ħagos kab-t-i bet timhirti məs'iʔ -u
 Hagos to-D-M.SG school come.PF-3M.SG.S
 ‘Hagos came from the school.’
- b. *ħagos ki-t-i bet timhirti məs'iʔ -u
 Hagos to-D-M.SG school come.PF-3M.SG.S
 ‘Hagos came from the school.’

The above examples illustrate that it is only the full forms *nab* and *kab*, but not the reduced variants, *ni*- and *ki*-, which are used with definite DPs. Recall that when D is attached to prepositions, the D is reduced to a clitic; this is also the case when it is attached to *nab* and *kab*, giving rise to *nabt*- and *kabt*-, respectively. I therefore do not take this as evidence against my hypothesis that *nay* is a preposition.

The second property, which makes *nay* different from other prepositions, comes

from IP complementation. In Tigrinya, most prepositions can take IP complements (perhaps when they function as complementizers in the sense of Grimshaw (1991)).

Consider the following examples:

- (22) a. ni-ħaft-u [CP[C **mis**-[IP x'ətəl-ə]] tə-səwir-u
 to-sister-his **with**-kill-3M.SG.S Pass-vanish-3M.SG.S
 ‘After he killed his sister he vanished’
- b. [CP[C **mis**-[IP məs'-ə]]] six'ill-na ni-k'əbbəll-o
 with-come.PF-3M.SG.S quite-1pl 1plS-welcome-3M.SG.O
 ‘When he comes, let’s just welcome him.’
- c. *[CP[C **nay**-[IP məs'-ə]]] six'ill-na ni-k'əbbəll-o
 NAY-come.PF-3M.SG.S quite-1pl 1plS-welcome-3M.SG.O

The above examples illustrate one obvious difference between *nay* and other prepositions in Tigrinya; i.e., only the latter can take an IP complement. This raises the question of why *nay* does not take IP complements if it is a preposition. I argue that the answer has something to do with its function: *nay*, unlike the other prepositions, is a nominal copula (in the sense of den Dikken 2006); hence, it does not take an IP complement.

Summarizing the results of the analysis thus far, based on the evidence considered in the above discussion, I conclude that the nominal copula *nay* belongs to the category preposition, and thus, that the category we’ve been calling RP is technically a PP and that the category we have been referring as FP is its extended projection *pP* (in the sense of Grimshaw (2000); see also Svenonius 2004, 2006 for similar arguments on Germanic languages).

Chapter 4

Tigrinya bare possessive nominals (BPNs) and construct state nominals (CSNs)

1 Introduction

In chapter 2, I showed that Tigrinya uses two distinct strategies to express alienable and inalienable possession: A predication strategy and an argumental strategy. The predication strategy is used to encode *nay*-marked alienable possession (ALP). By contrast, the argumental strategy is used to express the bare (non-*nay*-marked) inalienable possession (IAP). In chapter 3, I analyzed *nay* in ALP (and other *nay*-marked constructions) as a nominal copula (in the sense of den Dikken 2006) that introduces the predication relationship between the predicate possessor and the subject possessee; the exact nature of this predication relationship is contextually determined.

One consequence of this analysis is that it straightforwardly explains not only why *nay* is present in ALP (and other *nay*-marked constructions) but also why it is absent from IAP. That is, the fact that *nay* is absent from IAP suggests that IAP does not use the predication strategy. Rather, it uses a different strategy, which I refer to as an argumental strategy. Two pieces of evidence in support of this claim were presented: (i) *nay*, a nominal copula that signals the predication strategy, is blocked from IAP (cf. (1b)), and (ii) the possessor argument of an inalienable head noun is barred as a predicate nominal (2).

- (1) a wəddi yəwhanis
 son John
 ‘John’s son’
- b. *nay yəwhanis wəddi
 NAY John son
 Intended: ‘John’s son’
- (2) *ʔit-i wəddi [yəwhanis ʔiyy-u]
 D-M.SG son John BE-3M.SG.S
 ‘The son is John’s.’

Given what I have argued in previous chapters, the examples in (1) and (2) are not unexpected: First, if *nay* is used to signal a predication strategy, it is expected that it should be barred from IAP (1). Second, if an inalienable possessor (IA-Pssr) is an argument of the head noun, it is expected that it cannot occur “across” a copula (2), as only predicates are allowed in this position (see Grimshaw 1990, among others). Finally, the predication strategy, a mechanism that encodes a contextually determined semantic relationship between a subject and its predicate, is inoperative in IAP as indicated by the fact that *nay* is completely blocked. By contrast, the argumental strategy, a mechanism that expresses a lexically determined semantic relationship between a head and its argument, is expected because the possessee lexically determines the semantic relationship between the possessor argument and the possessee in IAP.

However, the analysis in chapter 3 neither explains the unique properties nor sheds light on the internal structure of IAP. In this chapter, I will address two questions: What is the internal structure of Tigrinya IAPs or as I refer to them above and throughout the present chapter, bare possessive nominals (henceforth BPNs), and how do possessors in BPNs get licensed?

The answers to these questions, as I will argue, come from the comparison between BPNs and construct state nominals (henceforth CSNs) found in well-studied Semitic languages (Hebrew and Arabic). This is mainly because BPNs in Tigrinya share the salient properties of CSNs, for example, the head-initial structure (the head of BPNs precedes the genitive phrase, as illustrated in (1a)) (see Borer 1996, Longobardi 1996, and Siloni 2004). If Tigrinya BPNs share the salient properties of CSNs, as I argue they do, it raises the question of whether they are in fact a type of CSN. I propose, based on the fact that BPNs share the defining properties of CSNs, that they should be analyzed as CSNs, sharing the same syntactic structure.

CSNs have been the focus of much research on Semitic languages (Benmamoun 2000; 2003, Borer 1996; 1999, Danon 2001; 2008, Fassi Fehri 1993; 1999, Muhammad 1988; 2000, Ouhalla 1991; 2004, Ritter 1988; 1991, Shlonsky 1990; 2004, Sichel 2002, Siloni 1997; 2003, *inter alia*). They are considered characteristic of Semitic languages, although they are also found in other language families such as Celtic (Guilfoyle 1988, Duffield 1993, among others) and Romance (see Longobardi 1994; 1996, among others). They are head-initial structures comprising of a head noun and a noun phrase, as illustrated in (3).

(3)	dirat	ha-sar	(Hebrew)
	dar	l-wazir	(Arabic)
	apartment	the-minister	
	'the minister's apartment'		(Shlonsky 2004: 3)

In this chapter, I will review some of the salient properties of CSNs and show that Tigrinya BPNs pattern with the corresponding Semitic CSNs. Given that Tigrinya is a Semitic language and that BPNs share some of the salient properties of Semitic CSNs (see discussion in section 3 below), it is reasonable to assume that they ought to be amenable to the same analyses as are currently applied to Semitic CSNs. Considering the vastness of the literature on CSNs, I will limit my review to the two major competing syntactic analyses of CSNs: Standard head movement (Ritter 1991) and snowballing phrasal movement (Shlonsky 2004). Reviewing the pros and cons of these two competing analyses, it will be argued that the snowballing phrasal movement analysis cannot account for the facts of Tigrinya BPNs and that the standard head movement approach must be enriched and further modified to reconcile it with current Minimalist assumptions (Chomsky 1995a *et seq.*) in order to account for both Tigrinya BPNs, and other Semitic CSNs.

The chapter is organized as follows: First, in section 2, I will present the salient properties of Semitic CSNs, and then in section 3, I will determine to what extent the properties of Tigrinya BPNs match those of Semitic CSNs. In section 4, I review two rather divergent analyses of Semitic CSNs, namely the N-raising analysis (Ritter 1991) and the snowballing phrasal movement analysis (Shlonsky 2004). In section 5, I present a

unified analysis of all the salient properties of both Tigrinya BPNs and CSNs identified in section 2 and 3, postulating a non-standard head movement analysis compatible with current Minimalist assumptions (Matushansky 2006). Assuming that all lexical categories are made up of a category-neutral root and a category-determining head (see for example, Marantz 2001) and viewing the operation Agree as a feature sharing operation (see for example, Pesetsky & Torrego 2007), I argue that N-movement is parameterized based on the feature composition of D. In section 6, implications for other constructions will be presented. Finally, in section 7, I present my conclusions and identify remaining issues.

2 Properties of construct state nominals (CSNs)

CSNs constitute a special type of noun phrase especially well documented in Semitic languages, although they also appear in other language families, such as, Celtic (Guilfoyle 1988, Duffield 1993) and Romance (Longobardi 1996). They are head-initial nominal phrases that contain a genitive phrase and a head noun. CSNs can be used to express a number of semantic relationships between the head noun and the genitive phrase, including possession – both inalienable and alienable – theme-source, quantification, etc. (Ritter 1991). CSNs are also characterized by a number of properties, the most important of which are listed in (4) (see Borer 1996, Longobardi 1996, Siloni 2003 for a full list of properties).

(4) Properties of CSNs

- (i) Head-initial: The head precedes its genitive phrase.
- (ii) Lack of adpositional markers: The relation between the head and the genitive phrase is not signaled by any adpositional element such as Hebrew *šel*.
- (iii) Strict Adjacency: Modifiers of the head, such as adjectives, cannot intervene between the head noun and the genitive phrase.
- (iv) Obligatoriness of the genitive phrase: The head of the CSN must be accompanied by the genitive phrase.
- (v) (In)definiteness spreading: The definiteness value of the genitive phrase spreads to the whole CSN.
- (vi) Boundedness: The head of the CSN exhibits phonological properties of a bound form.
- (vii) Word formation: The CSN strategy is also used for compounding.

All of these properties, which are manifested in Hebrew and Arabic, are discussed in detail below. For expository reasons, I will use illustrative data only from Hebrew, although the descriptions and analysis of the properties do apply equally to Arabic.

Let us start with the first property of the CSN: The noun heading the construct occurs as the first element in the DP. The examples in (5) illustrate the different semantic role types of CSNs – IAP (5a), ALP (5b) and process nominals (5c). Observe that in each case the noun heading the CSN appears in phrase-initial position.

- (5) a. *dodat* *ha-balʕan*
 aunt the-linguist
 ‘the linguist’s aunt’
- b. *beyt* *ha-mora*
 house the-teacher
 ‘the teacher’s house’
- c. *axilat* *dan* *et* *ha-tapuax*
 eating Dan OM the-apple
 ‘Dan’s eating of the apple’
- (Ritter 1991: 39)

In (5), the head-initial structure of the CSN where the head noun precedes the genitive phrase is clearly seen; for example, *dodat* ‘aunt’ in (5a), which is the head of the CSN, precedes *ha-balʕan* ‘the linguist’, which is its genitive phrase. The same is true with the heads of the CSNs in (5b) and (5c).

Consider next the absence of an adpositional marker. No elements marking the genitive or the relation between the head and the genitive phrase are allowed. For instance, in Hebrew, CSNs mediated by the preposition *ʕel* ‘of’ are ungrammatical.

- (6) **beyt ʕel* *ha-mora*
 house of the-teacher
 ‘the teacher’ house’

(7) a. *beyt ha-gadol ha-mora
house the-big the-teacher
Intended: 'the teacher's big house'

b. beyt ha-mora ha-gadol
house the-teacher the-big
'the teacher's big house'

[illegible]

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Probably one of the most striking properties of a CSN is definiteness spreading. Hebrew has a prefixal definite article, *ha-*, and no indefinite article. In CSNs, the definite article cannot be attached to the head noun, as shown in (9). The genitive phrase, on the other hand, can bear the definite article, and its absence signifies indefiniteness.

As illustrated in (9), the head of the CSN is not marked with a definite article, but rather gets its definiteness specification from the genitive phrase that follows it. That is, the head noun *beyt* ‘house’ in (9) is definite because the definiteness feature of the genitive phrase *ha-mora* ‘the teacher’ spreads to it. This property is often referred to as definiteness spreading (DS hereafter) (Borer 1996, Ritter 1991, Siloni 1997, among others).⁸⁴

- (i) a. ha-bayit *(ha-)gadol b. bayit (*ha-)gadol
the-house (the)-big house (*the-)big
'the big house' 'a big house' (Siloni 2003: 488)

- (ii) delet ha-bayit *(ha)-yafa
door.F the-house.M the-beautiful.F
'The beautiful door of the house' (adapted from Borer 1996: 32)

The examples in (9)-(11) show another more limited property of a CSN, notably, that the head in a CSN may assume a different form than the same head in the so-called free state nominals (henceforth FSN): A CSN sometimes requires a morphologically dependent or bound form of the head noun, but a FSN always appears in a morphologically independent or free form.⁸⁵ The nouns in (1)-(9) that have distinct construct and free forms are listed below:

(10)	FSN	CSN (bound form)	Gloss
a.	bayit	beyt	‘house’
b.	doda	dodat	‘aunt’
b.	yeladim	yaldey	‘children’

The final characterizing property of a CSN is its similarity to compound formation. Consider the following Hebrew examples.⁸⁶

(11)	a.	beit	sefer
		house	book
		‘school’	

⁸⁵ This phonological property is often taken as a major characterizing property of the CSN (see Benmamoun 2000, Siloni 2003, among others). The authors point out that the head of the CSN is a stressless weak form and phonologically does not constitute a prosodic word (as it lacks main stress). For example, in Hebrew and Arabic, the feminine ending /t/ is retained only in construct heads: (Hebrew: *yaldat* vs. *yalda* ‘girl’; Arabic: *ʔamme* vs. *ʔammet* ‘aunt’). This phonological property is, however, limited due to the fact that the shape of bound forms is highly variable. For instance, in some cases, the Hebrew FSN can have a reduced form compared to the CSN as in *yalda* vs. *yaldat* for ‘a girl’; in some cases, the CSN has a reduced form (*beyt* vs. *bayit* ‘house’), while in other cases, both the FSN and CSN show the same form as in *delet* ‘door’. It is therefore unclear whether reduction of material or addition of a morphosyntactic element characterizes the head of the CSN.

⁸⁶ I am using the transliteration conventions of my sources; hence, there is some variability in the forms of some words, such as *beyt* vs. *beit* ‘house’.

- b. beit xolim
 house sick.pl

‘hospital’

- c. beit malxa
 house work

‘workshop’

(Borer 1996: 32)

The examples in (11) show that CS compounds share the same morpho-phonological form as CSNs. However, the two are different in some respects (see Borer 1996 for a detailed discussion). While CSNs are semantically transparent and syntactically accessible, CS compounds are semantically opaque and syntactically inaccessible (Borer 1996). For instance, while coordination and modification of the second member of a CS compound are not possible (12), neither of these restrictions applies to CSNs (13).

- (12) a. *beyt [sefer ve-xolim]
 house book and-sick

- b. *beyt [mlaxa adina]
 house work fine

- (13) a. bdikat [mizvadot ve-tikim]
 examination suitcases and-bags
 ‘examination of suitcases and bags’

- b. bdikat [mizvadot xaʃudot]
 examination suitcases suspicious

‘examination of suspicious suitcases’ (adapted from Siloni 2003:483)

Having thus reviewed the basic properties of the CSNs and how they are manifested in Hebrew, I now turn to the description and analysis of Tigrinya BPNs in order to determine whether any or all of the properties of CSNs are shared by BPNs.

3 **Tigrinya BPNs as CSNs**

In this section, I will describe the BPNs in Tigrinya and compare them with CSNs in Hebrew, in order to determine whether BPNs in Tigrinya share the salient properties of Hebrew CSNs presented in section 2. Based on the comparison, it will be concluded that Tigrinya BPNs are indeed CSNs.

At first glance, this proposal seems very straightforward, given that Tigrinya is a Semitic language and that CSN formation is a characteristic property of Semitic languages (see Shlonsky 2004). However, Tigrinya has some unique properties that make it different from other Semitic languages. For instance, Tigrinya is SOV while most other Semitic languages (for example Hebrew and Arabic) are VSO or SVO; Tigrinya nominal modifiers are prenominal while nominal modifiers of other Semitic languages are postnominal.⁸⁷ More relevant to our discussion, Tigrinya BPNs and Hebrew CSNs (or CSNs in other well-studied Semitic languages, for that matter), also differ in interesting ways. One interesting difference is the fact that there is a semantic restriction on Tigrinya

⁸⁷ In fact, most of the lesser-studied Ethio-Semitic languages share these properties of Tigrinya that are not found in the well-studied Semitic languages. See appendix in chapter 1 for more on these properties.

BPNs that is not found in Hebrew CSNs: While Tigrinya BPNs are restricted to inalienable possession (example, kinship terms), Hebrew and Arabic CSNs are used for both alienable and inalienable possession as pointed out in section 2.

Nevertheless, I will maintain that Tigrinya BPNs are CSNs and argue that the difference follows from the details of the analysis presented in section 5. I particularly argue that the distinction follows from the hypothesis that alienable and inalienable possession have a distinct syntactic structure in Tigrinya, as was demonstrated in chapter two, but not in Hebrew. In chapter 2, I suggested that there may exist two types of languages when it comes to inalienability distinctions: Languages whose inalienable nouns such as kin terms are obligatorily possessed and languages whose inalienable nouns are not obligatorily possessed. While Tigrinya belongs to the first group, Hebrew belongs to the second. If this is right, then some of the differences between Tigrinya BPNs and Hebrew CSNs may also follow from such variation. The discussion in this section will also shed light on the question of what is the necessary and sufficient condition for a particular construction to be a CSN.

3.1 Similarities between Tigrinya BPNs and Hebrew CSNs

This section examines whether Tigrinya BPNs share the properties of CSNs presented in section 2. As I pointed out in section 2, CSNs are characteristic of Semitic languages and Tigrinya is a Semitic language. This genetic relation constitutes an initial appeal for my hypothesis that Tigrinya BPNs are CSNs. Apart from this initial motivation, however, Tigrinya BPNs, as I show immediately below, share most of the properties of Hebrew CSNs presented in section 2.

(14) a. hafti yəwəhanis
 sister John
 ‘John’s sister’
 b. dəkk’i ʔit-om hərəstot
 son.pl D-m.pl farmer.pl
 ‘sons of the farmers’

The second property of CSNs Tigrinya BPNs share is the absence of adpositional elements or nominal copular elements. Recall from chapter 2 that *nay*, a semantically empty element that mediates the predication relation between the possessee and its possessor, appears in ALP, as illustrated in (15).

(15) **nay** yəwʰanis məsʰaf
 NAY John book
 ‘John’s book’ (Tewolde 2002: 83)

Now observe that *nay* is impossible in BPNs.

- (16) a. (***nay**) wəddi (***nay**) yəwʰanɪs cf. wəddi yəwʰanɪs
 (***NAY**) son (***NAY**) John
 ‘John’s son’
- b. (***nay**) yəwʰanɪs (***nay**) wəddi
 NAY John (NAY) son

Thus, BPNs share the property of CSNs in barring adpositional elements such as *nay* in their structure.

Next consider strict adjacency. This property requires that nothing should intervene between the head noun and the genitive phrase. In Tigrinya, elements such as nominal modifiers do not intervene between the genitive phrase and the head noun. As (17) illustrates, adjectives modifying the head noun cannot immediately come after the head of the BPN preceding the genitive phrase.⁸⁸

- (17) a. [**nəwahti** [dəkk'i ɰarəstot]]
 tall.pl son.pl farmer.pl
 ‘tall sons of farmers’
- b. *[dəkk'i **nəwahti**] ɰarəstot
 son.pl tall.pl farmer.pl
 Intended: ‘tall sons of farmers’

⁸⁸ This property applies to other nominal modifiers such as relative clauses as well. In addition, numerals, demonstratives and quantifiers cannot intervene between the head of the Tigrinya BPN and the genitive phrase when they modify the head noun. They always occur pre-nominally in Tigrinya but postnominally in Hebrew (but see footnote 8).

The examples in (17) clearly show strict adjacency between the head noun and the genitive phrase, another property Tigrinya BPNs share with Hebrew CSNs. Note that the order of nominal modifiers with respect to the head noun and the possessor in Tigrinya BPNs differs from that in Hebrew CSNs: Tigrinya adjectives precede the head noun and the genitive phrase, while Hebrew adjectives follow these constituents. It is not surprising then that nominal modifiers in Tigrinya never come between the possessed noun of a BPN and the genitive phrase, respecting the strict adjacency requirement.

In Hebrew CSNs, when both the head noun and the genitive phrase have modifying adjectives, we find a nested configuration [N2 [D N1 AP1] AP2]; i.e., one where adjective phrases modifying the noun in the genitive phrase (N1) precede adjective phrases modifying the head noun (N2).

- (18) [beyt [ha-melex ha-ca'ir] ha-gadol]
house the-king the-young the-big
'the young king's big house' (adapted from Kihm 2000)

In Tigrinya, there are no nested structures *[AP2 AP1 N2 [Gen D N1]] (cf. (19)), but this is simply because adjectives that precede the noun they modify (or prenominal adjectives), result in a distinct configuration [AP2 N2 [Gen D AP1 N1]]. That is, nesting structure has nothing to do with the CSN as such; this is fundamentally due to the fact

that a nesting configuration is a property of postnominal adjectives, and Tigrinya does not allow postnominal modifiers.⁸⁹

- (19) *[rəɡwad ħafti [ʔit-i s'əllim nīgwis]]
 fat.F.SG sister D-M.SG black king
 ‘the fat sister of the black king’

Thus, it is important to note that (19) does not run counter to the hypothesis that Tigrinya BPNs are CSNs, but it simply tell us that nesting of modifiers may not be a necessary condition for a construction to be a CSN.

The fourth property of CSNs Tigrinya BPNs share is what Siloni (2003) calls ‘obligatoriness of the genitive constituent’ (see also Longobardi 1996). This property refers to the requirement of the head of a CSN to appear together with a genitive phrase. In Tigrinya, the head of a BPN also requires a phonetically realized genitive phrase, as illustrated in (20).

- (20) a. [dəkk'i *(ħarəstot)] s'aḥramat ʔiyy-om
 son.Pl farmer.Pl diligent.pl be-3m.plS
 ‘sons of farmers are hardworking’
 b. ħafti *(jəwħanis) timali məs'iʔ-a
 sister (John) diligent.f.sg be-3f.sgS
 ‘John’s sister came yesterday’

⁸⁹ The adjectives in comparative binominal noun phrases are an exception because they are postnominal; however, as has been discussed in chapter 3, these are nominalized adjectives and, crucially do not occur with bare possessive nominals in Tigrinya.

Finally, Tigrinya BPNs, like their Hebrew CSN counterpart can be used for compound formation, as illustrated in (21).

- | | | | | |
|------|----|------------------|----|-----------------|
| (21) | a. | ṣayni midri | c. | bet timhirti |
| | | eye earth/ground | | house education |
| | | ‘toilet’ | | ‘school’ |
| | b. | ha(f)ti ʔinno | d. | bet mixri |
| | | sister mother | | house advice |
| | | ‘aunt’ | | ‘parliament’ |

The examples in (21) are all bare compounds, which share the same morpho-phonological form as regular BPNs. Nevertheless, they form a single lexical item, whose meaning is non-compositional, and whose constituent words are syntactically inaccessible. On the other hand, the formation of regular BPNs, like that of the corresponding regular CSNs, is productive and semantically compositional. For instance, bare compounds block modification of the non-head (22a) suggesting that they are semantically opaque, but BPNs allow modification of the genitive phrase (23a). Similarly, while bare compounds disallow coordination of the non-head (22b), this is possible with BPNs (23b).

- (22) a. *ḥaw nəwwih ʔabbo
 brother tall.M.SG father
 Intended ‘tall uncle’
- b. *ḥaw ʔabbo-n ʔinno-n
 brother father-& mother-&
- (23) a. [dəkk'i [ʔit-om ḥirkutat ḥarəstot]]
 son.Pl D-M.PL diligent.PL farmer.PL
 ‘sons of the diligent farmers’
- b. [dəkk'i [ḥarəstot]-n [məmahirani]-n]
 son.Pl farmer.Pl-& teacher.Pl-&
 ‘sons of farmers and teachers’

Borer (1988) observes that Hebrew CS compounds share the same morpho-phonological form with regular CSNs but constitute a single lexical item whose meaning is idiosyncratic. However, CSNs, are neither semantically nor syntactically opaque and cannot be the result of a lexical operation. The Tigrinya contrastive examples in (22) and (23) show the same properties. Thus, the BP strategy is available for compound formation in Tigrinya, as the CS strategy is in Hebrew.

Summarizing the results of this section, I have shown that Tigrinya BPNs share the defining properties of CSNs. These defining properties include the head-initial order, lack of adpositional element, strict adjacency, the obligatoriness of the genitive phase, and compound formation. In section 5, it will be demonstrated that these similarities are due to a common syntactic structure that characterizes both CSNs and BPNs.

3.2 Differences between Tigrinya BPNs and Hebrew CSNs

In this section, I discuss some of the differences between CSNs and BPNs, and show that these differences do not require us to posit different syntactic structures for CSNs and BPNs because the differences reflect very limited or non-defining properties of both BPNs and CSNs.

One of the most striking properties of CSNs is definiteness spreading (DS) – a phenomenon where a definiteness feature spreads from a genitive phrase to the head of a CSN (see Borer 1996, Ritter 1991, among others; see also Danon 2008 for a recent review and references cited therein). As illustrated in section 2, the head noun of a CSN does not take an independent definiteness marker, but through spreading of the definiteness feature of the genitive phrase, it becomes definite.⁹⁰ This phenomenon, however, is not available in Tigrinya. In Tigrinya, a definite article may mark the head noun, the possessor or both. This is illustrated in (24), where the definiteness specification of the head noun is independent of the definiteness specification of its genitive phrase or possessor:

- (24) a. ʔansti harəstot
 wife.PL farmer.PL
 ‘wives of farmers’

⁹⁰ This phenomenon is often referred to as *definiteness inheritance* or *agreement* (see Danon 2008 for a review). The choice of terminology, however, is not clear from the extant generative literature, although the two terms are explicitly distinct in other frameworks such as HPSG (Pollard & Sag 1994). In any event, since inheritance or spreading of definiteness do not apply in Tigrinya, the distinction does not matter for the analysis pursued here.

- b. *ʔansti* *ʔit-om* *harəstot*
 wife.PL D-M.PL farmer.PL
 i. ‘wives of the farmers’
 ii. *‘the wives of the farmers’
- c. *ʔit-ən* *ʔansti* *harəstot*
 D-M.PL wife.PL farmer.PL
 i. ‘the wives of farmers’
 ii. *‘the wives of the farmers’
- d. *ʔit-ən* *ʔansti* *ʔit-om* *harəstot*
 D-F.PL wife.PL D-M.PL farmer.PL
 ‘the wives of the farmers’

Tigrinya has an overt definite article *ʔit-* but no indefinite article. Thus, if no overt definite article is realized in a DP, the DP will be interpreted as indefinite (or generic).⁹¹ For instance, in (24a), neither the head noun nor the genitive phrase is overtly marked as definite, and as a result, both the BPN and its possessor are interpreted as indefinite expressions. By contrast, in (24d), both the head noun and the genitive phrase are overtly marked as definite, and hence, both are interpreted as definite. Note that definiteness spreading never occurs: In (24b), only the genitive phrase is overtly marked as definite and the BPN is interpreted as indefinite. In (24c) only the head noun is overtly marked as definite and the genitive phrase is necessarily indefinite. Since the definite article in

⁹¹ Tigrinya optionally uses the numeral *hadə* ‘one’ to overtly mark indefinite DPs.

(i) *hadə* *təməharay* *məs'iʔ-u*
 one student come.PF-3M.SG.S
 ‘A student came.’ Or ‘One student came.’

Also, a non-definite marked noun can also refer to generic interpretation. For instance, *təməharay* ‘student’ in (i) could also mean ‘students’ in general.

Tigrinya agrees with the noun it determines in number and gender, the definite article *ʔit-om* ‘the-M.PL in (24b) agrees in gender and number with *harəstot* ‘farmers’, not with *ʔansti* ‘wives’, while the opposite is true in (24c). In short, as the data in (24) illustrate, unless a noun is overtly marked as definite, it must be interpreted as indefinite, even if it is the head of a BPN. Thus, Tigrinya BPNs do not show DS.

At first glance, this seems problematic for the hypothesis that BPNs are CSNs, if we assume that DS is a defining property of CSNs. However, on close inspection, this is proven not to be the case because, as Siloni (2003: 493) points out, “definiteness spreading [...] does not always apply [in Hebrew].” For instance, after considering a range of possibilities for DS in Hebrew, Siloni (2003: 500) asserts that “[s]haring a definiteness value is [...] not a defining property of [CSNs] but rather [is] imposed by other properties.” She reasons that the head of a CSN cannot take a prefixal definite determiner because it is a stress-less bound form (and has nothing to do with DS). One piece of evidence in support of Siloni’s claim comes from the fact that DS does not occur when the head of a CSN is rendered definite by a non-prefixal definite determiner or demonstrative.

- (25) a. ota tmuant praxim
 that(F) picture(F) flowers
 ‘that picture of flowers’
- b. tmunat praxim zot
 picture(F) flowers this(F)
 ‘this picture of flowers’
- (Siloni 2003: 497)

Danon (2008) and Engelhardt (2000) provide additional evidence that DS is not a necessary property of CSNs. Specifically, they show that a CSN that contains a definite genitive phrase is not always interpreted as definite.

- (26) a. dan hu [yelid ha-ir]
 Dan is [native the-city]
 ‘Dan is a native of the city.’
- b. lifney ʃvu’ayim ne’ecar [saxkan ha-kvuca]
 before two weeks arrested [player the-team]
 ‘A player of the team was arrested two weeks ago.’ (Danon 2008: 12)

Engelhardt (2000: 71) further shows that DS is not observed in event-denoting CSNs in environments that disallow definites, as illustrated in (27).

- (27) a. ruti mevala et zmana be-/*ba- ktiva
 ruti spends OM time.3F.SG in-/*in.def- writing
 ‘Ruti spends her time writing.’
- b. ruti mevala et zmana be-ktivativ ha-sefer
 Ruti spends OM time.3F.SG in-writing the-book
 ‘Ruti spends her time writing the book.’

As Engelhardt notes, the sentence in (27a) indicates that the complement of the preposition *be-* ‘in’ in such sentences must be indefinite: the PP *ba-ktivativ* ‘in the writing’ renders the sentence ungrammatical. Similarly, the CSN *ktivativ ha-sefer* in (27b) is

allowed in this environment despite having a definite embedded genitive phrase. This, according to Engelhardt, shows that in some contexts such CSNs do not involve definiteness spreading.⁹²

Based on the above discussion, I therefore conclude that DS is not a necessary condition for a construction to be a CSN. Thus, the fact that Tigrinya BPNs lack DS does not pose a problem for my hypothesis that BPNs are CSNs.⁹³

Another property of CSNs that Tigrinya BPNs do not share is boundedness, the phonologically reduced nature of the head noun of a CSN.⁹⁴ Siloni (2003) points out that one of the salient properties of a CSN is the fact that the head of a CSN does not bear main stress; the head noun is a stressless weak form, phonologically dependent on the non-head member. As far as the BPNs in Tigrinya are concerned, there is no phonological dependence between the head N and the genitive phrase. This is not problematic, however, given that stress plays little or no role in Tigrinya and the fact that

⁹² Moreover, in non-CS languages, such as English, a definite possessor of a noun phrase can cause the entire noun phrase to be interpreted as definite, while an indefinite possessor can cause the entire noun phrase to be indefinite as shown below (Hazout 1995). This again suggests that definiteness spreading may not be unique to CSNs (but see Borer 1996 for a different view).

(i) a. Martha's book (interpreted as a definite book)
b. a student's book (interpreted as an indefinite book)

⁹³ Given the above observation, it is not surprising to see most previous analyses link definiteness spreading to other properties of the CSN, such as its word-like property and word order. For instance, Siloni (2003) argues that definiteness spreading is a reflex of the property 'boundedness'. According to Siloni (2003: 493), "the fact that the head of the construct does not bear the article is derived from its status as a function word." If this is true, it suggests that DS is not a defining property of a CSN.

⁹⁴ Compounds in Tigrinya seem to share this property (i.e., boundedness), in some contexts. This is particularly evident in specific compound nouns whose head includes the noun *bet* 'house' (i) and Geez borrowed nouns (ii) in which their first member is bound, i.e., does not exist independently by its own – (e.g., **betə* or **higgə*) and takes a linking vocalic element /ə/.

(i) a.	bett-ə	məngisti	b.	bett-ə	kiristiyan	c.	bett-ə	səb
	house	government		house	Christian		house	person
	'palace'			'church'			'household/family'	
(ii) a.	higg-ə	məngisti	b.	ʕayn-ə	siwwir	c.	likk'-ə	mənbər
	law	government		eye	invisible		wise	chair
	'constitution'			'blind'			'chairperson'	

The above examples show that some Tigrinya bare compounds share this phonological property of being a bound form. However, BPNs do not share this property. (See section 3.2 for a detailed discussion).

“[this] property [of CSNs] is limited and [more] controversial than the other ones” (Kihm 2000: 159). For instance, in some cases the free state form of a noun is reduced compared to the CS form (see section 2 for illustrative examples) and in other cases the CS form is reduced (see footnote 4). Also, the fact that not all nouns have distinct CS forms (example, *delet* ‘door’, *mexonit* ‘car’ in Hebrew are both free and CS forms) suggests that this phonological property does not apply to all CSNs.

All in all, then, of the seven properties of CSNs summarized in the table below five are fully shared by Tigrinya BPNs. One, lack of stress on the head noun, which sometimes entails morphological allomorphy (example, free form *bayit* ‘house’ alternating with the construct form *beyt*), does not seem to be shared by Tigrinya. This is not problematic, however, because, as pointed out above, (i) within Semitic languages, this property is much more limited than the others (Kihm 2000); and (ii) stress plays little or no role in Tigrinya.⁹⁵ DS is also not shared by Tigrinya BPNs. However, DS is not a defining property of CSNs either since it does not always apply in CSNs (cf. Siloni 2003). Therefore, the lack of DS in Tigrinya BPNs does not challenge my hypothesis that Tigrinya BPNs are CSNs.

⁹⁵ None of my sources on Tigrinya phonology mention stress; besides stress is poorly understood in other Ethio-Semitic languages as well; I know of no source that indicates stress in Tigrinya or other Ethio-Semitic languages.

Summarizing the results of this section, I have claimed that Tigrinya BPNs are CSNs; I have supported my claim by demonstrating that Tigrinya BPNs share the defining properties of CSNs. I have also shown that BPNs differ from CSNs in interesting ways. Now, if BPNs are CSNs, analyses of CSNs should also be able to account for BPNs. In section 4, first, it will be shown neither of the two previously proposed competing analyses – standard head movement and snowballing phrasal movement – are complete in accounting for the salient properties of CSNs. I will argue that the standard head movement analysis fares better than the snowballing phrasal movement. Then, in section 5, I will demonstrate how a non-standard head movement analysis will account for not only the common defining properties of BPNs and CSNs but also their interesting differences.

Table 1: Summary of properties of CSNs

Properties of CSNs	Hebrew	Tigrinya
Head-initial: the head noun precedes its genitive phrase	√	√
No adpositional marker:	√	√
Strict Adjacency: no intervening elements between the head and its genitive phrase	√	√
Obligatoriness of the genitive phrase: the genitive phrase must be phonetically realized	√	√
Word properties: the BPN/CSN strategy is used for compounding	√	√
Definiteness spreading	√?	*
Boundedness: the head noun is a stressless bound form	√?	*

4 Previous analyses of CSNs

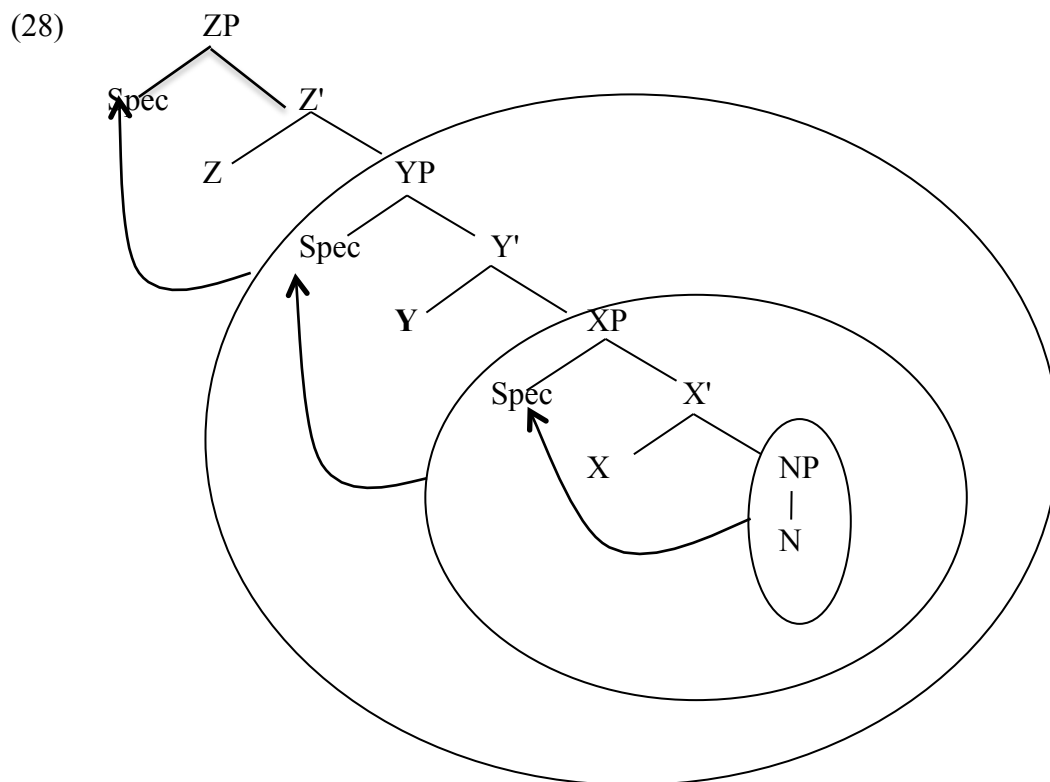
In the previous section, I demonstrated that Tigrinya bare possessive nominals (BPNs) share most of the defining properties of Semitic CSNs. Over the last three decades, a number of different proposals have been put forward to account for Semitic CSNs in the literature, ranging from syntactic (see for example, Ritter 1991, Shlonsky 2004) to phonological (see for example, Siloni 2004). In this section, I explore whether the previous analyses proposed to account for Semitic noun phrases can account for the defining properties of CSNs discussed in section 3.⁹⁶ Particularly, I will consider two influential syntactic analyses of CSNs, namely snowballing phrasal movement (Shlonsky 2004) and standard head movement (Ritter 1991), and argue that the latter, with modification in line with the current Minimalist assumptions (Chomsky 1995a *seq. et*), better accounts for the defining properties of both BPNs and CSNs.

4.1 Snowballing phrasal movement (SPM)

The first proposal of the internal structure of Semitic (Hebrew and Arabic) noun phrases I consider is Shlonsky's (2004) snowballing phrasal movement (hereafter SPM). Shlonsky

⁹⁶ Siloni's (2003) account of CSNs is quite different from the other proposals in that it proposes that CSNs are prosodic domains (prosodic words) that are active for genitive Case assignment. She argues that the head of the CSN does not constitute a prosodic word in itself as it lacks main stress. It is rather part of the subsequent word, which is the genitive phrase, with which it forms a prosodic word. For Siloni, the prosodic feature is neither an arbitrary character of CSNs nor an additional morphological requirement, but a basic trait necessary for Case-checking to take place. Under this analysis, to be a head of a CSN means to be endowed with a genitive phrase and this prosodic word formation happens at PF. However, this raises the question: What is the role of prosodic Case checking? In current Minimalist framework, the rationale for (structural) Case checking in syntax is a need for eliminating unvalued or uninterpretable features, as their appearance at LF makes the derivation crash (see Chomsky 1995b & subsequent work). Also, as we have seen in section 3, the property boundedness, on which Siloni's proposal depends, is not a defining feature of either BPNs or CSNs and does not hold in Tigrinya in any event. Moreover, in an ideal theory of grammar, syntactic operations occur for syntactic reasons (i.e., to check uninterpretable features) – not in order to provide support to items that are morpho-phonologically weak, but usually syntactically independent (i.e., heads). Thus, I don't review Siloni's account here.

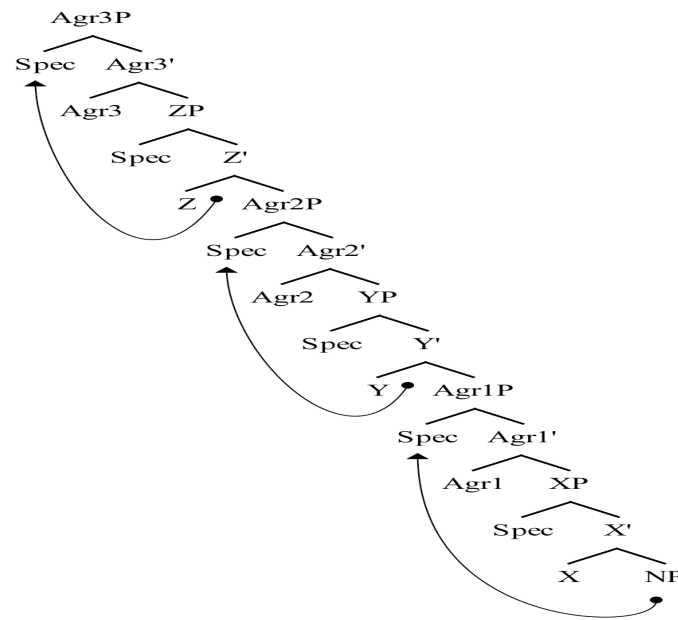
(2004) attempts to offer a “minimalist” account of Semitic CSNs, one that uses a snowballing (or a roll-up) movement in order to explain the word order and other properties of Semitic CSNs. Under Shlonsky’s account, movement is cyclic and has the following steps: First, the lexical NP moves to the Spec of a higher functional projection XP; then, the whole XP (the phrase whose Spec the moved NP occupies) moves to the Spec of another higher functional category, YP. Subsequently, the whole phrase YP, whose Spec hosts the moved XP, moves to a higher functional projection, as schematized in (28). It is this type of cyclic movement that is referred to in the literature as ‘snowballing’ (or ‘rollup’) phrasal movement (see Koopman & Szabolcsi 2000, among others).



Shlonsky argues that the order of adjectives with respect to each other and the noun they modify in Semitic DPs can best be accounted for using the SPM structure in (28).

However, since Shlonsky assumes that adjectives are merged in specifier positions on the left edge of dedicated functional projections (Cinque 1994; 2000) and that the functional projections that host the adjectival phrases (APs) are sandwiched between the NP and other functional projections that are targets of movement, the structure is more complex than given in (28). For Shlonsky (2004), the functional phrases that are targets of movement are labeled as AgrP1, AgrP2, and AgrP3, respectively, because, according to Shlonsky, they express the number and gender feature agreement between the noun and their modifiers, as represented in (29).⁹⁷

(29)



⁹⁷According to Shlonsky, the functional heads X, Y, and Z each carry phi-features as well as the semantic features associated with the adjectives they host in their specifiers. However, it is not clear what kind of semantic features are associated with them and what kind of semantic contributions they make. It seems as if the projection FP of Tigrinya ALPs presented in chapter 3 is similar in that it does not seem to have semantic content and is only there to get the word order right; however, as I pointed out in chapter 3, FP has a semantic content associated with focus and introduction of predicates. Even if this argument doesn't go through, my analysis is more constrained than Shlonsky's because there is only a single projection, not an infinite number of content-less categories as in Shlonsky's analysis, involved in the derivation of ALPs.

In Shlonsky's SPM account, the derivation begins by first merging X and NP as the complement of X, and then an adjective in [Spec, XP]. In this derivation, NP subsequently raises to Spec, AgrP1 so that agreement between the NP and the adjective in [Spec, XP] takes place; then, the functional head X, which carries phi-features, enters into a Spec-head relationship with the raised NP in the AgrP domain. The same applies with the other functional heads, Y and Z. This allows Shlonsky to derive the generalization that the order of postnominal adjectives in Hebrew and Arabic mirrors the order of prenominal adjectives in languages like English. For instance, while prenominal attributive adjectives denoting color precede those denoting nationality or size and adjectives denoting quality precede those denoting age in languages like English, the reverse is true for postnominal attributive adjectives in languages like Hebrew (and presumably Arabic).⁹⁸ (See Cinque 2000, Scott 2002, among others, for a more detailed hierarchy of prenominal adjectives; and Shlonsky 2004 and Pereltsvaig 2006 for postnominal adjectives ordering in Hebrew.) Consider the Hebrew examples in (30).

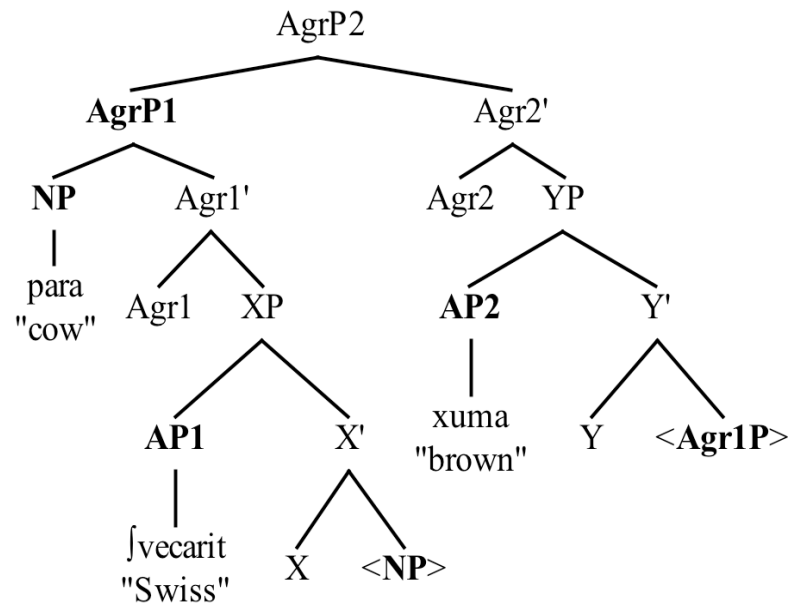
- (30) a. para švecarit xuma
 cow Swiss brown
 'a brown Swiss cow'
- b. ha-kova ha-ʔagol ha-yaʔan
 the-hat the-round the-old
 'the old round hat'

⁹⁸ I said 'presumably', because there is a debate whether Arabic has adjective ordering restrictions. Sproat and Shih (1991) are often cited as claiming Arabic does not have adjective ordering restrictions (Kremers 2003) (see Duffield 1995 for similar claims about Hebrew).

- c. ha-ʃulxan ha-ʃaxor ha-ʔarox
 the-table the-black the-long
 ‘the long black table’

Under Shlonsky’s analysis, the mirror image order of adjectives illustrated in (30) is derived as follows: First the NP containing the head noun inverts around the lower adjective (i.e., AP2), and then the entire projection whose specifier has just been targeted by NP movement, i.e., XP, moves across the higher adjective (AP1), as represented in (31) for (29a) (irrelevant details setting aside).

(31)



This ‘snowballing’ effect indeed successfully derives the desired output $N > AP1 > AP2$, which is the mirror image of the Merge order $AP1 > AP2 > N$, and which the standard head movement is unable to derive.⁹⁹ This led Shlonsky (2004: 1487) to conclude that “ [...] the only way to derive the inverse order of postnominal APs [as in (30)] is by raising NP to a specifier position preceding the XP which hosts the lowest AP, merging the next AP in the next specifier up and then snowballing upwards the entire phrase below the merged adjective.” However, in section 5, I will show that the mirror image order of adjectives in Hebrew can in fact be derived through head movement if one assumes that adjectives adjoin as adjuncts on the right (contra Kayne’s 1994 Antisymmetry).¹⁰⁰

Returning now to the salient properties of CSNs, the SPM analysis, as Shlonsky (2004) claims, can also straightforwardly account for some of the salient properties of the Semitic CSN such as the NS(O) order, strict adjacency, and the obligatoriness of the genitive phrase, (discussed in detail in sections 2 and 3).¹⁰¹ For his analysis to work, Shlonsky assumes that the head of the CSN is Merged as the head of

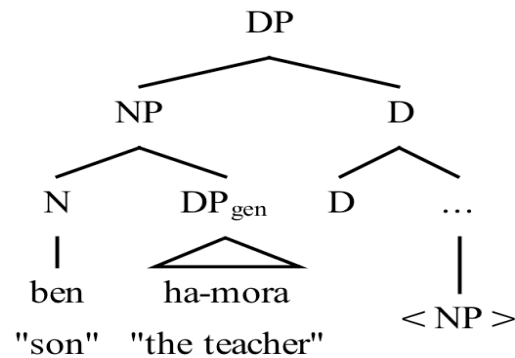
⁹⁹ Proponents of SPM generally argue that the only way to derive the mirror image order of $N > AP > Num > Dem$ out of the unique universal base order $Dem > Num > AP > N$ is through ‘snowballing’ phrasal movement. However, this is not the only way to derive the mirror image order; for example Pereltsvaig (2006) derives the same order in Hebrew using snowballing head movement.

¹⁰⁰ Shlonsky’s approach to noun phrases is grounded in Antisymmetric comparative syntax. This program of research attempts to limit syntactic differences among languages to differences in the extent of movement operations. Under this view, it is argued that underlying structures are invariant across languages and that there are no parameters specifying linear order (e.g., no directionality parameters). Instead, linear order is computed directly from hierarchical relations (cf. Kayne’s 1994 Antisymmetric Theory). In particular, Kayne’s Linear Correspondence Axiom (LCA) requires all specifiers and adjuncts to be ordered to the left of their heads and all complements to be ordered to the right of their heads, giving rise to a universal Spec-head-comp order. Variation between languages is then limited to variation in the movement operations that apply to this universal structure. Thus, for Shlonsky, all word order variations in Semitic DPs are obtained through the interplay of pied-piping and phrasal movement.

¹⁰¹ Although Shlonsky assumes that N itself is the Case assigner, it is not clear how the absence of adpositional Case marking elements like the Hebrew *ʔel*, a defining property of CSNs, can be barred from CSNs.

NP, with the genitive phrase as its complement (rather than as its specifier), and that N assigns genitive Case to its complement. Thus, under Shlonsky's account, phrasal movement of the head noun plus the genitive phrase, in that order, to Spec, DP simply derives the noun-initial order, a characteristic property of CSNs. This is illustrated by a simple CSN given in (32a), analyzed as (32b).

- (32) a. ben ha-mora Hebrew
 son the-teacher
 'the teacher's son'
- b.



Shlonsky's analysis also accounts for other properties of CSNs such as strict adjacency of the head noun with its genitive phrase and the obligatoriness of the genitive phrase described in section 2 and 3. That is, under the SPM account, the fact that the genitive phrase is a complement of the construct head simply entails that the head noun obligatorily subcategorizes for it. The fact that the genitive phrase and its

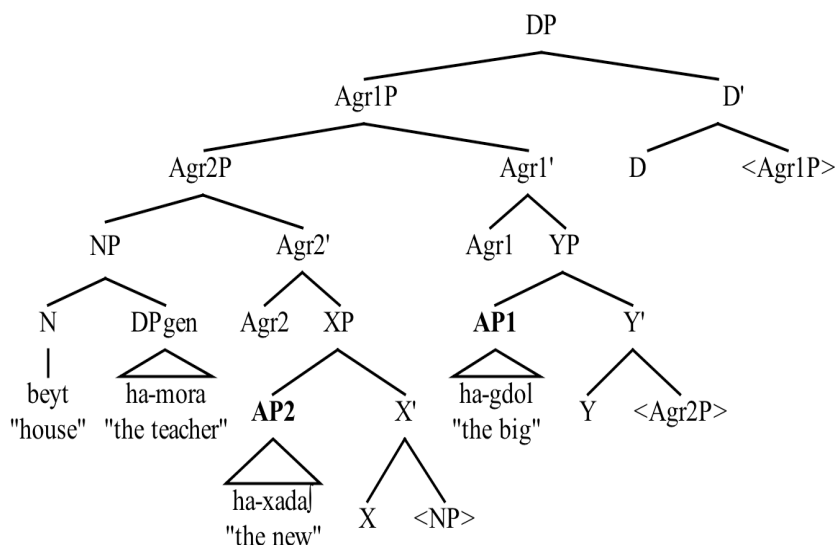
head move together and the fact that N assigns genitive Case to its genitive complement and freezes it in its base-generated position also entails the obligatoriness of the genitive phrase.¹⁰²

More importantly, SPM explains the nested configuration of AP modifiers in CSNs. Since APs, under Shlonsky's SPM analysis, are taken to be Merged in specifiers on the left, the mirror image order of postnominal APs is derived by first raising NP to a specifier position, AgrP₂, which is associated with the XP that hosts the lowest AP₂, and then the entire projection, whose specifier has just been targeted, AgrP₂, is rolled up to AgrP₁, after merging AP₁ in [Spec, YP]. Finally, the surface order is derived by snowballing upwards the entire phrase AgrP₁ to [Spec, DP] as shown in (33b) for (33a).

- (33) a. beyt ha-mora ha-xadaʃ ha-gdol Hebrew
 house.M the-teacher.F the-new.M the-big.M
 'the big new house of the teacher'

¹⁰² In order to account for other properties of CSNs such as definiteness spreading, Shlonsky assumes, following Borer (1996), feature percolation and a type of specifier-head configuration in which only either D or [Spec, DP] can be lexically filled, explaining the absence of the definite article on the head of the CSN. Under this analysis, the definiteness feature of the genitive phrase percolates from the embedded D to the highest NP node and enters into an agreement relation with the matrix D head. For the feature percolation to work, Shlonsky argues that [Spec, DP] must be phonetically realized, as its head is empty, and that no matter how deeply embedded a noun appears inside a projection, it will enter into an agreement relation with its modifier AP. This in turn allows Shlonsky to explain the definiteness agreement between adjectives and the construct head, which spreads from the genitive phrase. Thus, as a result of the SPM and feature percolation, definiteness spreading as a property of CSNs can be accounted for. It is however not clear from Shlonsky's discussion whether there is any motivation for movement (see discussion below).

b.



All in all, Shlonsky's SPM analysis at first blush seems appealing because it accounts for the defining properties of CSNs such as head-initial order, the obligatoriness of the genitive phrase, strict adjacency as well as the adjectives' mirror image ordering NP > AP2 > AP1, which has been problematic for the standard head movement analysis. However, on closer inspection, SPM is both conceptually problematic and empirically inadequate, as I show immediately below.

One of the conceptual problems of SPM is the fact that it is not obvious what triggers these massive movements. Minimalist approaches assume that syntactic movement is driven by the need to check features: Either features of the moving object or features of other objects at landing-site (see Chomsky 1995b, Matushansky 2006, among others). However, it is unclear whether proponents of Antisymmetry (cf. Kayne 1994; see also Cinque 2000), to which Shlonsky's (2004) analysis subscribes,

share this assumption. In all of the derivation, the motivation for movement seems to be left out of the SPM analysis. For example, why does NP in (28) move to [Spec, AGR2P], and what would be the trigger for the movement of Agr2P into [Spec, Agr1P], of Agr1P into [Spec, DP], etc.?

Moreover, under the SPM analysis, categories such as XP, YP, ZP or AgrP1, AgrP2, AgrP3 seem to be semantically vacuous. Such categories are only needed to provide landing sites for moved constituents.¹⁰³ Within the Minimalist Program (Chomsky 1995b and later work), projections must have some interpretable semantic content, (example, tense in T, definiteness in D), given that they will be processed by the semantic interface component LF. If this is true then postulation of projections, which introduce structures without semantic content, should be avoided.

Apart from the need to posit unmotivated movements and semantically vacuous projections, there is also a more serious conceptual problem with the SPM analysis: It is not clear whether the SPM is subject to ‘economy’ (Chomsky 1995a): According to which displacing less material is more economical than displacing more material. In other words, if movement is considered as “a last resort”, then an operation that moves less material or involves less or no movement will be more economical than the one that moves more material. This is always true whether ‘size’ refers to the content of phonological items, memory load or syntactic nodes. In SPM, the constituents moving are extremely bulky because they include a number of syntactic nodes. Thus, syntactic operations, like the SPM type, that employ multiple

¹⁰³ The fact that Shlonsky postulates extra projections in order to make positions available for the moved elements also violates the *Inclusiveness Condition* (Chomsky 1995b), which forbids the introduction of any content-less and new elements during the derivation other than those in the Numeration.

movement operations, and target very massive structures/constituents should be ruled out, unless they are clearly motivated.

The SPM analysis is not only conceptually problematic but also empirically inadequate for Tigrinya. Adjective ordering, in particular, poses challenges for this analysis. Shlonsky assumes that there is a universal hierarchy of adjective ordering (example, quality > size > shape > color > nationality, where ‘>’ means ‘occupies a higher syntactic position than’ or ‘precedes’) consistent across languages, irrespective of whether adjectives are prenominal or postnominal (cf. Cinque 1994; 2000). Under this assumption, the relative ordering of adjectives is the result of the hierarchical ordering of a series of functional heads, and variation in position of adjectives is the result of phrasal movement and massive pied-piping. However, given that adjective ordering in many languages is not universally fixed (see for example, Kremers 2003 on Arabic, Willis 2008 on Welsh, among others), a syntactic ordering of adjectives based on fixed syntactic positions seems undesirable. Consider for example the Tigrinya examples in (34).

- (34) a. ʔit-i ħadduʃ kəbbib t'ərəp'eza
 D-M.SG new.M.SG round.M.SG table
 (i) ‘the new round table’ OR
 (ii) ‘the NEW round table’
- b. ʔit-i kəbbib ħadduʃ t'ərəp'eza
 D-M.SG round.M.SG new.M.SG table
 (i) ‘the new round table’ OR
 (ii) ‘the ROUND new table’

As the grammaticality of both (34a) and (34b) illustrate, Tigrinya allows a flexible adjectival ordering (although the pragmatic uses might vary between the two, as the glosses in English are meant to show). According to Sproat and Shih (1991), the second English gloss in (34) is grammatical if the first adjective bears focal stress as in ‘the ROUND new table’ or ‘the NEW round table’, if the second adjective and the noun form a discourse-relevant category (a compound).

Just to give a context; suppose that there are a number of tables, two of which are new. One of these new ones is round, and the other is square-shaped. In situation when one is asked to bring ‘the new table,’ one would have to know which of the two to choose and could ask ‘which one?’ to which an answer such as ‘the ROUND new table’ could be appropriate, with focal stress on *round*. This could be the case with the Tigrinya example given in (34b) when there is an accentuation marker (some kind of pause) on the second adjective, as the second gloss indicates). However, as the first gloss in (34b) indicates, its non-stressed interpretation is the same as that of (34a), clearly showing that adjectives in Tigrinya do not have a preferred order.

If adjectives are hierarchically ordered, as Shlonsky assumes, then, it is unlikely that (34b) is derived from (34a), with *round* moving to a higher position past *new*. In other words, if the adjective *round* in (34b) modifies not just *table* but the complex *new table* just as *new* in (34a) modifies not just *table* but the complex *round table*, then, it is unlikely that (34b) is formed on the basis of (34a), with *round* raising to a higher position, given that there is no semantic difference between these adjective orderings in Tigrinya.¹⁰⁴ Thus, this problem is a challenge for anyone who assumes a

¹⁰⁴ In section 5, I will take this as evidence to postulate a unified order of adjunction (against an Antisymmetric account) for Tigrinya and Hebrew adjective ordering.

fixed universal adjectival ordering (see example, Cinque 1996; 2000). Shlonsky's SPM analysis, which subscribes to that assumption, is not only problematic but also is not an option for Tigrinya. This is mainly because Shlonsky's SPM analysis is appropriate for post-nominal mirror image adjectival ordering, which Tigrinya lacks.¹⁰⁵

A final but more serious empirical objection to Shlonsky's (2004) SPM analysis comes from a consideration of the genitive phrase in the CSN. Recall that Shlonsky (2004: 1505) assumes that the element that obligatory attaches to the construct head is a complement (i.e., Merged as sister to the construct head N, not as a specifier) and that adjectives are specifiers on left (cf. Cinque 1994). Based on these assumptions, Shlonsky derives the adjacency of the head noun and its genitive complement in CSNs by phrasal movement of the lexical NP; i.e., the constituent that contains the head noun plus the frozen genitive complement (DP_{gen}), in that order, over the adjective, as shown in (35), abstracting away from the details.

(35) ...[AgrP [N DP_{gen}] Agr [XP AP X [$NP < [N DP_{gen}] >$]]]

However, the assumption that the second member of the construct is a complement, and that it always Merges as sister to the head N is problematic unless one considers only CSNs whose genitive phrase is the internal (Theme) argument of

¹⁰⁵ Cinque (1996: 456, fn. 20) also adopts a version of SPM to derive the order of numerals, demonstratives and adjectives in postpositional languages like Basque. However, he rejects it for prepositional, head-initial languages like Welsh for the typological reason that phrasal movement is a characteristic property of head-final (SOV) languages. However, this is not a viable diagnostic for Tigrinya because Tigrinya is both a prepositional and SOV language (see chapter one for a description of these facts). Thus, Cinque's analysis justifies rejecting SPM.

the noun, as in the examples in (36) from Pereltsvaig (2006: A13) (see Fassi Fehri 1999: 120 for similar descriptions in Arabic).

- (36) a. hafgazat **ha-kfar** ha-'israelit ha-masivit
 bombardment **the-village** the-Israeli the-massive
 ha-'ef'arit
 the-possible
 ‘the possible massive Israeli bombardment of the village’
- b. * hafgazat ha-'israelit ha-masivit ha-'ef'arit ha-kfar
 bombardment the-Israeli the-massive the-possible the-village

However, as has been clearly pointed out by Siloni (1997; 2003) and Pereltsvaig (2006), among others, the second member of the CSN (i.e., the genitive phrase) in Hebrew need not be an internal argument of the construct head. It can be a possessor or an agent (hence an external argument and not a complement in either case), and even need not be related thematically at all, as with modifiers (for illustrative examples see Pereltsvaig 2006 and Siloni 2003). Thus, Shlonsky’s SPM analysis is problematic, as under his analysis, these genitive phrases are always Merged as complements of the head noun.

As has been observed, the genitive phrase (or genitive complements to use Shlonsky’s term) in many languages manifest different syntactic relationships with the possessed head (see Alexiadou et al. 2007). This relationship mainly depends on the type of possession and the different Merge positions available for possessors. For

example, the two major types of possession, alienable (i.e., *the teacher's house*) and inalienable (i.e., *the teacher's son*), show variation due to the kind of semantic relationship the possessor and possessed manifest. Inalienable possessors may be complements, but alienable possessors are not. They have been analyzed as non-arguments or external arguments, and are Merged in a variety of positions, but never as complements of the possessed noun (see Alexiadou et al. 2007 for a detailed review). For instance, consider the examples given in (37):

- (37) a. **the teacher's** house
 b. **the teacher's** painting of his house
 c. **the teacher's** sister

For Shlonsky, in all the examples in (37), *the teacher* is the genitive complement and should be Merged as complement of *house*, *painting*, and, *sister*. This, however, does not seem to be the case, as at least *the teacher* in (37a) is a non-argument and in (37b) an external argument, not an internal argument of the respective head nouns as has been argued for many languages (see Alexiadou 2003 on Greek, Ritter & Rosen 2010a on Blackfoot, Wilhelm & Saxon 2010 on Dogrib and Chipewyan, just to mention a few). In none of the examples, particularly not in (37a) and (37b), is *the teacher* interpreted as theme or patient; it is rather interpreted as non-argument and external argument, respectively. It is therefore does not seem to be viable to claim, as Shlonsky does, that the genitive phrase is always a complement and Merged as sister of the head noun in CSNs. In fact, in languages like English, the fact that external-arguments and

alienable possessors do not appear as *of*-PPs in nominals (example, **the painting of the teacher of his house*) give additional evidence against the claim that genitive phrases are complements. (See Pereltsvaig (2006: A14-A17) for additional derivational problems on Shlonsky's analysis specific to Hebrew).

All in all, from the above discussion, it can be concluded that although SPM successfully accounts for some of the salient properties of Hebrew (and Arabic) CSNs such as N-initial order, strict adjacency and obligatoriness of the genitive phrase, it is both conceptually problematic and empirically inadequate. It seems that SPM is only designed to derive a word-order pattern that is the mirror image of that found in English. SPM has a number of conceptual problems that need to be resolved, namely, the motivation for movement, the content of undesignated categories, such as XP, YP, and ZP, violations of UG constraints on movement, and uneconomical movement operations. Moreover, SPM has a number of empirical problems that need to be worked out, such as variable adjective order and the assumption that genitive phrases are always complements. In what follows, I will propose a Minimalist account for both CSNs and BPNs that remedy these problems. Before I do that, however, I will review the second alternative analysis widely adopted in accounting for CSNs in Hebrew (and Arabic), i.e., N-raising.

4.2 The standard head Movement analysis (N-raising)

One of the most widely adopted analyses of CSNs involves head movement of the noun to a higher functional head. This analysis was originally proposed in Ritter 1988; 1991 for Hebrew (Guilfoyle 1988 for Irish, Mohammad 1988 and Fassi Fehri 1989; 1993 for

Arabic, and Cinque 1994 and Longobardi 1994 for Romance languages, among others). Ritter (1988) proposes that the head-initial order of CSNs, which is Noun-Subject-Object (NSO) in derived event nominals, is derived from the underlying order of Subject-Noun-Object (SNO) through movement of the head noun (N-raising) across the genitive phrase. For instance, in (38a), where the noun *axilat* ‘eating’ precedes the subject *dan* ‘Dan’, which, in turn, precedes the nominal complement *et ha-tapuax* ‘the apple’, Ritter argues that the noun-initial order is derived by moving the head noun leftwards over the subject from the SNO base order, as schematized in (38b).¹⁰⁶

- (38) a. *axilat dan et ha-tapuax*
 eating Dan ACC the-apple
 ‘Dan’s eating of the apple’ (Ritter 1991:43)
- b. N [S <N> O]

By analogy with verb raising in clausal structures (see Abney 1987, Sproat 1985), Ritter (1988) suggests NSO order in CSNs is parallel to VSO order in clauses in languages such as Welsh and Irish and other Semitic languages such as Arabic. In both cases, the lexical head (N or V) raises to the functional head that governs it. Ritter (1991)

¹⁰⁶ One may question whether there is independent evidence for the hierarchical ordering of the subject above the object. Ritter (1991: 39) offers evidence from binding facts: in Hebrew, a noun subject can bind an anaphoric object, but an object cannot bind an anaphoric subject:

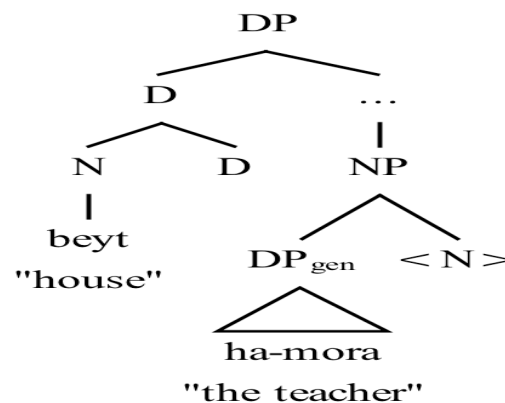
- (i) a. *ahavat dan et acmo*
 love Dan Acc himself
 ‘Dan’s love of himself’
 b. **ahavat acmo et dan*
 love himself Acc Dan

Ritter interprets this contrast as evidence that the subject asymmetrically c-commands the object in CSNs and that the derivation involves movement of the head noun to a higher functional head.

argues that noun phrases in Hebrew are DPs, maximal projections of the functional head D(eterminer) (cf. Abney 1987) and that the landing site for the moved head noun is the functional head D (constrained by the standard head-to-head movement as formally defined by Travis (1984)).¹⁰⁷ Since CSNs with both primitive nouns and derived (deverbal) nouns are ‘head-initial’, the N-raising analysis is naturally applied to both of them. This is illustrated in (39b), for the simple CSN given in (39a), abstracting away from the details.

- (39) a. beyt ha-mora (Hebrew)
house the-teacher
'the teacher's house' (Ritter 1991:40)

b.



¹⁰⁷ In fact, Ritter (1991) proposes that there is an intermediate functional projection between DP and NP in Hebrew and that this functional head a NumP, a projection which houses number inflection. Ritter, then, argues that N-raising first targets this intermediate position (Num head) before raising to the highest nominal head position (D).

This approach has been widely adopted in analyses of Semitic languages (Benmamoun 2000; 2003, Borer 1996; 1996, Fassi Fehri 1993; 1999, Mohammad 1999, Siloni 1997; 2004, *inter alia*) and many other languages (see Guilfoyle 1988, Duffield 1993 and Roberts 2004 on Celtic languages, Cinque 1994 and Longobardi 1994; 1996 on Romance, among others). Some authors, notably Longobardi (1996), have argued that N-to-D movement is a universal operation that applies to all noun phrases in Semitic languages and to only singular proper names and a subset of kinship nouns in Romance languages in the surface syntax but in others such as English, this happens covertly, after spell-out.

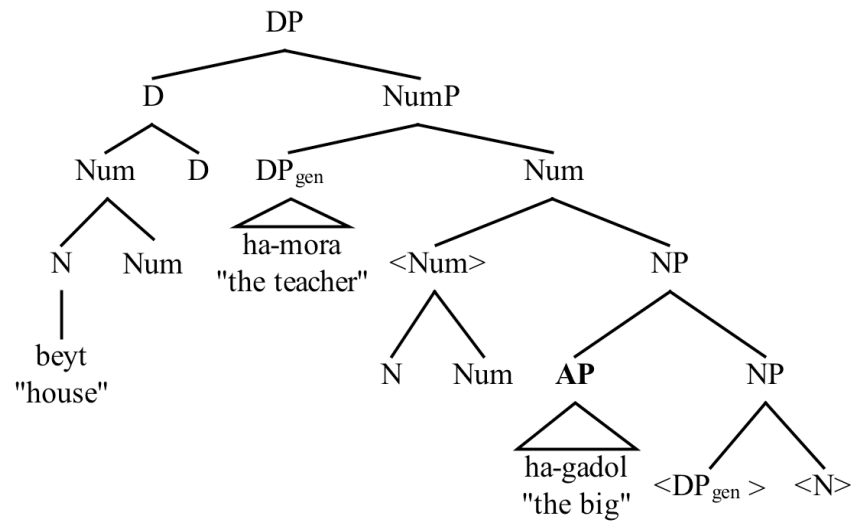
Returning now to the salient properties of CSNs, N-to-D raising, as Borer (1996) correctly points out, straightforwardly accounts for some of the salient properties of CSNs, namely the noun-initial or apparent NS(O) word order, and strict adjacency or the prohibition of direct simple modification of the head noun. For instance, as shown in (38) and (39) above, the N-raising analysis simply derives the noun-initial order, a characteristic property of CSNs, by raising the head noun across the genitive phrase and adjoining it to the D head. Similarly, if one assumes, as Ritter (1991) does, that nominal modifiers are adjoined to NP, then, movement of N outside of the NP projection to D would give rise to AP after N, as expected. However, simple N-to-D raising does not tell us about the order of adjectival modifiers and the genitive phrase with respect to each other. In Hebrew, as clearly pointed out in sections 2 and 3, adjectives are placed after both the head noun and the genitive phrase, and never intervene between the two constituents of the CSN, as (40) exemplifies.

- (40) a. ben ha-mora ha-gadol
 son the-teacher the-big
 ‘the big son of the teacher’
- b. *ben ha-gadol ha-mora
 son the-big the-teacher (adapted from Ritter 1991)

Addressing this problem directly, Ritter (1991) suggests that there are two types of head-movement and two distinct types of functional projections (DP and NumP) that are associated with the structure of CSNs (in fact all DPs in Hebrew).¹⁰⁸ The first head movement, attested in all nominals, involves N-to-Num and the second movement, unique to CSNs, is Num-to-D accompanied by the movement of the genitive phrase in [Spec, NP] to [Spec, NumP]. This latter movement is intended to derive the placement of adjectives. That is, Ritter (1991) assumes that adjectives are base-generated as NP adjuncts and that they always remain there throughout the derivation. Under this view, movement of the head N across the adjective first to Num and subsequently to D accompanied by the movement of the genitive phrase in [Spec, NP] to [Spec, NumP] derives the surface order of a CSN like the one given in (40a), as shown in (41).

¹⁰⁸ However, there is some disagreement in the literature in the nature and existence of the intermediate functional projection. For instance, as shown above, the intermediate functional head is Num for Ritter (1991) as well as Borer (1996), but it is Poss for Fassi Fehri (1993) or Agr for Siloni (1997), but none for Mohammad (1999). Given that there is a controversy on the content of Agr (cf. Chomsky 1995a) and that the content of Poss is not clear, I will follow Ritter and Borer in assuming that Num is an intermediate functional category for both Tigrinya and Hebrew (but see Ritter 1991 *et seq.* for independent evidence from a variety of languages including Hebrew; see also Borer 2005 for the content of Num).

(41)



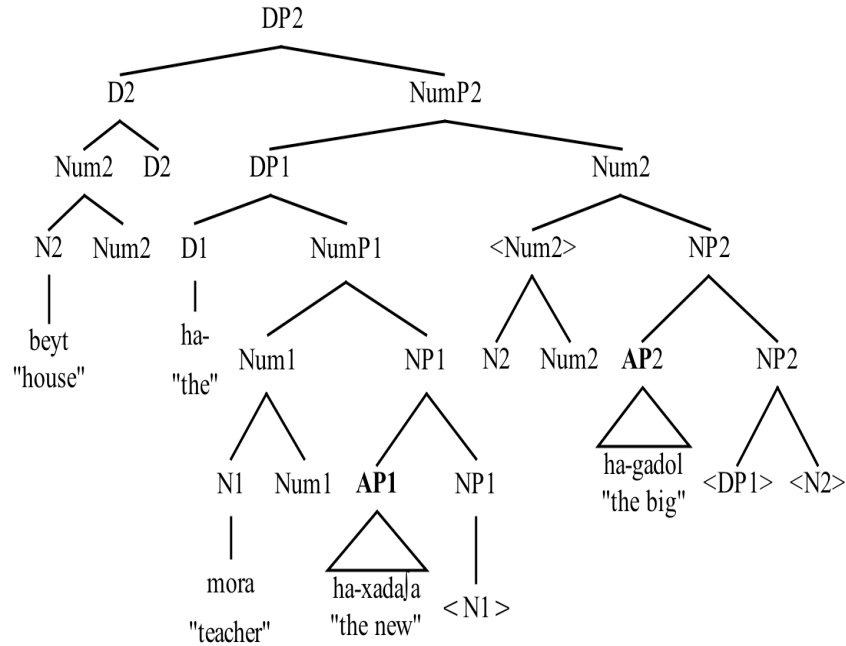
Under the standard N-to-D analysis, positing an intermediate functional head (NumP) also seems to permit an account of the nested configuration of AP modifiers. In CSNs, a nested distribution of AP modifiers is formed when the head of the construct and the head of the genitive phrase are at the same time modified by independent adjectives, as illustrated in (42).

- (42) beyt ha-mora ha-xadaʃa ha-gadol Hebrew
 house.M the-teacher.F the-new.F the-big.M
 ‘the big house of the new teacher’ (adapted from Borer 1996)

Under the N-raising analyses put forth for CSNs for instance by Ritter (1991), the nesting configuration simply follows from N-to-Num-to-D movement accompanied by

movement of the genitive phrase in [Spec, NP] to [Spec, NumP], because APs are base-generated as adjuncts to NP on the left and that they always remain in that position throughout the derivation. This is schematized in (43) for (42).

(43)



Assuming that operations are cyclic and that all operations inside the genitive phrase (DP1) happen before DP1 Merges in N2, the derivation in (43) proceeds as follows: First, N1 raises and adjoins to Num1 crossing AP1, resulting in the surface order [D N1 AP1]. Then, DP1 Merges with N2. Next, N2 raises and adjoins to Num2, crossing AP2 and DP1, and then N2+Num2 subsequently raises and adjoins to D2. Finally, DP1 moves to the Spec of NumP to check its genitive Case resulting in the surface order [N2 [DP1] AP2] as shown in (42). Here, D2, a phonetically null determiner is assumed to mark the genitive Case of DP1. Thus, this analysis, which takes adjectives to be

consistently left adjoined to NPs, can explain the nesting configuration of AP modifiers in CSNs.¹⁰⁹

The N-raising analysis also seems compatible with the other defining properties of CSNs such as the obligatoriness of the genitive phrase. Although advocates of the N-to-D raising analysis do not explicitly and independently discuss the obligatoriness of the genitive phrase as a property of the CSN, it is implicitly assumed that the genitive phrase must be phonetically realized as a second member of a CSN. In fact, some argue that since the head noun forms a prosodic unit with the genitive phrase with which it is in construct, the genitive member of the construct must be realized to prosodically support the head noun, which is weak and does not occur independently on its own (see Benmamoun 2000, Siloni 2003, among others).

To explain the absence of adpositional elements in CSNs, another defining property of CSNs discussed in sections 2 and 3, advocates of the N-raising analysis predominantly assume that there is some functional element that assigns genitive Case. For instance, Ritter (1991) proposes that the null determiner D_{gen} assigns genitive Case to

¹⁰⁹ When it comes to other properties such as definiteness spreading (DS), although the majority of the proponents of N-raising analysis converge on the idea that N-to-D movement takes place in the derivation of CSNs, their analyses diverge in some respect in the way they explain DS (see sections 2 and 3 for a detailed discussion of this property). For example, for Ritter (1991), DS is viewed as a feature agreement phenomenon that a DP headed by a null determiner (Ritter's D_{gen}) acquires from its genitive phrase in a spec-head relationship. According to Ritter (1991: 41) neither D_{gen} nor its NP complement is inherently specified for definiteness feature. Rather, Ritter argues, N inherits the definiteness value of the genitive phrase from its Spec (in a Spec-head relation), and by moving it to D, assigns the same value to D and consequently to the whole CSN. For Borer (1996; 1999), N is inherently specified for definiteness and N-to-D movement occurs in order to assign a $[\pm\text{DEF}]$ value to D, which she takes to be underspecified for definiteness. In other words, Borer assumes that definiteness is base-generated on N, and argues that when this N moves to D, D receives the same definiteness value through feature percolation. Thus, under this N-to-D movement analysis, the head of the CSN (e.g., *ben* 'son' in (42)) is not marked definite, but receives its definiteness value from the genitive phrase in its Spec (via Spec-head relation) in the structure first. Then, N raises to D to convey the definiteness specification to the head of DP. Finally, from D, the definiteness feature percolates to the maximal projection DP, making the whole construct definite. Benmamoun (2000) and Siloni (2003), on the other hand, derive DS from the word or a function word status of the construct. These analyses have attempted to link DS to other properties of the CSN (such as its word like properties, the absence of the definite article form a CSN, etc.). It is, thus, not a priori clear which of these "properties" are really related to DS.

the genitive phrase that raises to [Spec, NumP] from [Spec, NP]. Siloni (1997), on the other hand, argues that an intermediate functional head such as AGR_{gen} checks genitive Case of the genitive phrase that raises from [Spec, NP] to specifier position of the intermediate projection, which she calls $AgrP_{gen}$. Under these two analyses, ignoring irrelevant differences, the presence of an overt adpositional Case marker on the genitive phrase such as Hebrew *šel* must be blocked because genitive Case in CSNs is checked by means of the functional head D_{gen} or AGR_{gen} . Thus, since the two Case-marking strategies are in complementary distribution, where the D_{gen}/AGR_{gen} Case-marking strategy is used, the *šel* strategy is not.¹¹⁰

However, the N-raising analysis is not without empirical and conceptual problems. The standard N-raising analysis faces empirical challenges in accounting for complex nested adjectival modification, and conceptual problems regarding targets of movement. As Shlonsky (2004) points out, the N-raising analysis is empirically inadequate because it does not explain the order of adjectives (APs) in a nested configuration (two or more adjectives modifying the head noun) in both CSNs and non-CSNs in Hebrew. This is explained below.

Crosslinguistically, it has been observed that adjectives show a fixed order relative to each other and the noun they modify and that there are two attested surface orders for a postnominal series of APs (see Cinque 1994, 2000; cf. Greenberg 1966): (i) $N > AP_1 > AP_2$ and (ii) $N > AP_2 > AP_1$. While the order in (i) is manifested in languages like Irish (Duffield 1992), the order in (ii) is manifested in languages like Hebrew (Shlonsky 2004). The order of adjectives in Hebrew, though not always fixed, is

¹¹⁰ Ritter (1991) claims that since the head of CSNs, D_{gen} and the definite article in Hebrew, *ha-*, are in complementary distribution, *ha* as a D head lacks the ability to assign genitive Case.

typically the reverse of that found in English, as we can see from the contrast between (44a) and (44b) (Pereltsvaig 2006).

- (44) a. English: size > color > nationality > N
 b. Hebrew: N > nationality > color > size

The following are illustrative examples adapted from Shlonsky 2004 and Pereltsvaig 2006 (see also Fassi Fehri 1999 for similar examples in Arabic).¹¹¹

- (45) a. the large green Canadian table size > color > nationality > N
 b. *the Canadian green large table
 c. *the Canadian large green table
- (46) a. ha-fulxan ha-kanadi ha-gadol N > nationality > size
 the-table the-canadian the-large
 ‘the large Canadian table’
 b. *ha-fulxan ha-gadol ha-kanadi
 the-table the-large the-Canadian

¹¹¹ Crosslinguistically, attributive adjectives are argued to be ordered according to their semantic class (Cinque 1994; 2000, among others). Prenominal adjectives are ordered as in (ia), while postnominal adjectives follow either the order in (ib) or its mirror image in (ic). The rigidness of this order is often accounted for by generating each adjective in the specifier of a functional head with which the adjective is semantically related (Cinque 1994; 2000, Scott 2002, Shlonsky 2004). In this fixed hierarchy of functional projections hypothesis, while (ia) is considered as the base-generated structure, the order in (ib) and (ic) are assumed the result of movement.

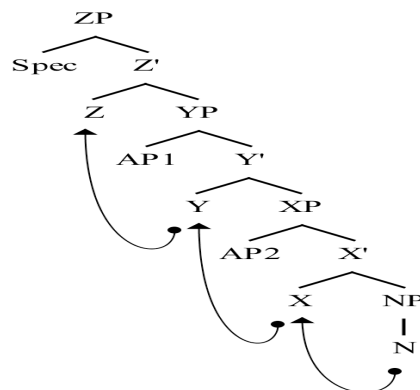
- (i) a. Quality > Size > Shape > Color > Nationality > N
 b. N > Quality > Size > Shape > Color > Nationality
 c. N > Nationality > Color > Shape > Size > Quality

Adjectives in Tigrinya, although, prenominal, they do not show fixed word order relative to each other, as pointed out in section 4.1. Similarly, the order of some types of adjectives in Hebrew, as Pereltsvaig (2006) points out, is not completely fixed. For these reasons, in section 5, I will develop a different analysis that accounts for the facts of both Tigrinya and Hebrew.

- (47) a. ha-fulxan ha-xum ha-gadol N > color > size
 the-table the-brown the-large
 ‘the large brown table’
- b. * ha-fulxan ha-gadol ha-xum
 the-table the-large the-brown

The above examples clearly show that the order of adjectives in Hebrew is the mirror order of that found in English. When two or more adjectives modify the head of a CSN, the same mirror-image order occurs. This mirror image order, however, cannot be accounted for by the standard N-raising if APs are adjoined in specifiers on the left. This is because, if only the N moves across APs to a higher functional head, then, the expected order of APs would be unchanged: N > AP1 > AP2 > t_N (cf. (48)). In other words, if only N raises, as it does in (48), then, we will end up with the order N > AP1 > AP2. Although this is grammatical in languages like Irish, it is clearly not what we find in Hebrew (or Arabic).

(48)



The structure in (47) clearly shows that cases of ‘mirror-image’ ordering in Hebrew cannot be accounted for with a standard N-raising analysis. That is, standard head

movement of N to Y and to Z results in no change to order of APs relative to each other, but a different order of N relative to APs. Thus, standard N-raising does not give us the desired order of adjectives relative to each other in Hebrew, although it does derive the right order of the head noun with respect to the adjectives, that is, N > A.

Moreover, the standard head movement (hereafter SHM) analysis has been argued to be conceptually problematic. All analyses that assume N-to-D raising have one feature in common: They employ standard head-to-head movement (cf. Travis 1984) to account for the properties of CSNs. However, the SHM analysis has come into question as being incompatible with Minimalist assumptions (Chomsky 1995a *et seq.*). Chomsky (1995b) argues that the SHM, unlike phrasal movement, does not target the root, but is rather adjoined to a higher head constituting a violation of the *Extension Condition*.¹¹²

(49) Extension Condition: all syntactic operations must extend the tree at the root

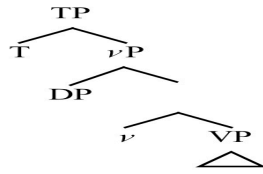
(Chomsky 1995b, Ch. 3)

The Extension Condition requires that all movement operations must expand the structure at its root. For instance, in a simple transitive clause, a standard case of raising of the subject to [Spec, TP] obeys the Extension Condition. The external argument DP, which is Merged in [Spec, *v*P], is raised, forming [Spec, TP]. It is this formation of [Spec, TP] that extends the root at this point in the derivation (Roberts 2004), as schematically represented below.

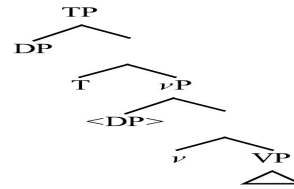
¹¹² Matushansky (2006: 77) defines the *Extension Condition* as “Merge should be effected at the root.”

(50)

a.



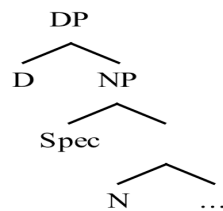
b.



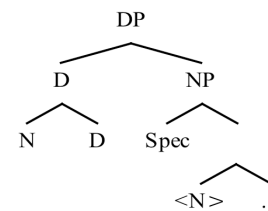
However, as we have seen above, head movement, particularly N-raising, was thought to derive structures such as that in (48), by adjoining the moved head, N, to the host head, D. Such an operation does not involve extension of the root, at least not in any obvious way; i.e., it does not target the specifier position of the existing structure and therefore does not extend the tree at the root.

(51)

a.



b.



Moreover, Chomsky (1995b) argues that having two kinds of syntactic movement (head-movement and phrasal-movement), which are governed by different principles, is not theoretically desirable, especially when head-movement seems to be part of another domain – PF or Morphology (but see Matushansky 2006, Roberts 2004, among others for a defence of head movement as a valid syntactic operation).

In the next section, I will provide an analysis of both CSNs and BPNs that makes use of a non-standard head movement approach in order to account for all the properties of the BPNs and CSNs. This analysis is similar in spirit to previous N-raising analyses, but diverges from them in conforming to the Extension Condition, thus avoiding the major theoretical objections some have recently raised against them (see for example, Chomsky 1995b; 2000). I also provide a different account of the adjectival ordering, thus overcoming the major empirical objection raised against the head movement analysis of CSNs (see Shlonsky 2004).

5 The analysis of BPNs as CSNs: A Minimalist account

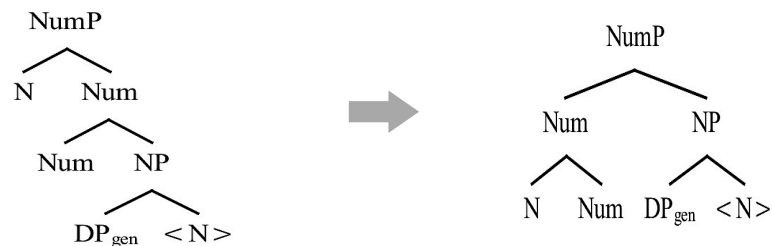
In the previous section, I discussed the two most widely adopted analyses of CSNs – snowballing phrasal movement (SPM) and standard head movement (SHM) – and showed that SPM is both theoretically untenable and empirically inadequate to account for the salient properties of Tigrinya BPNs. I also pointed out that the SHM analysis has been recently scrutinized after being found to be incompatible with Minimalist principles (cf. Chomsky 1993 *et seq.*).

In this section, I will demonstrate that a non-standard head movement analysis (i.e., Matushansky's (2006) head-to-Spec movement) not only overcomes the main theoretical objections recently raised against the SHM analysis but also accounts for the properties of both BPNs and CSNs. I will first introduce Matushansky's (2006) head-to-Spec movement proposal. I will then present my analysis of the common properties of BPNs and CSNs followed by my treatment of their differences. Finally, I conclude this section with a summary and discussion of some outstanding issues.

5.1 The proposal: Head-to-Spec movement

In order to account for both Tigrinya BPNs and Hebrew CSNs, I apply Matushansky's (2006) approach to head movement. The approach consists of a syntactic part, where a head moves to a specifier position of a higher head, and a morphological part (M-merger), where the two heads are Merged after spell-out. This approach essentially converges with previous analyses which claim that head movement takes place during the course of the syntactic derivation of CSNs (Benmamoun 2000, Borer 1996, Mohammed 1998, Ritter 1991, Siloni 1997, among others); however, as discussed in section 4, this approach diverges from them because standard head-to-head movement to which these analyses all subscribe is problematic, but head-to-Spec movement is not. Thus, I propose that the derivation of both BPNs and CSNs involves syntactic head-to-Spec movement followed by a post-syntactic M-merger operation. More specifically, I assume that in both BPNs and CSNs, N raises to [Spec, NumP] in the syntactic component and that N undergoes M-merger with Num in the morphological component as shown in (52).

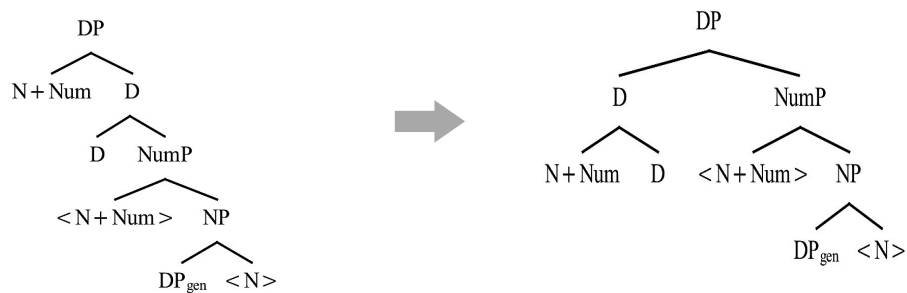
(52)



This analysis accounts for the common defining properties of BPNs and CSNs, such as N-initial order, obligatoriness of the genitive phrase, absence of an adpositional or morphological Case-marking element and strict adjacency.

I also propose that the (im)possibility of movement of the head noun further to the [Spec, DP] followed by the M-merger of the N and D as shown in (53) will explain some of the differences between BPNs and CSNs, namely definiteness spreading and boundedness.

(53)



5.2 Necessary background and assumptions

In the generative literature, SHM has been used to account for a wide range of data in a number of languages, including in the derivation of Semitic CSNs, as pointed out in section 4. Nevertheless, in the last two decades, it has been noted that SHM violates Minimalist principles of movement (Boeckx & Stjepanovic 2001, Chomsky 1995a; 2000). It is particularly noted that SHM violates the *Extension Condition*, which requires all operations to extend the root of the tree, because it does not target the root (Chomsky 1995a and subsequent work).

In order to resolve this problem, there have been a variety of proposals from completely banning head movement from syntax (e.g., Chomsky 2000) to modifying it so that it complies with the Extension Condition and other principles of syntactic theory (e.g., Matushansky 2006). In this chapter, I adopt the view that head-movement is a valid syntactic operation and that head movement and the Extension Condition can be reconciled (Matushansky 2006). (See also Citko 2008, Fanselow 2004, Georgi & Müller 2010, Mahajan 2000, Roberts 2004, Toyoshima 2001, and Vicente 2007, for similar views).

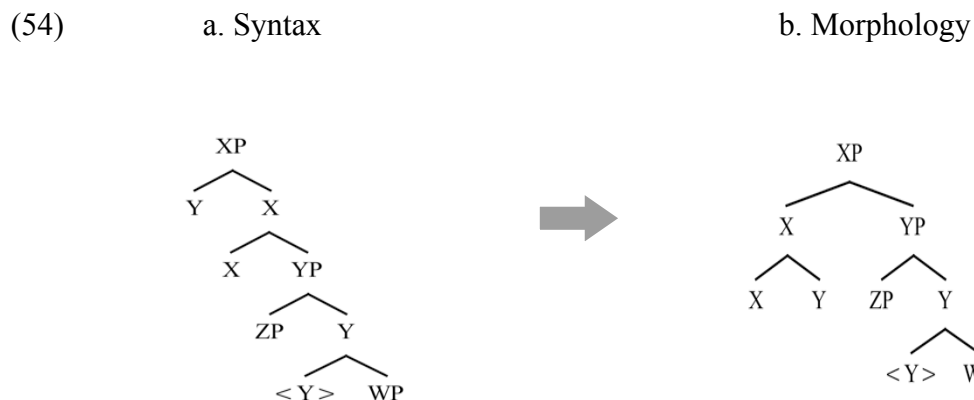
Proposals designed specifically to reconcile SHM with the Extension Condition in the generative literature can generally be categorized into two streams (see Citko 2008, Mahajan 2000, Matushansky 2006, Shlonsky 2004, and references cited therein, among others). Both streams target movement to Spec, compatible with Extension Condition, but they differ in the type of constituent that is moved to a specifier position: The first stream moves a phrase, while the second one moves a head. In other words, while the first stream reanalyzes head movement as (snowballing) phrasal movement (Shlonsky 2004, Mahajan 2000), the second reanalyzes head-movement as head-to-Spec movement (Matushansky 2006, Citko 2008). I follow the second proposal; particularly, I adopt Matushansky's (2006) approach to head movement, claiming that syntax and morphology both play a role in head movement in CSNs and Tigrinya BPNs.¹¹³

Matushansky defends the view that head movement is a valid syntactic operation by arguing for a change in the way heads move while keeping the operation in the

¹¹³I assume that the syntactic part of the derivation is necessary because, as, for example Roberts (2004), points out, head movement has an effect on semantic interpretation; the morphological part of the operation is also necessary because there is evidence from inflectional morphology that the Probe and the Goal are pronounced together (cf. Matushansky 2006).

domain of syntax. Her proposal that head movement targets the specifier position of the attracting head is conceptually unproblematic for the Extension Condition, a major issue some have recently raised against SHM (Boeckx & Stjepanovic 2001, Chomsky 1995b, 2000). She claims that head movement is the realization of both feature valuation and Move (also known as Re-Merge) triggered by C-selection.¹¹⁴

In Matushansky's system, head movement has two components: Head-to-Spec movement, a syntactic operation, and M-merger, a post-spell out morphological operation. The head-to-Spec movement, which always targets the root, is followed by a morphological operation, which Merges the moved and the attracting heads to form a single morphological word. According to Matushansky, M-merger converts the structure resulting from head-to-Spec movement in (54a) to the structure in (54b) in a cyclical fashion.



In this system, while the C-selectional requirement causes the selected head (Y) to move to the specifier position of the selecting head (X) in the syntactic component, the affixal

¹¹⁴ Matushansky (2006:76) defines C-selection as follows: A head may select the syntactic category (and lexical content) of the head of its complement.

requirement of the attracting head (X) causes M-merger. As a result, Y is lowered and attaches to X in the morphological component, as the derivation in (54b) illustrates. Matushansky's head movement is very constrained and captures a locality constraint that was originally formulated as the Head Movement Constraint by Travis (1984).¹¹⁵ Note that Matushansky demonstrates that both head-to-Spec movement and M-merger are independently needed (see Matushansky 2006 section 5.1 for discussion).¹¹⁶

I will also assume that there is a syntactic operation Agree, as laid out in Chomsky 2000 *et seq.* The Agree operation requires three items: (i) a Probe: A head with some unvalued or uninterpretable features, (ii) a Goal: A phrase/head with some matching valued or interpretable features, and (iii) a Value: A feature that is being assigned to the Probe and/or shared with the Probe by the Goal. On this view, the

¹¹⁵ The Head Movement Constraint: A head X^0 can move only to the position Y^0 that properly governs it. (Travis 1984: 132)

¹¹⁶ In this system, M-merger is an operation of the morphological component and is therefore separate from the movement operation itself. To see this more concretely, consider English Saxon genitives (e.g., our (= we+'s) book). Under the assumption that the possessor DP is located in [Spec, DP] and the Saxon genitive 's is a phrasal affix occupying D (Abney 1987), suppletive lexical insertion can apparently target two morphemes that do not form a constituent, as in (i).

(i) [DP [1PL] [D' [Poss] [NP book]]] where 1PL + Poss = our

However, on Matushansky's approach, it is sufficient to observe that a pronominal possessor DP is simultaneously a maximal projection (DP) and a head (D), and that the Poss morpheme in D and the 1PL possessor are two heads in the very local head adjacency configuration permitting M-merger. The structure in (i) can therefore be transformed into (ii).

(ii) [DP [DP [1PL]] [D [Poss] [NP book]]] (Matushansky 2006: 87)

Thus, M-merger of the two D heads creates a single syntactic node for suppletion without movement. However, one may argue that the English suppletion case is contingent upon prior phrasal movement of the possessor to [Spec, DP] (Giorgi & Longobardi 1991). Matushansky, following Hankamer & Mikkelsen (2002), argues that such is not the case for definiteness marking in Danish. According to Matushansky, Danish definiteness marking provides an example of M-merger applying in the absence of prior movement and feeding affixation. In Danish, a definite suffix is used with a bare noun; when the noun is modified (iiia), a pronominal definite article must be used (iiib) vs (iiic).

(iii)	a.	hest-en	b.	*den hest	d.	den	*(røde) hest
		horse-DEF		DEF horse		DEF	red horse
		'the horse'		'the horse'			'the red horse'

To account for these facts, Matushansky proposes that N and D in Danish undergo M-merger in the morphological component (cf. Hankamer & Mikkelsen's D-rule). Since modification disrupts the very local head adjacency relation between D and N required for M-merger to take place, a modified noun cannot M-merge with the definite suffix, and the pronominal definite article must appear. In section 5.3, I will show that M-merger takes place following head-to-spec movement in both Tigrinya and Hebrew construct state nominals.

operation Agree holds between a Probe, which has unvalued and/or uninterpretable features, and a Goal, which can value the unvalued or uninterpretable features, if(f) the Probe c-commands the Goal, without any other potential Probe intervening between the two.¹¹⁷ The proposal I develop here has at its core the idea that features in Semitic DPs are valued via an Agree relation between a Probe and a Goal, thereby recasting existing accounts of these constructions, which assume feature checking through a spec-head relationship (see Benmamoun 2003, Fassi Fehri 1999, Siloni 1997, among others).

In addition, I assume that movement is forced due to feature checking or valuation (Chomsky 1995b and subsequent work). In other words, I assume that movement must be motivated, so that a constituent will not move without a trigger. In the Minimalist Program, features play an important role in the derivation of any structure: They drive the movement of elements that make up any structure. Within this framework, some features are assumed to be interpretable or valued, but others are uninterpretable and/or unvalued. For instance, it has been assumed that the feature CASE is valued (or uninterpretable) on nouns, whereas it is unvalued (or uninterpretable) on verbs or other functional heads (such as T) (see Pesetsky & Torrego 2007 for separating valuation from interpretability).

In the Minimalist system, unvalued or uninterpretable features must be valued and/or checked before spell-out; otherwise they will cause a crash at PF (presumably because PF cannot spell-out a feature that is unvalued). In this chapter, I assume that valuation of features can be achieved in two ways: (i) Agree or (ii) Agree + Move (or re-Merge). As pointed out above, Agree happens when a head has some unvalued or uninterpretable features and probes down into its c-command domain and locates a Goal

¹¹⁷I deviate from this standard view and follow Pesetsky & Torrego (2007) in assuming that feature interpretability and feature valuation do not necessarily coincide. This assumption has consequences for the analysis of definiteness spreading discussed in section 5.3.1.

with matching valued or interpretable features. By contrast, Agree + Move happens when a head has strong unvalued features and probes down in to its c-command domain and locates a Goal with matching valued features and attracts the Goal to the root; thus, movement happens when a Probe has some strong unvalued features after Agree is established.

In principle, valuation of features can be achieved without movement, via Agree only, as the presence of unvalued features on a Probe does not inevitably lead to movement. However, in Minimalism whether or not movement occurs also depends on some other property of the system; for instance, it has been assumed that movement can occur if a head carries an EPP feature (Chomsky 2000 *et seq.*) or a strong (unvalued) feature (see Longobardi 1996; 2001, Alexiadou 2001; 2005) or both EPP and a C-selectional feature (Matushansky 2006).¹¹⁸ In this chapter, I assume that a strong unvalued feature (formalized as F*) may trigger movement of the noun to a higher functional head. In other words, I assume that for the derivation of BPNs and CSNs to converge, head movement must occur in order to check EPP or value the strong unvalued feature of the attracting head before spell-out (Alexiadou et al 2007); otherwise the derivation will crash.

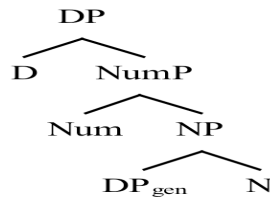
¹¹⁸ Based on the strength of features, Longobardi (1996) proposes syntactic parameters that are active in DPs across languages and derives the following typology:

(i)		Strong D	null D
a.	Semitic	+	+
b.	Romance	+	–
c.	Germanic	–	–

In languages with strong D feature either an overt determiner is in D or the noun raises to D overtly. This is the case for example in Hebrew as argued for in Ritter 1991. Longobardi claims that Romance languages such as Italian also have a strong D feature, as is evidenced by the presence of an overt determiner in restricted contexts, namely, proper names, some kinship common nouns, and the word *casa* ‘home’, which do not co-occur with articles. Thus, in these languages, strong D feature causes overt N-to-D raising in certain contexts, while in languages with weak D features, such as English, Longobardi argues that proper names raise to D at LF.

Finally, I assume that the functional layer of the nominal structure in Semitic languages has at least two functional heads: D (cf. Abney 1987) and Num (cf. Ritter 1991; see also Déchaine & Wiltschko 2009 and Borer 2005 for more recent and different discussion). While the definite article is Merged in D, the ϕ -features such as NUMBER are Merged in Num projecting a NumP. Also, following a variety of proposals on different languages (see Alexiadou 2003 on Greek, Ritter & Rosen 2010a on Blackfoot, Wilhelm & Saxon 2010 on Chipewyan and Dogrib, just to mention a few), I assume that genitive phrases (or possessors) are Merged in the specifier of NP (but see section 5.4). Thus, a BPN in Tigrinya or a CSN in Hebrew will minimally have the structure in (55).

(55)



In this section, I have laid out the necessary background assumptions for the head-to-Spec movement analysis. In the remainder of the chapter, I will make use of the background presented here to account for the properties of both BPNs and CSNs.

5.3 Head-to-Spec Movement: Accounting for properties of both BPNs & CSNs

In this section, I show how the head-to-Spec movement analysis can straightforwardly account for the defining properties of both BPNs and CSNs. That is, I demonstrate that the derivation of both Tigrinya BPNs and Hebrew CSNs involves movement of the head N to a specifier of an intermediate functional head Num, followed by a morphological

merger operation (M-merger). The two constructions differ in that there is subsequent N-to-[Spec, DP] movement in CSNs, but not in BPNs. I attribute this difference to the types of D heads projected in each language. I will first show how the N-to-[Spec, NumP] movement accounts for the common properties of both BPNs and CSNs, and then turn to N-to-[Spec, DP] movement, which distinguishes between them. Note that M-merger applies to the output of head-to-Spec movement in both BPNs and CSNs. Finally, I will present an account of the lexical restriction on BPNs positing a different Merge position for alienable and inalienable possessors.

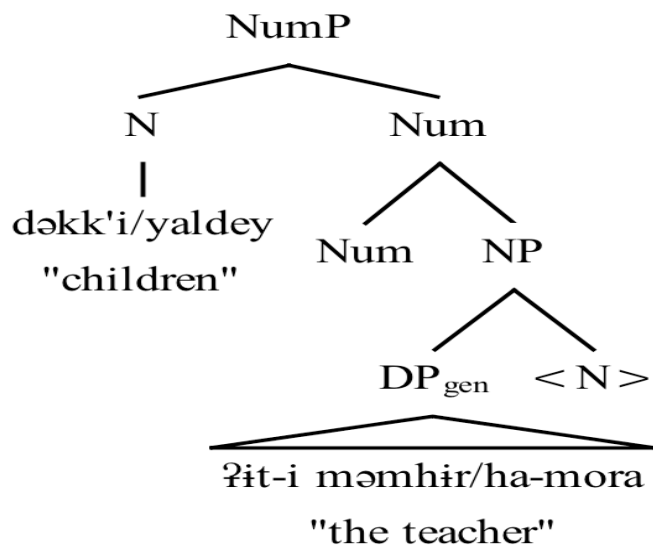
5.3.1 Accounting for common properties of CSNs and BPNs

I propose that the simple BPN in (56a) and the CSN in (56b) are both derived by head-to-Spec movement as shown in (57a), followed by M-merger as in (57b).¹¹⁹

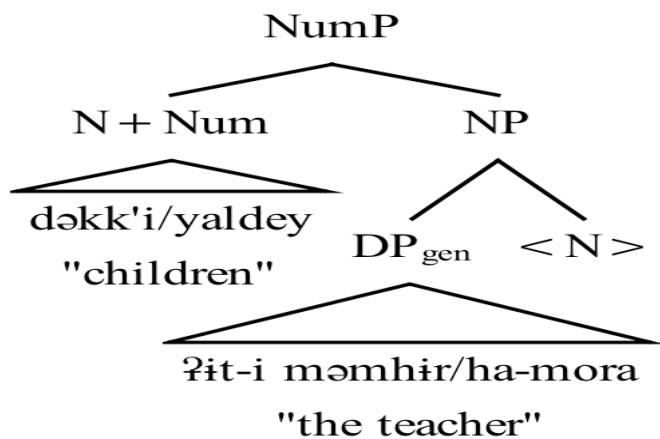
- (56) a. dəkk'i ʔit-i məmhīr Tigrinya
 children D-m.sg teacher
 ‘children of the teacher’
- b. yaldey ha-mora Hebrew
 children the-teacher
 ‘the children of the teacher’

¹¹⁹ Note that M-merger is a morphological operation that involves Spell-Out as a subcomponent; that is, the head created by M-merger or the internal structure of a derived head is syntactically opaque. This syntactic opacity that stems from Spell-Out creates a constituent that remains accessible to syntax, in the sense that it can be displaced, but its internal structure is frozen and none of its subconstituent can be extracted (Matushansky 2006). Under this view, a head created by M-merger is a syntactic phase (in the senses of Marantz 2001). This view requires me to assume that NumP and DP are phases. The phase-hood of DP is uncontroversial (see Chomsky 2000, Svenonius 2004, among others, for a similar claim). Relatively speaking, the phasehood of NumP is not unheard of either. Matushansky (2004) and Piggott (2008) argue that NumP determines the nominal category of the root and is therefore a phase. Borer (2009) also suggested that NumP is the first semantic cyclic node, which might indicate that it is a phase (see den Dikken 2007 on semantic cyclicity and phases). Also, if a phase correlates with the notion of Case/Agreement (in the sense of Chomsky 2001), C and *v** for example, being the phase heads because these are the loci of phi-features, which seems intuitively attractive, then, NumP should also be a phase since it introduces phi-features such as number (Ritter 1991) and Case (Ouhalla 2004).

(57) a. Head-to-Spec movement



b. M-merger



In both languages, N moves to [Spec, NumP] and then M-merges with Num in the morphological component, as part of PF spell-out. I assume that head movement is triggered by feature valuation when the attracting head (the Probe) has a strong unvalued feature. For both BPNs and CSNs, I assume that Num has strong unvalued ϕ -features ($[_\phi^*]$), which cause N to move into [Spec, NumP] and an uninterpretable Case feature ($u[CASE]$) which checks the genitive Case feature on the genitive phrase via Agree.¹²⁰ I also assume that the head N has a C-selectional feature to check and a theta-role to discharge, both operations apply when the genitive phrase is Merged. (See section 5.4 for more on this).

Given these assumptions, the derivation in (57), which is repeated in (58) with some relevant features added, will now proceed as follows. First, N is Merged with the genitive phrase in [Spec, NP] satisfying the C-selectional feature of N. (Note that the C-selectional feature of N is represented as [D] throughout.) Next, Num is Merged as sister to NP, and then N to raise into [Spec, NumP] in order to value strong interpretable and unvalued ϕ -features ($[_i\phi^*]$) of the head Num.¹²¹ Note that, unlike in the standard head movement analysis, N is not adjoined to Num; rather it is Merged at the root of the tree, landing on the edge of the structure (in Spec, NumP) causing Num to project once more, thereby obeying the *Extension Condition*. Finally, the noun, which raised to [Spec, NumP] lowers onto Num in order to undergo M-merger with it at PF. Note that M-merger is independently needed here in order to create a derived head with a syntactically opaque

¹²⁰ Note the following notations: A lowercase italic *i* before a feature ($[_i[F]]$) indicates uninterpretable feature, and a lowercase italic *u* before a feature ($[_u[F]]$) indicates an uninterpretable feature. Also, an underscore before a feature ($[_F]$) indicates that it is unvalued while the sign \pm ($[_\pm F]$) indicates that it is valued.

¹²¹ In the remainder of this section, I will formalize strong features as F^* . Strong features are different from weak features in attracting the head: While F^* can attract the head into it, F cannot. F either values its unvalued features through Agree or movement happens after spell-out (see Longobardi 1996 for similar discussion; see also footnote 96). Note that whether or not F attracts N to it after spell-out does not affect the analysis pursued here.

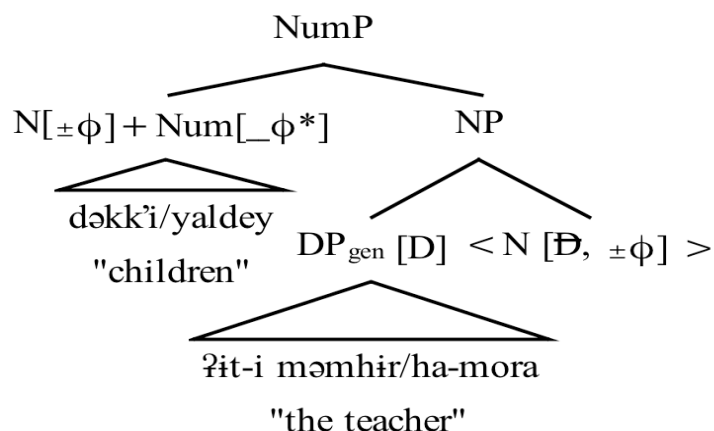
feature bundles, such as, *dəkk'-i/child.PL/* in Tigrinya or *yald-ey/child.PL/* in Hebrew meaning ‘children’ in both cases. Under this analysis, linear adjacency of raised head in [Spec, NumP] and Num is not sufficient, because the derived head still has active features that need to be checked in the course of the derivation (see discussion below) and the M-merged head involves morpho-syntactic bundling of features into a single syntactic head (this is shown by the fusion of multiple features in the head noun feeding affixation).¹²² In the remainder of the discussion, I will simply use a “toggled” triangle plus N+F to represent the two operations (N-to-Spec and M-merger) in a single tree for ease of representation but it should be noted that this representation is a stage after both N-to-Spec movement and M-merger have taken place, as shown in (58).¹²³ Note also that strikethrough indicates the feature has been checked (e.g., [~~Đ~~]).¹²⁴

¹²² Note that M-merger is different from the syntactic Merge in that the former creates more complex structures, but the latter creates feature bundles in a single derived head. Since M-merger happens at the morphological component, it does not have to be subject to syntactic conditions such as c-command or the Extension Condition (Matushansky 2006).

¹²³ Note that the fact that the genitive phrase is represented to the left of N should not be taken to suggest that it is a specifier. I choose to represent the genitive phrase to the left of N for comparison reasons; i.e., in order to make my structures visually more comparable to earlier analyses (for instance, Benmamoun 2000, Ritter 1991, among others) and to make the effect of head movement more visible. Nevertheless, I argue that head movement is still needed even if the genitive phrase is Merged to the right of the head noun. (See section 5 for a detailed discussion).

¹²⁴ Note also that once the unvalued phi-feature ($[_\phi^*]$) of the Num head is valued, the Num head may have a $[\pm\phi^*]$ feature after spell out (perhaps with $[\pm PL, \pm FEM]$ etc. values). The detailed execution of the spell-out of the different phi-features is left open for future research (but see Lowenstamm 2008 and Kramer 2009, and references cited therein for a recent discussion on the issue in other Semitic languages.)

(58)



Turning now to the salient properties of both the CSN and BPN, the N-to-[Spec, NumP] movement correctly derives the noun-initial word order, described in sections 2 and 3, as the first defining property of both the BPN and CSN. That is, by raising N to the specifier of Num across its genitive phrase, and later M-merging N with Num at PF, the derivation results in N-DP_{gen} order.

The analysis also straightforwardly accounts for the second common property of the BPN and CSN, namely the obligatory appearance of the genitive phrase. As pointed out in section 2, there is a requirement for the head of both the BPN and CSN to have a phonetically realized genitive phrase. Consider (56), repeated here as (59) for convenience.

- (59) a. dəkki ʔit-i məmhir Tigrinya
 children D-M.SG teacher
 ‘children of the teacher’

- b. yaldey ha-mora Hebrew
 children the-teacher
 ‘the children of the teacher’

In (59), the noun ‘children’ as a head of a BPN or CSN obligatorily takes the genitive phrase ‘the teacher’ that follows it. I interpret this as evidence that the N in both BPNs and CSNs enters the derivation with a C-selectional feature (formalized as [D]) that needs to be checked during the derivation, and can only do so by Merge of the genitive phrase. Thus, the obligatoriness of the genitive phrase in both BPNs and CSNs is due to the presence of this C-selectional feature on the head noun that is always checked off upon Merge of the genitive phrase.

The third defining property of both CSNs and BPNs is related to the above two properties - the absence of morphological case or an adposition on the genitive phrase. As pointed out in sections 2 and 3, neither the BPN nor the CSN allows a genitive adpositional marker, such as the Tigrinya *nay* and Hebrew *ʃel*, as the ungrammatical examples in (60) illustrate.

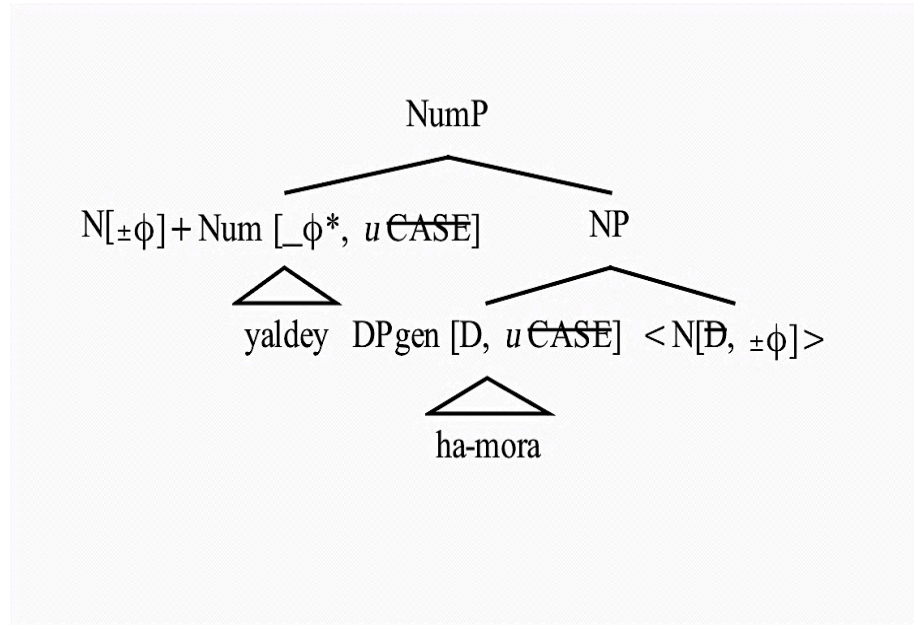
- (60) a. *səbəyti **nay** ʔit-i məmhīr Tigrinya
 wife NAY D-M.SG teacher
 Intended ‘the teacher’s wife’
- b. *raayat ʃel ha-mora Hebrew
 wife of the-teacher
 ‘the teacher’ wife’

One way to interpret this fact is to view the two phenomena as independent strategies for marking distinct types of possession. This is indeed the case in Tigrinya. As discussed in chapters 2 and 3, the two morpho-syntactic strategies – marking possession with *nay* and marking possession without *nay* – are correlated with different semantic types. There I observed that *nay* is possible in the context of ALP but not IAP. Since Tigrinya BPNs are only used for IAP, *nay* is barred from BPNs. See section 5.4 below for further discussion.

For Hebrew, on the other hand, one may interpret this fact as a reflection of a Case clash between [el] and another genitive Case-marking head if [el] is considered as a dummy genitive Case marker (see Borer 1988, Ritter 1991 and Siloni 1997). In Minimalism it has been widely assumed that Case-checking is the result of two elements, a functional head with an uninterpretable Case feature and a phrase with a matching Case feature, undergoing the operation Agree in the course of a derivation (see Chomsky 1995b, *et seq.*). If we assume that Num is the head that checks genitive Case in CSNs (see Ouhalla 2004 for a similar assumption), then, the prediction is that it should be in complementary distribution with [el] .¹²⁵ Thus, a Num head with uninterpretable Case feature ($u[\text{CASE}]$) probes down into its c-command domain to locate a matching Goal, and finds a genitive phrase with a matching Case feature and enters into an Agree relation with it, as illustrated in (61).

¹²⁵ It is clear that some functional head checks genitive Case in CSNs. I depart from previous proposals that the head in question is D_{gen} (as in Ritter 1991) or AGR_{gen} (as in Siloni 1997). Note however that the analysis here does not hinge on the exact nature of the Case-checking head.

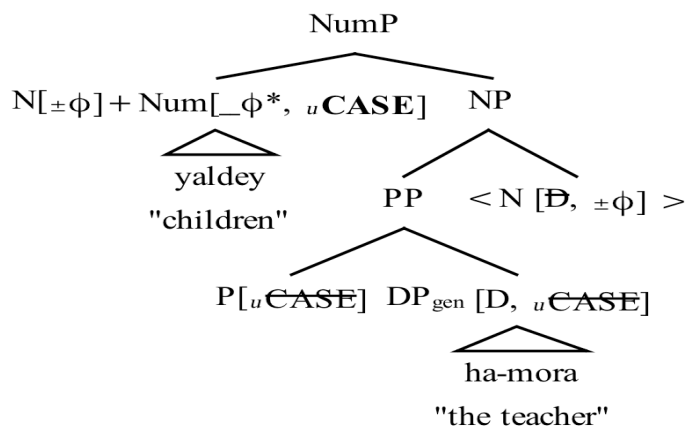
(61)



The hypothesis that genitive Case checking in CSNs is the result of feature valuation between the functional head Num and the genitive phrase may allow an explanation of why adpositional elements such as *šel* are blocked from these constructions (cf. (60b)). In other words, suppose we analyze elements such as Hebrew *šel* as Case valutors (i.e., they check (genitive) Case in non-CSNs), then, *šel* may have an uninterpretable Case feature *u*[CASE] that needs to be checked against the genitive Case on the genitive phrase. The only difference between Num and *šel* then is that the former only applies in CSNs but the latter elsewhere (for example, in free state nominals in Hebrew). In other words, *šel* and Num are both genitive Case valutors that occur in complementary distribution. Thus, *šel* is blocked from CSNs, because it will leave the Case feature on Num unchecked causing the derivation to crash. Therefore, under the N-to-[Spec, NumP] raising analysis, the example in (60b) is ruled-out because the genitive feature of the Goal (in this case the genitive phrase) is checked by an independent

preposition, and as a result, the unvalued or uninterpretable genitive Case feature on Num will remain unvalued, causing the derivation to crash, as schematized in (62).

(62) *



Thus, under the present proposal, the fact that CSNs cannot be licensed by *ʃel* in Hebrew (or *dya* in Arabic) receives a straightforward explanation from the hypothesis that Case checking is the result of feature valuation between either Num or *ʃel* and the genitive phrase.¹²⁶ However, in Tigrinya the example in (60a) is ruled out simply because *nay* is only used for alienable possession. See section 6 below for further discussion.

One can ask, at this point, whether there is independent evidence that the genitive phrase has a valued Case feature. Although Tigrinya and Hebrew do not morphologically mark genitive Case, there is evidence from Modern Standard Arabic that CSNs manifest

¹²⁶ In the Semitic literature, a number of proposals suggest different treatments to motivate the mechanism behind Case-checking in CSNs. While some claim that Case-checking takes place in syntax (e.g., Ritter 1991), others claim that Case checking takes place at PF (not in syntax) (e.g., Siloni 2003). I assume following Ritter and others that Case-checking takes place in syntax because relegating Case-checking to the PF component of the grammar may crash the derivation. This is especially true if we assume, as I do here, that Case features are uninterpretable (see Pesetsky & Torrego 2007) and that uninterpretable features cause a derivation to crash if they transfer to PF (Chomsky 2000).

(63) a. sadiq-u l-bint-i
 friend-nom the-girl-**gen**
 ‘the girl’s friend’

 b. bint-u l-malik-i
 daughter-nom the-king-**gen**
 ‘the king’s daughter’

It is therefore entirely reasonable to assume that Tigrinya and Hebrew have (abstract) genitive Case, and that this Case feature is valued and uninterpretable on the genitive phrase but uninterpretable and unvalued on Num. (See Shlonsky 2004 for similar argument based on different varieties of Arabic.)

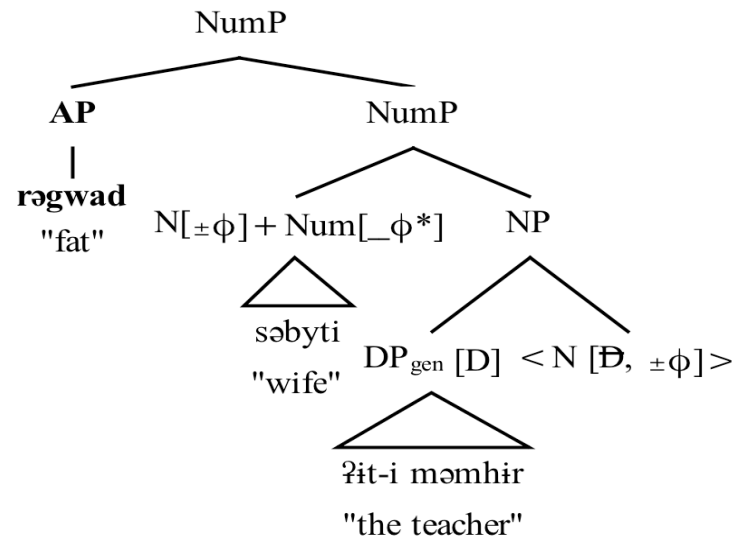
(64) a. **rəgʷad** səbyti ʔit-i məmhir Tigrinya
fat wife D-M.SG teacher
‘a fat wife of the teacher’

- b. *səbyti rəg^wad ʔit-i məmhɪr
 wife fat D-M.SG teacher
- (65) a. beyt ha-mora **ha-xada**ʃ Hebrew
 house the-teacher the-new
 ‘the new house of the teacher’
- b. *beyt **ha-xada**ʃ ha-mora
 house the-new the-teacher

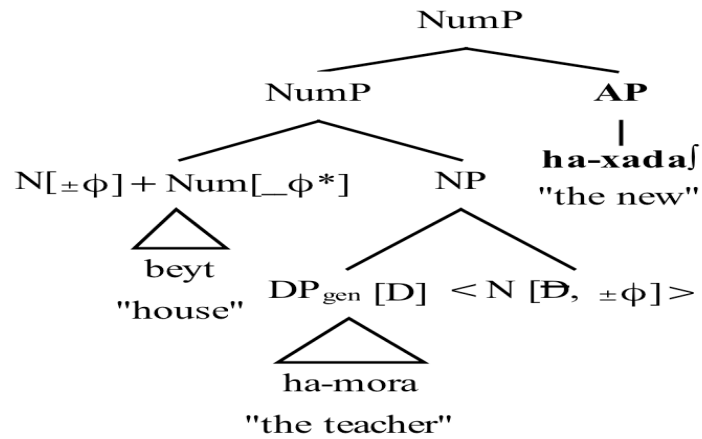
The data in (64) and (65) show that adjectives do not intervene between the head noun and the genitive phrase in BPNs or CSNs. Note, however, that Tigrinya adjectives are prenominal while their Hebrew counterparts are postnominal. Regardless, head nouns and their genitive phrases manifest a common property called strict adjacency. To account for strict adjacency between the head noun and the genitive phrase in both BPNs and CSNs, I assume that adjectives are base generated to the left of the noun they modify in Tigrinya, but that they are base generated to the right of the noun they modify in Hebrew. Thus, under the head-to-Spec movement, a BPN with an adjective modifying the head N as in (64a) would be derived as in (64a), while a CSN with an adjective modifying the head N as in (65a) would be derived as in (66b).¹²⁷

¹²⁷ The assumption that adjectives are base-generated to the right of the head noun in Hebrew is challenged by adjectives that modify deverbal or derived head nouns. However, this problem may be tackled if we assume that the position of adjectives that modify deverbal nouns is different from the position of adjectives that modify primitive nouns (see Alexiadou 2001, Alexiadou & Wilder 1998). Specifically, if we assume that adjectives modifying deverbal nouns are Merged in a specifier position on the left, the problem is resolved. It is true that dividing the adjectives in this way may complicate the analysis; however, this may have a better empirical coverage. Nevertheless, since I am interested in non-derived simple nouns here, I leave the discussion on deverbal nouns for future research. I include discussion of deverbal nouns when I review works by others.

(66) a.



b.



The structural difference between (66a) and (66b) is based on the assumption that what you see is what you get. More specifically, I assume that prenominal modifiers are

adjoined to NumP on left but postnominal modifiers are adjoined to NumP on right. This analysis straightforwardly accounts for the strict adjacency between the head noun and its genitive phrase in both Tigrinya and Hebrew. In the case of Hebrew, either APs Merge after N movement to [Spec, NumP], or N movement tucks in below any left-adjoined APs.¹²⁸

In summary, I have shown that head movement to the specifier of an intermediate functional category (Num) followed by M-merger is an essential part of the derivation of both a BPN and a CSN. This analysis allows us to explain the defining properties of both BPNs and CSNs: N-initial order, the obligatoriness of a genitive phrase, absence of an adpositional element and strict adjacency. Having accounted for the common properties of both BPN and CSN, the next section presents an account of their differences.

5.3.2 Accounting for definiteness spreading and boundedness

In section 3, I pointed out two basic differences between Tigrinya BPNs and Hebrew CSNs: Definiteness spreading and boundedness. In this section, I present an account of these two differences and argue that the possibility of subsequent head-to-Spec movement, i.e., movement of (Num+)N to [Spec, DP] would account for these differences between BPNs and CSNs. Note that, for the sake of continuity, I will continue to refer to Tigrinya BPNs and will specifically discuss properties of Hebrew CSNs

¹²⁸ In section 4, I have shown that Shlonsky's (2004) *adjective-as-specifier* analysis of Hebrew adjectives ordering along the lines of Cinque (1994; 2000) is untenable. However, another way to deal with the position of adjectives is to assume that they are heads, instead of specifiers or adjuncts (see for instance Pereltsvaig 2006 for analysis of Hebrew adjectives along these lines). Given that there is independent evidence in Tigrinya that adjectives are phrases, this alternative does not seem plausible (see Svenonius 1994 for similar arguments). The only event where this analysis seems possible is when adjectives intervene between the head noun and its genitive phrase as in free state forms, which are not the focus of interest in this chapter. In any event, no matter how this analysis is played out, the analysis in this chapter does not hinge on this assumption.

(hereafter H-CSNs), but these labels are not meant to undermine the conclusion that both are in fact types of CSNs.

5.3.2.1 *Definiteness spreading*

As noted in sections 2 and 3, one property of Hebrew CSNs that Tigrinya BPNs do not share is definiteness spreading (DS). As the name implies, and as discussed in section 2 and 3, DS refers to the spreading of the feature definiteness from one constituent to another, in this case, from the genitive phrase to the head noun. This phenomenon happens in H-CSNs, because H-CSNs never permit a definite determiner in initial position. This is shown by the following Hebrew examples.

- (67) a. *yaldey* *ha-mora*
 children the-teacher
 ‘the teacher’s children’
- b. **ha-yaldey* *ha-mora*
 the-children the-teacher
- c. **ha-yaldey* *mora*
 the-children teacher

(Adapted from Siloni 2003)

In Hebrew, a definite genitive phrase (e.g., *ha-mora* ‘the teacher’) renders the entire CSN definite (67a). However, as we have seen in section 3, this phenomenon does not exist in Tigrinya. A definite article in Tigrinya BPNs may mark the head noun, the genitive phrase or both. In other words, the definiteness specification of the head noun is independent of the definiteness specification of its genitive phrase, as illustrated below.

- (68) a. hafti ʔit-i məmhir
 sister D-M.SG teacher
- ‘a sister of the teacher’
- b. ʔit-a hafti ʔit-i məmhir
 D-F.SG sister D-M.SG teacher
- ‘the sister of the teacher’

The fact that the Tigrinya BPN in (68b) is definite is signaled by the presence of the independent definite article preceding the head noun. Definite marking on the head noun, however, is not possible with the H-CSNs although the whole construct receives definite interpretation as illustrated in (67a).

Over the years many different analyses have been proposed to account for the DS phenomenon in Semitic CSNs (Benmamoun 2000, Borer 1996; 1999, Danon 2001; 2008, Fassi Fehri 1999, Ritter 1991, Shlonsky 2004, Siloni 2003, *inter alia*). Most of these analyses assume that DS is an obligatory process, and that definiteness marking on the genitive phrase always renders the entire CSN definite. Thus, examples like (65a) above have often been implicitly assumed to be the only option allowed by the grammar of Semitic languages (Danon 2008). However, as noted above, there are exceptions where definite genitive phrases do not give rise to definite readings, and there are other ways to mark the construct head as definite. (See Danon 2008, and references cited therein for a detailed review of this issue). Moreover, although the majority of the studies on CSNs share the idea that DS obligatorily takes place in the derivation, they all differ in the way they execute and motivate the phenomenon. For instance, Benmamoun (2000) and Siloni (2003) depend on an after spell-out prosodic structure to explain the fact that the

definiteness of a CSN is determined by the definiteness of the genitive phrase, while Borer (1996) and Ritter (1991) use the Spec-head feature checking mechanism to explain DS.

Building on previous analyses, here I show that the hypothesis that the derivation of H-CSNs involves further N-to-[Spec, DP] movement permits an explanation of the fact that definiteness spreads from the genitive phrase to the whole CSN. The proposal that a H-CSN has N-to-D movement accompanied by M-merger, but a Tigrinya BPN does not, also allows a unified analysis of DS in H-CSNs (and presumably in all Semitic languages where DS occurs). As explained above, head-to-Spec movement is the result of an attracting head having some strong unvalued features or a C-selectional feature. Following Borer (1999) and Danon (2008), I assume that definiteness in Hebrew (as opposed to Tigrinya) is a feature for which the noun itself is specified. More precisely, I assume that Hebrew nouns are specified for [DEF] feature and that this is a marked property of nouns in all languages with DS, and is not otherwise a feature of Ns; in other words, this property is not unique to Ns in CSNs, but is a property of Ns in general in DS languages like Hebrew. I suggest that in languages where N has a valued [\pm DEF], D does not. Thus, a D head in Tigrinya may enter the derivation with a valued [\pm DEF] feature, but a D head in Hebrew DPs, including H-CSNs must always enter the derivation with an unvalued definiteness feature [$_$ DEF]. In other words, I propose that the D head of a H-CSN has a different feature make up than a D head of a BPN. More specifically I propose that the D head of a H-CSN has a strong unvalued feature [$_$ DEF*] that causes the head noun to move into it, but the head of a BPN is inherently specified for [\pm DEF], and thus does not force the noun to move into it.

Nevertheless, as pointed out in sections 2 and 3, DS does not always happen in H-CSNs; there are exceptions. To account for the exceptions in Hebrew CSNs, and the general absence in DS in Tigrinya BPNs, I propose that there are different types of D heads in Tigrinya BPNs and Hebrew CSNs (presumably in Semitic in general) (see Danon 2008 for a similar proposal for Hebrew):

(69) Types of D with different feature make up

- (a) A null D with strong unvalued definiteness feature [_{DEF}*]. This D is normally projected in H-CSNs, but is not available in Tigrinya.
- (b) An overt D with valued definiteness feature [+DEF]. This D is possible in BPNs and is realized as *ʔit-* in Tigrinya.¹²⁹
- (c) A null D with valued definiteness feature [−DEF]. This D is projected in exceptional indefinite H-CSNs and in BPNs.¹³⁰

¹²⁹ This D is often realized as *oto* in Hebrew giving rise to exceptional CSNs with no DS: *Oto* can render the head of the H-CSN definite independent of the definite value of the genitive phrase (see Siloni 2003). However, as Elizabeth Ritter (p.c) points out to me, *oto* in Hebrew is often translated as “that” or “the same” and it is not clear whether *oto* is a D head and that D in Hebrew is ever specified for [_{±DEF}]. This raises the question of what possible structure a Hebrew CSN with *oto* might have. There are two possibilities: Either *oto* is a (Dem(onstrative) that Merges in [Spec, DP] (ia) or *oto* is a Dem head that takes a DP as a complement (ib):

- (i) a. [_{DP} *oto* [_D D [_{NumP} Num ...]]]
- b. [_{DemP} *oto* [_{DP} D [_{NumP} Num ...]]]

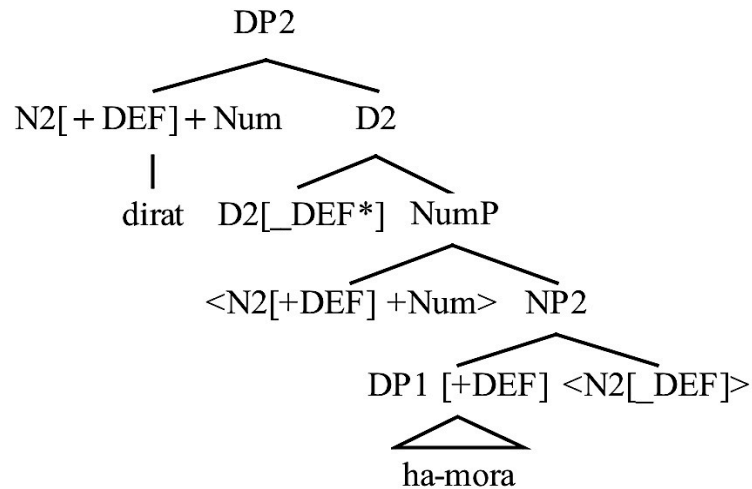
My analysis does not hinge on the choice between the two alternatives and I leave the choice open for future endeavor.

¹³⁰ This is often realized in the context of the numeral ‘one’ in both Tigrinya and Hebrew although the numeral ‘one’ is often used to specify a particular object as well. Since, the numeral ‘one’ is realized postnominally and not in the position of D in Hebrew, and since it is also used with BPNs in Tigrinya, it will not be discussed here.

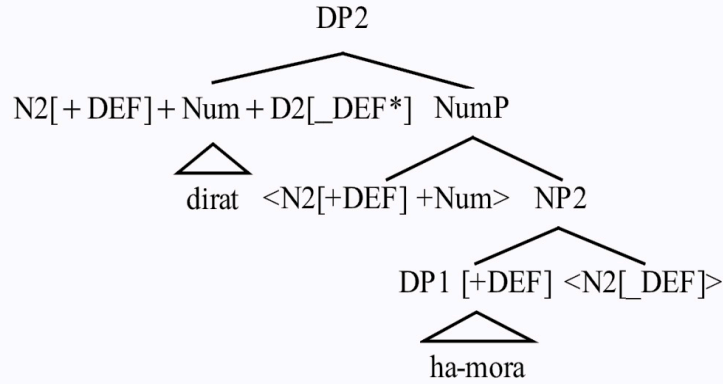
It is important to note that while a [_{DEF}*] feature in D can trigger N+Num-to-[Spec, DP] movement, a [_{±DEF}] feature cannot. Thus, under the present proposal, a simple CSN in Hebrew given in (70) would be analyzed as in (71). Note that the N-to-[Spec, NumP] movement is represented by N+Num, just to make the tree more transparent, but the derivation includes, as always, N-to-[Spec, NumP] followed by M-merger of N+Num before both move further to [Spec, DP].

- (70) dirat ha-mora Hebrew
 apartment the-mora
 ‘the teacher’s apartment’

- (71) a. N+Num-to-[Spec, DP] movement



b. M-merger of N+Num and D



In (71a), the surface structure of the CSN *dirat ha-mora* ‘the teacher’s apartment’ given in (70) is obtained through consecutive movements of the head noun (N2), first to [Spec, NumP], to satisfy Num’s strong unvalued ϕ -features ($[_\phi^*]$), then to [Spec, DP2] to satisfy D2’s strong unvalued definiteness feature ($[_\text{DEF}^*]$). Each movement of the noun is accompanied by M-merger with the attracting head as illustrated in (71b). That is, N2 undergoes M-merger with Num after raising to [Spec, NumP], and then N2+Num undergoes M-merger with D2 after raising to [Spec, DP2]. In other words, D2 with a strong, interpretable and unvalued $[_\text{DEF}^*]$ feature is Merged and attracts (Num+)N with valued feature [+DEF] feature to its Spec in order to value its $[_\text{DEF}^*]$ feature.¹³¹ I assume that all nouns in Hebrew have an uninterpretable [DEF] feature ($_{u}[\text{DEF}]$) base-

¹³¹As Agree does not depend on any structural relation other than c-command, it is possible for the derivation of CSNs to happen without invoking N-to-D movement. That is, the derivation may proceed involving the following sequence of Agree operations: (i) Agree between N of the CSN and genitive DP, and (ii) Agree between N of the CSN and its D head. In other words, unless the feature [DEF*] is independently motivated, the N-to-D movement does not seem to have effect on feature valuation or interpretation; however, given that there is substantial evidence in the literature showing that a distinction between weak and strong features is justifiable (see example, Longobardi (1996), on D and Pollock (1989) on Infl.), it is reasonable to assume that the feature [DEF*] motivates movement.

generated on the noun (cf. Borer 1999), but that in CSNs this uninterpretable feature is also unvalued ($_{u}[_{DEF}]$). That is, in a H-CSN, the head noun is base-generated with unvalued $_{u}[_{DEF}]$ feature that needs to be valued by the valued $_{i}[_{\pm DEF}]$ feature of the genitive phrase via the operation Agree.

Moreover, the D-head in H-CSNs has a strong unvalued $[_{DEF*}]$ feature, and it gets valued by either movement of N+Num to [Spec, DP] or Merge of demonstratives like *oto* as specifiers either in [Spec, DP] or as heads above DP. Note that since M-merger happens after each head-to-Spec movement, the result is Merger of N+Num+D in Hebrew CSNs. This is evident because N is specified for both [Num] and [DEF] features in Hebrew. Once all checkable features are checked and unvalued features are valued, the derivation of a H-CSN converges and proceeds to PF for interpretation as illustrated in (71).¹³²

Hebrew CSNs have movement of N(+Num)-to-D because in Hebrew D has a marked property: It is inherently unvalued for [DEF]. In fact, it appears that this is the *only* D head in Hebrew, and this is a marked property that has implications that go well beyond the scope of this dissertation.¹³³ Tigrinya, in contrast has no movement of

¹³² The assumption that [DEF] is unvalued and interpretable in D but unvalued and uninterpretable in N of the CSN follows from Pesetsky and Torrego's (2007) hypothesis that feature valuation and interpretability are distinct properties of features (contra Chomsky's 2000 *et seq.* view that a feature is unvalued if(f) it is uninterpretable).

¹³³ The analysis of Hebrew CSNs seems to over-generate, specifically because it does not seem to rule out the possibility of definite-marked Ns in the construct state; particularly, (ia) would seem to be possible along side of (ib). I will leave this issue for future research.

- (i) a. *ha-bayit ha-mora
 the-house the-teacher
 b. beyt ha-mora
 house the-teacher
 'the teacher's house'

N(+Num)-to-D because D is inherently valued for [DEF].¹³⁴ That is, in Tigrinya, BPNs do not have N-to-D movement because D always realized with a valued [\pm DEF] feature and never has unvalued [$_$ DEF*] feature. Related to this fact, in Tigrinya, N is never inherently specified for [\pm DEF] and never agrees in [DEF] feature with D. The D head of the BPN and the D head of the genitive phrase are independently specified for definiteness, as illustrated in (72a) and analyzed in (72b).

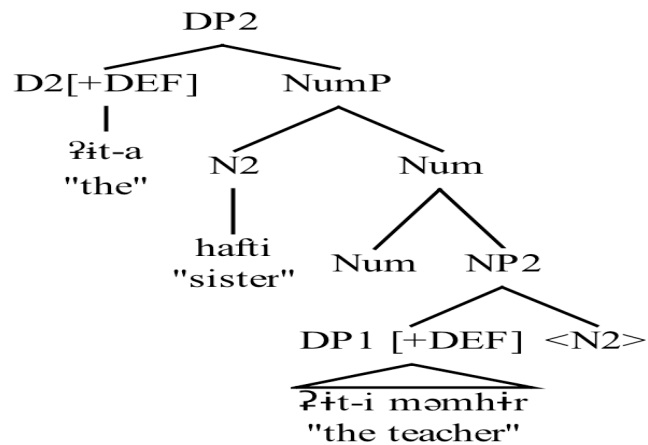
- (72) a. ʔit-a ħafti ʔit-i məmhīr
 D-F.SG sister D-M.SG teacher
 ‘The teacher of the sister’

¹³⁴ Note that, in the case where no DS emerges in CSNs, as pointed out in section 3, illustrated in (i), the prediction is that either a null D with a [$_$ DEF] feature would be spelled-out or a NumP without DP altogether would emerge.

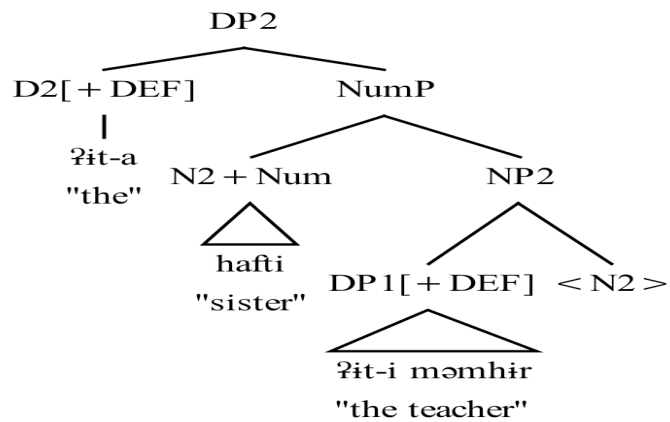
- (i) a. dan hu [**yelid** ha-ir]
 Dan is [native the-city]
 ‘Dan is a native of the city.’
 b. lifney ʃvu’ayim ne’ecar [**saxkan** ha-kvuca]
 before two weeks arrested [player the-team]
 ‘A player of the team was arrested two weeks ago.’ (Danon 2008: 12)
 c. oto dirat mora
 that apartment teacher
 ‘that apartment of the teacher’

In these examples, the D-head may not have [\pm DEF] feature, hence, lacks DS and does not raise to D as a consequence. D gets its [$_$ DEF] feature by default or may be it is simply a NumP (not a DP). This is essentially what Dobrive-Sørin (2003), Danon (2006), among others, proposed to explain these exceptions. My analysis is compatible with either of these lines of argument and does not depend on how these exceptional cases are played out.

b. N-to-[Spec NumP] movement



c. M-merger of N and Num



Summarizing the results of the analysis of this section thus far, I have claimed that DS is not a defining property of CSNs, and that it only occurs as a reflex of the N+Num-to-[Spec, DP] movement. DS exists in Hebrew but not in Tigrinya because Tigrinya has a D-head with a $[\pm\text{DEF}]$ feature, while Hebrew has a D-head with a $[_\text{DEF}]$ feature. Under the head-to-Spec movement analysis pursued here, I have shown that N-

to-D movement is the result of D having a strong unvalued definiteness feature ([_{DEF}*]). In other words, the [_{DEF}*] feature on D is valued by N-to-[Spec, NumP] and N+Num-to-[Spec, DP] movement, each accompanied by M-merger. This is because N in Hebrew is specified for [\pm DEF] (as well as [Num: \pm PL]) either inherently or as a result of Agree with the [\pm DEF] feature of the genitive phrase.¹³⁵ Thus, Tigrinya BPNs do not involve DS because the D head is always projected with [\pm DEF], and thus there is no motivation for N+Num-to-[Spec, DP] movement. In contrast, H-CSNs involve DS because the D-head is projected with [_{DEF}*], and this feature drives N+Num-to-[Spec, DP] movement. The absence of [_{DEF}] feature in Tigrinya, therefore, simply explains, the absence of DS, and the presence of DS in H-CSNs is due to the presence of [_{DEF}*] on D. The following table summarizes the spell-out forms of the different types of D-heads that separate Tigrinya BPNs from Hebrew H-CSNs.

Table 2: Variation in D head Spell-outs

	[_{DEF}]	[+DEF]	[−DEF]
Tigrinya	N/A	ʔit-	∅
Hebrew	∅	N/A	N/A

¹³⁵ Note that in Hebrew (and Arabic) there is also a definiteness concord between an adjective (AP) and the noun it modifies, as pointed out in section 2 and 3. This receives a straightforward explanation if one assumes that Agreement is feature sharing (Frampton & Gutmann 2000, Pesetsky & Torrego 2007). Under this view, it is heads with uninterpretable or unvalued features that probe downwards and have their features valued by Goals with matching features. Since the feature valuation framework pursued here essentially assumes that features are not deleted following Agree, the N head of the CSN can now serve as the Goal for the AP with unvalued definiteness feature, thus permitting the usual concord between the AP and the head noun to take place. Once Agree in definiteness is established between the N and its AP modifier, a single shared feature [\pm DEF] would be realized on both the N and AP, as *ha* in Hebrew. Note that, unlike in Hebrew, in Tigrinya, there is no definiteness agreement between adjectives and nouns.

In the next section, I suggest that the presence of DS in H-CSNs is related to another property that distinguishes H-CSNs from Tigrinya BPNs, that of having a phonetically weak head noun.

5.3.2.2 *Boundedness: The head noun as a bound form*

As pointed out in section 3, Tigrinya BPNs and Hebrew CSNs differ in the form of the head noun: while the N of a H-CSN is a stressless bound form, the N of a BPN is not. In other words, the formation of a Hebrew (and Arabic) CSN involves certain phonological and morphological alternations (Benmamoun 2000, Borer 1996, Ritter 1991, Shlonsky 2004, Siloni 2003, *inter alia*). For instance in Makkan Arabic, feminine nouns ending in /-t/ drop the /-t/ when nothing is suffixed onto them, as in the indefinite noun *madrasa*(*t) ‘school’ or the definite form *ʔal-madrasa*(*t) ‘the school’. However, in CSNs, the /-t/ cannot be dropped, whether the second member of the construct is an affix as in *madrasa**(t)-i ‘my school’ or a full DP as in *madrasa**(t) *al-ʔatfaal* ‘the children’s school’ (Benmamoun 2000; 2003). The same is true in Hebrew; for instance the feminine ending /-t/ is retained in the construct, giving rise to the form *yaldat* ‘girl’, but it does not appear in the non-construct form, resulting in *yalda* ‘girl’ (see Siloni 2003).

Now the question is, why is it that Tigrinya BPNs do not show the same morpho-phonological alternations as H-CSNs. I argue that this difference between Tigrinya BPNs and H-CSNs may stem from the presence or absence of an unvalued [DEF] feature on N. In particular, I conjecture that N is bound if it is marked as [_DEF] and subject to a feature licensing condition: It must be bound by a constituent specified as [\pm DEF] in order to value its unvalued [DEF] feature. This prediction is borne out, as illustrated in (73) and (74). In (73a), the CSN noun ‘house’ is in its bound form *beyt*. However, since

its head noun is inherently specified as [+DEF] as indicated by the presence of the prefix *ha-*, the N is ill-formed; similarly (73b) has both *ha-* and a pronominal enclitic attached to the N, and again the bound form is ungrammatical because N is both inherently specified as [+DEF] via *ha-* and receives a value from the enclitic.

- (73) a. **ha-beyt* *ha-mora*
 the-house the-teacher
 ‘the teacher’s house’
- b. **ha-beyt-o*
 the-house-3M.SG
 ‘his house’
- (Ritter personal communication)

Under the present analysis the N head of a H-CSN is different from the N head of a BPN in having a [DEF] feature and a [_{DEF}*] specified D-head, which causes the movement of N to [Spec, DP] and results in an alternation between a bound form with an unvalued [_{DEF}] and a free form with a valued [\pm DEF].¹³⁶

More importantly, in Tigrinya since D never has a [_{DEF}*] feature and N is never inherently specified for a [DEF] feature and thus never raises to D, we predict that (i) the head N will not show any morpho-phonological alternation due to the presence or absence of inherent valuation for [DEF] and (ii) in the absence of any other potential valuator, the D head must have a valued [\pm DEF] feature. These predictions are borne out by the Tigrinya BPNs data as illustrated in (74).

¹³⁶ Note that *bayit* in Hebrew can have either [-DEF] or no [DEF] altogether, depending on once treatment of the free state nominals (see Danon 2001; 2006 for discussion of different alternatives on the issue).

- (74) a. ʔit-ən ʔanisti ʔit-i wəthadir
 D-F.SG wives D-M.SG soldier
 ‘The soldier’s wives’
- b. ʔanisti ʔit-i wəthadir
 wives D-M.SG soldier
 ‘wives of the soldier’
- c. *ʔanist ʔit-i wəthadir
 D-F.PL wives D-M.SG soldier
 ‘wives of the soldier’

In BPNs, the head noun is not bound and does not show any phonological alternation (e.g., *ʔanist- would be the bound form as the final *-i* in Tigrinya is an epenthetic segment, which breaks impermissible word-final consonant clusters and usually drops when an affix attaches to it as in ʔanist-*om* ‘wives-their’, but this bound form never occurs in Tigrinya BPNs as shown in (74c). Also, in Tigrinya BPNs, D is always realized with a [\pm DEF] feature (and never with an unvalued [__DEF]) feature); hence, there is no motivation for N+Num-to-[Spec, DP] movement.

Summarizing the results of this section thus far, I have claimed that head movement of N-to-[Spec, NumP] obligatorily takes place in both Tigrinya BPNs and Hebrew CSNs (and presumably in all Semitic CSNs), and that the motivation for this movement is the same in both constructions: Num has strong unvalued phi-features. I have suggested that the difference between the two constructions lies in the presence of an inherent [DEF] feature on the construct state N noun and its D head in Hebrew, but not in Tigrinya. The unvalued [DEF] in D is a strong feature that triggers N-to-[Spec, DP]

movement. In contrast, the D projected in Tigrinya BPNs has a valued $[\pm\text{DEF}]$ feature but N has no $[\text{DEF}]$ feature, so there is no N-to- $[\text{Spec}, \text{DP}]$ movement. A second difference associated with the $[\text{DEF}]$ feature on N is the fact that the head noun in the H-CSN is in a bound form. I attribute this to the fact that the $[\text{DEF}]$ feature on N in this context is also inherently unvalued ($[_\text{DEF}]$), and gets its value via Agree with the genitive DP. The following table summarizes the results:

Table 3: Variation in boundedness of the head noun

	$[_\text{DEF}]$	$[\pm\text{DEF}]$	NO $[\text{DEF}]$
Tigrinya	---	---	Free N
Hebrew	Bound N	Free N	---

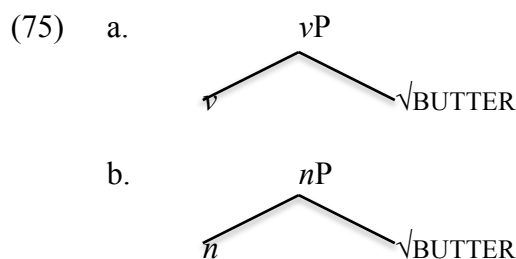
In what follows, I will discuss another important distinction between Tigrinya BPNs and H-CSNs, namely, the lexical semantic restriction on the head noun.

5.4 Lexical restriction of the head noun

Up until this point, I have shown that the core head-to-Spec movement is the same in both Tigrinya BPN and H-CSN; that is, in both constructions, N raises to $[\text{Spec}, \text{NumP}]$; the difference is that N raises further to $[\text{Spec}, \text{DP}]$ in H-CSNs but remains in $[\text{Spec}, \text{NumP}]$ in Tigrinya BPNs. As pointed out in sections 2 and 3, another important difference between H-CSNs and Tigrinya BPNs is the fact that the lexical head of Tigrinya BPNs is semantically restricted but the lexical head of H-CSNs is not. More specifically, Tigrinya BPN formation is restricted to relational (kinship) nouns, but H-

CSN formation is not. In this section, I will present an account of this fact arguing that this semantic restriction to (in)alienability is a reflection of the structural difference that exists between alienably possessed nouns and inalienably possessed ones. More specifically, I assume that there exists a difference in the structure of the lexical root layer for the two kinds of nouns, and I propose that this difference permits an explanation of the facts described above: I show that while the root structure of IAP is the same in both Tigrinya and Hebrew, the root structure of ALP is not.¹³⁷

Before launching into the details of the proposal, a sketch of my background assumptions about root structure is necessary. In Marantz (1997) (see also Halle & Marantz 1993), it is proposed that all nouns and verbs consist of a category neutral root and category-determining functional head. For instance, a word like *butter* consists of a root $\sqrt{\text{BUTTER}}$ that could theoretically be either a noun or a verb: It becomes a verb if it Merges with a functional head v that verbalizes it with a meaning ‘to spread something with butter’, or a noun if it Merges with a functional head n that nominalizes it with a meaning ‘an edible substance made by churning milk’, as illustrated below.



¹³⁷ In chapter 2, it was observed that there are several syntactic differences between ALP and IAP; for example, ALP can be predicative (ia), but IAP cannot (ib).

(i) a. The books are John's. b. *The sisters are John's.

Based on this and other syntactic considerations, I propose two distinct structures for IAP and ALP. The discussion in this section essentially entertains this structural distinction to accounting for the lexical restriction difference between Tigrinya BPNs and H-CSNs.

In line with this view, I assume that every noun in Tigrinya and Hebrew has a functional head *n* and a category neutral root $\sqrt{}$.

In the Minimalist Program (Chomsky 1995b *et seq.*; see also Halle & Keyser 1993, Kratzer 1996, and Folli & Harley 2004), it has been widely assumed that the category *v* selects an external argument and may syntactically license a direct object, and that different varieties of *v* select arguments with different theta-roles (cf. Folli & Harley 2004).¹³⁸ For instance, it has been proposed that different *v* heads introduce causer, agent and experiencer external arguments. Extending this reasoning to the nominal domain, I assume, that there are different varieties of *n* that introduce different external arguments in the nominal structure of Tigrinya and Hebrew (see also Ritter and Rosen 2010a for similar arguments on Blackfoot).

Based on these assumptions, I propose that Semitic languages manifest at least three varieties of *n*, which I label here as *n1*, *n2* and *n3*, based on their root-selecting and argument-licensing properties. These varieties include an obligatory argument-selecting head (*n1*) that combines with a category-neutral-root $\sqrt{}$ and an external argument for relational nouns (e.g., ‘father’), a category-determining head (*n2*) that selects a category-neutral root $\sqrt{}$ for non-relational (or unpossessed) nouns (e.g., ‘book’), and an optional argument-selecting head (*n3*) that selects a category-determining head (*n2*) and an optional alienable possessor. In other words, in the clausal structure, different flavors of *v*

¹³⁸ In the clausal domain, it has been universally assumed that the category *v* selects an external argument (agent, causer, experiencer, etc.) and may syntactically license a direct object; for instance, Folli and Harley (2004) propose that different varieties of *v* select external arguments with different theta-roles; for e.g., causers and agents are both external arguments, but they are introduced by different varieties of *v*, as schematized below:

(i) [_{VP1} **CAUSER** [_{v1} [_{VP2} **AGENT** [_{v2} [_{VP} V (THEME)]]

Pursuing the same analogy, I propose that *n* in Tigrinya and Hebrew is structurally parallel to *v*, and that different types of *n*, parallel to *v*, introduce different types of possessors in possessive constructions in the nominal domain. (See Ritter and Rosen 2010b for a similar proposal on Blackfoot.)

are proposed to introduce different types of arguments such as causers, agents and experiencers (cf. Folli & Harley 2004; see also Ritter & Rosen 2010b on Blackfoot). By analogy, I propose that different varieties of *n* introduce different types of arguments (*n1* introduces IA-Pssrs, *n2* introduces no arguments, and *n3* AL-Pssrs). I turn now to a discussion of *n* in Tigrinya and Hebrew.

5.4.1 Flavors of *n* in Hebrew and Tigrinya

In this section, I discuss each of the flavors of *n* and show that while Hebrew has *n1*, *n2* and *n3*, Tigrinya has only *n1* and *n2*. I argue that this difference has consequences for the expression of ALP and IAP: Recall that Tigrinya syntactically distinguishes ALP and IAP, but Hebrew does not. Also, Tigrinya uses a predication strategy for ALP but an argumental strategy for IAP. Both BPNs and CSNs arise when there is an argument-taking *nP*: Tigrinya has only two flavors of *n*: *n1* for IAP, *n2* for unpossessed Ns (ALP has a different structure to be discussed in section 6 below), but Hebrew has three flavor *n*'s: *n1* for IAP, *n2* for unpossessed Ns and *n3* for ALP. I first discuss *n1* and *n2*, which are the same in Hebrew and Tigrinya, and then provide an analysis of *nP* in Tigrinya BPNs and Hebrew CSNs. Finally, I will discuss implications for the analysis of *nay*.

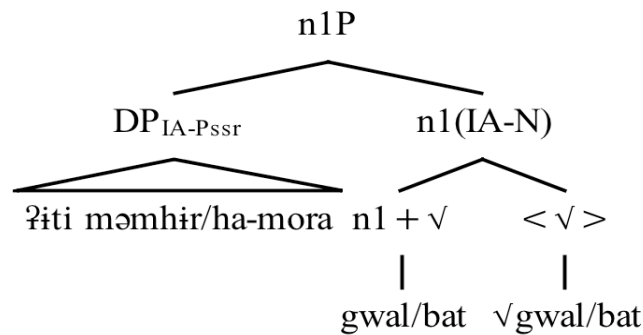
5.4.1.1 *n1* Hebrew and Tigrinya (relational) nouns

In this section, I consider the *nP* structure of kinship terms, which are necessarily relational nouns. This type of *n*, which I call *n1*, has both a rootP complement and an external argument DP. Thus, a kinship noun, such as Tigrinya *g^wal* (76a) or Hebrew *bat*

(76b), ‘daughter’, which obligatorily selects an IA-possessor, will have the structure in (76c).

- (76) a. g^wal ʔit-a məmhır Tigrinya
 daughter D-F.SG teacher
 ‘the teacher’s daughter’
- b. bat ha-mora Hebrew
 daughter the-teacher
 ‘the teacher’s daughter’

c.

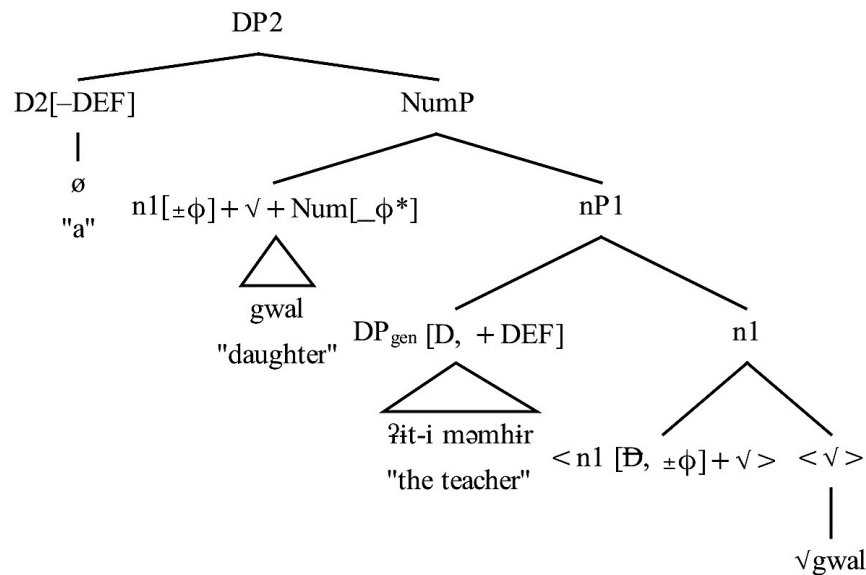


This structure reflects the hypothesis that kinship nouns in both Tigrinya and Hebrew always consists of a category-neutral root and an argument-selecting *n*, whose external argument is the IA possessor. In BPNs and H-CSNs, *n1P* is embedded in NumP. N-movement-to-Num is now reanalyzed as $\sqrt{\text{ }}$ -movement-to-*n*, and $\sqrt{+n}$ -movement-to-Num. Note that, since every head movement is subject to the Extension Condition, each of these movements involves both head-to-Spec movement and M-merger. For instance

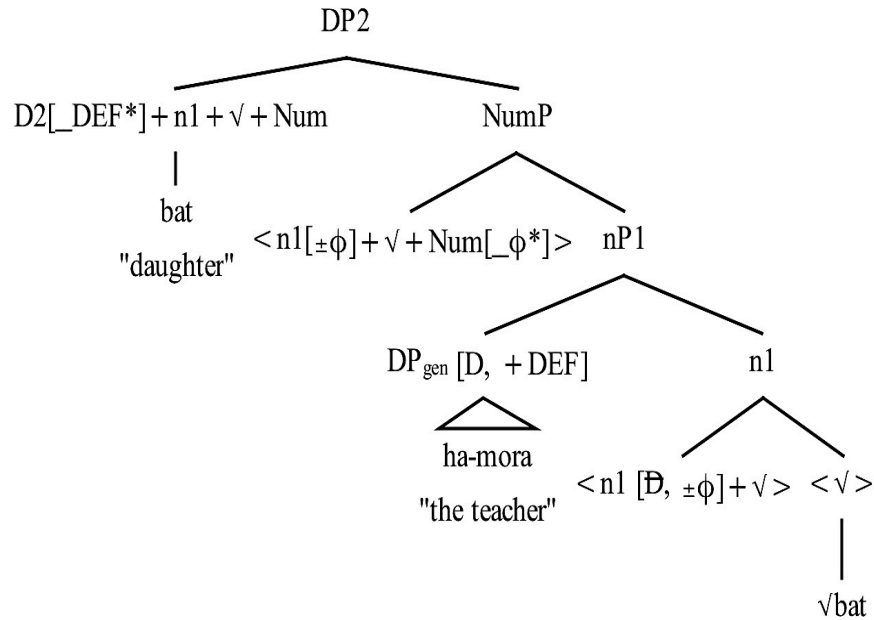
in (76c), first $\sqrt{\text{ }}$ Merges and then raises to [Spec, $n1P$]. Then, $\sqrt{\text{ }}$ undergoes M-merger with $n1$, spelling out the inalienably possessed noun. Finally, the IA-Pssr is Merged in the specifier of $n1$ forming $n1P$. This is consistent with head-movement analysis pursued throughout this chapter.

Thus, a fully articulated structure of IAP in Tigrinya BPNs and Hebrew CSNs with functional projections such as D and NUM being introduced and N decomposed into $n+\sqrt{\text{ }}$ will be the one given in (77). Recall that each of these functional projections come with their own unique unvalued features that trigger movement, and all unvalued features must be valued for the derivation to converge and be shipped to PF. Also, recall that each head movement involves head-to-Spec plus M-merger in the course of the derivation.

(77) a. A derivation of an IA BPN



b. A derivation of an IA CSN



In both (77a) and (77b), the derivation proceeds in a bottom-up manner involving a head-to-Spec movement and M-merger as follows. First, the root $\sqrt{\text{DAUGHTER}}$ is Merged, and then $n1$ is Merged with it forming an inalienable noun (IA-N) ‘daughter’. Then, the inalienable possessor is Merged as a specifier of $n1$ satisfying its C-selectional requirement (formalized as $[D]$; strikethrough ($[\bar{D}]$) shows the feature is checked). Next, Num head with strong unvalued ϕ -features is Merged, probes down and attracts the goal, the inalienable noun ($\sqrt{+n1}$) with matching valued ϕ -features, in order to value its $[_\phi^*]$ features. Note that since the head Num also has an unvalued Case feature $[u\text{CASE}]$, it probes down into its c-commanding domain and finds the DP_{gen} (the IA-Pssr) with a matching valued genitive Case feature $[\text{CASE}]$ and values it through the operation Agree. Finally, a D head is Merged. In Hebrew CSNs, the N ($n1+\sqrt{}$), which is inherently

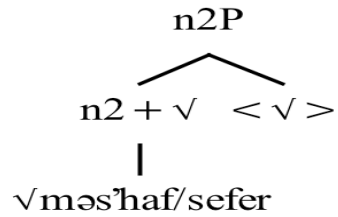
specified for definiteness, raises to [Spec, DP] as D has strong unvalued definiteness feature [$_DEF^*$], as shown in (77b). In Tigrinya BPNs, however, N ($n1+\checkmark$), which is not specified for definiteness, remains in [Spec, NumP], as D has only has a valued [$\pm DEF$] feature that does not attract N, as shown in (77a).

5.4.1.2 $n2$ in Hebrew and Tigrinya non-relational nouns

Let us consider next, an unpossessed non-relational noun, such as Tigrinya *məs'haf* (78a) or Hebrew *sefer* ‘book’ (78b). Such nouns consist of a root and a root-selecting - but not argument-selecting - n , which I call $n2$, as illustrated in (78c). In this case, Merge of \checkmark with $n2$, nominalizes \checkmark and derives the $n2P$ ‘book’. In an unpossessed DP, $n2P$ is embedded in NumP, and again N-movement-to-Num is reanalyzed as \checkmark -movement-to- n , and $\checkmark+n$ -movement-to Num.

- | | | | |
|------|----|------------|----------|
| (78) | a. | məs'haf | Tigrinya |
| | | book | |
| | | ‘(a) book’ | |
| | b. | sefer | Hebrew |
| | | book | |
| | | ‘(a) book’ | |

c.



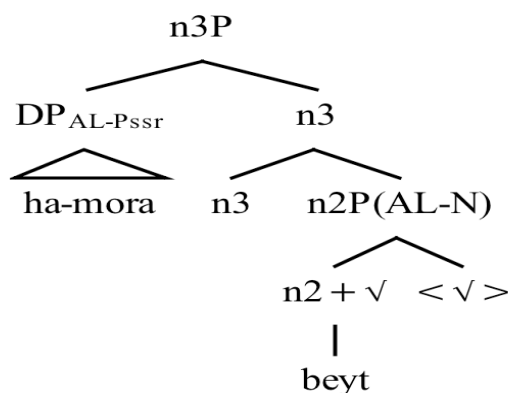
We have now seen that both Tigrinya and Hebrew have *n1* (IA-Pssr introducer) and *n2* (unpossessed noun introducer); in what follows, I will discuss the third flavor, *n3*, an AL-Pssr introducer, which only exists in Hebrew.

5.4.1.3 *n3 in Hebrew ALP*

In order to account for the fact that ALP can be expressed as a H-CSN but not a BPN, I propose that the two languages differ in whether or not they have a third variety of *n*, which I call *n3* which serves as an alienable possession (ALP) introducer. I assume that a different flavor of *n* is required because the head noun in ALP (unlike IAP) does not lexically restrict its possessor. I adopt Ritter & Rosen's (2010a) analysis of *n3* as an argument-selecting head that Merges with *n2P* whenever the non-relational noun has an alienable possessor, as shown in (79).

- (79) a. beyt ha-mora
 house the-teacher
 'the teacher's house'

b.



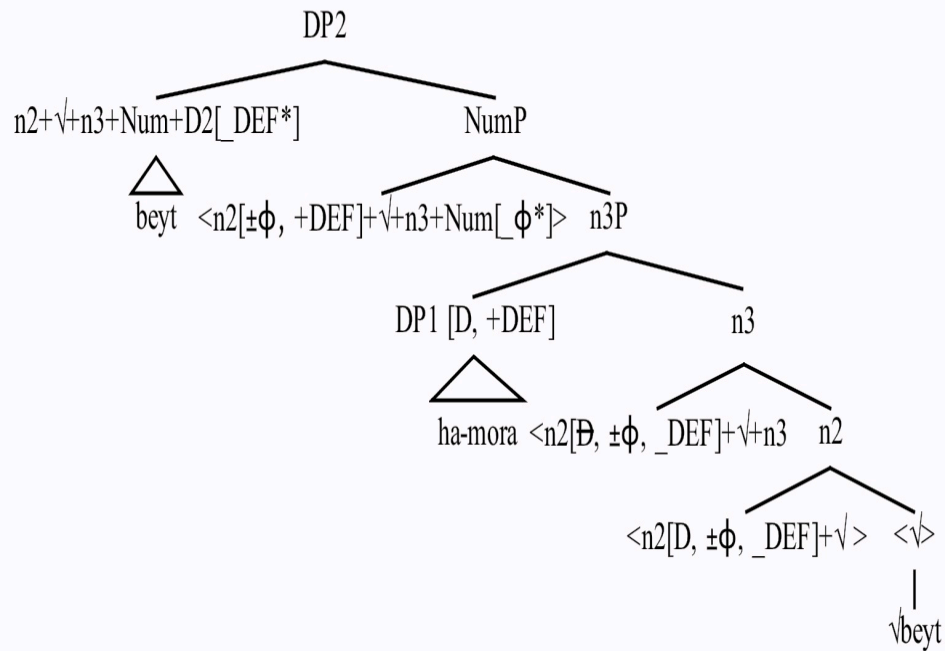
As with other flavors of nP , $n3P$ is embedded in NumP, and again N-movement-to-Num is reanalyzed as movement of a complex element consisting of the lexical root and n . In the case of $n3P$, N-to-Num is reanalyzed as three head-to-Spec movements: $\sqrt{\text{movement-to-}n2}$, $\sqrt{+n2\text{-movement-to-}n3}$ and $\sqrt{+n2+n3\text{-movement-to-Num}}$.¹³⁹

The derivation in (79b) begins with the root and $n2$ being Merged and forming $n2P$, which is an alienable noun (AL-N). The alienable relation is introduced by $n3$. When $n3$ is Merged, it takes the category-defining $n2P$ as its complement and the AL-Pssr as its specifier. Under this analysis, the role of $n3$ is to introduce a semantic relationship between the DP in its specifier and $n2$ (see Ritter & Rosen 2010a on Blackfoot, among others, for similar arguments). Thus, given that there is no lexically determined semantic relationship between the alienable noun of a CSN and its genitive phrase, it is reasonable to assume that a functional head $n3$ is different from $n1$, which introduces relational roots and their IA possessors.

¹³⁹ A linking element like Hebrew free state nominal introducer $\int el$ can also be taken as a realization of $n3$. However, discussion of free state nominals in Hebrew is beyond the scope this dissertation.

Thus, a fully articulated structure of Hebrew CSNs with functional projections such as D and NUM being introduced and N decomposed into $n+\sqrt{}$ will be the one given in (80). In other words if N is decomposed into $n3+n2+\sqrt{}$, then, the derivation in (79b) does not stop there as it is not complete; there are features of the head noun and functional heads (D and NUM) that need to be checked and valued. For instance, as has been argued above, the head noun of the AL CSN must move to a higher functional head [Spec, NumP] to check its strong unvalued $i[_\Phi^*]$ features in Hebrew. Then, it further moves to [Spec, DP], to value D's strong unvalued $[_\text{DEF}^*]$ feature, as illustrated below.

(80) A derivation of an ALP CSN



The derivation in (80) is essentially the same as the one in (77b) for IA CSNs: The noun-initial order is the result of moving the noun to [Spec, DP], crossing the alienable

possessor, in [Spec, *nP*3] due to the D head having a strong unvalued [DEF] feature ([_{DEF}*]). The only difference is in the nature of the head noun: Since there is no lexically determined semantic relationship between an AL-noun and its possessor; i.e., since the AL-Pssr is not subcategorized by the noun, it must be selected by a different functional head, *n*3, which specifies the role of the possessor, much like a causative *v* forces to specify the contribution of an added causer argument. The semantic relationship between the possessee ‘house’ and its possessor ‘the teacher’, which is introduced by the third variety *n*3, is undetermined. For example, it is often the owner, but this is not necessary the case: The teacher can be the tenant, renter or even admirer of the house.

More importantly, this option is not available for Tigrinya for the reasons mentioned above. My claim that Tigrinya lacks *n*3P straightforwardly accounts for the fact that BPNs never express ALP. In the next section I discuss the implications of the assumption that nouns are reanalyzed as a category-neutral root and category defining functional category for the analysis of Tigrinya ALP developed in chapter 3.

6 Implications for Tigrinya ALP

As discussed in chapters 2 and 3, ALPs in Tigrinya are both semantically and syntactically different from IAPs. Semantically, ALPs show a contextually determined semantic relationship between the AL-noun and its possessor, while IAPs show a lexically determined semantic relationship between the IA-noun and its possessor. For instance, while the possessor *John* in the ALP *John’s house* shows a plethora of semantic relationship with the noun *house* (John can be the renter, owner, and even admirer of the house), the possessor *John* in the IAP *John’s father* bears a single semantic relationship with the noun *father*, which is determined by the meaning of the root $\sqrt{\text{FATHER}}$.

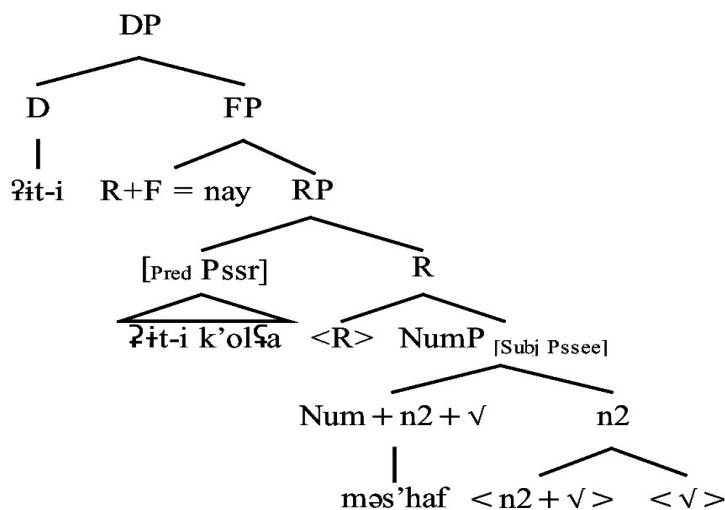
Syntactically, ALPs show a different word order and morpho-syntactic marking than IAPs in many languages (see Heine 1997 for a list of languages that show a syntactic distinction between ALP and IAP). For example, in Tigrinya, as pointed out in chapter 2, this contrast is signaled by two formal differences between ALP and IAP: First, in ALP the possessor precedes the head-noun (81a), whereas in IAPs the order is reversed (81b); second, the AL-Pssr has the element *nay* (81a) whereas the IA-Pssr does not (81b).

- (81) a. *nay* *jəwhanis* *gəza*
 NAY John house
 ‘John’s house’
- b. (**nay*) *ʔabbo* (**nay*) *jəwhanis*
 (*NAY) father (*NAY) John
 ‘John’s father’

Now a simple ALP in Tigrinya given in (82a) will have the structure in (82b). Here, *R* (= *nay*) is a nominal copula (in the sense of den Dikken 2006) that signals a predication relationship between the possessor predicate and its possessee subject in a nominal small clause structure, as schematically represented in (82b). (See chapter 3 for a detailed discussion on this).

- (82) a. *ʔit-i* *nay-t-i* *k’olʕa məs’ħaf*
 D-M.SG NAY-D-M.SG child book
 ‘the boy’s book’

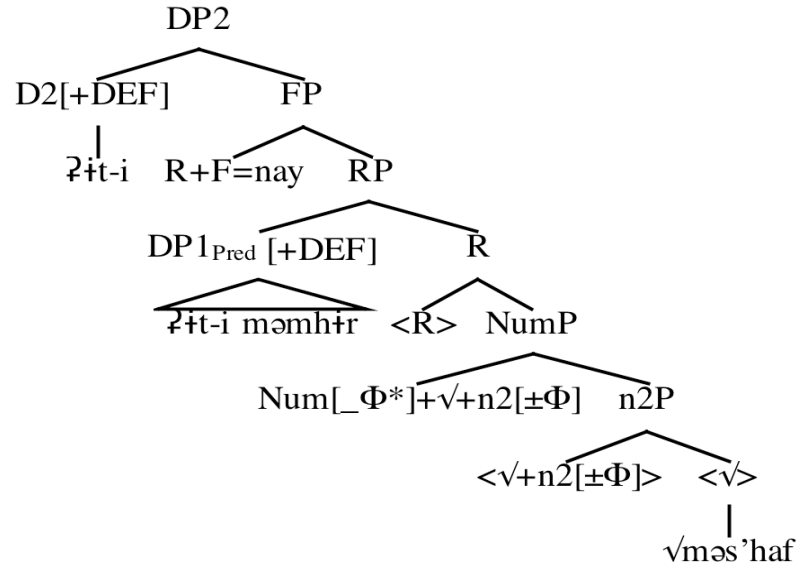
b.



In the derivation, first $\sqrt{}$ Merges with $n2$, then $\sqrt{}$ raises to [Spec, $n2P$], and subsequently undergoes M-merger with the head. Next $\sqrt{+n2}$ raises to [Spec, $NumP$] and again this head-to-Spec movement is followed by M-merger. $NumP$ is then Merged with R , and as argued in detail in chapter 3, it serves as the possessee subject of the nominal small clause RP . The predicate of the small clause is the possessor DP , which is Merged in [Spec, RP], giving rise to reverse predication. I suggested in chapter 3 that any predicate-as-specifier structure requires the addition of a second functor, which I call F . In (80b), F Merges with RP , and then R raises to [Spec, FP] and undergoes M-merger with the result that F is spelled-out as *nay*. Finally, FP Merges with D , and the result is an ALP DP .

Thus, a fully articulated structure of Tigrinya ALP with functional projections such as NUM and D being introduced is illustrated in (83b) for a Tigrinya ALP given in (83a).

- (83) a. ʔit-i nay ʔit-i məmhɪr məs'haf
 D-M.SG NAY D-M.SG teacher book
 ‘the teacher’s book’
- b. A derivation of an ALP BPN



Generalizing from this analysis of ALP in Hebrew and Tigrinya, it is clear that there are two options - either the AL-Pssr is an argument or it is a predicate. Hebrew ALP instantiates the first option, whereas in Tigrinya instantiates the second. Recall that in chapter 2, I demonstrated that Tigrinya AL-Pssrs are predicates (not arguments). Here, I suggest that Hebrew AL-Pssrs are arguments, and then propose that $n3$ is required to introduce an AL-Pssr in languages like Hebrew, but a different type of treatment is required for AL-Pssrs in languages like Tigrinya. One consequence of this proposal is

that Hebrew IAP and ALP are structurally quite similar, whereas Tigrinya IAP and ALP are not.¹⁴⁰

The strategy that uses *n3* to introduce arguments is an *argumental* strategy, while the one uses *nay* to license predicates is a *predicational* strategy. While languages like Hebrew employ the argumental strategy to encode ALP, languages like Tigrinya employ the predicational one. The former treats ALP like IAP, the latter does not. Assuming two strategies for ALP may complicate the analysis, but it provides better empirical coverage of the observed cross-linguistic variation.

7 Conclusion and outstanding questions

This chapter contributes to our understanding of the comparative syntax of Semitic languages and to the development of the theory of syntax by providing a unified analysis for both Tigrinya and Hebrew constructs state nominals. This chapter demonstrated that Tigrinya BPNs are CSNs because they share the defining properties of CSNs. It then developed a Minimalist analysis of these properties, arguing that a CSN always entails head-to-Spec movement of the lexical head to an intermediate functional category Num followed by a morphological merger (M-merger) of N+NUM. The differences between Tigrinya BPNs and Hebrew CSNs lie in the category and feature specification of the different heads within the DP. I have proposed that Tigrinya has D with a valued definiteness feature [\pm DEF] (and no [DEF] feature elsewhere). This is the unmarked option. Hebrew, on the other hand has D with a strong unvalued definiteness feature

¹⁴⁰ It is important to note that in Hebrew *n3* as an AL-Pssr introducer has two possibilities: (i) as a realization of genitive Case assigned by the noun which in this case is null or as a dummy preposition *el* which itself checks genitive Case on the possessor. In Hebrew, recall that only free state nominals (but not CSNs) are marked with the prepositional element *el* (see Borer 1988, among others). If this is true then, *n3* is a ‘placeholder’ for different types of syntactic functional heads that introduce different syntactic relationship between two dependents, reminiscent of the functional element R in Tigrinya.

([$_\text{DEF}^*$]) and a [DEF] feature on the noun (technically on n). This is a marked property that has significant consequences for H-CSNs, and for other types of DP in Hebrew. We saw, for example, that the presence of [$_\text{DEF}^*$] causes the noun to move from NUM to [Spec, DP] in Hebrew CSNs. No such feature-driven movement to [Spec, DP] occurs in Tigrinya because D has a valued definiteness feature ([$\pm\text{DEF}$]) but the noun does not. In all the syntactic derivations, it is argued that unvalued strong features (such as [$_\text{DEF}^*$] or [$_\text{NUM}^*$]) cause movement of the N to the root of a higher functional head. While movement of the head noun to [Spec, NumP] occurs in both Tigrinya BPNs and Hebrew CSNs, only Hebrew CSNs also have strong feature on D that requires an additional movement to [Spec, DP].

This chapter has also demonstrated that previous analyses of Semitic DPs, which propose standard head-to-head movement, are deemed untenable because they are incompatible with current Minimalist assumptions (Chomsky 1995a and subsequent work). One of the most critical objections raised against standard head movement analysis is the fact that, under current theoretical assumptions, this movement violates Minimalist principles, viz. the *Extension Condition*, which requires movements to extend the tree (cf. Chomsky 1993). Building on previous analyses (e.g., Ritter 1991), I have argued that head-movement is required in Semitic DPs, but assume, following Matushansky (2006), that heads target specifier positions. Such movement extends the structure at the root and makes head movement compatible with the *Extension Condition*. Assuming that head-to-Spec movement (accompanied by a morphological M-merger operation) is a legitimate syntactic operation, I have also shown how such a syntactic

operation permits a straightforward account for the defining properties of BPNs and CSNs, and captures their differences very adequately.

Finally, I have shown that possessors do not have a uniform syntax either across languages, or within a single language. I showed that the syntax of possessors varies across two dimensions: (i) how they Merge in a syntactic structure: as a predicate or as an argument; and (ii) what introduces them: a root-selecting head ($n1$), a noun-selecting head ($n3$) or a predicate introducing head (R). The different logical possibilities of the possessor syntax follow from the current analysis are attested across languages as summarized in the table below.

Table 4: Variation in the syntax of possessors

	IA-Pssr	AL-Pssr
Predicate	N/A	Tigrinya
Argument	Tigrinya & Hebrew	Hebrew

This analysis accounts for the fact that ALP is fundamentally different from IAP in Tigrinya, but not in Hebrew. However, a number of issues remain open; I have not, for example, addressed the fact that both Tigrinya and Hebrew use the CSN strategy to form compounds. This raises the question: If compounding is a word-formation process, it is not clear why the construct state strategy is employed to form N-N compounds.

Chapter 5

Conclusion and outstanding issues

1 Main findings of the study: broader perspectives

This dissertation has explored a number of issues in the syntax of possession in Tigrinya, a lesser-studied Semitic language of Ethiopia and Eritrea. Each chapter in the dissertation reports novel Tigrinya data, which are both typologically interesting and theoretically relevant within the framework of the Minimalist Program. The dissertation contributed to the field of syntax in Semitic languages by achieving two related goals: (i) documenting theoretically significant aspects of Tigrinya and (ii) providing novel data that bear on current theoretical debates. The analyses that I presented are intended not only to account for the empirical puzzles in Tigrinya, but also to contribute to our understanding of similar phenomena in other Semitic languages and beyond, and to the advancement of the Minimalist program for syntactic theory.

This dissertation has demonstrated that languages differ in the strategies they employ to distinguish between alienable and inalienable possession. It was found that while the relation between a possessor and its possessee in inalienable possession is uniformly argumental, the relation between a possessor and its possessee in alienable possession is either argumental or predicational. In Tigrinya the split between alienable and inalienable possession is formally encoded and an alienable possessor is the predicate of the possessee. In Hebrew, on the other hand, the split is not formally encoded and an alienable possessor - like an inalienable one - is the argument of the possessee,

suggesting that while Tigrinya is typical of languages that syntactically distinguish the two types of possession, Hebrew is representative of languages that do not. These findings provide additional support for the line of inquiry that put forward the view that the syntactic structure of nominals is the reflex of their semantic interpretation (Alexiadou 2003, Folli & Harley 2004, Ritter & Rosen 2010a, Ritter & Rosen 2010b, among others).

The dissertation also provides support for the line of research that advance the view that lexical categories are decomposed into different flavors of light heads (i.e., *n*, *v*, *a*, etc.) and that such flavors of functional categories may introduce different arguments such as agents, causers, experiencers, possessors, etc. (Marantz 1997; 2001, Ritter and Rosen 2010a, among others). In addition, it contributes most broadly to the grammar of possession, and how its syntactic and semantic features can be accounted for within a single language (or across different languages). It is also my hope that the proposals here will eventually assist in a better cross-linguistic understanding of nominal possession.

2 Main findings: specific to the chapters

This dissertation investigates a number of issues, ranging from descriptive to theoretical organizing them in four major chapters. Chapter one provided a general introduction to the problems investigated in this dissertation and theoretical assumptions. It also contributed some novel descriptive material on Tigrinya. Chapter 2 laid out the main empirical domain considered in the subsequent chapters of the chapters. It described and analyzed the two major strategies Tigrinya uses to encode possession, focusing on the fact that one is consistently used to express alienable possession and the other for inalienable possession. In particular, (i) bare possessive DPs have no marking on either

the possessor or possessed, and are used for inalienable possession only (ii) *nay*-marked possessive DPs have the particle *nay* preceding the possessor. A number of syntactic diagnostics all pointed to the same conclusion, i.e. that the syntactic differences between the two types of possession arise due to the nature of the relationship between the possessor and the possessee. The major contribution of this chapter was to establish that the inalienable possessor of a relational kinship noun is an argument, but the alienable possessor of a non-relational noun is a modifier.

Chapter 3 concerns itself with the analysis of *nay*-marked alienable possession and the role of *nay* in the syntax of these phrases. The chapter explored two hypotheses that have been proposed to account for the properties of a similar element in a comparable construction in Amharic, a genetically and areally related language: Either *nay* is a genitive Case marker (in the sense of Ouhalla 2004) or a Linker (in the sense of den Dikken (2007a). I determined that neither approach could satisfactorily account for the properties of Tigrinya alienable possession, and developed an alternative that shares den Dikken's insight that such elements are nominal copulas, but provides simpler analysis and superior empirical coverage. It was proposed that *nay* introduces a predication relation between the *nay*-marked predicate possessor and its subject possessee in alienable possession. This analysis was then extended to account for the occurrence of *nay* in other constructions.

Chapter 4 dealt with the second type of possession in Tigrinya, bare possessive nominals (BPNs), and compared them to construct state nominals (CSNs) found in other, better-studied Semitic languages, namely, Hebrew and Arabic. Focusing narrowly on Hebrew CSNs, it was determined that Tigrinya BPNs share the defining properties of

Hebrew CSNs. It follows that BPNs ought to be amenable to analyses developed for CSNs. The chapter limited itself to two prominent treatments: Head-movement (aka N-raising) (Ritter 1991) and snowballing phrasal movement (aka roll-up movement) (Shlonsky 2004). It was determined that snowballing phrasal movement is untenable for Tigrinya and that a modified version of the head movement analysis fares much better. More specifically, it was demonstrated that Matushansky's (2006) head-to-Specifier movement permits an elegant account of both Tigrinya BPNs and Hebrew CSNs and at the same time remedies the empirical and conceptual challenges associated with standard head-to-head movement analyses.

3 Outstanding issues, implications and future avenues

In this dissertation, there are a number of issues that were left open due to time and scope limitations of the study. There are also several areas of inquiry that arise from the findings in this dissertation that suggest future lines of research.

3.1 Compounds

One empirical domain not explored in the dissertation is the use of both possession strategies for compound formation in Tigrinya. Compound formation is a productive part of the nominal system in the grammar of Tigrinya and many other Semitic languages. While their presence is hinted at in Tigrinya and Hebrew, a full treatment and integration into the analysis of the possession presented in this dissertation remains to be done. Some of the questions future research may address include: Is syntax involved in the formation of such compounds in both Tigrinya and Hebrew? If so, do syntactic operations, such as head-to-Spec movement, apply in compound formation? If not, why do both Tigrinya and

Hebrew allow possessive formation strategy, a syntactic strategy, for compound formation process? In order to address all these questions another study is needed.

3.2 Alienable and inalienable possession in other (Semitic) languages

The two basic types of possessive relation commonly referred to as alienable and inalienable have long been recognized as being relevant for the formal patterning of languages (Dixon 1910, Seiler 1983; see also Heine 1997, Stolz et al. 2008 for a recent discussion). While inalienable possession is most typically used to refer to possessive relations involving kinship (e.g., *father* and *daughter*) and body-part nouns (e.g., *face* and *leg*), alienable possession is used to refer to possessive relations involving most other nouns (see Heine 1997, Seiler 2001, among others). If kinship and body-part nouns are both inalienable nouns, the prediction is that part-whole nouns should pattern with kinship nouns. However, preliminary results in Tigrinya seem to show that they do not appear to pattern with kinship terms, because both strategies (argumental and predication) can be used to encode part-whole relations in Tigrinya. It is not yet clear why this mixed pattern existed in Tigrinya; their analysis waits for a future research.

Additionally, in other Semitic languages the opposition between alienable and inalienable possession does not exist. Particularly, in Amharic, a very closely related language to Tigrinya, possession is generally expressed by using a single strategy; i.e., Amharic uses the element *yā-* to encode possession and that *yā-*, like *nay* in Tigrinya, always attaches to the left edge of the DP. The following examples illustrate the facts:

- (1) a. *yâ-astâ-mari-w* *mâs'ahift*
 YÂ-teacher-DEF *book.PL*
 'the teacher's book'
- b. *yâ-astemari-w* *lijj-ot[t]*
 YÂ-teacher-DEF *boy.PL*
 'the teacher's son'

Even if Amharic uses a single strategy to encode possession and does not show the possession between alienable and inalienable possession, the distribution and function of *yâ-*, which is parallel to the distribution and function of *nay*, as has been shown in chapter 3, seem to suggest that *yâ-* in Amharic is a nominal copula and that *yâ*-marked possessors are predicates (see chapter 3 for a detailed discussion). So, the analysis presented here can be extended to Amharic given that the *yâ*-marked possessors in Amharic are similar to the *nay*-marked possessors in Tigrinya. The analysis predicts that *yâ*-marked possessors should allow differing interpretations. This prediction is borne out as (1b) could also mean 'the teacher's boy not necessarily his/her son, maybe the teacher's students, or associated in any contextually salient way.' However, this raises the question of why Amharic only uses the *yâ*-marking strategy and does not show alienable-inalienable distinctions, unlike Tigrinya (or even Hebrew, which shows the opposition between free state and construct state possession). This question needs further investigation into the Amharic possession structure.

3.3 Pronominal possessors

As pointed out in Chapter 2, the issue of pronominals is complex and puzzling. It is indicated that pronominal possessors in Tigrinya attach both to the possessed noun and to the copula *nay*, although their treatment is left open for future research. It was noted there that the distribution and treatment of pronominal possessors is not uniform within a single language or across languages (see Ritter 1995, Déchaine & Wiltschko 2004, among others). For example, while Abney (1987) proposes that pronouns belong to the same syntactic category as determiners, other studies suggest that the two are structurally distinct classes of pronouns. In Tigrinya, and generally in Ethio-Semitic languages, it is also not clear whether pronouns are agreement affixes or clitics. For example, in Amharic there is a debate whether pronominal possessors are clitics (e.g., Yabe 2001) or agreement affixes (e.g., Yimam 2004) (see also Kramer 2011 for reopening of the debate on similar verbal pronominal affixes). Investigation into these issues in Tigrinya will require another study.

3.4 Tigrinya *nay* and Hebrew *ʔel*

The appendix to Chapter 3 explored the grammatical category of *nay* and demonstrated that *nay* is a preposition whose morphophonological and syntactic properties pattern with other prepositions in the language. This is unsurprising given that a number of languages encode possession using a preposition (Heine 1997, Stolz et al. 2008, among others) and that PPs are used as predicates in predication constructions (see Bowers 1993, den Dikken 1995; 2006, *inter alia*). In fact, in other Semitic languages, such as Hebrew, the

prepositional strategy is used to form free state possessives using the preposition *ʃel* ‘of’, as in (2):

- (2) ha-bayit ʃel ha-mora
 the-house of the-teacher
 ‘the teacher’s house’

However, there are significant empirical differences between Tigrinya *nay*-marked alienable possession and Hebrew *ʃel*-marked free state possession, including the position of the possessee (prenominal vs. postnominal) and the nature of the possessee (alienable vs. inalienable). These empirical differences need to be further examined before we extend the predication analysis of Tigrinya alienable possession developed here to the Hebrew *ʃel*-marked free state nominal facts. Nevertheless, the predictions are clear: If a language makes a morphosyntactic distinction between alienable and inalienable possession - as Tigrinya does - then, the possessor-as-predicate strategy must be used for alienable possession. In contrast, if a language makes no distinction between alienable and inalienable possession then, a different strategy, perhaps the possessor-as-argument must be used for alienable possession. Hebrew belongs to this type of language. The predictions and consequences of these views however should be explored, and I hope to continue this research by looking at other (Ethio-Semitic) languages for evidence of a similar correlation.

3.5 Head-to-Spec movement

This dissertation adopts head-to-Specifier movement and morphological merger (M-merger) as a tool to explain the different syntactic structures in Tigrinya and Hebrew

possessive constructions. In the course of the investigation of Tigrinya and Hebrew construct state nominals, it was shown that Hebrew is different from Tigrinya in allowing additional movement of the head noun to the specifier of the D-head. It was proposed that Tigrinya has D with a valued definiteness feature [\pm DEF] (and no [DEF] feature elsewhere). This is the unmarked option. Hebrew, on the other hand has D with a strong unvalued definiteness feature ([$_\text{DEF}^*$]) and a [DEF] feature on the noun (technically on *n*). This is a marked property that has significant consequences for Hebrew CSNs, and for other types of DP in Hebrew. We saw, for example, that the presence of [$_\text{DEF}^*$] causes the noun to move from NUM to [Spec, DP] in Hebrew CSNs. No such feature-driven movement to [Spec, DP] occurs in Tigrinya because D has a valued definiteness feature ([\pm DEF]) but the noun does not. In all the syntactic derivations, it is argued that unvalued strong features (such as [$_\text{DEF}^*$] or [$_\text{NUM}^*$]) cause movement of the N to the root of a higher functional head. While movement of the head noun to [Spec, NumP] occurs in both Tigrinya BPNs and Hebrew CSNs, only Hebrew CSNs also have strong feature on D that requires an additional movement to [Spec, DP]. These findings predict that other instantiations of the strong/(un)valued feature distinction of D should show variation in the movement of the head noun further to the D-head. Further testing of this prediction will require another study.

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