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ISSUES IN THE MORPHOLOGY AND PHONOLOGY OF AMHARIC:
THE LEXICAL GENERATION OF PRONOMINAL CLITICS

by
Dana Shirley Mullen

A Dissertation
Submitted to the School of Graduate Studies and Research
in Partial Fulfillment of the Requirements
for the Degree of
Doctor of Philosophy -

Department of Linguistics

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April, 1986

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ABSTRACT

This thesis develops a proposal for generating the pronominal clitics of Amharic, a Semitic language of Ethiopia, in the lexicon. The hypothesis that lexical cliticization successfully accounts for the clitic construction is supported by evidence from both lexicon and syntax.

Cliticization is differentiated from affixation. The morphology that must precede cliticization is identified, and the relevant phonological rules that must apply prior to clitic attachment are distinguished from postlexical rules. In the final lexical level, a dependent pronoun is adjoined as an appendage to a fully inflected verb or noun, thereby being linked to the lexical host's thematic grid. The conditions for government are met at this point, and Case is assigned to the clitic.

Since the clitic is part of the lexical head inserted into syntax, it participates in projecting the syntactic phrase containing the thematic complement, with which it is coindexed and shares a θ -role. When this complement is an empty category, the chain it forms with the clitic constitutes a single discontinuous pronoun, the phrasal category contributing argument status and the clitic, agreement and Case features. This discontinuous pronoun is interpreted as the variable of predication in a relative construction, under the "predication-resumptive strategy."

Because cliticization is accomplished by adjunction to an X^0 element, higher levels of the X-bar system are reserved for syntactic structure. Lexicon and syntax therefore retain their separate and distinctive functions.

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I am grateful for the intellectual stimulation of the academic community within which this thesis was born and nurtured, and I am glad for this opportunity to express my appreciation to my teachers and student colleagues in the linguistics department for their encouragement and friendship.

In particular, I thank my thesis director, B. Elan Dresher, for his invaluable advice and linguistic insights; María-Luisa Rivero, for her scholarly inspiration and unfailing willingness to assist with constructive criticism; and John T. Jensen, in whose introductory syntax classes I first experienced the pleasure of trying to solve linguistic problems.

I owe a special debt of gratitude to Aynalem Abreha, formerly of Addis Ababa in Ethiopia, who has been my ever-helpful Amharic language consultant from the beginning of this research.

The preparation of this thesis has been an evocative experience for me. Again and again, as I have written the Amharic sentences and pronounced the Amharic words, I have heard in my memory the voices of the Ethiopians with whom I lived and worked many years ago, as clearly as if they were present today. It is to them, who will never know that the thesis exists or suspect what they have contributed, that I dedicate this work.

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INTRODUCTION

0.1 The Amharic Language¹

With an estimated nine million speakers (Katzner, 1977), Amharic is the most widely spoken of the Ethio-Semitic languages.² Next to Arabic, according to Ullendorff (1955, p.23), it is the living Semitic language spoken by the largest number of people.

A brief overview of the historical background of this South Ethiopic language will be helpful in understanding the overlay of non-Semitic characteristics on the Semitic source.

The Semitic colonizers of the highlands in the eastern Horn of Africa crossed the Red Sea from southern Arabia, probably beginning their migrations at least as early as the fifth century B.C. A thriving civilization eventually grew up around Aksum, but it declined in the eighth century A.D., and virtually nothing more is known of the Aksumites until the thirteenth century, when a dynasty calling itself "Solomonic" arose. By that time, the ancient Ethiopic language was no longer spoken and had been succeeded by a number of Ethio-Semitic languages, including Amharic.

Lambdin (1978) explains that Classical Ethiopic, or Geez, was the literary language, based on the speech of Aksum, that was developed by missionaries for the translation of the scriptures after the Christianization of Ethiopia in

the fourth century. (A knowledge of writing had already been brought to the Ethiopian highlands from Arabia by the early settlers.) The extensive religious literature that was translated into Geez before the Aksumite civilization disintegrated is the main source of our knowledge of this language. "As the official language of the church," Lambdin continues (p.1), "the written language survived the demise of its spoken counterpart in a manner analogous to the survival of Latin in Europe."

The original inhabitants of the Ethiopian region were speakers of Cushitic languages.³ Not surprisingly, there is evidence of some Cushitic influence in the Classical Ethiopic of the Aksum period, but this was mainly confined to phonetic variation and vocabulary. During the "Dark Ages" between the eighth and thirteenth centuries, however, the Cushitic languages made a strong impact on the emerging vernaculars, especially on the southern branch. Leslau (1945) describes Cushitic influences on the phonology, morphology, syntax and vocabulary of the Ethio-Semitic languages. Ullendorff (1955) emphasizes the effect on syntax. The initial process of radical divergence from other Semitic languages, he declares, was carried much further in the modern Ethiopian languages "... where all conceptions of Semitic syntax are in total dissolution" (p.10).

Let us briefly examine these generalizations about Cushitic influences on a Semitic base. In bringing to light specific examples from Amharic, we will achieve the principal

aim of this section, which is to describe the important linguistic properties of the Amharic language.⁴

The most typically Semitic characteristic of Amharic is its root-and-pattern morphology. As in all Semitic languages, verbal roots consisting of several consonants (most commonly, three) are the bearers of essential semantic values. To these consonantal skeletons, vowels are introduced in various patterns to create verbal stems, and these stems are subject to other morphological and phonological operations, including reduplication, gemination and myriad affixations. These means combine to express aspect, mood, voice, tense, causation, agreement, and so on, or to form new nominals from the verb. All the words formed from a root are related in some sense to the central semantic notion of the root. Some examples are given in (1).

(In the Amharic examples below, and throughout the study, the capital letters represent glottalized ejectives; ä is a lower-mid central unrounded vowel and i is a short high unrounded central vowel; a bare c stands for the unvoiced palatoalveolar affricate and a bare j for its voiced counterpart. A description of the Amharic segmental sound system appears in Chapter Three.)

(1) <u>l k m</u>	<u>'pick/gather'</u>
lKKKämä	'he gathered'
tä ~~l~~ lKKKämä	'it was gathered'
lKKmo	'he, having gathered'
innä ~~l~~ lKKmallän	'we gather'

läKaami	'one who gathers'
aläKKämä	'he took to pasture'
läKäma	'gleaning'
asläKKämäc	'she { had (something) gathered' } { caused (someone) to gather' }

... and so on.

Although about 70% of the basic Amharic vocabulary is Semitic (Cowley et al., 1976), the number of Cushitic loan-words, particularly words pertaining to articles and events in everyday life, is very large.

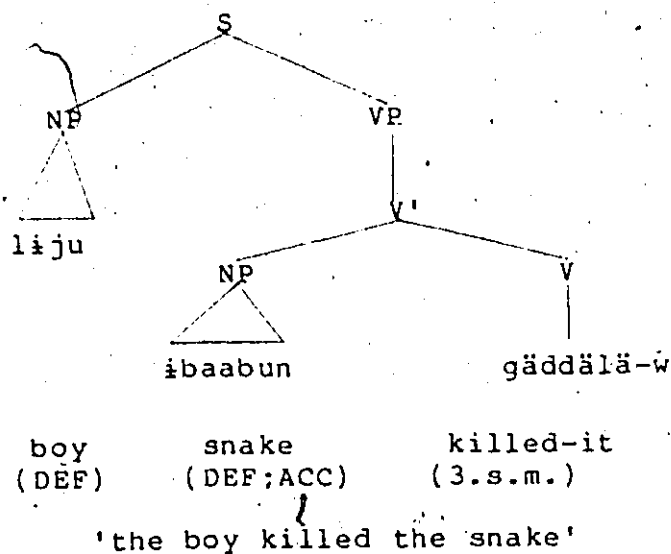
From the viewpoint of phonology, Leslau (1945) points to the existence of phonemic labio-velars, prepalatals and glottalized ejectives as evidence of Cushitic influence. With respect to derivational morphology, he provides a substantial list of nominal affixes that have a Cushitic origin. One example from verbal morphology is the possibility of forming, by a reduplication process, a frequentative verbal stem, which expresses an intensive, reiterative or augmentative value of the basic verb (e.g. läKaKKämä 'he gathered a little here and there').

It is when Leslau enumerates the major similarities between Cushitic and Ethio-Semitic syntax that the accuracy of Ullendorff's sweeping statement, quoted above, is revealed. For one thing, the position of the verb is at the end of an Amharic sentence whereas in Ethiopic it was first. The resulting SOV order of Amharic, which is the normal order in Cushitic languages, thus stands in sharp contrast to the

VSO order of the ancient Semitic language. Other positional relations in an Amharic sentence also resemble Cushitic order. A subordinate clause precedes the main clause; adjectives and relative clauses precede the noun they modify, as does the complement of the noun heading a genitive construction. In other words, the organization of the phrasal components of an Ethiopic sentence was totally altered during the years of its transformation into Amharic.

The (undetailed) structure of a simple declarative sentence in Amharic is shown in (2).

(2)



Greenberg (1963) expands on the SOV order of Amharic by classifying it in the "rigid" sub-type of SOV languages in which the verb is absolutely final, not just final with respect to subject and object. Bach (1970) challenged the SOV classification, arguing that Amharic is underlyingly a VSO language, but Hudson (1972) and Hailu Fulass (1972) have both disputed Bach's claim, and the SOV order is generally accepted today.

Since the verb is situated on the right of both subject and object, Amharic appears to qualify as a "head-final" language, assigning both Case and θ -role to the left (indirectly, as far as the subject is concerned).⁵ However, Amharic also has prepositions, which may assign Case and θ -role to the right. On the other hand, there is also a set of postpositions (which are typical of Cushitic languages) that are often used in combination with a preposition but sometimes occur without one. These positional relations are illustrated in (3); the relational words are underlined.

(3) a. liju wädä beet - u hedä

boy towards house-his went
(DEF) (3.s.m.)

'the boy went towards his house'

b. täraaraw lay bizu zaf allä

mountain on much tree exist
(DEF) (3.s.m.)

'there are many trees on the mountain'

c. bä-midir lay bizu fiTrätocc allu

on-earth on many creatures exist
(3.pl.)

'there are many creatures on earth'

One important characteristic of Amharic that Leslau did not discuss is that it is a "pro-drop," or "null-subject," language.⁶ That is, it is not necessary, in Amharic, that the subject position be filled with a lexical NP. For instance, a speaker might express the essential content of (2)

by saying the sentence without the lexical subject liju 'the boy', as in (4).

- (4) ibaabun gäddälä - w
 snake killed - it
 (DEF;ACC) (3.s.m.)

'he killed the snake'

This short discussion of Cushitic influences has brought out the major characteristics of Amharic, and I will leave more detailed explanations until they are relevant to the topic under consideration. Since I began the discussion with a paragraph hinting at the multitude of morphological resources available in Amharic, however, I feel that one preliminary word of caution would be salutary. While appreciating the richness of Amharic morphology, a linguist must be critically aware that all morphemes that are pronounced together as one word, and even written together as one word, are not necessarily components of a single lexical item. It is important to identify those morphemes that are added to a lexical item in the syntax and grouped into an extended, phonological word. A clear-cut example is the addition in suffix position of the coordinating conjunction na 'and'. In both speech and writing, this conjunction seems to be part of the word on its left, as in (5). (Note, in (5), that the /n/ of na becomes geminate when attached to a word.)

- (5) dabbo + Kibe → dabbonna Kibe --
 'bread' 'butter' 'bread and butter'

There are similar effects in English when and is reduced to the single consonant sound /n/, as in bread'n butter, big'n strong, salt'n pepper, and yet English speakers know that *bread'n and *salt'n are not words. The conjunction na is just one example of the Amharic morphemes that appear on words but have their own syntactic function, and analysts must distinguish carefully between a word, at the X⁰ level, and an X⁰ word to which some syntactic element has been cliticized.⁷

Before concluding this section, I should comment on the present status of Geez, as Classical Ethiopic is now called. Although it is extinct in the sense of being no longer spoken as a native tongue, this literary and ecclesiastical language is in constant use in the Ethiopian Coptic Church. Priests and deacons study it for many years. Despite its regular use in the church services, however, scholars have been unable to agree on details of the phonology of the ancient language, for individuals impart to the Geez that they recite the phonological characteristics of their own native language. Studies of the prosodic system are further complicated by the rhythms imposed by liturgical chants.

The two names, Classical Ethiopic and Geez, are used almost interchangeably in the literature. In this study, I also use sometimes the one name and sometimes the other, depending on the contextual viewpoint. When considering the development of Amharic from its Semitic origins, I find the name Classical Ethiopic appropriate. When merely referring to linguistic properties of the literary and ecclesiastical

language, as used in church rituals today, the name Geez, which is presently used by the Ethiopians themselves, seems preferable.⁸

0.2 Plan of the Thesis

In this dissertation, I will develop the hypothesis that Amharic pronominal clitics are generated in the lexicon and assigned Case there when cliticized to a Case assigner. In order to substantiate this hypothesis, it is necessary not only to account for the syntactic constructions in which the clitics participate but also to describe the kind of lexicon in which this cliticization and Case assignment can take place.

The first chapter contains an exposition of my proposal, along with a review of several previous approaches to the analysis of pronominal clitics in various languages. It also includes a statement of the theoretical framework within which I have done my research.

Chapter Two concerns the Amharic lexicon. In particular, I examine the lexical entries of the pronominals and the morphological structures involved in cliticization, as well as the events of Case assignment and association with a thematic grid. I then describe the organization of the lexicon into levels, showing the stages of lexical derivation that must occur before the pronominals can be cliticized to fully inflected words. This outline of the lexicon can serve

as a "reference map" to clarify the relations between morphological operations and phonological rules that I will motivate in succeeding chapters.

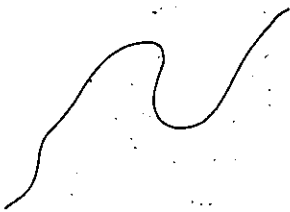
The third chapter concentrates on phonological issues, with the dual aim of describing the relevant rules that must apply before and after cliticization and of locating these rules in a lexical or postlexical domain. In particular, I study the relation between syllable structure and stress, giving special attention to problems associated with consonant gemination. In a final note, I draw attention to a parallel between the outstanding characteristics of Amharic stress patterns and certain phenomena of Cushitic stress.

In the fourth chapter, I investigate the Amharic pronominal clitics in syntactic structures, motivating their generation in the lexicon and determining the structural relation between a clitic and the phrasal category with which it is coindexed. In addition, I contrast the functions and behaviour of pronominal clitics and inflectional affixes, finding support for differentiating the two classes of morphemes.

The essential role played by the pronominal clitics in Amharic relative constructions is the central topic of Chapter Five. To understand this role, however, one must first understand the form and content of the relativized verb, and I therefore broach questions concerning its category, the surface order of relational morpheme and verb,

and the puzzling fact that a definite article is often found on this verb form. In a final section, I discuss Amharic relative clauses as predications of the head NP and determine the type of empty category that participates in a clitic construction.

A brief conclusion reviews the main stages in the "life history" of the Amharic pronominal clitics, from their origin in the lexicon to their interpretation in syntactic structures. The overall picture of lexicon and syntax that emerges from this account shows each of these components performing distinctive and separate functions while cooperating in harmony with each other within a single modular grammatical system.



NOTES FOR THE INTRODUCTION

1. I am greatly indebted to Aynalem Abreha (formerly of Addis Ababa, Ethiopia), the native speaker of Amharic who has been my language consultant for this research. He has been consistently patient and helpful in providing the information that I have required about the language. Besides answering my many questions, he has also offered enlightening comments concerning contemporary Amharic usage.

I have also benefited from listening to the recorded speech of native speakers on the tapes that accompany the lessons of Obolensky et al. (1964).

2. Hetzron (1975) presents a family tree in which the parent language, Proto-Ethiopic, divides into South and North branches. In the North Ethiopic group are the extinct language Geez (which is preserved in literature and is in constant use in the liturgy of the Ethiopian Coptic church) and two modern languages, Tigrinya and Tigre. The main languages of the South Ethiopic group are Amharic, Gurage and Harari.

Ullendorff (1955, p. 25) draws an illuminating parallel between Ethio-Semitic and Romance families when he states that, if Geez is compared to Latin, Tigrinya takes the place of Italian, Tigre of Spanish and Amharic of French. This comparison must be taken as a generalization regarding the degree to which the modern languages of the Ethio-Semitic group have deviated from the ancestral language; thus, it signifies that, of the three major contemporary languages,

Tigrinya most closely resembles Classical Ethiopic and Amharic is the least similar to it. The comparison should not be interpreted to imply that Amharic grammar resembles French grammar. To cite several obvious differences, Amharic has SOV order and it permits null subjects; also (of particular relevance to this thesis), Amharic makes much use of clitic-doubling, which Standard French does not allow.

Information concerning the relation of Amharic to other Ethio-Semitic languages, and of the Ethio-Semitic languages to other Semitic languages, can be found in Bender et al. (1976), Hetzron (1975) and Leslau (1966, 1975), among others.

3. The principal Cushitic languages that are still spoken are Bedaue (or, Beja), Agaw, Saho-Afar, Sidamo, Galla (or, Oromo) and Somali. The Agaw-speaking population has been rapidly diminishing as Amharic has increased its predominance.

For information on Cushitic languages, Tucker and Bryan (1966) is a useful source.

4. Chief among the texts concerning the Amharic language to which I have referred are Armbruster (1908), Cohen (1970), Obolensky et al. (1964) and Leslau (1968).

5. Interest in characterizing languages as "head-initial" or "head-final" has developed within the government-binding framework in recent years, as the notion of projection from the lexicon (see Chapter One) has rendered phrase structure

rules largely redundant. Under this approach, as argued in Stowell (1981), for example, the most important function of the base component in the grammar of a given language may be to specify whether a lexical head is initial or final in the syntactic phrase it projects. The topic has been further developed in work on parameters for fixing word order in a language based on the directionality of Case assignment and θ -role assignment. Principles governing the movement of syntactic constituents have been proposed to account for apparent anomalies of surface word order that would not conform to the directional parameter set by a given language for Case assignment or for θ -role assignment. On this topic, see especially Koopman (1983), Travis (1984) and the references cited therein. Directionality is also an important concept in the work of Kayne (1983), who bases the notion of "Canonical Government Configuration" on the directionality of government by a verb of its complement.

6. Much has been written in recent years concerning "pro-drop" languages, and various proposals have been made to account for the "missing subject," especially with respect to Case assignment, government and proper government, and the nature of the empty category in subject position. See, for example, Chomsky (1981;1982) and Rizzi (1982); of particular interest in the latter is the chapter entitled "Negation, Wh Movement and the Null Subject Parameter."

7. In the X-bar system, which I describe in Chapter One (1.2.1), X^0 represents a lexical category - a "word" - that can be inserted into a syntactic structure.

8. One of the mature teachers attending an in-service course I supervised in Ethiopia wrote his final examination in Geez instead of the expected Amharic. His own education had been entirely in a religious school where he had spent long years studying to be a priest. Geez was the only language he was prepared to use for written composition.

CHAPTER ONE

The Lexical Generation of Pronominal Clitics:

A Proposal

The routes by which the non-tonic pronominal objects of various languages enter a syntactic structure, appearing there as clitics on a host word, lead through the region where the domains of syntax and lexicon, morphology and phonology, meet and merge. Not surprisingly, accounts of these routes have occasioned both speculation and debate, for the territory through which they pass is still being explored.

Aronoff (1976, p. 3), one of the first generative grammarians to draw a detailed picture of the lexicon as an active component of the grammar, which is engaged in morphological operations that derive new words, observed that cliticization cannot easily be classified under the familiar headings of derivation, inflection and compounding:

"Derivation and inflection do not exhaust the domain of morphology. There are 'grammatical' morphological phenomena which cannot be subsumed under inflection. The best known of these is that of incorporation or cliticization. In Classical Hebrew, for example, under specific conditions (basically, when they are anaphoric rather than deictic) definite pronominal objects are incorporated into the verb, forming a single phonological unit with it. There is no question here of inflection, since this specific form of the verb only occurs when we would otherwise expect a definite pronoun object."

Concluding that cliticization is syntactic in nature, Aronoff deemed it best to group it with inflection as opposed

to derivation. Since the morphology in Aronoff's lexicon was restricted to derivations, no more was said about the pronominal clitics.

In this thesis, I take up the question of pronominal cliticization with the advantage of theoretical models and tools that did not exist at the time Aronoff wrote his monograph. (These will be described later in this chapter). They enable me to map out one of the routes taken by pronominal objects to syntactic structure as "passengers," cliticized to a host word in the lexicon, and to show that the reputedly syntactic character of their cliticization is acquired because lexicon and syntax cooperate, with both being subject to the fundamental principles of universal grammar.

I have consistently used the plural word "routes" in the previous paragraphs, for languages achieve their purposes in different ways. Rivero (1986) demonstrates clearly, for instance, that non-tonic pronouns in Old Spanish are pronominals for the lexicon, NPs in syntax, and clitics only at the postsyntactic level, whereas they have the properties of lexical clitics, or morphological dependents, in Modern Spanish.

Like Aronoff, Kiparsky (1983b) recognizes a difference between cliticization and both derivational and inflectional morphology. In his discussion of Russian phonology, he writes (p. 33): "I shall assume that the Russian lexicon contains at least two levels, level 1 containing derivation

and inflection and level 2 containing clitics." Elsewhere in the same paper, he states his assumption that Catalan clitics are added to verbs in the lexicon, in a level subsequent to the one where suffixation takes place. And Drescher (1983, p. 8), commenting in an analysis of Tiberian Hebrew phonology on two different types of clitics, writes about the object and possessive clitics "... which must be attached prior to the application of main stress, and may well be lexical."

In the approach of Borer (1984a,c), however, the rule of inflectional morphology responsible for the presence of pronominal clitics in Romance and Semitic languages applies in the syntax; it is able to do so because, in contrast to the rules of derivational morphology, its output does not alter inherent lexical features such as subcategorization and theta-role assignment. And Di Sciullo and Williams (1986) argue that clitics do not belong to morphology at all, but to syntax.

We might regard these different viewpoints simply as different analyses, one of which might be found, on empirical grounds, to be preferable to another. On the other hand, there is no a priori reason that all pronominal clitics should be treated in the same way. Rather, an account of clitics in any given language should presumably depend on their properties within the grammar of that language, following universal principles. Until now, though, the details of precisely what is involved in cliticizing a pronominal element to a word in the lexicon, along with the syntactic

consequences of that lexical cliticization, have not been worked out. To make that investigation is the aim of this thesis.

A proposal to generate in the lexicon a pronominal clitic whose presence causes repercussions in the syntax inevitably demands an integrated approach that does not concentrate on a single component of the grammar while ignoring questions pertinent to other components. The aim of my research has therefore been to provide a coherent account of the lexical, morphological, phonological and syntactic properties of this distinctive class of pronominals in one language, an account that respects the principles governing the operations of each branch of the grammar. For this purpose, I have elected to study the pronominal clitics of Amharic, a Semitic language of Ethiopia. Quite apart from the fact that its own rich morphology provides many opportunities for testing hypotheses concerning cliticization, Amharic's Semitic ancestry permits enlightening cross-linguistic comparisons, not only with contemporary languages of the same family but also with its precursor, Classical Ethiopic.

Certain pronominals in Amharic may cliticize either to verbs or nouns. Those that cliticize to verbs take three basic forms, two of which have a prepositional character. For example, in (1a), w is a third singular masculine pronominal cliticized to the verb qäddälä 'kill'; in (1b), bbät is a third singular masculine pronominal cliticized to the verb

hedä 'go'; and in (1c), llaccäw is the third plural pronominal cliticized to the verb mälläsä 'reply'.

- (1) a. laju ibaabun gäddälä - w
 boy snake killed - it
 (DEF) (DEF,ACC) (3.s.m.)
 'the boy killed the snake'
- b. laju bä-zzih färäs hedä-bbät
 boy by-this horse went-by it
 (DEF) (3.s.m.)
 'the boy went by this horse'
- c. laju lä-wändimmocc-u mälläsä-llaccäw
 boy to-brothers-his replied-to them
 (DEF) (3.s.m.)
 'the boy replied to his brothers'

The examples in (1) reveal immediately that Amharic is a language that allows clitic-doubling, that is, the pronominal clitic and a lexically realized phrasal category have the same reference.

A pronominal cliticized to a noun expresses a relation most often interpreted as possessive. In (2), the clitics are the first person singular e, the third singular masculine u and the third singular feminine wa.

- (2) a. färäs - e b. mist - u c. wändimwa
 horse - my wife - his brother - her
 'my horse' 'his wife' 'her brother'

The results of my research lead me to describe the pronominal clitics of Amharic as dependent pronouns which can

appear in a syntactic structure only by being associated, through coindexation, with a major phrasal category. As dependent morphemes that are pronouns, they share certain properties of both affixes and words without qualifying for the status of either. Lest the principle of lexical integrity be violated,¹ they must remain distinct from their host word so that they can be identified in the syntax for coindexing. Consequently, in my system, their lexical entries ensure that they are juxtaposed and "bound" to fully inflected nouns or verbs without being entirely incorporated into the host. The host-plus-clitic becomes a single phonological unit though it is more than a single lexical item. I propose that a pronominal clitic appears in a morphological representation as an appendix on the word tree that has been constructed by the formation of a fully inflected verb or noun. Thus, true to its etymological meaning, the clitic, which retains its own features, merely "leans on" its host, which carries it out of the lexicon into the syntax. The analogy with an appendix in syllabic structure is supported by the fact that a lexical clitic is always at the periphery of a word, outside of inflectional affixes.

More significant from a theoretical point of view than the mere event of cliticization in the lexicon is the assignment of Case there.² In my proposal, the inherent properties of the lexical item that hosts a clitic may be active in the lexicon as well as in the syntax, functioning - where possible - in an appropriate way. For example, one of the

lexical specifications of a transitive verb is that it has the property of assigning Case. Government is the condition under which Case is typically assigned, and adjacency may also be essential, at least in certain languages. When a dependent pronoun is cliticized to a verb in the lexicon, it is not only adjacent to the verb but also, as I show, is lexically governed by it. I therefore argue that a transitive verb assigns Case to the dependent pronoun at the time of cliticization in the lexicon. Then, in the syntax, the NP in complement position, which is syntactically governed by the verb, must be Case-marked by some other means.

I remarked above that a lexical item's inherent properties function in the lexicon "in an appropriate way." Thus, the subcategorizing property of a transitive verb, which requires an adjacent NP, cannot operate in the lexicon where no phrasal categories exist. Therefore, although a pronominal cliticized to such a verb in the lexicon may satisfy one of the verb's thematic roles, that role cannot be associated with an argument until the verb projects the NP complement in syntax, according to the subcategorization frame that specifies the syntactic configuration in which the verb's argument may appear. In my proposal, a dependent pronoun, when cliticized to a verb with a thematic role to assign, is merely linked to the role without wholly satisfying the lexical requirement that the role be borne by an argument appearing in the specified syntactic complement position, since a dependent pronoun cannot be an independent NP. The single

thematic role will be shared by the verb's subcategorized phrasal complement, projected in a syntactic structure, and the clitic which is linked to the role at the lexical level.

The interdependencies between the lexicon and the syntax are evident, and to arrive at these conclusions I have had to take a two-directional approach, building up a picture of the Amharic lexicon and analyzing the syntactic relations in which the pronominal clitics participate. I will present the details of my findings in the succeeding chapters of this study. In the remainder of this initial chapter, I will first review the highlights of previous proposals relating to pronominal clitics and then explain the theoretical assumptions underlying my research.

1.1 Previous Analyses of Pronominal Clitics

Let us begin at once by drawing a firm line around the class of morphemes that is of concern to this study, for it is dangerous to use the term "clitic" loosely, as it includes a large and heterogeneous collection of lexical elements that have to "lean" on other words for phonological support. Zwicky (1985), whose purpose is to distinguish clitics from both inflectional affixes and independent words, broaches his topic by referring to "the recent flurry of work on clitics" (p. 283), yet he accords nary a paragraph to the cliticizing pronominal objects of languages in the Romance and Semitic families. Klavans (1985) does mention Romance clitics but

only as the "thorny exceptions" (p. 118) to her theory that cliticization is phrasal affixation, since their relevant domain is V, and not V'.

Within the framework of generative grammar, Rivero (1983) finds a homogeneous typology of pronominal clitics emerging from recent bibliography on clitic constructions in Modern Romance. The essential characteristics she lists define the class of clitics that are the target of this study:

- a. Clitics are "bound words" or affix-like items in non-argument position.
- b. Clitics "absorb" some feature of the V connected with government / case / θ -role,
- c. Clitics are linked to an empty category in argument position.

Although item (b) above specifically mentions verbal categories, as in Romance languages, these characteristics are equally valid for pronominal clitics in the Semitic family, in which nominal and prepositional categories may be involved as well.³

The clitics under consideration, then, are pronominal elements that are linked, in some way, to a specific lexical category, without which they are unable to appear in a syntactic structure.

It is impossible to discuss here all the analyses that have been made by various generative grammarians. In this

section, I will review mainly the proposals of Kayne (1975), Jaeggli (1982) and Borer (1984a), as being representative of three approaches: a movement analysis, a base-generation analysis and an analysis involving the "spell-out" of Case features, respectively. Significantly, almost all of this work was done entirely from a syntactic point of view, though Borer's introductory chapter does take up questions concerning the relations between inflectional morphology (to which the pronominal clitics belong in her approach) and syntax.

1.1.1 The Movement Analysis of French Clitics

Kayne (1975, p. 66) notes that, while direct object NPs in French normally follow the verb (3a), a sentence in which a non-tonic personal pronoun fills the postverbal position is ungrammatical (3b), the correct position being to the immediate left of the verb (3c).

(3) a. Marie connaît mon frère.

'Marie knows my brother'

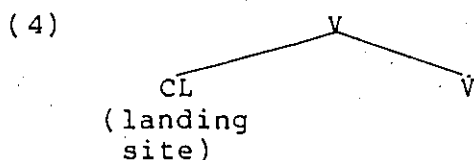
b. *Marie connaît nous.

'Marie knows us'

c. Marie nous connaît.

Kayne argues that the best way to account for these facts is to posit an obligatory movement transformation, called Clitic Placement. This rule preposes object pronouns under specified conditions. Thus, the pronoun nous would be

originally generated in an NP node in the postverbal position shown in (3b) and moved to the preverbal, surface position in (3c). The pronoun is not attached as a sister to the verb so that both would be dominated by VP; rather, the sequence of clitic and verb is itself dominated by the V node. For Kayne, then, a pronominal clitic is a word in the syntax that lands on a special, non-NP node, as in (4).



One component of Kayne's treatment of clitics that has particular relevance for the study of Amharic pronominal clitics is his identification of French y and en as Pro-PPs that owe their position in surface structure to the same Clitic Placement rule that moves pronoun objects to the left of the verb.⁴ In Amharic, as (1b) and (1c) suggest, there are also pronominals that cliticize to a verb and are prepositional in nature, but it is not feasible to adopt a movement analysis placing them in postverbal position because lexical material may fill the phrasal node from which the clitic is supposed to have moved; that is, a PP may double the "prepositional" clitic. The difficulty of accounting for clitic-doubling constructions by a transformational rule was one of the problems that prompted linguists such as Jaeggli (1982), Rivas (1977) and others to reject the movement analysis in favour of a base-generation approach.⁵

It will become clear in the succeeding chapters that there is another reason that renders a movement analysis for Amharic clitics unworkable. There is a set of independent pronouns that are used when a pronoun fills an NP in a syntactic structure, and the forms of these pronouns are entirely different from those of the clitics. Thus, we have the third singular masculine independent pronoun (marked for accusative Case) irsun 'him' in the cliticless sentence, irsun ayyähu 'I saw him', whereas the third singular masculine clitic that appears on the right of the verb in the corresponding clitic construction is -t, as in ayyähu-t 'I saw him'. Similarly, after the preposition lä, the independent pronoun, second singular masculine, is antä 'you': lantä 'to you', but the form that cliticizes to a verb is -llih 'to you'. Under a movement analysis, we would expect the cliticized form to be similar to the lexical item inserted under the NP complement node in a syntactic structure. In combination with the possibility of clitic-doubling, this difference in pronominal form makes a movement analysis impracticable for Amharic.

1.1.2 The Base-Generation Analysis

The problem of clitic-doubling constructions referred to above is encountered in a variety of languages, though not in standard French, which Kayne was studying. In the Amharic sentence of (1a), for instance, the NP ibaabun 'the snake' (acc.) is in the (preverbal) direct object position. Therefore, the pronominal clitic w on the right-hand edge of the

verb gäddälä 'kill' cannot have been moved from the direct object position, for that was filled at D-structure by ibaabun. Similar clitic-doubling constructions in other languages prompted linguists to call the movement analysis into question. In (5b), (6b) and (7b), the complementation requirements of the lexical head are satisfied by both the NP and the clitic, which are understood to corefer.

(5) River Plate (RP) Spanish (Jaeggli, 1982)

- a. lo vimos
him saw-we 'we saw him'
- b. lo_i vimos a Juan_i
him saw-we to Juan 'we saw Juan'

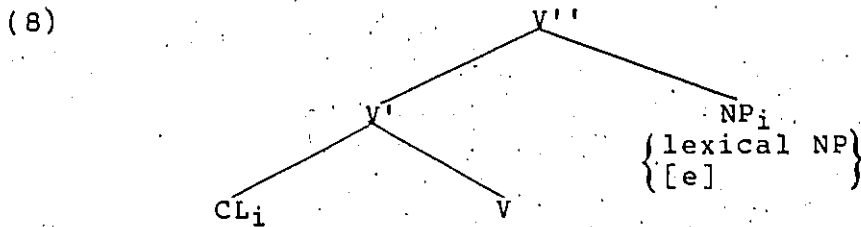
(6) Modern Hebrew (Borer, 1984a)

- a. beit-o 'omed 'al ha-giv'a
house-his stands on the-hill
'his house stands on the hill'
- b. beit-o_i šel ha-more_i 'omed 'al ha-giv'a
house-his of the-teacher stands on the-hill
'the teacher's house stands on the hill'

(7) Rumanian (Steriade, 1980)

- a. l-am văzut
him-have I seen 'I have seen him'
- b. l_i-am văzut pe Popescu_i
him-have I seen object Popescu
marker
'I have seen Popescu'

Clitic-doubling constructions such as these motivated the search for a new approach. The solution chosen by Jaeggli was made possible by advances in the government-binding model, in particular, the development of empty category theory. A transitive verb must project an NP node in D-structure for its direct object complement, but this NP may be an empty category if it is coindexed with a pronominal clitic base-generated with the V, as in (8).



The clitic for Jaeggli, then, is not a separate word that fills a phrasal node and is subsequently moved to a non-phrasal landing site; rather, it is "bound," in syntax, to a verb. It licenses the empty category which, under the Projection Principle that requires the verb's lexical specifications to be adhered to at every syntactic level, would not otherwise be permitted. Jaeggli reasons that this empty category is PRO. Since PRO is restricted to ungoverned positions, the expected relation of government, between a governing verb and its NP complement, is destroyed by the presence of a clitic.

By itself, however, the structure in (8) would not explain why French does not allow clitic-doubling constructions like those in (5)-(7). Jaeggli reasons that the

concept of government should be understood in such a way that at most one element is governed by one feature. A verb would thereby be prohibited from simultaneously governing an accusative clitic and a direct object NP. By some kind of 'minimal distance principle, the clitic would absorb the accusative government feature of the verb, thus preventing the NP from being governed by the verb's accusative feature. On the other hand, a dative NP is possible in (8) if the clitic is accusative. In other words, government absorption by a clitic is selective, because each of the verb's subcategorization features can be paired with one element, either the clitic or the complement NP.

Since Case is ordinarily assigned under government (see below, in section 1.2.1), when a clitic absorbs government, it absorbs Case. The influential notion of Case-absorption is related to an observation by Kayne to the effect that clitic-doubling constructions can occur only if a preposition precedes the NP that is doubled.⁶ "Case-absorption" is a striking metaphor that expresses the apparent loss of a verb's power to transmit Case to its complement when a clitic is "bound" to that verb. Ordinarily, a transitive verb assigns Case to its direct object under government; why then, it is asked, is some special device, such as the Case marker a in RP Spanish and the object marker pe in Rumanian, obligatory when a clitic is present on the verb? The answer provided through the metaphor is that the clitic absorbs the

Case that ought to be transmitted to the NP complement and therefore the NP must acquire Case by a special means.

In Jaeggli's approach, Case-absorption is the logical outcome of government absorption. Government is treated as a feature that a verb possesses rather than as a structural relation. A "minimal distance principle" must be called on to explain why an entity on the left of a verb (in a language such as French) becomes governed whereas ordinarily the verbal head of a maximal projection in French governs positions on its right. Correspondingly, Case is normally assigned by a verb in French, under government, to an NP on its right, and the notion of "absorption" has to be introduced into the theory in order to account for the presence of Case in a clitic, which is on a verb's left.

In Chapter Two, I will show that the notion of Case-absorption is unnecessary in an analysis that generates pronominal clitics in the lexicon. When a dependent pronoun is morphologically cliticized to a Case-assigning verb in the lexicon, the verb assigns Case to it there, under the principle that Case is assigned as soon as the conditions for Case assignment are met. The problem of conflicting directions of syntactic government and Case assignment therefore does not arise.

1.1.3 Clitics as a Spell-Out of Case Features

For Borer (1984a), the clitic construction in (8), proposed by Jaeggli, leaves many important questions unanswered. As it is not the head of the verb phrase, the clitic does not c-command an NP complement of the verb, according to a definition whereby only heads c-command up to their maximal projection, nor does it do so under a definition that limits the range of c-command to items under the first branching node dominating the clitic. Moreover, the relationship between the clitic and the verb (in its role as the lexical head of a maximal projection) is not clear. Is the clitic considered to be in an argument position, for instance, as its position dominated by V' suggests? If so, the verb would seem to select (improperly) two argument positions for which the same θ -role is destined.

The basis of Borer's analysis of clitic constructions is that a clitic is treated as an integral part of the lexical item that heads the phrase containing the NP complement. It is, in fact, a "spell-out" of the Case features of that head. Thus, in the Spanish sentence of (5), lo vimos 'we saw him', the clitic lo is a spell-out of the accusative Case feature of the verb, vimos.

The inflectional rule of Clitic Spell-Out, by which the features of number, gender and person, in certain configurations, are combined with a Case feature already present in the lexical item, is given in (9).

(9) Clitic Spell-Out (Borer, 1984a, p. 37)

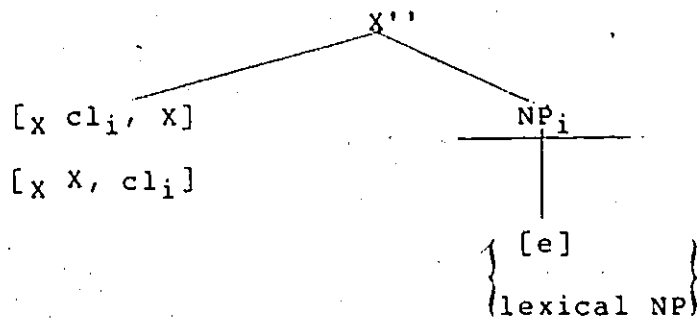
$[_X X, \alpha \text{Case}] \rightarrow [_X X[\alpha \text{Case}, \beta \text{gender}, \gamma \text{number}, \delta \text{person}]]$

$X = [+V]$ in Romance

$X = V, P, N$ in Semitic

This inflectional rule gives a phonological representation to the Case features of a verb, for example, by adding the features of gender, number and person. In Borer's system, inflectional rules may apply at any level of representation - in the lexicon, the syntax or the phonology - as they do not alter lexical specifications. Except under certain specified conditions (when it can apply only at S-structure or in the phonological component), the Clitic Spell-Out rule base-generates the syntactic structure in (10).

(10)



As a spell-out of features, the clitic does not satisfy subcategorization or complementation requirements. The complement NP, generated in the usual way as a projection from the lexical head, bears the thematic role assigned by the head to its argument, and the clitic is related to this complement, which may be either an empty category or a lexically realized nominal, by coindexation.

1.1.4 Problems in the Clitic Construction Analyses

A summary of the problems encountered in the analyses outlined above will show that a different approach is required to provide an adequate account of the Amharic pronominal clitics.

I have already mentioned the difficulties that would arise from adopting a movement analysis for Amharic clitic constructions. By itself, each problem might be successfully dealt with, but taken together, two facts constitute a strong argument against the viability of a movement analysis for clitics in this language. First, Amharic permits clitic-doubling; therefore, the phrasal position that ought to become empty by movement of the clitic to the postverbal position may be lexically filled, despite the existence of the pronominal that is cliticized to the verb. Second, a pronoun that occupies a phrasal position is drawn from a set of independent pronouns which bear no phonological resemblance to the dependent pronouns that cliticize to verbs and nouns. In addition, Amharic clitics are never found on the surface in any other position than on the right of the host verb or noun. In sum, there is no evidence that clitic movement ever occurs.

Suppose, on the other hand, that the Amharic clitics were to be base-generated by a phrase structure rule that builds a structure comparable to that in (8). One problem then would be to explain why the verb transfers its Case feature, in the syntax, to the clitic on its right, while the

direction for Case assignment in a syntactic structure, in this verb-final language, is leftwards. Moreover, as the V' level is normally reserved for strictly subcategorized complements, the implication of the structure in (8) is that the clitic is in a subcategorized position, whereas it is the NP complement that a verb subcategorizes for. Furthermore, the concept of government would be left murky, for it is treated in the base-generation approach presented by Jaeggli as a feature of the verb rather than a structural relation. In the absence of government, and of any other independently motivated structural relation, a special rule of coindexation and of θ -rule transmission would be necessary to establish a clitic-NP complement relation.

The Spell-Out analysis of the clitic as an integral part of the head constituent immediately solves some of the difficulties just mentioned concerning the base-generated construction in (8). In (10), the clitic c-commands and governs the coindexed NP, by virtue of the fact that it is an affix of the lexical head. There is no longer a need for a special rule of coindexation and θ -role transmission. When the complement NP enters its index in the thematic grid of the head's lexical entry (as in Stowell, 1981), it is automatically associated with the clitic that "spells out" the head's Case feature.

Borer's system has the merit of not needing to stipulate Case-absorption since, in it, the clitic by definition

possesses the Case feature that the host word has for assignment. It is that very definition, however, that renders the analysis unworkable in certain conditions. A glance at the Amharic sentence in (1b), repeated here as (11), will show why.

- (11) 1:ju bä-zzih färäs hedä - bbät
boy by-this horse went - by-it
(DEF) (3.s.m.)
'the boy went by this horse'

The pronominal element bbät is cliticized to the verb hedä 'went', but as an intransitive verb, hedä has no Case feature to assign. If this appearance of a pronominal clitic on an intransitive verb were an isolated instance, some special account could doubtless be provided within the Spell-Out analysis to explain it, but it is not. It will become evident in Chapter Four that pronominal clitics on intransitive verbs are a normal and frequent occurrence in Amharic sentences and are, in fact, essential to the grammar of the language. As they cannot be spell-outs of non-existent Case features, they must be something else. In my approach, they are lexical elements that are cliticized to a verb in the lexicon.

Amharic is not the only language in which pronominals appear as clitics on intransitive verbs. I have already referred to Kayne's description of the French clitics y and en as Pro-PPs. In (12), y expresses a locative adverbial,

and it is cliticized to the intransitive verb venir; it owes its position, in Kayne's analysis, to the movement rule of Clitic Placement. (Pro-PPs do not enter into doubling constructions in French, as the Amharic clitic bbät in (11) does.) According to Borer's account, y should be a spell-out of the Case features of the verb to which it is cliticized, but since venir is intransitive, it has no Case feature to be spelled out.

(12) Jean y viendra demain

'Jean will come here tomorrow'

Interestingly, Borer (1984a, p. 171) explicitly acknowledges this problem in regard to the starred Spanish sentence * Maria hizo venirlo; (a José); 'Maria made him come', commenting "... the verb does not strictly subcategorize for a complement and it does not have a Case slot; thus there is no possible source for the clitic and the sentence is ungrammatical."

Adoption of a spell-out analysis for clitics like the accusative lo in the Spanish sentence of (5), lo vimos, then, would imply the adoption of a separate analysis, such as Kayne's movement rule, for clitics that appear on intransitive verbs with no Case feature to be spelled out; these include, for example, French y and en, Italian ci and ne, and Amharic bbät. A more unified approach seems desirable, and - as I have shown - the movement analysis is unsuitable for Amharic.

A problem of a different sort seems to be inherent in an analysis whereby the clitic is completely integrated with its host. As a morphological affix, it should not be separable from the word to which it is affixed. Yet there are familiar constructions in various languages in which a clitic does appear on the surface separated by some other lexical item from the word whose Case features are said to have spelled it out. Three examples are given in (13).

(13) a. French

Jean l'a mangé
'Jean ate it'

b. Spanish

Yo quiero hacerlo -- Yo lo quiero hacer
I wish to do-it I it wish to do
'I wish to do it'

c. Causative Constructions

French (examples from Kayne (1975, p. 269))

(i) Elle fera partir ses amis
'She'll have her friends leave'

(ii) Elle les fera partir
'She'll have them leave'

Spanish (example from Borer (1984a, p. 170))

Maria le_i hizo tocar la flauta (a José_i)
Maria him made play the flute to José
(DAT)

'Maria made { him } play the flute'
{ (José) }

In (13a), the clitic appears on the auxiliary avoir instead of the predicative verb, although manger presumably has the Case feature for spelling it out. In (13b), the clitic lo may optionally precede the verb quiero, which separates it from the Case assigner hacer. And in (13c), both the French clitic les and the Spanish clitic le correspond to the subject of the subordinate verb, yet les is separated from its verb partir and le, from its verb, tocar.

The phenomena illustrated in (13) have been the subject of much discussion for many years; in particular, the causative constructions have recently received a variety of analyses.⁷ The proposals typically involve the fronting of certain elements from a subordinate clause; that is, some form of restructuring or reanalysis is the basis for the various solutions.

In the approach to Romance causatives detailed by Borer (1984a), for example, reanalysis turns both the subordinate verb's subject and its complements into complements of the main verb. Thus, in the Spanish sentence in (13c), the verb phrase tocar la flauta is moved out of its clause and adjoined to a projection of the main verb, hizo, whereupon the lexical features of the causative and subordinate verbs, including the Case assigning features, are merged. Since, in Borer's system, the inflectional rule of Clitic Spell-Out may apply at any level, the clitic le in (13c) is not spelled out by the rule until reanalysis has taken place and the lexical

features of the two verbs have merged. The clitic is therefore an affix of the derived verbal complex, hizo tocar, and not of tocar. Consequently, the question of how a morphological affix could be detached from its stem, tocar, to be moved into the correct surface position before hizo does not arise. The successful resolution of the apparent problem is due to the combination of lexical feature merger after reanalysis and the ability of Clitic Spell-Out, as an inflectional rule, to apply at any level.

The optional position of the Spanish clitic lo on the left of quiero in (13b), although it is clearly a complement of hacer, can also be accounted for by reanalyzing the two verbs as a verbal complex with merged lexical features and applying the Clitic Spell-Out rule after the merger.

In (13a), however, separation of the clitic from the verb whose Case feature is assumed to spell it out is not successfully explained by this combination of properties. Borer accounts for the position of a clitic on the left of the auxiliary in a compound tense, as in (13a), where the clitic is attached to avoir although manger is the Case assigner, in the following way. At S-structure, the clitic is present and correctly governs the empty category, as in (14a). The rule of Affix Hopping applies as usual in the phonological component, moving the auxiliary from the INFL node to the VP and yielding the PF representation in (14b), in which the clitic is attached to the complex of V + auxiliary, reanalyzed as one morphological unit.

(14) a. Jean a [_i - mangé [e]_i]
VP

b. Jean [_i - a - mangé [e]_i]
VP

The problem in this treatment is that the clitic has already been spelled out as an affix of manger at S-structure. When the auxiliary is moved by the syntactic rule of Affix Hopping, it is placed between an existing affix and the verb of which it is supposed to be an integral part. In the other cases of (13), it is possible to delay the spelling-out until reanalysis has merged the arguments and Case slots of the two verbs. In (14), however, Clitic Spell-Out must produce the clitic at S-structure in order to justify the empty category and govern it at that level and in LF; an empty category must be properly governed and, for Borer, the clitic is the proper governor. In this instance, then, a morphological affix is detached from its stem and separated from it by a lexical element that is moved there by a syntactic rule. Lexical integrity is thereby violated.

Without doubt, a clitic is in some sense a "bound" morpheme, but the nature of the bond must be somewhat looser than that existing between an affix and the morphological stem to which it is affixed to create a new word (or new word form).

What I will show in the ensuing chapters is that the generation of pronominal clitics in the lexicon, as dependent pronouns and not affixes, provides an account that not only

satisfies the demands of the syntactic structures in which the clitics participate but also explains their cliticization to lexical items with no Case feature to assign.

1.2 Theoretical Assumptions

I have sometimes been obliged, in the preceding sections, to use theoretical terminology with little or no explanation of its meaning. Now it is time to outline the theoretical framework within which I have done my research. As my overall aim of accounting for the phenomena of clitic constructions by generating pronominal clitics in the lexicon implies a methodological approach involving both lexicon and syntax, and phonology as well as morphology, it is necessary to state three sets of underlying assumptions. First, then, I will present the theoretical foundation, as expressed in the Government-Binding model (Chomsky, 1981, 1982). The second part concerns phonological theory, and finally I describe the theory of Lexical Morphology and Phonology.

1.2.1 The Government-Binding Model

Within the framework of generative grammar, the overall goal of linguistic theory is to understand the language faculty, the capacity that enables every child to acquire a language. The image of this faculty drawn in the past three decades by Chomsky (1965 ff.), and others, is that it is a biological endowment, an innate mental organ, as the heart, for instance, is a physical organ. As such, it will grow and

develop according to its own inherent properties -- "mental genes," so to speak.

For Chomsky (1981, p.7), universal grammar (UG) is a characterization of a child's prelinguistic initial state, which would seem to be the condition of this mental organ before its growth begins. An infant who experiences a particular language interprets incoming linguistic data in terms of the properties of that initial state, that is, according to the principles of UG. This language experience enables the infant to fix the parameters of UG at appropriate values, thus establishing a core grammar for the particular language the child will acquire.

The preceding paragraph, which encapsulates a profound view of the relation between language and mind, contains the germ of the "principles and parameters" approach of the government-binding (GB) model. Its dual aim is to discover the fundamental abstract principles of UG and to establish the limited class of parameters of those principles, the values of which have to be set by experience. The grammar of a language is considered to be a particular set of values for those parameters.

A notion that underlies the GB model is that syntactic structures are projections from the lexicon. That is, the information abstractly encoded with each lexical category item specifies the properties of that word that demand fulfillment in a syntactic structure. The lexical entry for the English verb throw, for example, contains a subcategorization

frame requiring an adjacent NP in the syntax. It states that throw has the thematic role of PATIENT to assign and that this "θ-role" is to be assigned to that subcategorized NP, which is in the θ-position [NP, VP].⁸ (There is also an indirectly assigned θ-role of "thrower," which the whole verb phrase projected by the verb throw will assign to the subject position, [NP, S].) Moreover, throw has the property of assigning accusative Case. Carrying all of this information into the syntax, throw becomes the head of a syntactic phrase that must satisfy the lexical requirements. As a verb, V, it labels the phrase it projects "VP."

The relation between lexicon and syntactic structure is reflected in the concept of a "thematic grid" (Stowell, 1981). In this grid, every lexical category contains as many empty slots as the θ-roles it has to assign. An empty slot will be filled by the referential index transferred from the lexical head's thematic complement in a syntactic structure. Thus, a fundamental consequence of this approach to θ-role assignment is the coindexation of the θ-role assigner and assignee. Also, a derivation will be ruled ungrammatical if the selected complement is not generated, thereby keeping the slot empty, or if it does not have the correct θ-role.

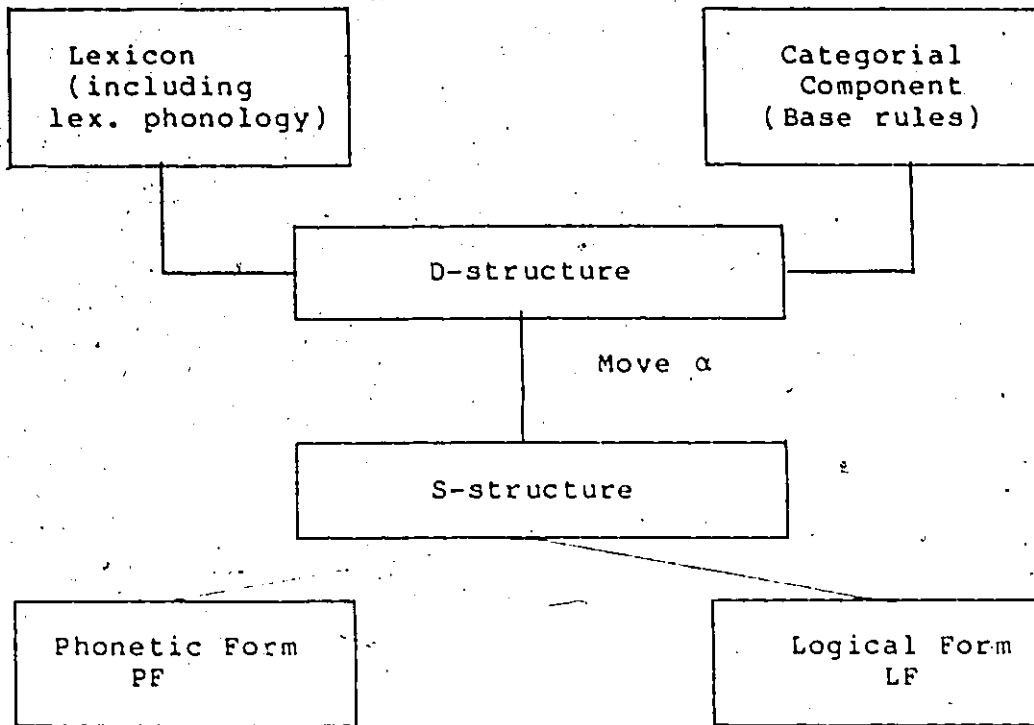
The notion of projection from the lexicon has permitted a drastic simplification of the base rules in the categorial component, in comparison with the detailed phrase structure rules familiar from earlier stages of transformational generative grammar. Even concerning the order of elements, the

only important statement to be made by the base rules is whether the head is initial or final in a phrase. The implementation of the rules is governed by the principles of X-bar theory, according to which a basic category projects higher bar levels of the same category until it reaches its maximal projection. In the unmarked case, the lexical categories of noun, verb and adjective have similar complement structures, and therefore the categories N, V, A can be unified as X. In this present study, I assume that subcategorized elements appear at the X' level and specifiers at X''.

The underlying "D-structure," which is projected from the lexicon in accordance with the base rules of the categorial component, is essentially a representation of grammatical functions, such as subject and object, that are associated with θ -roles. Of these "A-positions" (that is, argument positions), all and only those that are assigned θ -roles are lexically filled at D-structure, with elements bearing those roles.

The model in (15) represents the rule system of the grammar in the government-binding framework of Chomsky (1981).

(15)



My interpretation of the cooperation between lexicon and syntax requires some comment, as my basic assumption about the lexicon is that its output is fully formed, inflected words. In (15), I have shown the output of the lexicon moving into D-structure. When Move α applies in the syntax, relationships that involve inflections (such as agreement indicators, for example) may be affected. I therefore assume that there is a checking mechanism at S-structure that operates to filter out lexical forms that do not match the feature requirements of the syntax.⁹

As a representation of thematically relevant grammatical functions, D-structure expresses a one-to-one correlation between referential expressions - that is, NP arguments - and θ-roles, as well as between subcategorization frames and the

categories that fill them. The principle governing this one-to-one correlation is the " θ -criterion" (16), in which the term "argument" signifies an NP with some sort of referential function.

(16) θ -criterion (Chomsky, 1981, p.36)

"Each argument bears one and only one θ -role, and each θ -role is assigned to one and only one argument."

The rule of Move α , shown in (15) maps D-structure onto S-structure, so that it is possible for an element bearing a θ -role to move to a position that is not assigned a θ -role (that is, a $\bar{\theta}$ -position), leaving a trace. No movement can occur from one θ -position to another θ -position, however, for then the element would be assigned two θ -roles in violation of the θ -criterion. Movement establishes a "chain" of coindexed elements, and the chain is assigned a θ -role because one of its members occupies a θ -position.

Two interpretive components, Phonetic Form (PF) and Logical Form (LF), complete the model in (15). The rule of Move α may also apply to these two components, which prepare a syntactic structure for phonetic realization and semantic interpretation, respectively.

Control over the activities in this model is exercised by the Projection Principle which states that "the θ -marking properties of each lexical item must be represented categorially at each syntactic level: at LF, S-structure, and D-structure" (Chomsky, 1982, p.8). This principle serves to

extend the θ -criterion from LF to both of the other levels of syntactic structure.

The diagram in (15) represents the components of the rule system in the GB theory of grammar, but the GB model can also be visualized as an interacting set of principles that govern the subsystems of core grammar. These subsystems are listed in (17).

- (17)
- a. X-bar theory: constraint of the cross-categorial levels of lexical projection.
 - b. θ -theory: the assignment of thematic roles.
 - c. government theory: lexical government, or the relation between the head of a construction and the categories dependent on it, and antecedent government, by coindexation.
 - d. Case theory: the assignment of abstract Case and its morphological realization.
 - e. binding theory: the relations of anaphors, pronouns, names and variables to possible antecedents.
 - f. bounding theory: locality conditions; in particular, the Subjacency condition on movement rules.
 - g. control theory: the potential for reference of the abstract element PRO.

All of these subsystems are universally operative, but particular languages conform to the principles through various means.

Thus far, I have touched on the essentials of the first two subtheories listed in (17), X-bar theory and θ -theory. As the theories of government and Case also have particular relevance for this present study, a few of the fundamental concepts in those subtheories should be pointed out at this time.

Given the notion of projection from the lexicon, whereby the lexical properties of a lexical category determine the structure of the syntactic phrase it heads and the θ -marking in that structure, it is easy to see that the concept of government unifies the interacting subsystems. The assignment of both Case and θ -roles is crucially dependent on this relation.

Saito (1984) shows that the structural relation of c-command is fundamental to government. In this thesis, I adopt the c-command definition of Reinhart (1976, p.32), which is stated in (18).

(18) C-command

"Node A c-commands node B if neither A nor B dominates the other and the first branching node dominating A dominates B."

Saito first defines the notion of antecedent government, formulating it as in (19).

(19) Antecedent Government (Saito, 1984, p.414)

"A antecedent governs B if

- a. A and B are coindexed
- b. A c-commands B
- d. There is no C (C an NP or S') such that A c-commands C and C dominates B, unless B is the head of C."

NP and S' are defined here as absolute barriers to government in the sense that only the head is accessible to government from outside. Since COMP is the head of S' (as in Stowell, 1981), an element outside S' can antecedent govern an element in COMP but no other element in S'.

Lexical government is shown by Saito to be a special case of antecedent government, adding to the requirements of the latter only one extra condition, namely, that the governor be a lexical item.¹⁰

(20) Lexical Government

A lexically governs B if

- a. A antecedent governs B
- b. A is X⁰ (and A ≠ AGR)

Although there are instances of structural Case assignment not involving government (for example, genitive case assignment in English), in the majority of situations Case is assigned by a governing element. Adjacency is also required by certain languages, including English. A basic principle in Case theory is the Case Filter, which states

that every NP with phonological content must have Case. This filter applies in the PF component, rejecting any lexical NP without abstract Case. In English and many other languages, the Case-assigning categories are verbs and prepositions, while in others (Semitic languages, for instance) nouns also have the potential to assign Case.

Chomsky (1981), and many others working in the government-binding model, assume that the basic rule expanding S is: $S \longrightarrow NP \quad INFL \quad VP$; Case is assigned to the subject of a tensed clause by some Case-assigning feature of INFL to the NP that it governs. In the Lexical Morphology and Phonology framework that I have adopted, along with the government-binding model, inflectional morphology takes place in the lexicon, the output of which is fully inflected words. INFL is not a syntactic node in this approach but is morphologically attached to the V in the lexicon. Following Bouchard (1982), I assume that the INFL features percolate in the syntax to the VP, where the Case-assigning feature of INFL antecedent governs the NP in subject position and assigns nominative case to it.

Although a subject NP does not enter its index into a verb's thematic grid as a complement NP does, it is coindexed with the VP that assigns it its θ -role.

When an NP node is filled by a non-pronominal empty category, instead of a lexically realized nominal, "proper government" is required by the Empty Category Principle (ECP), stated in (21).

✓

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The government relation not only underlies the theories of Case and θ -role assignment but is also crucially involved in the theory of binding, since the "governing category" referred to in (23) is defined as the minimal S or NP containing α and the governor of α .

(23) Binding Theory (Chomsky, 1981, p.188)

- "(A) An anaphor is bound in its governing category.
- (B) A pronominal is free in its governing category.
- (C) An R-expression is free."

"R-expressions" include noun phrases that are potentially referential, such as names and also variables, that is, [NP e] in S, bound by an operator.¹¹

The word "bound" in the binding principles listed in (23) is defined in terms of coindexing by a c-commanding category. Thus, an anaphor β is said to be A-bound by its antecedent, α , if it is coindexed with α and α is in an A-position. These definitions and the principles of binding theory are of particular importance in this study when I investigate the type of empty category, or "EC," and the function of the dependent pronoun in the various manifestations of the Amharic clitic construction.

While it may be accurate to attribute special importance to a given principle in accounting for a particular set of linguistic phenomena, none of the theories listed in (17) can be ignored. The government-binding model is a tightly-knit system of interdependent subsystems, and a decision taken in

one of the subsystems often has far-reaching implications in the others.

1.2.2 Phonological Theories

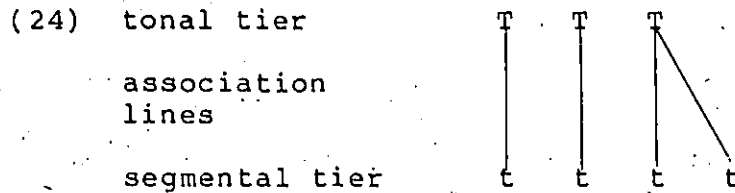
Van der Hulst and Smith (1982, p.2) contrast the early period of generative phonology, which was primarily interested in rules that derive phonetic structures from underlying phonological structures, with the present phase in which attention has shifted to the structure of phonological representations themselves. The two main theories through which this interest is expressed both conceive of a phonological representation as non-linear. In autosegmental phonology, it is a multi-tiered object in which the elements on each tier are linked by association lines that indicate how they are to be coarticulated. In metrical phonology, a hierarchy of branching trees is constructed, grouping segments into syllables, syllables into feet, feet into phonological words, and so on. These theories have provided tools for the investigation of phonological problems that were unavailable within the limitations of linear phonology.

For my own research, I have called upon devices from both theories, though not for the same purpose. As will become clear in the next section, on morphology, the mechanism that successfully combines the consonantal roots and vocalic patterns of a Semitic language (such as Amharic) into lexical stems is an application of autosegmental theory to morphology. After this morphological process has yielded

a syllabifiable stem, the phonological derivation of Amharic words proceeds by interaction between the skeletal and melodic tiers of an autosegmental representation, as new morphological material is added. The structures that will eventually determine stress, however, are built by rules of metrical phonology, with feet constructed according to the light or heavy weight of syllables, and stress is assigned by a rule that labels the metrical tree dominating a phonological word. For this reason, I will briefly review here the essential concepts of both autosegmental and metrical phonology.

Goldsmith (1976) demonstrated the inadequacy of the standard, linear phonology of the SPE (Chomsky and Halle, 1968) era, especially because it lacked resources for dealing with subsegmental characteristics (such as prenasals) and suprasegmentals, particularly tonal phenomena. As a solution, he proposed that a phonological representation should consist of several layers, or tiers, each containing a string of segments, which become linked by association lines according to universal principles expressed as a Wellformedness Condition. With modifications by others, including Clements and Ford (1979) and Halle and Vergnaud (1982), these principles (worded with respect to tones) state: (a) that tones are associated with tone bearers in a one-to-one manner, in a given direction; (b) that each segment is associated with at least one tone; and (c) that association lines do not cross. The last principle is the only non-controversial one.

A phonological representation based on these autosegmental principles is schematically illustrated in (24).



From this foundation, the autosegmental approach has been expanded into a theory of multi-dimensional phonology, in which numbers of feature tiers are linked to a basic tier. (The latter is now most often recognized as a "syllabicity" or "timing" tier, but was originally assumed to consist of the major class features [+ consonantal] and [+ vocalic], represented by C and V, respectively.) It was this notion of the prosodic tier that McCarthy (1982a) adopted and developed in his account of the root-and-pattern morphology of Classical Arabic.

The correct way of dealing with a discrepancy in numbers between elements on one tier and the "slots" of the basic tier has been a matter of some debate. It is sometimes assumed that automatic spreading, that is, the automatic association of a segment with more than one slot on the basic tier after one-to-one linking has exhausted the association possibilities, is universal. However, Pulleyblank (1984) claims that all association apart from left-to-right, one-to-one mapping must be accomplished by a language-particular rule. Questions related to automatic spreading are of

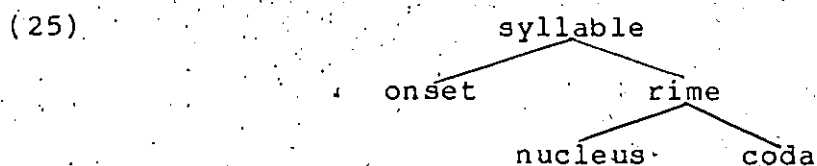
relevance to this present study, as Broselow (1984) presents evidence that spreading is not automatic in Amharic and that empty slots are filled by a special rule of Gemination or by the insertion of the default consonant, /t/.

Similarly important to my study of Amharic phonology (and to autosegmental theory in general) is the Obligatory Contour Principle (OCP) (Leben, 1973). Originally concerned with tonal phonology, the OCP stated that no tonal melody can contain adjacent identical elements; if, for instance, a morphological derivation brings two high tones together in an HHL contour, the sequence will be simplified to HL. McCarthy (1982a) revises the principle slightly to state that adjacent identical autosegments are prohibited, and he argues that it functions as a constraint on lexical entries, prohibiting Semitic roots with adjacent identical consonants. Again it is Broselow (1984) who challenges this claim with evidence from Amharic that such sequences do in fact exist.

While autosegmental theory has proved to be valuable in dealing with a variety of phonological operations of importance in this study of Amharic, such as gemination and assimilation, the theory of metrical phonology is particularly useful in the analysis of stress. The guiding principle of this theory, which originated in the work of Liberman (1975) and Liberman and Prince (1977), is that stress is represented as relative prominence, first between syllables and then at higher levels of prosodic organization.

In the early stages of theory development, the stress pattern of a word (or a compound) was represented as a binary branching tree structure in which sister nodes are labelled s and w, according to the greater and lesser degree of prominence of the syllables they stand for. Subsequent work by Selkirk (1980), Kiparsky (1979), Vergnaud and Halle (1978), Hayes (1982) and others has developed a hierarchical system of metrical construction, based on the properties of the syllable and extending through ever-larger domains to syntactic phrases. The continuity from syllable to phrase that is permitted by this system makes it especially appropriate for a language like Amharic, in which relative prominence depends initially on the weight of light and heavy syllables and eventually on the morphological content of the phonological word to which the stress rule is applied, for that phonological word may contain something more than one lexical item.

Below the level of syllable, metrical theory is concerned with the relative sonority of segments, and above it, with relative prominence, such as stress. An important concept that links these levels is the notion of a projection, either of the syllable rime or the nucleus. The basic structure of a syllable in (25) shows these positions.



Since it is the branching or non-branching character of a rime (or nucleus) that causes a syllable to be light or

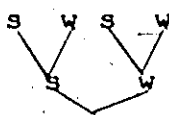
heavy, metrical feet in those languages that are "quantity-sensitive" are built on the projection of the rime (or nucleus), the onset being irrelevant for stress assignment. A foot can be defined as a metrical entity consisting of a stressed syllable accompanied by any number of unstressed syllables, all of which are dominated by a single metrical node. Vergnaud and Halle (1978), followed by Hayes (1982), worked at developing a typology based on sensitivity to syllable quantity, the bounded or unbounded character of feet, the direction in which feet and word trees branch and the labelling of nodes as s w or w s. In some languages a constituent on the edge of a word may be extrametrical, that is, ignored for purposes of metrical structure (Hayes, 1982).

The structures in (26) illustrate several of the principles of metrical phonology. Both anecdotal and Aristotle contain two trochaic feet, but Aristotle in (26b) is shown to be deviant with respect to the stress patterns of English, as the right-hand branching foot is weak. However, since word-final -y, -r, -l may be extrametrical in English, that foot does not actually branch, and the tree in (26c) can be labelled by the usual rule that makes a final non-branching constituent weak.

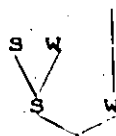
(26) a. anecdotal



b. Aristòtle



c. Aristòtle



With this brief sketch of the highlights of autosegmental and metrical theories as background, I turn now to the morphological theory within which I have done my research, leaving details of the phonological theories until they become relevant in the course of this study.

1.2.3 Lexical Morphology and Phonology

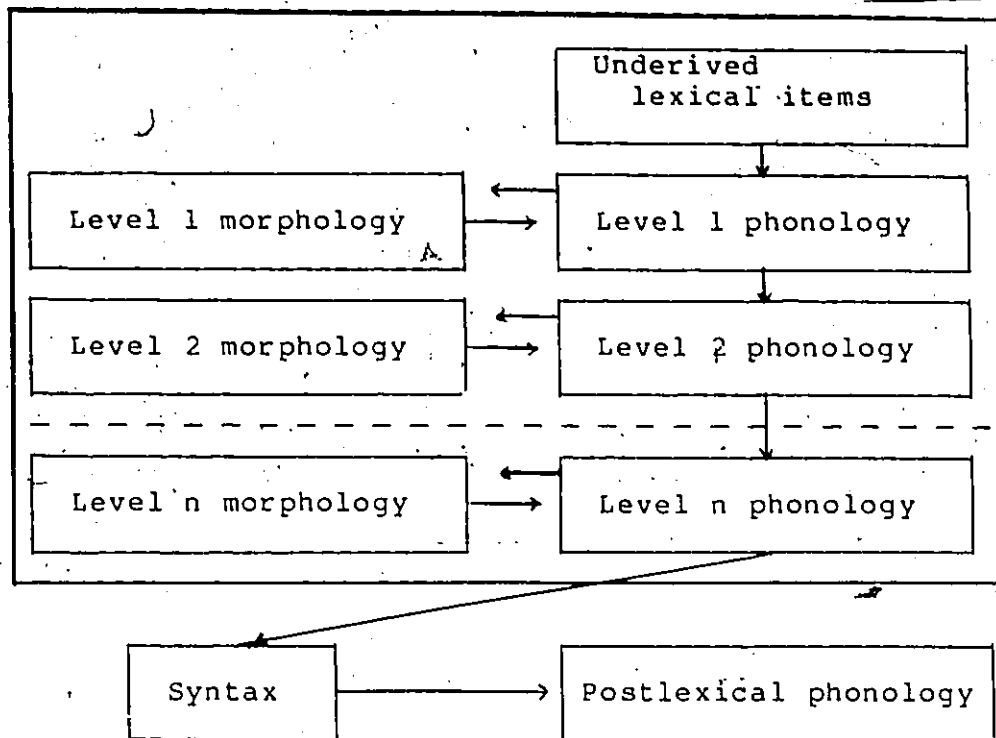
Since Chomsky (1970) advanced the Lexicalist Hypothesis, demonstrating that deverbal nominals are not derived by means of syntactic transformations, generative grammarians have generally accepted the notion that derivational morphology takes place in the lexicon.

A number of linguists, notably Lapointe (1980), Lieber (1981), Williams (1981) and Jensen and Stong-Jensen (1984), have also argued for the inclusion of inflectional morphology in the lexicon. The general reasoning that underlies this "lexical morphology" approach is that unifying all word formation in the lexicon reflects the need of both derivational and inflectional morphology for the same sorts of formal processes. Furthermore, when all word formation is completed in the lexicon, before insertion into a syntactic structure, it is possible to restrict the operation of syntactic rules so that they may not affect parts of words. Such a theory of grammar, in which the integrity of a lexical

item is preserved, is more constrained, and therefore more desirable, than one which requires syntactic rules to insert inflections in a word. Moreover, in a lexicon where all kinds of word formation take place, derivational morphology has access to inflected forms, as it must have in languages of the Semitic family, for instance.

An additional, major contribution to morphological theory has been made by Pesetsky (1979), Mohanan (1982), Kiparsky (1982 a,b; 1983; 1985) and others, who not only situate inflectional as well as derivational morphology in the lexicon but also integrate the relevant phonological rules with the morphological concatenations and processes. The basic claim of the lexical phonology model they have developed is that the lexical component of the grammar has a rich internal organization, being structured into a hierarchy of levels. Within each level, morphological operations take place on the left-hand side, their output feeding into the phonology on the right-hand side, so that each step of a morphological derivation is correlated with the phonological rules that apply at that point in the formation of a word. This structuring is illustrated by the diagram in (27), which is based on the model of Kiparsky (1982a, p.2) (except that the direction of arrows leading out of the phonology levels represents his later work).

(27)



In the two-level English lexicon (Kiparsky, 1983), the two levels represent the morphological and phonological differences between "primary" affixes, which became identified with a "+" boundary," and "secondary" affixes identified with a "# boundary" (Siegel, 1974; Allen, 1978). Level-ordering captures the generalization that primary affixes are always placed closer to the stem than secondary affixes. Derivation and inflection may occur at both levels; compounding, at level 2.

In lexical phonology, internal brackets are erased at the end of a level, with the result that morphological subcategorizations and phonological rules cannot be sensitive to internal structure from preceding levels. The logical consequence of this Bracketing Erasure Convention (BEC) is that

all internal brackets have disappeared at the end of the lexicon, thereby automatically preventing syntactic rules from referring to constituents that exist below the level of words.

Kiparsky (1985) suggests the possibility that the internal brackets may not be erased at the end of the final level of the lexicon. This provision is important to my proposal, as it will keep a lexically generated clitic "visible," unthreatened by the constraint embodied in Lapointe's Generalized Lexical Hypothesis, which, in its 1980 (p.222) wording, states that "...syntactic rules are not allowed to refer to, and hence cannot directly modify, the internal morphological structures of words."

It is this lexical phonology model of a structured lexicon that I have used while carrying out my research. The conception of "morpheme" and of word formation processes that I assume are essentially those of Lieber (1981). The important characteristics of these processes in Lieber's system involve: (a) the definitions of two types of lexical entries, that is, stems and affixes; (b) the single rule that generates binary branching morphological tree structures; and (c) feature percolation conventions that govern the labelling of these tree structures.

According to Lieber, all unanalyzable morphological elements (called "lexical terminal elements") are listed in the permanent lexicon with at least the following information: category and lexical class, phonological representation,

semantic representation, diacritics and insertion frames. In addition, the entries for affixes state a subcategorization frame, specifying what sort of lexical terminal it can attach to. A stem, on the other hand, is defined as a morpheme whose lexical entry does not subcategorize another morpheme.

Although I rely on these fundamental distinctions made by Lieber, I find the rigid separation of all morphemes into just two types over-restrictive, and in Chapter Two, I propose an extension to include morphemes that do not perfectly fit the description of either stem or affix.

Affixation and compounding are accomplished in Lieber's lexicon by the operation of a single, context-free, lexical structure rewrite rule, which generates unlabelled binary branching tree structures, into which lexical terminals are inserted according to their subcategorization restrictions. This morpheme-based approach is thus quite different from a process-based lexicon in which each affix requires a word formation rule for its incorporation into a new word. Labelling of the morphological trees is governed by the following feature percolation conventions, which are postulated by Lieber to be universal principles of word formation:¹²

Convention I: All features of a stem morpheme, including category features, percolate to the first non-branching node dominating that morpheme.

Convention II: All features of an affix morpheme, including category features, percolate to the first branching node dominating that morpheme.

Convention III: If a branching node fails to obtain features by Convention II, features from the next lowest labelled node are automatically percolated up to the unlabelled branching node.

Showing that a further principle is required in order to provide a form with full feature specification in all cases, Jensen and Stong-Jensen (1984, p. 476) add the Unmarking Principle, given here in (28).

(28) "Unmarking Principle

If a form fails to receive a specification by percolation for a feature relevant to it, it is assigned the unmarked (minus) value of that feature."

In Lieber (1983, p. 253), a fourth convention governing the percolation of features in English compounds is worded thus:

Convention IV: If two stems are sisters (i.e. they form a compound), features from the right-hand stem percolate up to the branching node dominating the stems.

In contrast to Lieber's first three conventions, Convention IV is language-particular. Each language is assumed to specify whether features from the right-hand or left-hand stem are percolated upwards.

In cases where nodes in a tree are dominated by different category labels, features belonging to one category class are blocked from percolating to a node dominating

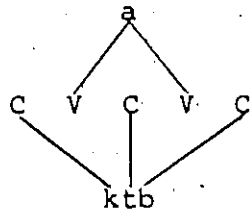
another category. For example, verbal features of aspect or tense will not percolate up to a noun node. Lieber's claim (p. 53) is "that it will never be necessary either in the morphological component or in the syntax to have access to verbal features in a deverbal noun or adjective, or nominal features in a denominal verb."

Thus far in this description of morphological operations in the lexicon, I have mentioned only affixation and compounding, that is, the concatenation of morphemes. Much of the morphology that is most important in a Semitic language such as Amharic, however, involves neither, for it is in the nonconcatenative combination of consonantal roots with vocalic patterns, according to predetermined arrangements of consonants and vowels, that verbal stems are formed. For this purpose, binary branching tree construction is of no use, and I turn to the work of McCarthy (1982 a,b), in which the principles of autosegmental phonology are employed for the formation of words.

In McCarthy's approach, which he originally applied to Classical Arabic, a prosodic template consisting of Cs and Vs determines the organization of consonants and vowels for any particular derivational class (or "binyan"). These Cs and Vs are convenient abbreviations for [-syll] and [+syll], respectively. The consonantal segments of a root morpheme are mapped onto the Cs of the template in accordance with autosegmental principles, while the vowels of a vocalic morpheme, constituting a distinct autosegmental tier, are mapped on to

the template's Vs. The three-tiered representation is illustrated in (29) for the perfective active of the Classical Arabic first binyan of ktb 'write'.

(29)



Vocalic tier

Prosodic template tier

Consonantal tier

The phonemic segments of the vocalic and consonantal tiers have to become linked to the Cs and Vs of the prosodic template in Semitic languages, such as Arabic. When McCarthy's fundamental insight was adopted for use with other types of languages, however, there was no need for a linking process; the underlying representation of an underived lexical item might consist of a timing tier to which segments are prelinked. The [+syll] features represented by C and V thereby became redundant, since the segments had their own feature specifications. Consequently, phonologists (e.g. Levin, 1983; Lowenstamm and Kaye, 1983) propose that the skeletal tier consists solely of empty, time-sequence slots, each represented by an x or a dot. Controversy has ensued concerning the merits of a CV-tier, an independent x-tier and an x-tier which exists only as the terminal nodes of syllable structure.

While it is not part of the aim of this study to enter into the details of this particular problem, I would like to

call attention to the morphological significance the Cs and Vs have in Semitic languages. In his original work, McCarthy was recognizing the essential character of Semitic morphology. There really are consonantal roots, such as Arabic ktb, which are morphemes just as an English stem walk is a morpheme. There really are vocalic patterns, such as /a-/a/, which is a perfective active morpheme in Arabic in the same way that -ed is a past tense morpheme in English. The two Arabic morphemes have to be combined in a given order, CVCVC, to yield the lexical item katab, just as the two English morphemes have to be combined by affixation, in the order dictated by the subcategorization frame in the lexical entry of the suffix, to yield the lexical item walked. So far, nothing has been said about phonology. In other words, the CV template has a morphological function in determining the formation of a word from morphemes.

For this reason, I retain the use of Cs and Vs in the skeletal tier as a morphological template on which an Amharic verbal stem is formed. After the association of roots and vowels with the template in the morphology, the Cs and Vs are neutralized to xs in the phonology.

The retention of a CV template is advantageous in understanding Amharic verbal morphology. For instance, there is a substantial class of verbs that appear to have only two consonants but are consistently treated as if they have three. The verb awwäKä 'know' (with a geminate /w/) might seem to be constructed on /w/ and /K/ only, but historically, there was

an initial laryngeal consonant. The morphological CV template requirement that there be an initial consonant position reflects the morphological competence of Amharic speakers, who "know" that the verb is triconsonantal.

The diagram in (27) is a model of the lexicon in the theory of lexical phonology, but the term is somewhat unbalanced, emphasizing the phonological operations in the lexicon while apparently ignoring the work of the left-hand, morphological side. The term "lexical morphology" has been contrasted with "interpretive morphology" (Jensen and Stong-Jensen, 1984) to distinguish the former approach, in which inflectional forms are generated in the lexicon, from the latter, in which inflectional morphology is performed by postsyntactic, interpretive rules. I therefore find it preferable to designate the theoretical framework for my studies as Lexical Morphology and Phonology, abbreviated as LMP.

Notes for Chapter One

1. "Lexical integrity" is the concept that a morphologically complex word is one lexical unit, parts of which cannot be changed or moved by syntactic rules. This is discussed in section 1.2.3.

2. It was from M.-L. Rivero, in her syntax seminar (1984), that I first heard the suggestion that Case might be assigned to pronominal clitics in the lexicon.

Just as I was completing this thesis, Richard Larson's article on "Bare-NP Adverbs" was being published. Larson (1985, p. 610) argues that, in addition to the usual relational notion of Case assigned to an NP under government, there is also a non-relational notion of "Case-possession" by an NP; the latter type occurs in the lexicon.

In Larson's approach, a language can have lexical Case assignment only if the category NP is available in the lexicon. My proposal differs from Larson's in several ways, the principal one being that I do not bring phrasal categories into the lexicon. Rather, it seems to me that the assignment of Case to a non-phrasal N element is appropriate to the lexical component of the grammar.

3. Pronominal clitics in Modern Hebrew have been most extensively studied by Borer (1984a). Aoun (1981) discusses clitics in Lebanese Arabic, and unpublished work by him on this subject is cited by Borer (1984a) and Jaeggli (1982).

4. Rizzi (1982, p. 2) explicitly adopts Kayne's "classical analysis," extending it to Italian, where the Clitic Placement rule applies to prepositional clitics as well as to the pronominal object clitics. In (i), for instance, the prepositional clitic -ci 'there' moves to a pre-auxiliary position.

- (i) a. Maria ha dovuto venirci molte volte
b. Maria c'è dovuta venire molte volte
'Maria has had to come there many times'

Belletti and Rizzi (1981, p. 120) assume a movement analysis as in Kayne (1975) for the cliticization of Italian ne '(of) it/them', though they find the transformational rule, as formulated by Kayne, somewhat unsatisfactory for this purpose. In their view, a "near optimal" formulation of the cliticization rule would be simply "Adjoin clitic to V," with independent principles (such as the binding principles) ruling out ungrammatical results. For Belletti and Rizzi, ne is the pronominal form of an N' constituent.

5. For more detail concerning the problems arising from a movement analysis for pronominal clitics, see the Discussion and bibliography in Jaeggli (1982).

Chomsky (1981, p. 277) asserts that there are no examples of clitic-doubling in the case of PP-clitics. He concludes that this lack of doubling "... follows from the assumption that we have actual movement rather than base-generation of these clitics, which are not subcategorized

by the verb." Chomsky seems to be saying that clitic-doubling rules out a movement analysis for the doubled clitic.

6. Borer (1984a, p. 89) comments that "Kayne's Generalization" is not universally applicable, as several languages are known to have both clitics and doubled NPs without the appearance of a Case marker; Macedonian is said to be an example.

It would probably be more accurate to word Kayne's Generalization as in Chomsky (1981, p. 277): "... where there is clitic-doubling, there must be some device to assign Case to the NP that appears in the position associated with (co-superscripted with) the clitic." That is, it is not necessary for this special device to be a preposition. In Modern Greek, for instance, the doubling NP is Case-marked by a Case ending, not a preposition. The examples below, in which the clitics are underlined, are drawn from Aoun (1981, p. 336).

(i) o Petros me filise emena
the Peter me kissed me
(ACC) (ACC)
'Peter kissed me'

(ii) o kinogós ton skotose ton liko
the hunter him killed the wolf
(ACC) (ACC)
'the hunter killed the wolf'

In this respect, Amharic resembles Modern Greek, as the Amharic accusative Case marker -n, which is obligatory when the NP doubles a clitic, is an ending that appears on the noun; it is not a preposition.

Everett (n.d.) argues that clitic doubling in Pirahã, language of Brazil, differs from doubling in Romance and Semitic in that it fails to obey Kayne's Generalization: no preposition precedes the doubling NP. However, he goes on to argue that clitics in Pirahã are [-Case]. If that is so, there would be no need for some special Case marking device to allow the doubling NP to pass the Case filter.

7. In addition to the analysis of Romance causatives in Borer (1984a), to which I refer in this section, some other recent proposals can be found in Kayne (1975), Rivas (1977), Rouveret and Vergnaud (1980), Burzio (1981), Zubizarreta (1983). These works also cite an extensive bibliography on this subject and related topics.

8. Names, such as PATIENT, are given to thematic roles mainly for convenience in referring to them. I do not attribute theoretical significance to them.

9. The relation between the lexicon and other components in this EST model is, of course, interpretable in other ways. For instance, Anderson (1982) develops a model in which both the lexicon and the S-structures feed into a level of "Lexically Interpreted S-structures." His lexicon includes

lists of items and the rules of derivation, plus irregularly inflected items, but the rules that "spell out" regular inflections are located in the PF component.

Although Borer's treatment of clitics as spell-outs of Case features seems similar to Anderson's conception of the rules in the PF component, which spell out regular inflections, Borer (1984c, p. 30) is careful to distinguish her interpretation of the EST model from Anderson's:

"Our view differs from that of Anderson (1982), in that we assume that inflectional affixation and derivational affixation are the same, and that the distinction between them is due to the level at which they apply. Anderson assumes that inflectional morphology and derivational morphology are two separate components which are located in different part of the grammar and which utilize distinct rule types".

For a view opposite to that of Anderson (1982), presenting a Lexical Morphology and Phonology account of the data discussed there, see Jensen and Stong-Jensen (1984).

10. Chomsky (1981, p. 52) describes AGR ("agreement") as one component of INFL, when INFL is [+ Tense]. A complex of person, number and gender features, AGR is considered to be basically nominal in character.

11. In Chomsky (1982, p. 31), the following modification, which concerns only variables, is made to Principle C:

"An R-expression must be A-free in the domain of the $\bar{A}$ -operator that binds it."

Chomsky further suggests that, if this modification is built into the definition of the notion "variable", there is no necessary reason to include Principle C in the binding theory.

Brody (1985) argues that all empty categories are anaphors and that no EC is a "non-pronominal non-anaphor", as an EC variable is defined in Chomsky (1982). Brody points out (p. 532) that, if his argument is correct, Principle C of the binding theory ceases to be relevant for ECs, "... and it becomes plausible to restrict the binding theory to principles (A) and (B)."

12. J. Jensen (personal communication) has pointed out to me that, in effect, these three feature percolations reduce to "percolate all features with affixes taking precedence."

CHAPTER TWO

Pronominal Clitics in the Amharic Lexicon

The aim of this chapter is not to make an exhaustive investigation of the structure, content and operation of the Amharic lexicon, but rather to sketch the outlines of the kind of lexicon that can accommodate the cliticization of Amharic dependent pronouns while successfully accounting for the morphological structure and phonological derivation of Amharic words in general. The model that is built up will also serve as a "reference map" for locating the processes and rules for which I give evidence as I develop my proposal in the succeeding chapters.

The description of Lexical Morphology and Phonology in Chapter One (section 1.2.3) tells us what to expect of the Amharic lexicon, organized according to the theoretical assumptions of that model. Each step of a morphological derivation will be correlated with the phonological rules that apply at that point in the formation of a word. The output of each level will be a lexical item.¹ All kinds of morphological operations will take place here: derivational affixations, inflections, compounding.

Level-ordering will capture the generalization that the affixation of certain morphemes, or the operation of some other morphological process, must take place before other morphology does, with the relevant phonological rules

applying only at the appropriate stage of word formation. Internal brackets will be erased at the end of a level, so that morphological and phonological rules cannot be sensitive to internal structure from preceding levels; bracket erasure does not necessarily apply to the final level, however. There will also be a set of phonological rules that operate after words have been combined into sentences in the syntax.

In the proposal I presented in Chapter One, the pronominal clitics of Amharic are dependent pronouns that receive Case when they are cliticized to a word in the lexicon. Despite their pronominal features, they are incapable of independence; in some sense, they are "bound" to a host word, and they must be coindexed with a major-phrasal category in syntactic structure.

But what of the clitic itself in the lexicon? How is it like or unlike other morphological elements there? What kind of lexical entry does it have? How is its level in the lexicon determined? What causes it to cliticize to a verb or a noun, when other morphemes do not? What happens at the time of cliticization that causes the host word to assign Case to this pronominal element? And what kind of morphological structure is built by the cliticization of a pronominal to a verb or noun?

In preparation for answering these questions, I first present the forms of the Amharic pronominal clitics, so that they will be readily recognized when I refer to them throughout this thesis.

In the second section, I discuss the lexical specifications of the dependent pronouns, and in the third, I study the actual events that occur when cliticization takes place. It is here that I propose the morphological structure resulting from cliticization, present an account of a clitic's association with a θ -role, and show that Case is assigned to a pronominal clitic in the lexicon under government and adjacency.

At this point, I am able to establish what morphology and phonology must precede pronominal cliticization and also what phonological work remains to be done postlexically. The fourth section, then, looks back to see how the Amharic lexicon is organized. It becomes clear that this component of the Amharic grammar has three levels, the first being devoted to the derivation of verbal stems from consonantal roots and the second to the formation of fully inflected words. Since the dependent pronouns appear only on inflected words, cliticization occurs in the third level.

The plan of the Amharic lexicon that I develop in this chapter merely indicates that there is a level of postlexical phonology. The phonological rules that must apply after the syntax will be discussed in Chapter Three. At that time, it will become evident that the initial metrical structure built in Level 1 Phonology is completed postlexically according to a single coherent principle of stress assignment.

2.1 The Forms of the Amharic Clitics

The three sets of pronominals that cliticize to verbs in Amharic are ordinarily referred to as "set O", "set B" and "set L." For convenience, I will often shorten the name to "O-clitics," and so on. The paradigm is given in (1).

(1) Pronominal Object Clitics

	<u>O-set</u>	<u>B-set</u>	<u>L-set</u>
1s.	-ñ *	-bbiñ	-lliñ
2.s.m.	-h *	-bbih	-llih
2.s.f.	-š *	-bbiš	-lliš
2.respect	-wo (-wot)	-bbiwo	-lliwo
3.s.m.	-w * ; -t	-bbät	-llät
3.s.f.	-at	-bbat	-llat
3.respect	-accäw	-bbaccäw	-llaccäw
1.pl.	-n *	-bbin	-llin
2.pl.	-accihu	-bbaccihu	-llaccihu
3.pl.	-accäw	-bbaccäw	-llaccäw

* The vowels /ä/ and /i/ serve as connecting vowels when the starred O-clitics occur after a consonant; grammars do not always agree on which of these two vowels is used.

The letters "B" and "L" in the names of two of the sets are readily understandable, but there is no consistent initial consonant in the remaining set that can be used as a

name. The letter "O" refers to the fact that the clitics in this set are most typically associated with an NP object of the verb.

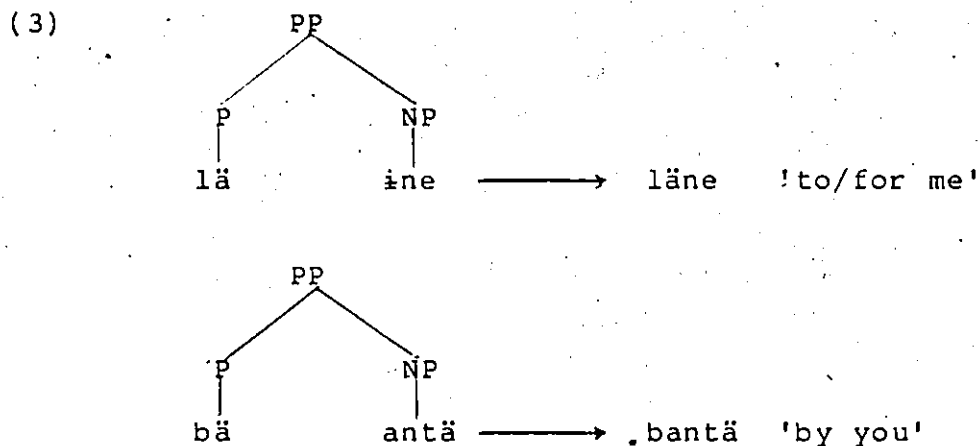
The composite nature of the B-clitics and L-clitics is obvious. They are sometimes called prepositional object clitics (or, by Leslau (1968), prepositional suffix pronouns) because of the relation between the initial consonants b and l (which always appear as geminates in these forms) and the prepositions bä and lä, respectively. These two sets of clitics may express the very same semantic relations that bä - NP (locative, instrumental, etc.) and lä - NP (goal, benefactive, etc.) do. On the other hand, they may also express non-compositional meanings, that is, meanings that cannot be inferred from the combination of prepositional and nominal meanings. We shall see, for instance, that the B-clitics are used in an adversative, or malefactive, sense, expressing something like "to X's detriment," although the preposition bä does not have that meaning.

It is important to understand that the B- and L- pronominals are cliticized to a verb; they are not able to fill a PP node in the syntax. In Amharic, a preposition, such as bä or lä, must have a full NP as its complement. When the complement is a pronoun, it is not one of the clitics in (1) but must be drawn from the set of independent pronouns in (2).

(2) Amharic Independent Pronouns

1.s.	ine	1.pl.	innä
2.s.m.	antä	2.pl.	innantä
2.s.f.	anci		
2.respect	irs ^{wo}		
3.s.m.	irsu	3.pl.	innässu
3.s.f.	irs ^{wa}		
3.respect	irsaccäw		

When one of these independent pronouns is the complement of bä or lä, a full PP is constituted, as in (3).



In Amharic, then, the object of a preposition cannot be a clitic, and the B- and L- clitics can attach only to verbs.²

The dependent pronouns that cliticize to nouns take the forms in (4). They are usually referred to as possessive pronoun clitics. With the exception of the first singular -e and the first and third plurals, containing the extra syllable -acc-, they resemble the pronominal object clitics

of the O-set. (Note, however, that the third singular forms in (4) lack the -t form that is possible for the third singular pronominal object clitics.)

(4) Possessive Pronoun Clitics

1.s.	-e	1.pl.	-accin
2.s.m.	-h	2.pl.	-acci hu
2.s.f.	-š		
2.respect	-wo		
3.s.m.	-u/-w	3.pl.	-accäw
3.s.f.	-wa		

The syllable -acc- which appears throughout the plural of the possessive pronoun clitics is etymologically related to a noun-pluralizing suffix.

Somehow, the pronominal morphemes listed in (1) and (4), which must be cliticized to a verb or a noun, must be differentiated in the lexicon from the independent pronouns in (2), which can be inserted in a syntactic structure under an NP node. It is to this question of different specifications that I now turn.

2.2 Lexical Specifications of the Clitics

For Lieber, whose general approach to word formation I have adopted, the morphemes in the permanent lexicon are either stems or affixes, the difference being that the lexical entry for an affix contains subcategorization information,

specifying the sort of lexical item to which it can attach, whereas a stem does not subcategorize another morpheme. That is, affixes obligatorily require the presence of some other lexical constituent, while stems are under no such obligation. Lieber (1981, p. 37) gives the following definitions:

"Stem": a morpheme whose lexical entry does not subcategorize another morpheme.

Affix: a morpheme whose lexical entry specifies some sort of lexical terminal to which it can attach."

Although Lieber states that lexical entries for affixes and non-affixes are identical except for the subcategorization frame in the former, the information given in the entries points to another important difference. The categorial representations for English stems and affixes in Lieber's sample lexical entries are reproduced in (5).

(5) STEMS

a. run

category: $v[\text{_____}]v$

b. product

category: $N[\text{_____}]N$

AFFIXES

a. in-

category/subcategorization: $A[\text{_____}]A[$

b. -ize

category/subcategorization: $]N[\text{_____}]v$

The brackets enclosing the stems, flanked on each side by the label V or N, state clearly that the stem run is a verb and the stem product is a noun. The brackets for affixes enclose nothing. Their representations do not say that the prefix in- is an adjective nor that the suffix -ize is a verb, as indeed they are not. What they say is that the word that is formed by prefixing in- to an adjective will also be an adjective and that the word formed by suffixing -ize to a noun will be a verb. Thus, the category information in a lexical entry tells us that a stem can be defined somewhat more positively than Lieber has admitted. Its definition depends not only on the absence of a subcategorization frame but also on the presence of its own lexical category features. The labelling of V on each side of the closed brackets in the entry for run is shorthand for the feature specification [-N, +V], and the Ns surrounding the brackets in the product entry represent the feature specification [+N, -V]. An affix, in contrast, cannot be specified in this manner. When in- is prefixed to the adjective valid, the newly formed adjective invalid has the feature specification [+N, +V] but in- by itself does not; when -ize is suffixed to the noun symbol, the newly formed verb symbolize has the feature specification [-N, +V], but -ize does not.³

How do the pronominal clitics of Amharic fit the definitions of stem and affix? One property is that they belong to an identifiable category. They have nominal characteristics without being nouns and thereby fall into the category of

pronoun. They have features of person, gender and number. They may receive Case. They may express a θ -role. They are assigned a referential index in a syntactic structure and are interpreted as "full pronouns" (Hetzron, 1966) when they are coindexed with an empty category. In all respects except one, they are pronouns like the independent pronouns that can be NPs. On these grounds, they differ from affixes, which have no category of their own. In Lieber's system, they must be stems.

On the other hand, the one respect in which a pronominal clitic differs from an independent pronoun is all-important: it is not a free morpheme and cannot fill an NP. It cannot be introduced into a syntactic structure by itself but has to be carried there on the back of an independent lexical item. Moreover, it cannot be cliticized to items of every category. The Amharic first person singular pronominal -e can cliticize only to a noun; the third person singular feminine -at can cliticize only to a verb. On these grounds, an Amharic pronominal clitic must be considered an affix by Lieber's definition, with a subcategorization frame that specifies the kind of lexical terminal to which it can attach.

Suppose that Amharic pronominal clitics are affixes. In that case, their own properties as a particular type of nominal could not be represented in the subcategorization frame, which specifies only the category of the stem to which it will attach and the category of the whole word that is the product of the affixation. The subcategorization frame

specifying that a clitic must attach to a verb would presumably also have to specify that the resulting word, incorporating the clitic, will be a verb, for the alternative of labelling the entire word containing the clitic as a noun (or pronoun) is patently untenable. And incorporating the pronominal clitic as an integral part of a verb, by treating it as an inflectional affix, amounts to a denial of its distinctive properties - not only its pronominal features of person, number and gender, but also its ability to receive Case and to express a θ -role, its optionality (in contrast to the characteristically obligatory nature of inflectional affixes) and its capacity for affecting elements in the syntactic structure into which it is introduced.

If anything, the problem is even more severe, though perhaps less obvious, if the clitics that attach to nouns are treated as affixes. True, the subcategorization frame would show, without difficulty, that the product of affixing a pronominal clitic to a noun is an N. The problem is that the single noun embodies reference to two different entities. The examples in (2) of Chapter One show that an Amharic possessive clitic is not adjectival; it does not agree with the noun to which it is cliticized as, say, French possessive adjectives do in mon frère vs. ma femme. Rather, the Amharic masculine clitic -u may appear with the feminine noun mist 'wife' to produce mist-u 'his wife', and the feminine clitic -wa may appear with the masculine noun wāndim 'brother' to yield wāndim^{wā} 'her brother'. A noun inserted into syntax

is assigned a referential index and projects an NP, all nodes of which "inherit" the same index (Williams, 1982, p. 279). How an affix which has been incorporated into that single noun could be visible to acquire its distinctive referential index is problematic, as is the "inheritance" of two referential indices by the nodes of the projected NP.

Are the pronominal clitics stems or affixes? Given the properties and problems enumerated above, the answer is plain. They are neither stems nor affixes but they share certain properties of both. The Lieberian stem-affix opposition, while applicable in the core of cases, is too rigid to accommodate all the possible inter-morphemic relations in languages. If the definitions of stem and affix were worded positively, specifying not only that affixes require subcategorization frames but also that stems belong to a category, a four-way distinction would be made: [+ category], [+ subcategorization]. The display in (6) provides an accurate classification for the Amharic pronominal clitics, according to their properties discussed above.

(6)

		Subcategorization	
		+	-
Category	+	pronominal clitic	stem
	-	affix	?

I have left a question mark in the [-category, -subcategorization] square because determining the class of morphemes that belongs there does not concern the immediate topic directly and would lead us far afield. My suggestion, however, is that free morphemes which have a primarily grammatical function fit the description. During his discussion of lexical vs. postlexical rules, Kiparsky (1983) speculates that lexical rules apply only to lexical categories, such as Noun, Verb, Adjective, Adverb, and not to such categories as Determiner, Complementizer, Conjunction, and so on. He continues (p. 4):

"By excluding non-lexical categories from the lexical system we account, on the left side, for their failure to enter into word-formation processes, and, on the right side, for their failure to undergo rules of lexical phonology. Thus, it is exactly the class of non-lexical categories in English which do not get assigned word stress."

As a generalization, the categories that Kiparsky suggests may be outside the lexical system can be described as [-category, -subcategorization], and they are therefore suitable candidates for the fourth square in (6). "Dummy prepositions," such as the English word of, also seem to qualify.

Kiparsky includes Pronouns, Auxiliaries and Interjections among the categories he would place outside the lexical system. The pronominal clitics of Amharic do not conform to his description, however. For one thing, they do enter into one sort of word formation process, i.e. cliticization; for

another, some of them, such as the second person plural accihū, do receive word stress.

The pronominal clitics of Amharic, then, are pronouns that are not independent. The term "dependent pronoun" describes what these morphemes are before they become clitics. The features of $[\alpha \text{ person}]$, $[\beta \text{ number}]$, $[\gamma \text{ gender}]$ and $[+ \text{ definite}]$, that appear in their lexical entries along with the subcategorization frames described below, identify them as a particular type of nominal that cannot be inserted in syntax as the head of an NP. This type is indicated by the $[+ \text{ determiner}]$ feature that, according to the feature system in Jensen (1985), distinguishes a pronoun from a $[- \text{ determiner}]$ noun.

It is now possible to formalize a labelled bracket representation for the pronominal clitics like those for stem and affix. The pronominal category of the dependent pronoun will be shown as if the clitic were a stem. However, the obligation to associate with another lexical item and to be dependent on it is shown by adjacency to the labelled bracket of a lexical category... In (7a) and (7b), I show Lieber's representations for the category of a stem and for the subcategorization information of an affix, respectively; the corresponding representation for a pronoun that will be cliticized in the lexicon is shown in (7c).

- (7) a. STEM: run product
 $v[\_\_\_\_\_\_]v$ $N[\_\_\_\_\_\_]N$
- b. AFFIX: in- -ize
 $A[\_\_\_\_\_\_ A[\_\_\_\_\_\_]N[\_\_\_\_\_\_]v$

addition is made to the existing verbal or nominal word tree structure. In Lieber's system, there is only one rewrite rule, which builds unlabelled binary branching tree structures as words are formed. Feature percolation conventions label the nodes of the trees. The effect of these conventions is to percolate all features, including category, to the mother node, with preference given to the features of the affix. It will become evident in the course of this study that the clitics under investigation are pronouns, not verbal agreement suffixes that contribute information to the verb's total meaning. If a dependent pronoun is built into a verbal tree, its pronominal properties, including the referential potential it inherently possesses as a nominal element, will be lost. By the strictures of the Generalized Lexical Hypothesis, discussed in Chapter One, and repeated here in (8), it would seem impossible for a referential index to be assigned in a syntactic structure if the recipient pronominal element is an unidentifiable component of a verb.

(8) Generalized Lexical Hypothesis (Lapointe, 1980, p. 222)

"... syntactic rules are not allowed to refer to, and hence cannot directly modify, the internal morphological structures of words."

Furthermore, the bracket representation in (7c) does not show that the dependent pronoun is to be affixed in a word tree, but rather that it is to be adjacent to a word tree, metaphorically "leaning" on it as a dependent lexical element.

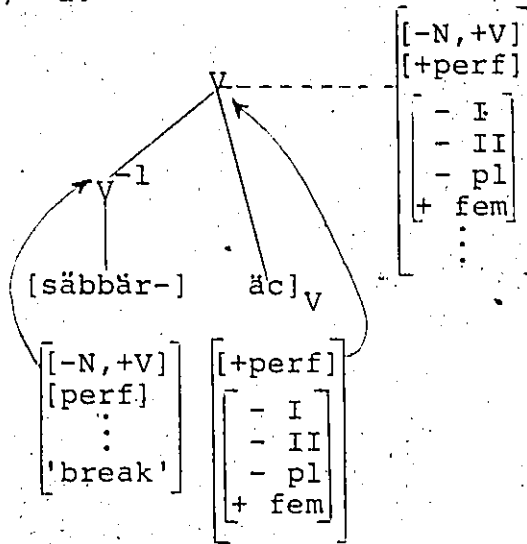
The solution to this structural dilemma is available to us in a notion found in the theory of syllable structure. In the Halle and Vergnaud (1980) account of a syllable's internal constituent structure, the obligatory rime constituent may be followed by an appendix, which is not a part of the syllable tree. Halle and Vergnaud explain that in the languages they scrutinized, an appendix does not appear freely in all positions but is limited to word-final position, and they therefore treat the appendix as a separate, unattached constituent of the final syllable.

A dependent pronoun seems to bear a relation to its host word that is analogous to the relation of an appendix with its syllable: it is a constituent, in the sense that it moves into syntax only by being associated with a verb or noun, but it is separate from that lexical element and does not "count" in the lexical structure, just as an extrametrical appendix in phonology does not "count" in the metrical structure. Whereas an agreement affix on a verb (9a) or a pluralizing affix on a noun (9b) becomes a branch of a morphological tree and is incorporated into the verb or noun when internal brackets are erased, the pronominal clitic (at first) merely stands adjacent to the inflected verb or noun, as in (10).⁵

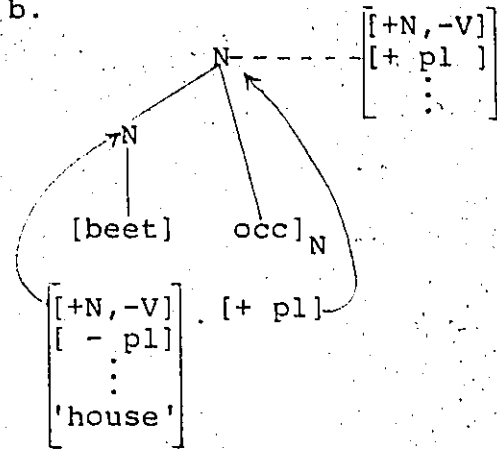
(In (9), and thereafter, I follow Jensen and Stong-Jensen (1984) in representing morphological features by means of a binary system, in which the marked value is + . Person features are represented by Roman numerals; thus, [[-I],

[-II.] specifies third person. The number feature is represented by [pl] and gender, by [fem]. I have not attempted to specify the features exhaustively in these diagrams.)

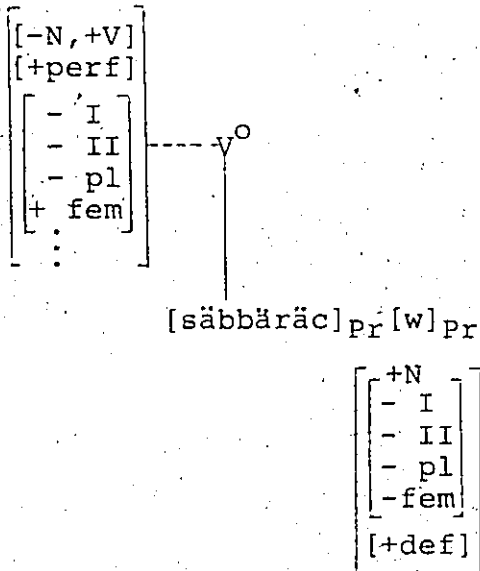
(9) a.



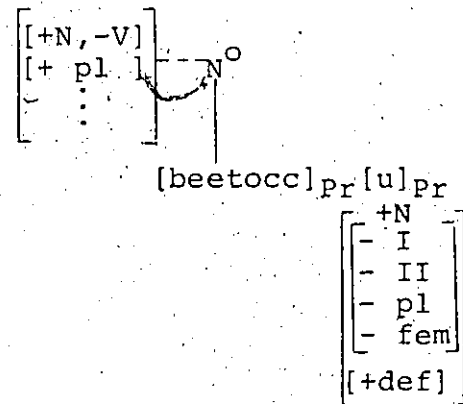
b.



(10) a.



b.



The output of the affixation represented in (9), sābbārāc 'she broke' and beetocc 'houses', is suitable for insertion into a syntactic structure and could properly be labelled V^0 and N^0 , respectively, but ordinarily the zero superscript is of no significance in the lexicon. It merely identifies the bar level of words whose lexical derivation is complete and which could therefore leave the lexicon for the syntax. However, the subcategorization frame of a dependent pronoun specifies cliticization only to a fully inflected verb or noun, and therefore the host verb and noun in (10) are labelled V^0 and N^0 . Later in this chapter I will motivate a three-level Amharic lexicon in which inflection is completed in the second level and cliticization occurs in the third. In that way, all verbal and nominal forms entering Level 3 will be fully inflected. The zero superscript is then redundant, and I therefore do not continue to use it in subsequent morphological trees.

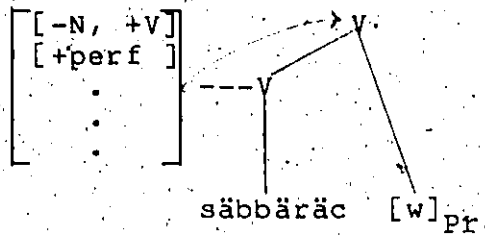
Although it is pronominal in category, a dependent pronoun cannot be the head of a syntactic phrase. Moreover, it cannot be regarded as an X^{-1} stem that could become an X^0 lexical item by some morphological addition. In other words, a dependent pronoun does not participate in the X-bar system.

For entry into the syntax, there must be some kind of bond so that the lexical category and the clitic can be inserted under a syntactic node together. The analogy of a syllable appendix is again useful in suggesting a possible solution,

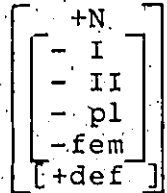
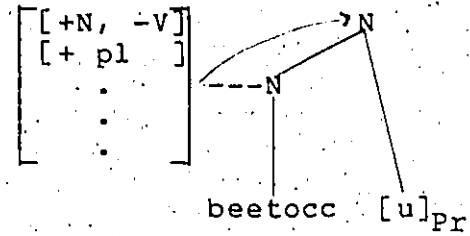
for an appendix is extrametrical. Although extrametrical elements are ignored for purposes of stress assignment, they are undeniably part of a word. Hayes (1982) discusses how extrametrical elements are eventually adjoined to the prosodic structure. Syllables that are extrametrical are attached to metrical feet by Stray Syllable Adjunction, which adjoins a stray syllable as a weak member of an adjacent foot. This is a universal convention required generally in metrical theory.

In a similar sense, the clitic is a stray lexical element that needs to be adjoined. Adjunction is different from the addition of a branch that joins an affix to a morphological tree, as the clitic does not label the tree with its features. It retains its pronominal label, and its brackets are not removed. It becomes a "weak member" of the lexical category to which it is cliticized, as in (11). When the new verbal or nominal node that duplicates the host node is created for the adjunction of the dependent pronoun, the features already present at the lower node percolate to its copy. The pronominal features of the clitic cannot percolate. As it is not an affix, the clitic's features have no priority in percolation. The inherent features of a [+N] morphological type are, in any event, blocked from percolation to a V node. In addition, the presence of a host's features that have already percolated block percolation from the adjoined clitic. Nevertheless, this appendage to a verb or noun, with its pronominal features intact, is present in the lexical item that will be inserted in syntax as the head of a phrase.

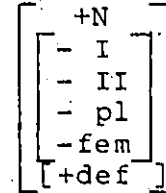
(11) a.



b.



'she broke it'

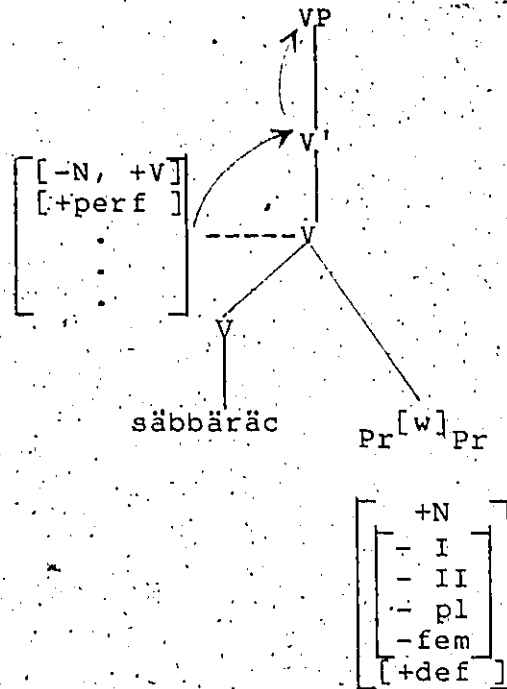


'his houses'

The adjunction amounts to the placement of external brackets around both elements. As mentioned in Chapter One, Kiparsky (1985) suggests that internal brackets may not be erased at the end of the last level of the lexicon (which must be the level of cliticization, since the dependent pronouns cliticize only to fully inflected words).

Since the host's features have percolated to the upper V or N node in the lexicon, they are available to percolate in the syntax to the lexical head's maximal projection, as in (12). An account of the syntactic structures in which the dependent pronouns participate, by means of the cliticization in the lexicon, can be found in Chapters Four and Five of this thesis.

(12)



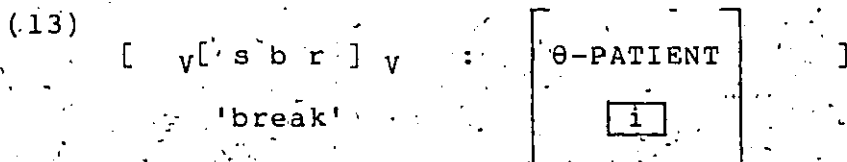
Adjunction of a dependent element to a fully inflected lexical item does not imply that the work of the lexicon has been extended to include the X' level, as that is designated for strictly subcategorized complements of a lexical head in the syntax. A transitive verb such as săbbărăc, which is strictly subcategorized for a direct object NP, will still project that complement NP on its left in syntax, as a daughter of V', even though the dependent pronoun w is cliticized to it.

2.3.2 The Thematic Grid

A transitive verb such as săbbărăc has a θ -role of PATIENT to assign (as well as the θ -role of "breaker" to assign indirectly through the entire VP). In the illuminating concept of the thematic grid (Stowell, 1981), the thematic

roles a lexical category can assign are specified in the lexical head's complement structure. Thus, a lexical entry for every verb contains an explicit representation of all the θ -roles it assigns to its complements. The assignment of θ -roles to complements by a head involves the transference of a referential index from the complement to an available slot in the thematic grid, there being as many empty slots as there are θ -roles that the verb assigns. Each empty slot must be filled by a referential index transferred from a complement. If the selected complement is not generated, the empty slot cannot be filled; if it does not have the right θ -role, the slot cannot accept it. In both cases, the derivation will be ruled out.

For example, in the Amharic verb phrase sini, säbbäräc 'she broke a cup', the NP object of the verb, sini, which is in an A-position, has the referential index i. This index is entered into the empty θ -PATIENT slot of the thematic grid for the verb sbr 'break', as in the diagram below.



Since a complement has been generated in argument position, and since the nominal whose index has been transferred to the PATIENT slot in the verb's grid has the correct PATIENT role, the construction is grammatical.

Borer (1984a) has used Stowell's proposal to explain the sharing of a single θ -role by an NP in A-position and a

clitic. Despite similarities, the following account of the clitic's relation to the thematic grid differs somewhat from Borer's because, in my proposal, the dependent pronoun is linked to the θ -slot when it is cliticized in the lexicon and not as a result of a Clitic Spell-Out rule.

The example in (13) illustrates Stowell's proposal in its most uncomplicated instantiation: the verb's PATIENT role is satisfied by a lexical NP in the A-position of a thematic complement. This NP therefore has a referential index to transmit directly to the index space in the verb's thematic grid. The satisfaction of a verb's thematic properties is not always achieved in this standard way, however. It is important to understand that the concept of the thematic grid, as well as the schematic representation of it (such as (13)), is not just a means of ensuring that a lexical item's θ -roles are satisfied. It is a means of ensuring the proper association of a referential expression and a role, in accordance with the θ -criterion. A verb's θ -role can be satisfied even before lexical insertion into a syntactic structure, but then no referential index is involved. The two notions are distinct.

This distinction between θ -role satisfaction and the association of a θ -role with a referential expression is well illustrated by the formation of compounds in which one of the elements has a θ -role that must be satisfied. The Argument-Linking Principle of Lieber (1983) is pertinent in this regard. This principle contains two main provisions: first,

an argument-bearing element of a compound must be able to link all its obligatory internal arguments; second, if one of the compounded elements is not linked by its argument-taking partner in the compound, it must be interpretable as a restrictive modifier of that component, such as instrumental, locative, manner, and so on. Consider, for instance, the class of V-N compounds in English, a language in which the right-hand element of a compound percolates its features, including category. The verbs in compounds such as draw-bridge, pushcart, pickpocket, and so on, are argument-takers; push, for example, bears the θ -role of THEME, which is satisfied in the example given here by the noun cart. Lieber also cites examples of N-V compounds (having a marginal or marked status in English), in which the verb's θ -role is satisfied internally, as in flower-arrange and carol-sing. She comments that the speakers who accept these compounds do so only when they are used intransitively, that is, when the compounded verb does not have a complement in A-position in syntactic structure. In both of these instances, the θ -role of the verb is satisfied, inside a compound, at the level of the lexicon. Neither cart in pushcart nor flower in flower-arrange is referential, and no referential index is involved in the satisfaction of the θ -role.⁶

Consider next a pronominal clitic. As a nominal item, the clitic is able to satisfy the θ -role of PATIENT borne by the verb säbbäräc in säbbäräcc-iw 'she broke it', just as much as cart satisfies the THEME-role of push in pushcart, or

as flower satisfies the θ -role of arrange, but there is a difference. Unlike the noun in the compound flower-arrange, the clitic attached by adjunction does not prevent association of an NP complement with this θ -role. In fact, the verb-plus-clitic, as the head of a verb phrase, must project that phrasal node.

The explanation for this difference can be found, I suggest, in the lexical category feature system. According to Jackendoff (1977), nouns have the features [+ subject], [- object], [+ complement]. Jensen (1985) assigns the same features to pronouns but adds [+ determiner] to pronouns and [- determiner] to nouns. Thus, a clitic, as a [+ det] nominal, is linked to an open θ -slot, which must be closed by a referential index from an X' complement, while a [- det] nominal that satisfies a θ -role in the lexicon prevents the generation of a complement with a referential index.

So now we have three possibilities of θ -role satisfaction. The diagram in (13), repeated as (14a), illustrates the first: the θ -role is satisfied by a lexical NP in A-position, which transmits its referential index to the index space in a θ -slot of the verb's grid. In (14b), the θ -role is satisfied compound-internally at the lexical level in such a way that the compounded verb must not receive a referential index from an NP when the compound is inserted in a syntactic structure; I have tried to suggest this impossibility by filling the index space with the N category of the θ -role satisfier, flower. In (14c), the θ -role is lexically satisfied by the cliticization of the dependent pronoun, but this pronominal can never be an argument, and a referential index from a phrasal category in A-position, which also suitably fills the θ -role, is obligatory in order to complete the association of θ -role and referential argument. This third possibility accurately reflects the combination of morphological and syntactic dependency that is characteristic of a pronominal clitic.

(14) a. Referential index from A-position in syntax:

v[s b r]v:	θ-PATIENT i	<u>sini; sabbäräc</u> 'she broke a cup'

b. No referential index possible:

v[arrange]v:	θ-THEME N	<u>flower-arrange</u>

c. Clitic linked with θ-slot; referential index required from A-position:

v[s b r]v:	θ-PATIENT cl	<u>sabbäräcc-iw</u> 'she broke - it'

The point is that, in implementing the thematic grid concept, it is not sufficient to think only about the satisfaction of a θ-role. It is necessary to consider how the θ-role is satisfied, with respect to the way in which the θ-role is associated (or not) with a referential element in a syntactic structure. A θ-role in syntax must be isomorphic with a single referent, and Stowell's thematic grid is a means of ensuring this correspondence, but the referential index can come only from a syntactic phrasal category, while the θ-role itself may be satisfied either in the lexicon, where referential indices do not exist, or in the syntax.

It has been claimed (e.g. Aoun, 1981) that a clitic "absorbs" a θ-role. Given the thematic grid concept, along with the notion that a clitic is linked to a θ-slot as an

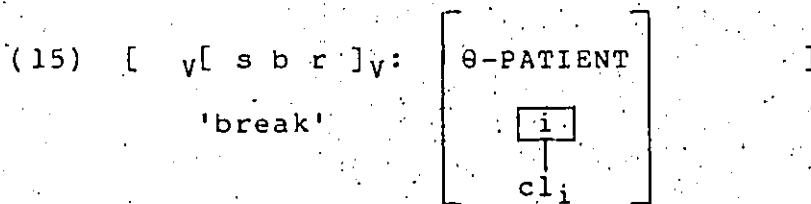
additional element, it seems more appropriate to think in terms of θ -role "sharing" by the complement-clitic chain. The role is not "used up" by the clitic because the index space remains open until an index can be supplied by a phrasal category at the X' level. In the schematism of (14), a θ -slot is completed, or "closed," when the index space is filled, either by the referential index transmitted to it by an X' category at the syntactic level or by a representation of the non-referential lexical category that satisfies the role at the presyntactic level.⁷ A clitic by itself does neither.

When the pronominal clitic is inserted with a verb into a syntactic structure, it is visible for indexing, since it has not been integrated into the verb. Because this chapter concerns lexical events, I must postpone a complete discussion of the relations between the clitic and a phrasal complement until Chapter Four. Here I will only outline what happens in syntax with respect to indexing and the thematic grid.

It is the clitic's pronominal properties that permit its proper indexing, whether it is doubled by a lexical complement or not. Boucharde (1982) points out that some pronouns are coreferential with a lexical NP in the same utterance while other pronouns, being deictic, are pragmatically controlled. Both types must agree with the word that expresses the entity referred to by the pronoun. At D-structure, when referential indices are assigned to lexical

nominal elements, a pronoun can freely pick an index, subject to coreferentiality and agreement conditioning. Thus, in a sentence where the clitic is paired with a lexical complement, the pronominal clitic picks the index of the verb's complement, agreeing with the coreferential NP. When it is paired with an empty category, which can be assigned no referential index as it has no lexical content, the pronominal clitic freely picks its own index, agreeing with an entity not mentioned in the sentence; it then transfers that index to the empty category, which is the verb's complement in A-position. In both cases, the phrasal complement has an index to transfer to the θ -slot in the verb's thematic grid, and this index will match the index acquired by the linked clitic.

Thus, whether the Amharic syntactic phrase is siniwɨn säbbäräcciw 'she broke the cup' or [e] säbbäräcciw 'she broke it', the θ -slot will be filled with an index that matches the pronominal clitic's, as in (15), and the two elements will share a single θ -role.



The presence of the clitic on the PATIENT slot of the verb's grid ensures that it will share the role of PATIENT with the NP projected by the verb at D-structure. There is no violation of the θ -criterion because the clitic is not an

argument, since it is not an N', but it is coindexed with an NP that is.

2.3.3 Case Assignment

Case theory in the government-binding model is closely associated with the notion of government. Additionally, adjacency may be required. Chomsky (1982) states that adjacency is, at least, one of the unmarked options, with some languages (e.g. English) requiring strict adjacency for Case assignment. When a dependent pronoun is cliticized to a verb or noun in the lexicon, the adjacency requirement is obviously met. What can be said about government?

Let us recall the definitions of government stated in 1.2.1. Lexical government is defined as antecedent government in which the governor is an X⁰ category, and not AGR. The definition of antecedent government is repeated here as (16).

(16) Antecedent Government

A antecedent governs B if

- a. A and B are coindexed.
- b. A c-commands B.
- c. There is no C (C an NP or S') such that A c-commands C and C dominates B, unless B is the head of C.

Recall also that θ -role assignment results in coindexation between the θ -role assigner and assignee (Stowell, 1981) and that this coindexation is a necessary requirement for

lexical government to obtain. A verb cannot actually assign a θ -role to its clitic, because θ -roles are assigned to NPs in θ -position in a syntactic structure, but a dependent pronoun is linked to a θ -role slot in the verb's thematic grid at the moment of cliticization. Suppose that this linkage to the θ -role slot is sufficient at the presyntactic level to satisfy the coindexation requirement for government. If so, then all the requirements for lexical government of the clitic by the verb are satisfied in the lexicon. The structure in (11a) shows that the relation of c-command exists (under the definition of Reinhart (1976) that I adopted in Chapter One): the original V node c-commands the clitic, as the first branching node dominating it also dominates the clitic. And the verb qualifies as a governor by being a lexical category at the X^0 level.

I assume that a Case assigning category assigns its Case as soon as the conditions of government are met. When these conditions are met by the cliticization of a dependent pronoun, Case is assigned immediately in the lexicon. When this occurs, it may seem from a purely syntactic point of view that Case has been "absorbed" by the clitic, but from the viewpoint of the lexicon, Case has been assigned under government and adjacency. If no pronominal is cliticized, the conditions of government are not met until the verb projects its lexical features in a syntactic structure, and Case will be assigned in the syntax.

When a verb Case-marks the clitic in the lexicon, it has no Case feature to assign to a syntactic complement, and a special Case marker of some sort is necessary to act as a "saving device," assigning Case to an NP that is lexically realized in complement position.

In (11a), then, the verb säbbäräc lexically governs the pronominal element that is adjacent to it. The Case feature that is an inherent lexical property of this verb is therefore assigned to the dependent pronoun in the lexicon, under government and adjacency.

In Amharic, as in other Semitic languages, nouns have the potential of assigning Case, a potential that is syntactically realized in a genitive construction, where the NP complement receives genitive Case from the nominal head. When a dependent pronoun is cliticized to a noun, as in (11b), the Case feature of the noun is assigned to the clitic in the lexicon, just as a verb's Case feature is assigned, under government and adjacency.

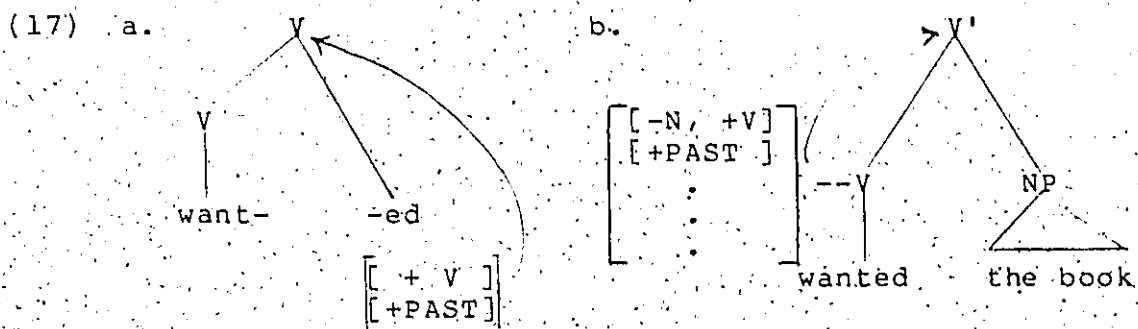
When Case is assigned lexically in this manner, the direction of assignment is no longer a problem, as it is in the base-generation analysis. Under the approach outlined here, Amharic assigns Case to its right in the lexicon even though, as a verb-final language, it assigns Case to its NP complement on the left in the syntax. In the approach of Jaeggli (1982), for instance, the clitic is regarded as a syntactic element on the left of a verb in French, yet it receives Case (by "absorption") from the verb, even though

French is a head-initial language which assigns Case to its NP complement on the right.

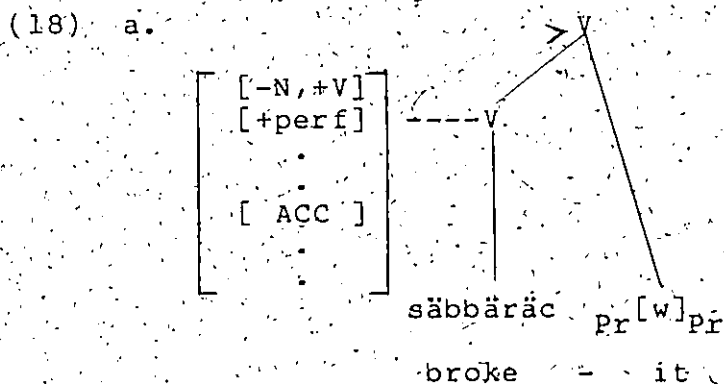
The point is that the terms "head-initial" and "head-final" are used here in a typological sense, characterizing a language according to the directionality of Case assignment in a syntactic structure. The terms do not refer here to morphological structure. With the development of the "lexical projection" notion (see Chapter One, section 1.2.1), specific and detailed phrase structure rules were seen to be largely redundant. In work by Stowell (1981), the most important function of the base component is simply to indicate whether a lexical head is initial or final in the syntactic phrase it projects. Later work (e.g. Koopman, 1983) has claimed that parameters for fixing word order in a language are based on the directionality of Case and θ -role assignment in a syntactic structure. In terms of this work, "head-initial" and "head-final" have no application to the lexical component of the grammar.

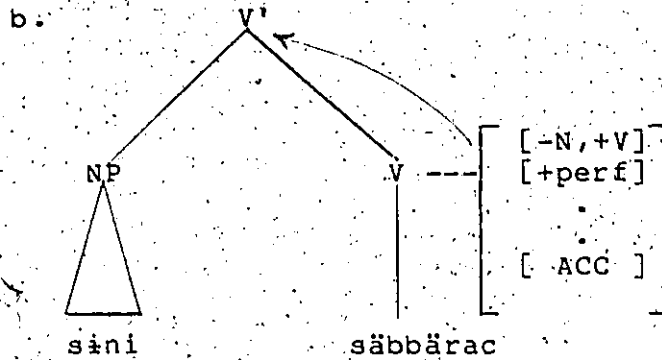
Thus, if a pronominal clitic is considered to be a syntactic node in a position with respect to the Case assigner that prevents that Case assigner from being truly initial or final in its phrase, its reception (or "absorption") of Case actually represents a violation of the Case assignment parameter in that language. In my approach, however, the Case assignment parameter selected by Amharic is not violated, because Case is assigned to the clitic in the lexicon where the parameter is irrelevant.

Note that it is not unusual for directionality in a language to differ in morphology and syntax. For example, as M.-L. Rivero has observed (class lectures, 1984), whereas the morphological percolation of features in English is most typically to the left, as in (17a), the features of a verbal head in syntax percolate to the right, as in (17b).⁸



In Amharic, directionality of government (and therefore of Case assignment) is opposite in the lexicon and the syntax. This is illustrated in (18), where the (a) structure shows government and Case assignment in the lexicon to the right and the (b) structure shows that Case is assigned leftwards in the syntax.





'she broke a cup'

The fact that the Amharic pronominal clitic is not in the correct position to receive Case in the syntax lends support to the analysis I propose, in which the clitic acquires its Case prior to insertion in the syntax, that is, when it is cliticized to a verb in the lexicon.

2.3.4 Summary

In this section, I have shown that dependent pronouns, which share the characteristics of both stems and affixes but qualify for the status of neither, are added in a morphological structure as an appendix to a verbal or nominal word tree. At the time of cliticization, the dependent pronoun is linked to an appropriate θ -role slot in a verb's thematic grid, and a Case assigning host assigns Case to it under lexical government and adjacency.

Since these dependent pronouns cliticize only to fully inflected verbs or nouns, and since the internal brackets between the host category and the clitic are not erased, cliticization must take place in the final level of the lexicon. The next task is to determine the number and content of

the levels that must precede the cliticization of the dependent pronouns in the Amharic lexicon.

2.4 The Levels of the Amharic Lexicon

Although it is impossible to divorce phonology from morphology, especially in the LMP framework, this section is written from a morphological perspective. I will discuss phonological topics, exploring the interaction of lexical phonology with morphology, and the modifications of post-lexical phonology on a syntactic string, in Chapter Three.

Even before the development of Lexical Phonology, Siegel (1974) had shown, in a generative grammar approach, that the notion of level-ordered morphology reveals interesting generalizations concerning English, in that phonological considerations motivate a distinction between "primary" (+ boundary) and "secondary" (# boundary) affixes. Thus, all primary prefixes must follow secondary prefixes and all primary suffixes must precede secondary suffixes. The LMP model of the English lexicon reflects this ordering by situating the primary affixes in Level 1 and the secondary affixes in Level 2.⁹

Moreover, an LMP model explicitly assigns phonological rules to particular levels of the lexicon so that they can interact with morphological operations to derive correct phonetic forms. For instance, a Level 1 adjectival suffix such as -al in English is stress-changing, displacing stress from the first syllable of nouns like parent to the second

syllable in parental. In contrast, the Level 2 adjectival suffix -less is stress-neutral, and the stress is retained on the first syllable in parentless.

By far the most frequently occurring processes of word formation in English are affixation and compounding. In a Semitic language such as Amharic, however, much of the morphology involves operations other than affixation. To use a term that has become familiar from the work of McCarthy (1982a), it is non-concatenative morphology. Ordering the morphological processes in a structured lexicon, so that words are formed correctly with the phonology applying at the appropriate stages, is as necessary in Amharic as in other languages, but the criteria for establishing the levels must arise out of the nature of Amharic morphology.

The clue to the organization of the Amharic lexicon does not lie in a distinction between stress-altering and stress-neutral affixes, for Amharic affixes themselves conform to a regular rule of stress and do not change the effect of the general stress rule on the lexical item to which they are affixed. Rather, the key to level-ordering in Amharic can be found in its root-and-pattern morphology, mainly affecting verbs, which necessitates building stems from consonantal roots before being able to construct words from the stems.

Here I must pause to make my present use of the term "stem" very clear. In the section just previous to this one, I could not avoid using it in the Lieberian sense of an opposition between stems and affixes. In this present discussion

of level-ordering, "stem" has its X-bar significance, meaning "more than a consonantal root and less than a word." An $\bar{X}^{-1}$ verbal stem in Amharic becomes an X^0 word by the affixation of an agreement ending.

For illustration of the formation of Amharic verbs, let us look at the CV stem templates for trilateral verbs of the sub-class known in the literature as Type A, using säbbärä 'break' as an example (19).¹⁰ (In Type A verbs, the second radical is geminate only in the perfective.) The six verbal stems - perfective, imperfective, gerundive, jussive, infinitive and agentive - provide the basis for all tense, aspect and mode forms of the verb.¹¹

(19) Consonantal root: s b r 'break'

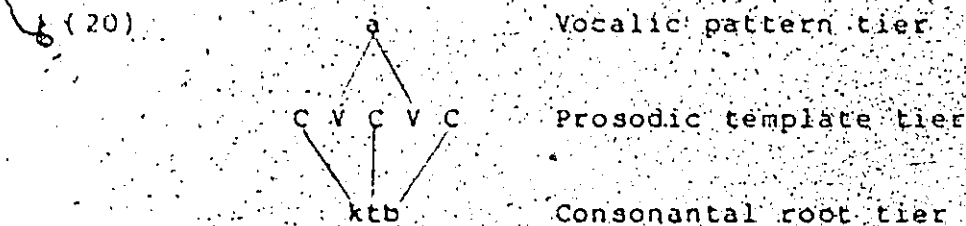
<u>Stems</u>	<u>Templates</u>	<u>Examples</u>
Perfective	CVCCVC -	säbbär -
Imperfective	- CVCC -	- säbr -
Gerundive	CVCC -	säbr -
Jussive	- CCVC	- sbär
Infinitive	- CCVC	- sbär
Agentive	CVCVVC -	säbaär -

When a consonantal root such as s b r enters the structured lexicon, it is unsyllabifiable. Before any phonology can apply, the root must be linked, in an autosegmental representation, to a CV template (as described in Chapter One, section 1.2.3) and combined there with the appropriate vowels. The stems resulting from this Level 1 Morphology,

illustrated in (19), are suitable objects on which phonological rules can operate in the Level 1 Phonology.

Since the concern of this chapter centres on the morphology that must precede cliticization of the dependent pronouns, the morphemic composition of these Level 1 stems requires some comment at this point. In my view, there is an important difference between the use made by Amharic of the CV stem templates and their use in the influential analysis developed for Classical Arabic by McCarthy (1982a).

In McCarthy's treatment, a vocalic pattern constitutes a morphemic tier, and the vowels of a vocalic pattern are associated with Vs in a CV template in the same way that the consonants of a root are linked to the Cs in the template. This is illustrated in (20).



There are reasons for treating the vowels of an Amharic verbal stem somewhat differently, however. Three-tiered CV representations like that in (20) were developed to display and account for the consonant and vowel distribution of the Classical Arabic binyan, that is, the 15 derivational categories of that language which express variations of meanings such as causative, passive, reciprocal, and so on. In Amharic, such additions of meaning are most often achieved by affixing a prefix to the "primitive" verb to produce a

"derived" verb. The passive of wässäda 'take', for instance, is täwässädä; the causative is aswässädä. On the whole, though there are exceptions, these derived verbs share the stems of their primitive source-verbs. The point is that CV templates are not put to exactly the same use as the Arabic templates are. Whereas the Arabic templates serve primarily to distinguish semantic senses, those of Amharic set the patterns for verbal conjugations, distinguishing grammatical categories such as aspect and mood.

McCarthy (1982a) points out that a particular vocalic pattern in Classical Arabic is used to express the same aspect and voice in different binyanim. A pattern such as /a/-/a/ expresses the perfective aspect and active voice in all the binyanim, while the perfective passive forms in all the binyanim contain the pattern /u/-/i/. Under those circumstances, it is reasonable to treat the pattern /a/-/a/ as the perfective active morpheme, /u/-/i/ as the perfective passive morpheme, and so on. The vocalic patterns are obviously bearers of grammatical information that affects the meaning of the CV templates into which they are inserted.

The situation in Amharic is not the same, as the examples in (21) show.

(21) Triliteral stems

	Type A (s b r) 'break'	Type B (f l g) 'want'	Type C (g : g r) ¹² 'bake bread'
Perfective	säbbär-	fälläg-	gaggär-
Imperfective	-säbr-	-fälläg-	-gaggär-
Gerundive	säbr-	fälläg-	-gagr-
Jussive	-sbär	-fälläg	-gagr
Infinitive	-sbär	-fälläg	-gaagär

There is not much sense in calling /ä/-/ä/ the perfective morpheme in Amharic, for it does not occur in all the perfective stems. Type C verbs have the pattern /a/-/ä/; there are moreover, biliterals with the perfective stem vowel /e/ or /o/ and even a few triliterals with an /o/-/ä/ pattern (e.g. mokkärä 'try'). Similarly, it is meaningless to call /ä/ the imperfective active morpheme, for it is also the vowel in the stem of most gerundives, infinitives and jussives.

In other words, the vowels in a verbal stem do not in themselves constitute a morpheme in Amharic. Indeed, they make few, if any, grammatically significant distinctions; primarily, they mark sub-classes in the verbal system, in which the number of consonants in a root defines the major classes. It is only when vowels are associated with the V slots in a template that any useful grammatical information is conveyed. That being so, it seems reasonable to say that there are two morphemes, not three, in an Amharic CV representation: the CV template with preattached vowels is one morpheme (e.g. the perfective morpheme) and the consonantal root is the other, as in (22).¹³

(22) Perfective stem template, Type A:



A multi-tiered morphological structure, such as McCarthy's in (20), has to be collapsed because the phonology requires a single tier for all melodic segments. Hayes (1984) discusses this point and refers to a procedure suggested by McCarthy that collapses the tiered morphological representation into two tiers before the phonological rules apply. This process has been called "tieral conflation" by E. Dresher (class lectures, 1985), who points out that it is the equivalent of removing brackets between morphemes. If my reasoning is correct, and there are only two morphemes in an Amharic morphological representation of a verbal stem, then the conflation that is necessary before phonological rules can apply amounts here to the conversion of the two-morpheme CV representation into a phonological representation consisting of a skeletal tier of x slots and a segmental melody tier.

The stems that are constructed in this way by the Level I Morphology and Level 1 Phonology are not words, however. They cannot be inserted into a syntactic structure, and they do not yet satisfy the subcategorization frame of a dependent pronoun, as described in 2.2. In the X-bar system, they are marked as v^{-1} lexical items. Inflectional affixes must be added to these v^{-1} forms to yield v^0 words. The examples in (23) illustrate the formation of words from the stems in (19).

(23)

<u>Stems</u>	<u>Agreement Affixes</u>	<u>Examples</u>
<u>Perfective</u>	- ä (3.s.m.)	säbbärä 'he broke'
	- äc (3.s.f.)	säbbäräc 'she broke'
	- ku (1.s.)	säbbärku 'I broke'
	- accihu (2.pl.)	säbbäraccihu 'you broke'
<u>Imperfective</u>	yi - (3.s.m.)	ysisäbr ... 'he breaks'
	ti - (3.s.f.)	tisäbr ... 'she breaks'
	ti -... - u (2.pl.)	tisäbru ... 'you break'
	yi -... - u (3.pl.)	ysisäbru ... 'they break'
<u>Gerundive</u>	- o (3.s.m.)	säbro 'he, having broken'
	- a (3.s.f.)	säbra 'she, having broken'
	- accihu (2.pl.)	säbraccihu 'you, having broken'
	- äw (3.pl.)	säbräw 'they, having broken'
<u>Jussive</u>	yi - (3.s.m.)	ysisbär 'let him break'
	ti - (3.s.f.)	tisbär 'let her break'
	yi -... - u (3.pl.)	ysisbäru 'let them break'
<u>Infinitive</u>	mä -	mäsbär 'breaking'/'to break'
<u>Agentive</u>	- i	säbaari 'one who breaks'

It is precisely at this point in verbal derivations that the important rule of Palatalization must apply.¹⁴ When the final radical of the stem is a coronal consonant, a suffix having an initial non-low, front segment triggers the application of this rule. The results are illustrated in (24).

Moreover, the rule of Palatalization does not apply when a dependent pronoun consisting of a non-low, front segment is cliticized to a word, as in (25).

(25.)

beet	+ e	→	beete	* beecce
'house'	'my'		'my house'	
fārās	+ e	→	fārāse	* fārāšše
'horse'	'my'		'my horse'	
baal	+ e	→	baale	* baaye
'husband'	'my'		'my husband'	

We therefore have clear indications that (a) inflectional affixes cannot be added until stems are formed and that (b) a phonological rule must apply only as fully inflected words are derived from verbal stems. It seems, then, that the Amharic lexicon requires three levels: The chief morphological purpose of Level 1 is to create X^{-1} stems from X^{-2} roots; the main morphological work of Level 2 is to produce fully inflected words, as well as to derive new words from existing words, mainly by affixation; compounding and cliticization take place in Level 3.

As Halle and Mohanan (1985) explain, the rules of phonology are assigned specific morphological strata as their domain. The Principles of Domain Assignment, quoted in (26), govern the location of a phonological rule in one or more lexical (and/or postlexical) levels.

(26) Principles of Domain Assignment (Halle and Mohanan, 1985, p. 58)

- "a. In the absence of counterevidence, assign the smallest number of strata as the domain of a rule.
- b. In the absence of counterevidence, assign the highest possible stratum as the domain of a rule (where 'lowest' = stratum 1)."

According to the principles in (26), in the unmarked case all phonological rules apply at the postlexical level. For a rule to be assigned to a lexical level, there must be positive evidence that it interacts with the morphology of that level. Thus, the domain of Palatalization is established in the Amharic lexicon at Level 2 by evidence that it cannot apply until stems are derived in Level 1 and must not apply when dependent pronouns are cliticized in Level 3.

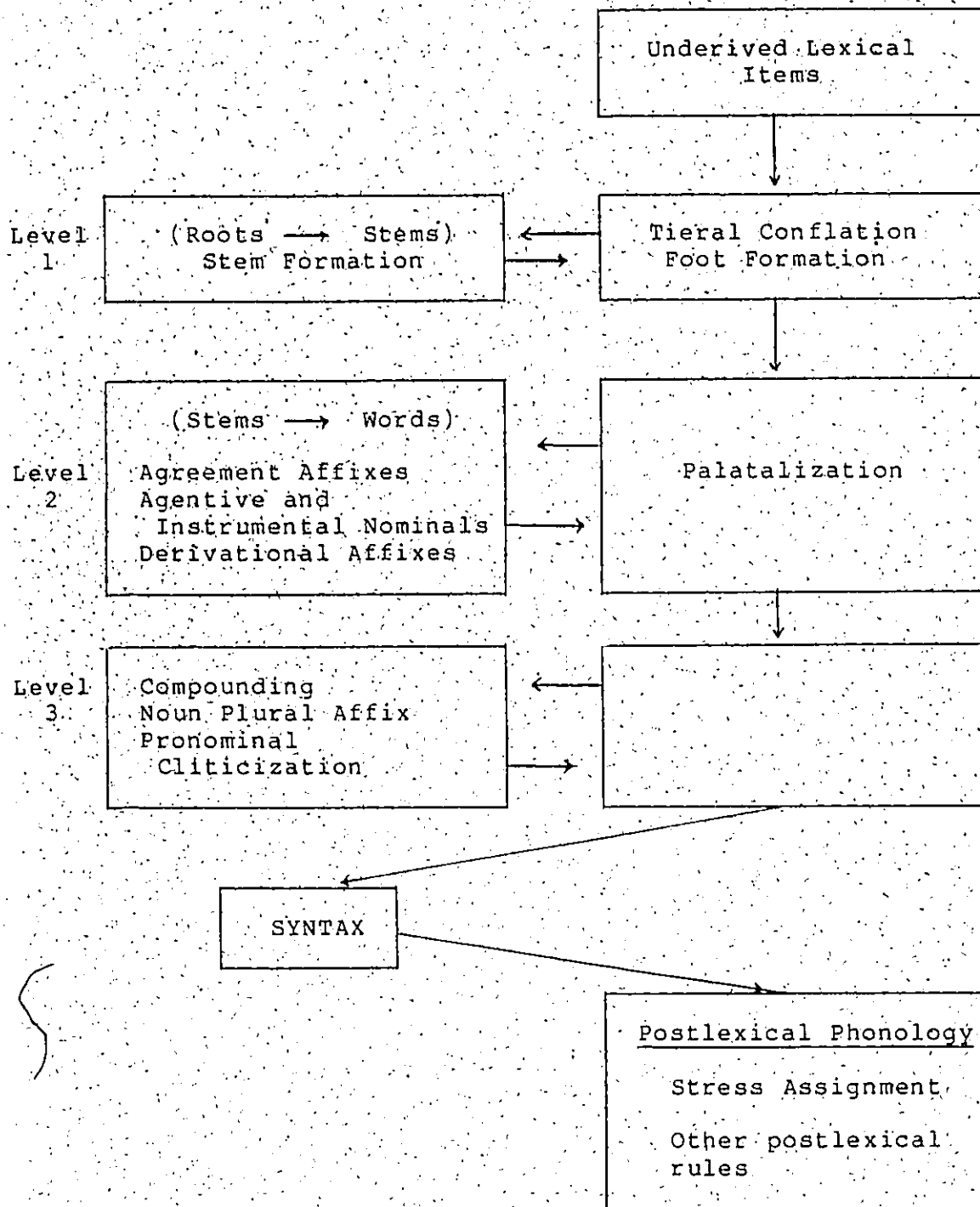
In the next chapter, I will present similar positive evidence that the domain of the initial rules for building the metrical feet that will eventually be responsible for stress assignment is Level 1, but that metrical structure is not complete until the postlexical level, which is therefore

the domain of the general stress rule. It will also become clear that much of Amharic phonology applies at the post-lexical level.

Similarly, in Chapters Four and Five, I will present further evidence concerning the domains of Case and θ -role assignment. I have already shown in this present chapter that the conditions for Case assignment in Amharic are met when a dependent pronoun is cliticized to a verb or a noun in Level 3 of the lexicon; when I discuss the syntactic constructions in which the clitics participate, it will be evident that they must receive Case before insertion into syntax with their lexical host. Like metrical structure, however, which is initiated in a lexical domain and completed postlexically, θ -role assignment is only partially achieved by a pronominal clitic in the lexical domain and can be concluded only in the domain of syntax when it is coindexed with an X' argument.

At this stage, on the basis of the analyses I have worked out in this chapter, it is possible to show the overall organization of the Amharic lexicon. Additional evidence for the model in (27) will be presented in succeeding chapters. Specifically, Chapter Three is concerned with certain phonological rules that may apply during the formation of verbs and nouns to which the dependent pronouns may be cliticized; these rules will be assigned to a domain in this model. Chapters Four and Five deal with the complex domain that is merely indicated in (27) by the single term, SYNTAX.

(27) The Levels of the Amharic Lexicon



Notes for Chapter Two

1. Developers of Lexical Morphology and Phonology have recognized that, in some languages, the "lexical item" that is the output of a given level may be more accurately described as a stem than as a word; for instance, it may be incapable of appearing as an independent word because it requires an obligatory case or agreement ending. Kiparsky (1982b, p. 145) notes, however, that stems are lexically categorized as N, V or A, and therefore are qualified to be the output of a lexical level.

2. In this respect, Amharic differs from some other Semitic languages, in which a pronominal clitic may appear on a preposition in a PP. The examples below are from Borer (1984a, p. 27).

(i) Lebanese Arabic

hkit	ma9 - o	
talked-I	with-him	'I talked with him'

(ii) Modern Hebrew

dibarti	'im - a	
talked-I	with-her	'I talked with her'

3. In the approach of Selkirk (1982), affixes do have categorial status. Williams (1981, p. 249) states that category membership must be extended to suffixes but not prefixes because (in general) the former but not the latter determine the category of the word they are part of.

Stong-Jensen (1982) argued the opposite view, presenting evidence from Latin and Hungarian to support her proposal that "Affixes are crucially distinguished from roots in that affixes do not have inherent category features."

4. Klavans (1983, p. 105) proposes that a lexical clitic has a subcategorization frame just like that of an affix. Thus, the entry for the Spanish non-tonic pronoun lo 'it' is as follows:

CLITIC: lo category/subcategorization [v ____] [v ____]
[+T]

Klavans elaborates: "What this means is that lexical clitics attach to lexical items to form other lexical items, like any other morphological process such as inflection."

In my system, a dependent pronoun is not labelled CLITIC, as the term "clitic" does not identify a class of morphemes on the basis of any inherent lexical properties. Rather, the frame in the lexical entry of the pronominal morpheme represents the special, non-affixal relationship that it must have with a lexical category. That is, the morpheme is not intrinsically a clitic but only becomes one when it is juxtaposed to its host word.

5. The structure in (9a) includes a node labelled v^{-1} . Jensen (1980) proposed the use of negative bars in morphology: one negative bar for a verb stem and two for a verb root. Selkirk (1982) develops the extension of X-bar

notation to "word syntax," hypothesizing that all "W-syntactic" (i.e. morphological) categories, whether of the type Word or "lower" than Word, are in the X-bar hierarchy. Therefore, a lexical "stem" that does not qualify as an X^0 word, is an X^{-1} lexical type, while a "root", from which a stem may be derived, is at the X^{-2} level.

6. The lack of reference in a nominal component that satisfies the θ -role borne by the right-hand element in a compound apparently extends even to proper nouns. Di Sciullo and Williams (1986), in developing their arguments for syntactic atomicity, observe that Nixon in the compound Nixon-admirer, is not referential.

7. Although a pronominal clitic will be visible for indexing in the syntax, because it is a lexical [+N] category in a head position (cf. Borer, 1984b, p. 36), its index will not be able to percolate to the phrasal level because it does not project an NP. As Williams (1983, p. 299) observes, reference is defined only for NPs in referential positions.

8. For Williams (1981), the notion of "head" is as relevant to morphology as to syntax, and morphology is regularly head-final. He claims in the Righthand Head Rule (p. 248) that the head of a morphologically complex word is the right-hand member of that word. In general, he states, the "head of X" has the same properties (such as distribution) as X. There are systematic exceptions to the Righthand Head Rule,

such as the set of English words prefixed by en-, which has the properties of a head (e.g. endear, ennoble), and nouns of the form [pushy up]_N and [runy down]_N, which have no head and are derived by a "headless rule."

Under Williams' analysis, the leftward percolation of the [+PAST] feature in wanted (17a) is explained by the fact that -ed is the head of the morphologically complex word and heads percolate their features. Similarly in (17b), the head of the syntactic structure, wanted, percolates the [tense] feature in syntax.

9. Various proposals have been made about the number of levels required in the English lexicon. For example, Kiparsky (1982b) organizes the lexicon of English in three levels whereas it is structured into two levels in Kiparsky (1983). Halle and Mohanan (1985) argue that four levels are required in the lexicon, plus a fifth, postlexical, stratum.

10. According to traditional practice, the citation form of a Semitic verb is the third singular masculine of the perfective.

11. Bender (1969a), substituting the term "contingent" for "imperfective," refers to these six stems as the principal parts of an Amharic verb.

The agentive stem is used to form a noun (e.g. 'one who breaks'), which is known in traditional grammars as the participle. It is included among the principal parts of a

verb mainly because it is most conveniently formed directly from the consonantal root rather than from another principal part.

The imperative forms of a verb are constructed from the jussive stem.

12. The Type C verb gaggārā 'bake bread' in (21) is of special interest because the first and second consonants are identical, a rare circumstance in Semitic languages. McCarthy (1982a, p. 26) states:

"But certainly in Arabic, and reasonably confidently in the other major Semitic languages, there are no roots of verbs or nouns with identical first and second radicals, except for the unique Arabic noun dadān, a nursery word for 'plaything', and a few verbs in Modern Hebrew."

McCarthy uses autosegmental principles to show why identical first and second radicals should be impossible. Broselow (1984) presents the evidence of verbs like gaggārā to argue that Amharic does not have automatic spreading (see note 13 below).

Bender (1969a) found 14 verbs with identical first and second radicals in his Amharic corpus. Mantel-Niećko (1964), using a larger corpus, discovered 19.

13. Another reason for deciding that the vocalic patterns in Amharic should be treated differently from those in Classical Arabic may be better understood after my discussion of gemination in Chapter Three. I will merely state the essentials here.

Broselow (1984) argues that automatic spreading is not a universal principle and that the Amharic setting of this parameter does not allow it. Instead, she proposes the Amharic rule of Gemination, as in (i).

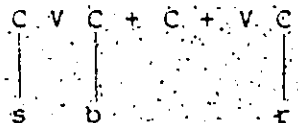
(i) Gemination (Broselow, 1984, p. 8)



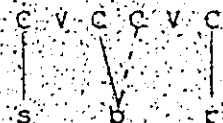
The Amharic perfective stem (illustrated in (19)), which contains a geminate medial consonant, is explained as the result of infixing a C-slot and linking it to the medial consonant of the verbal root by means of the Gemination rule, as in (ii).

(ii) Perfective stem of *säbbarä* 'break': *säbbär-*

a. C-slot infixation



b. Gemination



To be consistent in adopting Broselow's account, I cannot associate the vowel /ä/ with the two V-slots in the perfective template C V C C V C to produce *säbbär-* in the same way that McCarthy does for Amharic. If the universal convention on autosegmental association is that mapping proceeds from left to right and is one-to-one (Pulleyblank, 1984), and if Amharic does not have the language-particular

rule of automatic spreading, then no association line can be drawn to link the vowel /ä/ with the second V-slot in the template. Furthermore, the Amharic rule of Gemination requires adjacency, which does not exist between the two V-slots.

My proposal that an Amharic stem consists of only two morphemes - a CV template with preattached vowels (e.g. the perfective morpheme) and the consonantal root - has the happy consequence of providing a solution to the vowel mapping problem presented above.

14. The Amharic rule of Palatalization is stated formally in Chapter Three and discussed in some detail there.



CHAPTER THREE

Phonological Issues

In the last section of the previous chapter, I presented the general organization of the Amharic lexicon from the morphological perspective. I showed there that three levels are required to account for the creation of verbal stems from consonantal roots, the production of fully inflected words from stems and the cliticization of dependent pronouns to verbs and nouns at the X^0 level. The aim of this present chapter is to identify the phonological rules that are relevant to the hypothesis of cliticization in the lexicon and assign them to a domain in the lexical and/or the postlexical phonology.

As a foundation for accomplishing this aim, I first outline the salient characteristics of the Amharic segmental sound system. A full section is devoted to the properties and distribution of geminate consonants, which are present in profusion in Amharic and exert a crucial effect on word stress. As Cohen (1970, p. 63) remarks, the articulatory effect of uttering a geminate consonant seems to give a heavier intensity not only to that consonant but also to its neighbouring vowel; in more theoretical terms, a geminate adds weight to a syllable, making a light syllable heavy. At this point, I discuss the rule of Geminization required in Amharic, which does not have automatic spreading from the segmental tier to slots in a timing tier.

After a section in which I identify the allowable syllabic patterns of Amharic, I investigate the assignment of stress, demonstrating the connection between syllabic weight, foot construction and stress. Problems related to stress assignment are solved by initiating foot construction in the first level of the lexicon, where verb stems are formed; it appears that the building of a foot on a stem serves to "lock in" the stress so that the verbal root retains its prominence despite the addition of numerous morphemes to it. Nevertheless, stress in a non-verbal category may be affected by the encliticization of certain morphemes at a later level, and therefore the construction of phonological word trees is assigned to the postlexical domain.

In the fifth section, I take up questions related to the forms of the pronominal clitics and the phonology involved in cliticization. There is a discussion of various differences in the application of certain phonological rules to verbs and nouns. I provide data that cast doubt on the traditional assumption that lexical category is the sole factor responsible for these differences, and I show in the case of Palatalization that the explanation lies in the nature of the Amharic lexicon and the level-ordering of morphology and phonology there.

As an appendix to this chapter, I present some interesting comparative data from Cushitic languages that suggest a Cushitic influence on Amharic stress patterns.

3.1 The Amharic Segmental Sound System

For the following summary, I have relied mainly on Armbruster (1908), Cohen (1970), Uhlendorff (1955) and

Obolensky et al. (1964). (Among the symbols employed here to represent sounds, the unlauded ä corresponds to a schwa in Obolensky et al. and to a barred a in Cohen. The barred i that I use is represented as a schwa in Cohen and as i in Obolensky et al. As noted in the Introduction, capital letters are used to represent glottalized stops; a bare c stands for the palatoalveolar affricate and a bare j for its voiced counterpart.)

3.1.1 The Vowel System

There are seven surface vowels in Amharic. This seven-vowel system, depicted in (1), is reflected in the Amharic writing system already alluded to in the Introduction.¹

- (1)
- | | | |
|---|---|---|
| i | ɨ | u |
| e | ä | o |
| | a | |

In their non-technical summary, Cowley et al. (1976, p. 79) begin their phonological description by stating: "In addition to the five-vowel system /a e i o u/, which is probably the commonest system in the world's languages, Amharic has two central vowels." This division between central and "peripheral" vowels is significant in several respects: the historical development of the language, frequency of occurrence, vowel length, degree of vowel quality stability, and use for special functions.

According to Chainé (1938, p. 7), the five peripheral vowels formed a set in the classical Ethiopic language that contrasted with /ä/ and /i/ with respect to length: the five former vowels were regarded as long and the two latter, short.

In contemporary Amharic, vowel length is not phonemic. No words are distinguished by vowel length alone. Although the topic of vowel length awaits serious research, there is general agreement among commentators that the central vowels /i/ and /ä/ are almost never long whereas any of the peripheral vowels may be, and /a/ often is. On the basis of these facts, I assume that vowels in Amharic are underlyingly short and that a lengthening rule may apply under given conditions. The most typical environment for a long vowel is in monosyllabic words forming a closed syllable, as in maar 'honey'; beet 'house'; aaf 'mouth'. A long vowel never occurs finally in the surface form of a word.

With the exception of /a/, the occurrence of the peripheral vowels is relatively rare. According to Bender (1969a, p. 147), /i e o u/ each account for only (approximately) three per cent of the vowel occurrences. In comparison, the two central vowels occur with great frequency. The reason for the frequent appearance of the short, high, unrounded vowel /i/ is easily identified: it is the vowel of epenthesis, used to separate impermissible consonant clusters.²

The other central vowel, /ä/, is exceedingly common. Bowley et al. (p. 79) state that it accounts for about one-third of all vowel occurrences. It can be regarded as the unmarked vowel of verbal morphology. Indeed, Bender (1969a, p. 22) lists as one of the three basic criteria for classifying verbs "... occurrence of vowels other than the normal ä."

Finally, the peripheral and central vowels differ as to stability of quality. The five vowels on the periphery are subject to little influence from their consonantal environments and retain their essential quality even when short. In contrast, both /ɪ/ and /ä/ are environment-sensitive, taking on various nuances of quality. For example, after /w/, the /ɪ/ becomes more rounded and back, close to [U], and the vowel represented as /ä/ ranges from a schwa to a mid-front [ɛ]. Obolensky et al. state that it is usually "lower-mid central unrounded" but that it is always "low-mid front unrounded" after /y/ and usually so after the other palatal consonants.

Linguists differ in their classification of the vowel /a/. For Leslau (1968), Obolensky et al. and Taddese Beyene (1966), it is a low central vowel; for Ullendorff and Cohen, it is low and back. Other, less theoretical descriptions merely comment that it is pronounced like a in father. Ullendorff cautiously states (1955, p. 164):

"The Ethiopian a is an open vowel, formed in the back of the mouth, approaching rather the sound

of English 'father' than that of German 'Vater', though it is, perhaps, not quite so distinctly a back vowel as the English a."

Since this vowel patterns with the back vowel /o/ with respect to certain phonological rules, such as consonant rounding, I have sided with Ullendorff in classifying it as a back vowel.³

3.1.2 Amharic Consonants and Their Distribution

The chart in (2) lists the consonants of Amharic.

(2)

Amharic Consonants

	<u>Labials</u>	<u>Dentals</u>	<u>Palatals</u>	<u>Velars</u>	<u>Labio- velars</u>	<u>Glottals</u>
<u>Stops & Affricates</u>						
Voiceless	p	t	c	k	kʷ	ʔ
Voiced	b	d	j	g	gʷ	
Glottalized	p̚	t̚	c̚	k̚	kʷ̚	
<u>Fricatives</u>						
Voiceless	f	s	ʃ			h
Voiced		z	ʒ			
Glottalized		s̚				
<u>Nasals</u>	m	n	ɲ			
<u>Liquids</u>		l, r				
<u>Glides</u>	w		y			

The glottalized ejectives (/P T C K S/) are the Amharic reflexes of the Semitic emphatics.

The palatal consonants constitute an important class, thought to be an influence from the Cushitic languages, since Classical Ethiopic had none. Not only do they appear in underived lexical items; they are also derived by a cyclic phonological rule that palatalizes the coronal consonants before a non-low front vowel or glide.

Amharic consonants in general may have a light palatal glide when they precede /e/, though the frequency with which this glide appears varies with the region, speaker and phonological context.

Although virtually all consonants may exhibit some rounding when they precede /o/ (and sometimes /a/), there is a special set of labiovelar stops, which contrast with the simple velar stops, thus forming minimal pairs such as those in (3).⁴

- (3) gäddälä 'kill' -- g^wäddälä 'diminish'
kämmärä 'pile up' -- k^wämmärä 'sell mead'
käTTärä 'hire' -- K^wäTTärä 'count'

All of the consonants in (2) are found word-initially except /ñ/. Both /p/ and /P/ occur only in borrowings, the former from European languages and the glottalized ejective /P/ from Greek through Geez. (For comments about the occurrence of the glottals /ʔ/ and /h/ in contemporary Amharic, see note 2.)

Consonant clusters are not permitted at the beginning of a word. An optional exception to this rule is that some

speakers pronounce an initial cluster when the second element is a liquid, as in (4).

- (4) kirämt — krämt 'rainy season'
 firaas — fraas 'mattress'
 bilatta — blatta (an honorific title)

Many consonant clusters are attested word-finally. In general, the permissible final clusters consist of a continuant followed by a stop (5a) or by a fricative (5b).

- (5) a. sost 'three' hizb 'people'
 sint 'how many?' silk 'telephone'
 b. wänz 'river' Kulf 'key'
 näfs 'soul' Kurs 'breakfast'

However, a non-compatible pair of final consonants is separated by an epenthetic /ɪ/. The question of what constitutes incompatibility has prompted much debate. Bender (1969b) states that a final -CC is avoided when the first of these is a prepalatal or the second a liquid (6a). Devens (1981) adds the information that epenthesis is usual when the final consonant is a labial (6b), although a sonorant and labial sequence is commonly pronounced as a cluster (6c). The experiments carried out by Devens demonstrate that the actual performance of speakers varies in this regard. This variability suggests that epenthesis to break a final cluster must be a low-level rule, but later (see note 23) it is shown to be necessary at Level 2 in the lexicon, as well.⁵

(6) a. maCid 'sickle' yikäšf → yikäšif 'it misfires'

yidäfr → yidäfir 'he dares'

b. yiläKm → yiläKim 'he picks'

c. yizänb 'it's raining'

Amharic never allows more than two consonants to be adjacent. If a third consonant is made adjacent to a cluster (or a geminate) by the morphology, epenthesis is obligatory, the normal site for the insertion of /i/ being to the left of the third consonant. This restriction against a cluster of more than two consonants applies not only word-internally but also across word boundaries, as in (7).

(7) wänd + lij → wänd i lij (*wänd lij)

'male' 'child' 'boy'

The question of the site for inserting /i/ epenthetically will arise again when consonant gemination is discussed in the next section.

3.2 Geminate Consonants

Any consonant except /h/ and /ʔ/ may occur as a geminate in Amharic. Gemination may result from any of three causes: an item may contain a geminate in its underlying representation; the geminate may be created by the morphology; a phonological rule may cause a consonant to geminate.

It is instructive to note that the term used in Ethiopian commentaries for consonant gemination has nothing

to do with doubling or twinning. Rather, the Amharic word is TibK 'tightened'. In contrast, a non-geminate is referred to as "relaxed."

3.2.1 Lexical Geminates

A geminate consonant is underlyingly present in some common underived words, such as bunna 'coffee'; dimmät 'cat'; dabbo 'bread'; dinnicc 'potato'; libb 'heart'.

I assume that these geminate segments (as well as vocalic geminates, or long vowels) are represented autosegmentally by two slots on the timing tier linked to one slot on the segmental tier, as in (8).

(8) a. Geminate /s/

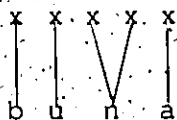


b. Long /a/

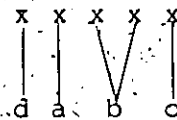


The representation of the underived Amharic words mentioned above, which contain a geminate consonant, is illustrated in (9).

(9) a. bunna 'coffee'



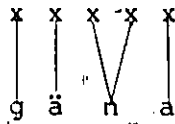
b. dabbo 'bread'



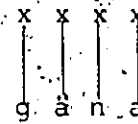
Consonant gemination is phonologically significant in Amharic, distinguishing contrasting pairs of words. Although morphology is usually responsible for the contrast (since

the pairs ordinarily involve a verb, all forms of which are necessarily derived from the consonantal root), a few contrasts can be found in underived lexical items. The example in (10) illustrates the representations of a contrasting pair.

(10) a. gänna 'Christmas'



b. gäna 'still/yet'



3.2.2 Morphologically Created Geminates

A geminate may be created by a morphological process, such as verb stem formation or affixation.

For example, gemination of the second radical is a sign of the perfective stem in one class (Type A) of trilateral verbs. The contrast between the perfective stem and the other stems in this class is shown in (11).

(11) Stems of Type A Trilateral Verbs, e.g. n k s 'bite'

Perfective:	näkkäs-	(näkkäsä 'he bit')
Imperfective:	-näks-	(yinäks 'he bites')
Gerundive:	näks-	(näkso 'he, having bitten')
Jussive:	-nkäs	(yänkäs 'let him bite')
Infinitive:	-nkäs	(mänkäs 'biting, to bite')

However, other classes of verbs do not form a geminate in the perfective, and therefore gemination is responsible

for distinguishing contrasting pairs. (According to traditional practice in Semitic languages, the perfective third singular masculine is the citation form of the verb.) Two examples are given in (12).

- (12) allä 'exist' -- alä 'say'
gaCCä 'sling' (v) -- gaCä 'abuse' (v)

Numerous other pairs contrasted by gemination result from other morphological derivations.

Broselow (1984), who argues that spreading is not automatic in Amharic, proposes the rule of Gemination in (13), which applies to derive a geminate consonant.

- (13) Gemination (Broselow, 1984, p. 8)



This rule will link an unassociated C-slot to a segmental melody already associated with an adjacent C-slot. It is restricted to derived environments, applying only across a morphemic boundary.

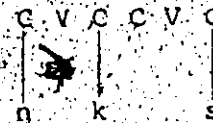
Broselow treats the extra C-slot in the perfective stem template as an infix (14a), to which the consonant already linked to the adjacent C-slot is then associated, as in (14b).

(14) näkkäsä 'bite'

a. C-slot infixation



b. Gemination



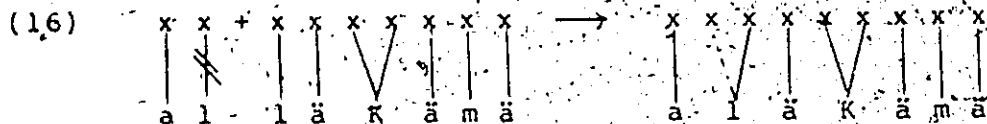
As the infixed C is obviously essential in the formation of a verbal stem, the Gemination rule must be able to apply in Level 1 of the lexicon.

Identical consonants are sometimes made adjacent by affixation. For instance, when the negative prefix al- is attached to a verb having l as the first radical, a geminate is created, as in (15).

(15) läkkämä 'he picked'

al + läkkämä → aläkkämä 'he did not pick'

The geminate created in (15) by affixation does not differ in behaviour from an underived geminate, and therefore the representations should be the same. I assume that, after delinking, reassociation of two slots to a single /l/ segment is achieved by the rule of Gemination, as in (16).

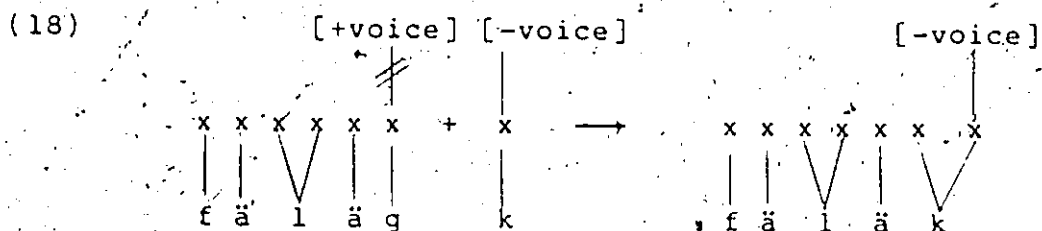


3.2.3 Phonologically Created Geminates

A geminate may be created by the assimilation of a phonological feature. In (17), for example, the final radical, /g/, of the perfective stem of fällägä 'want' assimilates to /k/, which is one option for the subject agreement suffix, second person singular masculine.

(17) fälläg + k → fälläkk 'you wanted'

Unlike the geminate created in (16) because of the juxtaposition of two identical consonants, the geminate in (17) is created when two consonants that are identical except for the single feature of [voice] are made adjacent. In this case, the effect of the rule of Geminization is to spread the [-voice] value of /k/ to the preceding segment. I illustrate this in (18), by showing the [voice] tier separately.



Since /g/ and /k/ are similar segments except for voice, the effect of the rule is to unite them as a single geminate consonant. Assimilation does not occur if the adjacent consonants are differentiated by more than one feature. Speakers who use the alternative form of the second singular masculine agreement suffix, /h/, instead of /k/, do not form a geminate; they either pronounce a final cluster, as in fällägh,

or insert an epenthetic /i/, as in fälläqih, to express 'you wanted!'. (These alternatives are provided in Armbruster (1908, p. 111).)

Note that the rule of Geminata has operated in (18) across a morpheme boundary. Furthermore, since the assimilation in (18) occurs when an inflectional suffix is affixed to a verbal stem, it must be that the Geminata rule is able to apply in Level 2 of the lexicon as well as Level 1.

In (18), morphology and phonology are jointly responsible for the geminate. However, there are also postsyntactic rules that cause certain classes of consonants to geminate under given conditions. Word-final nasals, for instance, are regularly geminated before a vowel-initial word in a syntactic construction, as in (19).⁶

(19) minim 'anything'

minimm alnabbär 'there wasn't anything'

I assume that a postlexical rule inserts an extra x-slot following the nasal /m/ and that the rule of Geminata applies to link the new slot with the /m/ on the segmental tier. Evidently, the domain of the rule of Geminata in Amharic is the entire phonology, both lexical and postlexical.

3.2.4 The Behaviour of Amharic Geminates

A useful framework for discussing Amharic geminates is provided by Hayes (1984), who lists three characteristics of geminate consonant (and long vowel) behaviour generally:

- a. Ambiguity: long segments (that is, both consonants and vowels that occupy two positions in a syllable) act in some contexts as if they were two segments but in others as if they were one;
- b. Inalterability: long segments often resist the application of rules that a priori would be expected to apply to them;
- c. Integrity: insofar as they contribute two segments, long segments cannot be split by rules of epenthesis.

In demonstrating these characteristics in Amharic, I will discuss the application of several rules to geminate consonants. The rule of Palatalization illustrates the property of ambiguity; the application of Spirantization shows the property of inalterability; and the non-applicability of a rule of epenthesis in the derivation of one gerundive form illustrates the property of integrity.

3.2.4.1 Ambiguity

Amharic geminates act as if they are two segments since they obey the same syllabic constraints that consonant clusters do. On the other hand, a coronal geminate will become palatalized if it occurs before a non-low front vowel or glide, just as if it were a single consonant.

In 3.1.2, it was shown that consonant clusters do not occur word-initially and that a sequence of more than two consonants must be broken up by epenthesis of /ɨ/.

Amharic geminates conform to the same constraints. They are never initial in a word. The examples of gerundives in (20) show that a geminate, like a cluster, must be separated by a vowel from another consonant in the same word. The verb in (20a), säbbärä, belongs to Type A, in which the second radical is geminate only in the perfective, while fällägä in (20b) is a Type B verb, and therefore retains the geminate in all its stems. As a result, the Type B verb has one more syllable in the gerundive than the Type A verb has, /i/ having been inserted between the geminate and the final radical. (All the forms in (20) are third person singular masculine.)

(20) a. Type A

Perfective: säbbärä 'he broke'

Gerundive: säbro 'he, having broken'

b. Type B

Perfective: fällägä 'he wanted'

Gerundive: fälligo 'he, having wanted'

The examples in (21) show that this constraint applies to geminates, as to clusters, across word boundaries.

(21) nāCC nāw → nāCC i nāw *nāCC nāw

white is 'it's white'

säbatt bärr → säbatt i bärr *säbatt bärr

seven dollar 'seven dollars'

In 3.1.2, I showed that a two-consonant sequence is not permitted word-initially and that a word-final -CC sequence is normally avoided, by inserting /i/, when the second consonant is a liquid or labial. Thus, näbr 'leopard' is normally pronounced näbir, and mdr 'earth', midir. The attachment of certain morphemes breaks the undesirable clusters and permits correct syllabification without the insertion of /i/. The example in (22a) illustrates the encliticization of the masculine definite article -u; no epenthesis is required because the /r/ becomes the onset of a second syllable. In (22b), procliticization of the relational morpheme yä- to mdr allows the first consonant of the noun to be the coda of a syllable, and therefore epenthesis is necessary only between /d/ and /r/.

- (22) a. näbr + u → näbru
 leopard DEF 'the leopard'
- yä + mdr babur → yämdir babur
 of earth steamer 'railroad'

When the definite article is attached to the adjective irgiT 'sure', however, the two final consonants must be separated by /i/. The first two consonants can fill the coda of the first syllable and onset of the second, but these two consonants cannot be adjacent to a third.

- (23) irgiT + u → irgiTu * irgTu
 'sure' DEF 'the sure (thing)'

The same prohibition against a sequence of three consonants applies when a geminate precedes (or follows) a third consonant, as in (24).

- (24) a. $\text{iffuññit} + \text{u} \rightarrow \text{iffuññitu} \quad * \text{iffuññitu}$
 viper DEF 'the viper'
- b. $\text{accir} + \text{u} \rightarrow \text{acciru} \quad * \text{accru}$
 short DEF 'the short (one)'
- c. $\text{yä} + \text{dimmät} \text{gilgäl} \rightarrow \text{yädimmät} \text{gilgäl} \quad * \text{yädmmät...}$
 of cat young animal 'a kitten'

The examples in (20) - (24) demonstrate that Amharic geminates pattern distributionally with clusters and not with single consonants, but they also show something more. The geminates in säbatt, dimmät and iffuññit are lexical, underlying in the underived form; the others have been created by some kind of rule.⁷ Nevertheless, the geminates behave in the same way with respect to epenthesis, whether they are derived or underived geminates. In this respect, Amharic is unlike its sister language, Tigrinya, in which identical consonants made adjacent by the morphology may remain heteromorphemic clusters rather than true geminates (cf. Schein (1981), Kenstowicz (1982), Steriade and Schein (1984), Hayes (1984)).

In contrast to their resemblance to clusters as far as syllable structure constraints are concerned, a geminate may behave as a single consonant does when it occurs in an environment specified by a purely qualitative rule. For example,

when a morpheme beginning with a non-low front vowel or glide is suffixed to a stem ending in a coronal obstruent, that consonant is palatalized by the rule in (25).

(25) Amharic Palatalization

$$\begin{bmatrix} + \text{cor} \\ + \text{ant} \end{bmatrix} \rightarrow \begin{bmatrix} - \text{ant} \end{bmatrix} / \text{---} \begin{bmatrix} - \text{cons} \\ + \text{high} \\ - \text{back} \end{bmatrix}$$

The first person singular of the gerundive shows that both elements of a geminate coronal are palatalized in such an environment. The two examples in (20), säbr-o and fällig-o, both illustrate a regular affixation of the agreement suffix to the gerundive stem. The first person singular gerundive takes on a different form, however: the final consonant becomes geminate before the suffix -e (and epenthesis obligatorily applies in Type A verbs), as in (26).⁸

(26) Gerundive, 1.s.

Type A: säbr + e → säbirre 'I, having broken'

Type B: fällig + e → fälligge 'I, having wanted'

When the final radical of a verbal root is a coronal obstruent, as in n g s 'reign'; k f t 'open'; w d d 'love', both elements of the geminate become palatals. Three examples are given in (27):

- (27) nägs + e → näg+šše 'I, having reigned'
 käft + e → käf+ce 'I, having opened'
 wädd + e → wäd+jje 'I, having loved'

Note that the gerundive form of the verb 'love' is not *wäj+jje. The fact that the first /d/ of the stem wädd- does not become palatalized, as the second does, demonstrates that the two instances of /d/ are separate segments and not a geminate. This point is noted by Broselow (1984, p.41).

I assume, with Broselow, that the representation of the first person singular gerundive suffix consists of an empty consonant slot followed by a vowel slot associated with /e/. The rule of Gemination causes the empty C-slot to be associated with the preceding consonantal melody, as in (28).

- (28)
- | | | | | | | |
|---|---|---|---|---|---|---|
| C | V | C | C | + | C | V |
| | | | | | | |
| k | ä | f | t | | | e |

The output of this Gemination rule yields käftte, which then requires epenthesis (käfitte); finally, the geminate coronal undergoes the Palatalization rule in (25), resulting in the surface form, käficce.

In this section, then, the property of ambiguity has been illustrated in Amharic geminates, which pattern with clusters when consonantal quantity is involved but with single segments when a rule such as Palatalization applies. Hayes (1984) explains the fact that both elements of a geminate palatalize as if the geminate were a single segment by

showing that "one-tier rules" (such as Amharic Palatalization) have no need to mention the skeletal tier at all but are stated in segmental terms only. Since this rule is purely qualitative and does not concern the segment's quantity, which is represented on the skeletal tier, it treats only what it "sees" on the segmental tier: a single segment.

One advantage of a non-linear phonological representation, therefore, is that it accurately displays a geminate's essential ambiguity, simultaneously submitting it to the constraints of syllable structure on the skeletal tier and to the operation of a qualitative phonological rule on the segmental tier.

3.2.4.2 Inalterability

Hayes (1984) demonstrates that the property of inalterability is not merely a phonetic effect but results from the links present in phonological representations.

Commenting on Tigrinya Spirantization, he says that if the representation of [kk] is the doubly-linked $\begin{matrix} C & C \\ & \vee \\ & k \end{matrix}$, the Spirantization rule cannot derive [Xk] from it because there is only one /k/ for the rule to affect. But, he asks, why does the rule not affect the entire geminate, deriving [XX] since certain other rules (Lithuanian Backing, for instance) do affect both long and short vowels? He proposes the generalization that when phonological rules must include association lines (that is, when they must mention both the skeletal and the melodic tiers), there will be inalterability effects:

a geminate will resist the application of the rule. He proposes the Linking Constraint (29) to account for these effects.

(29) Linking Constraint (Hayes, 1984, p. 25)

"Association lines in structural descriptions are interpreted as exhaustive."

If a rule specifies one association line, then, it cannot apply to a geminate, which is linked by two association lines to a skeletal tier.

In the previous subsection, we saw that the Amharic Palatalization rule in (25) is an example of a rule that needs no association lines, since only one tier - the segmental - need be mentioned. In contrast, let us consider the rule of Amharic Spirantization.

In Amharic, the only consonant that spirantizes is /b/. The central fact about spirantization in this language is that a single /b/ becomes a spirant (represented here by an underlined b) after a vowel. The examples in (30) show that the rule applies "across the board": word-internally (30a) and across morpheme and word boundaries (30b).

(30) a. Kbe 'butter' kbt 'cattle' gbs 'barley'

b. yā- bāg sīgā

'of sheep meat' --- 'mutton'

bunna beet

'coffee house' --- 'tavern'

yāhe bāklo

'this mule'

Some speakers also spirantize /b/ prevocally under certain conditions, but that is an optional extension of the rule. The only position in which a single /b/ may never spirantize is after the homorganic nasal /m/; thus, only amba 'flat-topped mountain' is possible and not *amba. I shall return to this phenomenon shortly.

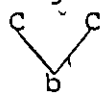
Unlike spirantization in Tigrinya, in which the first of two identical velar stops will be spirantized in a heteromorphemic cluster, the Amharic rule never affects an entire geminate /b/ or the first element of the geminate. The examples in (31a) contain underlying geminates while those in (31b) are created by the morphology. In neither case is the geminate, or one element of it, spirantized.

- (31) a. gubbät 'liver' gibbi 'palace'
 b. säbbärä 'he broke' färrädäbbiñ 'he convicted me'
 mägibbe 'I, feeding'

The rule that spirantizes /b/ has to mention the skeletal tier, for the left environment of the target is the class of vowels. It also has to mention the melodic tier in order to specify the distinctive features. Therefore, there has to be an association line, linking the two tiers. The rule is given in (32).

(32) Amharic Spirantization

$$\begin{bmatrix} - \text{son} \\ + \text{ant} \\ - \text{cor} \\ + \text{vd} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{cont} \end{bmatrix} / \begin{array}{c} \text{v} \text{ } \bar{\text{c}} \\ | \\ \hline \end{array}$$

Hayes' Linking Constraint allows the Spirantization rule to apply to words like those in (30), since the /b/ in each word requires only one association line to link it with a C-slot on the skeletal tier (33a). However, the constraint prevents the rule from applying to words like those in (31), where the /b/ is geminate, because the association lines in the structure  exceed the single line specified in the rule (33b).

(33) a. gäbs 'barley'

$\begin{array}{cccc} x & x & x & x \\ | & | & | & | \\ g & ä & \underline{b} & s \end{array}$

b. yä-bäg 'ovine'

$\begin{array}{ccccc} x & x & x & x & x \\ | & | & | & | & | \\ y & ä & \underline{b} & ä & g \end{array}$

b. gibbi 'palace'

$\begin{array}{ccccc} x & x & x & x & x \\ | & | & \diagdown & \diagup & | \\ g & i & b & i & i \end{array}$

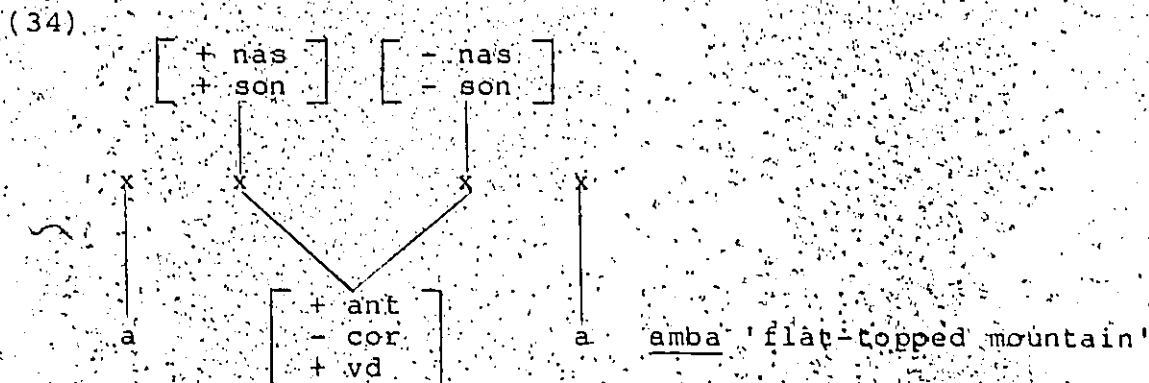
säbbärä 'he broke'

$\begin{array}{ccccccc} x & x & x & x & x & x & x \\ | & | & \diagdown & \diagup & | & | & | \\ s & ä & b & ä & r & ä & \end{array}$

The non-spirantization of geminate /b/ confirms Hayes' prediction that a two-tier rule, which must include association lines, will not affect the quality of a geminated segment, which retains its property of inalterability.⁹

One of the facts about spirantization in Amharic mentioned above is that, even though some speakers extend the environment of the rule to include non-postvocalic positions, /b/ never spirantizes after /m/. CV phonology sheds light on this phenomenon. If one visualizes a multi-tiered representation, in which there is a tier for each feature, the

impossibility of spirantizing /b/ after /m/ becomes explicable. The only feature distinguishing the two phonemes is nasality (and, redundantly, sonority). In (34), the tier of nasality is displayed separately and the shared features are linked as a set to two skeletal slots.



The representation in (34) reveals the /mb/ sequence to be a "partial geminate." That is, two adjacent slots on the skeletal tier are linked to a single feature value on one or more segmental tiers but to two opposite values of a feature on at least one other segmental melody tier. The number of association lines needed to link the set of shared features to the skeletal tier exceeds the number of lines specified in the rule, which is therefore prevented from applying and spirantizing the /b/. Thus, it is sufficient for some features to be shared for two adjacent consonants to come under the geminate constraint of inalterability.

An interesting set of alternative pronunciations results. There exists in Amharic an optional (but very commonly applied) rule of nasal assimilation that changes /n/

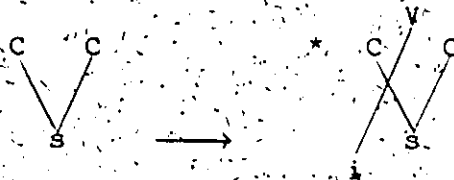
to /m/ before /b/. For example, the words wānbār 'chair'; anbāssa 'lion'; anbāTTa 'locust' are commonly pronounced (and usually written) wāmbār, ambāssa, ambāTTa, respectively. Speakers who have this assimilated pronunciation never spirantize the /b/. Those who retain the /h/ (or who do so when reading a text that retains the n spelling) seem to pronounce the /b/ with a very relaxed articulation, so that it is nearly, if not completely, spirantized. After /m/, it is not.

The examples of words with a spirantized /b/ in (30) show that the Amharic rule of Spirantization applies "across the board," not only within words but between the components of a compound (e.g. bunna beet 'tavern') and even between constituents of a syntactic phrase (e.g. yihe bāklo 'this mule'). Clearly, then, the domain of Spirantization is the postlexical phonology, where it can apply to a /b/ that is initial in a word made adjacent in a syntactic phrase to a preceding vowel-final word.

3.2.4.3. Integrity

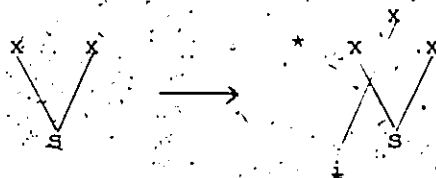
Amharic geminates, whether underlying or derived, cannot be split by epenthesis. An explanation for this is that, given the structure in (8), an epenthesis rule cannot insert a vowel between the two C-slots without violating the autosegmental prohibition against the crossing of association lines.¹⁰ This violation is illustrated in (35).

(35)



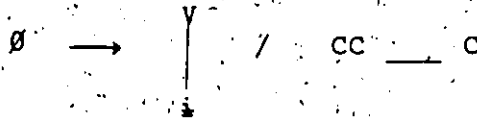
An objection to this argument might be made on the grounds that, for Semitic languages such as Amharic, the vowels have a separate tier, and therefore the association lines would not cross. However, epenthesis is a phonological rule, and phonological rules cannot apply until tieral conflation has taken place. In the approach that I outlined in Chapter One (and discussed further in Chapter Two), in which a CV tier is limited to the initial morphology and x-slots are substituted in Level 1 Phonology in the process of morphemic tier conflation, the argument is valid, as (36) shows.

(36)



It is interesting to observe that geminate integrity may be preserved by changing the normal site of epenthesis, which (in Amharic) is between a cluster (or geminate) on the left and a single consonant on the right, as we have already seen in 3.1.2. The rule that breaks an illegal sequence of three consonants is given in (37a) and illustrated in (37b).

(37) a. Triple-C Epenthesis



b. bird + libs → bird.i libs *birdlibs
cold clothing 'blanket'

Kaŋŋ + gʷadd → Kaŋŋ.i.gʷadd *Kaŋŋ.gʷadd
reconnoitre group 'patrol'

In the first person singular gerundives, such as näqışše, käficce, wädijje, etc., however, the epenthetic /i/ is inserted between the single consonant on the left and the geminate on the right. The product seems logical enough, since the geminate in these gerundive forms has as its source one radical of a consonantal root, and it would be bizarre to split a radical, but one is justified in asking about the process involved in this deviant epenthetic insertion. It appears that universal and language-particular wellformedness conditions are stronger than rules. Suppose that the Epenthesis rule in (37) tries to insert /i/ in the specified site. The result is ruled out because the crossing of association lines produces an ill-formed representation. But failure of Epenthesis to apply will also produce an ill-formed structure, as Amharic has a strict prohibition against a sequence of three consonants. Faced with a linguistic Hobson's Choice, the language permits epenthesis to break the C-sequence wherever it can. In other words, the obligatory constraint against sequences of more than two C-slots and the

integrity of a geminate combine to force a shift in the usual site for epenthetic insertion.¹¹

This unusual gerundive form will confront us again when I consider problems of stress assignment. At that time, I will propose a more specific solution to the two problems of epenthesis and stress.

3.3 Syllable Structure

No one who has spent much time in the precincts of an Ethiopian elementary school is likely to forget the pupils' rhythmic chanting of the Amharic alphabet as they memorize the characters of their written language. In loud chorus, each consonant symbol is sung out seven times, blending into a different vowel sound at each utterance, the first five on a level tone, the sixth raised, the seventh lowered. The melody of the recitation provides the background music for school life.

Each written symbol that the children chant is, in effect, a CV syllable. Indeed, there are scholars who refer to the set of characters that graphically represent the consonant-vowel combinations as a "syllabary" rather than the more accurate designation as an alphabetical system of a special type. From the phonological point of view, however, these "syllables" recited by generations of school children are not necessarily the linguistically significant units that are the subject of much current discussion and research.

To describe the types of Amharic syllables, I adopt in essence the Halle and Vergnaud (1980) account of a syllable's internal constituent structure. In this account, each syllable consists of one obligatory [+vocalic] constituent, the rime (R), and two optional constituents. The rime may be flanked on the left by an onset (O) and may be followed in some languages by an appendix (Ap). Only [-vocalic] segments may be placed in the onset and the appendix.

In Halle and Vergnaud's description, the appendix is not attached to the syllable tree.¹² A major reason they give for externalizing this element is that appendices in the languages they scrutinized do not appear freely in all positions of the word but are limited to the word-final syllable. Consequently, they treat the appendix as "a separate extrametrical constituent" of the syllable.¹³

In Amharic also, an appendix is restricted to the final syllable of a word and, therefore, is not integrated into the rime.

One more point concerning the appendix should be made. In word-final CVC syllables, the final consonant might be assigned either to the coda or to the appendix. It will become evident in the exposition which follows that there is an advantage in locating all word-final consonants in the syllabic appendix. The facts of stress indicate that final consonants are extrametrical in Amharic.¹⁴ Since an appendix is already extrametrical, it is possible to

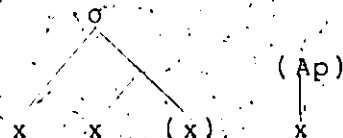
eliminate the need for a rule of consonant extrametricality, merely equating consonant extrametricality with the non-metrical status of the appendix. Thus, the rules for metrical construction can be simplified.

The permitted syllable structures in Amharic, then, can be summarized by the trees in (38).

(38) a. Word-internal



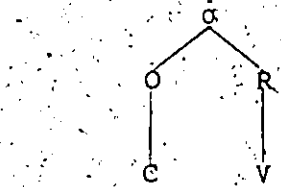
b. Word-final only



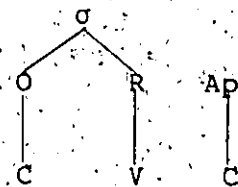
In word-internal syllables, the right branch of a syllable may be labelled R (rime), which may expand to the obligatory N (nucleus) and an optional C (coda), or N, if the nucleus contains a vowel that has been lengthened. Onsets do not branch, nor do codas, and a coda may be absent altogether. In word-final syllables, all four possible positions may be filled, with the optional slot in the right branch containing either a consonant or a vocalic segment if the appendix is filled.

Amharic is a "quantity-sensitive" language, the difference between light and heavy syllables being crucial in the formation of metrical feet and the eventual assignment of stress. Since a final consonant is always assigned to the appendix, and since the appendix is always extrametrical, final CVC syllables have the same light weight that CV syllables have. Examples of light syllables are given in (39).

(39) Light Syllables



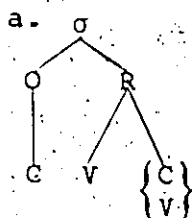
e.g. si-ga 'meat'
Ki-be 'butter'
wi-ha 'water'



e.g. fä-räs 'horse'
däm-mät 'cat'
kän-fär 'lip'

Word-internal CVC and CVV syllables are both heavy, as are the same syllables when there is an appendix. Since the characteristic of a rime that is essential for stress assignment is simply whether it is branching or not branching, no structural distinction is made in (40) between CVC and CVV syllables.¹⁵

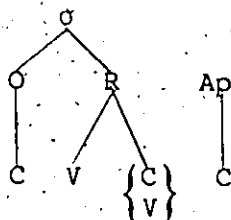
(40) Heavy Syllables



e.g. (CVC) män-gäd 'street'
cig-gär 'difficulty'
bir-han 'light'(n)

(CVV) tä-maa-ri 'student'
bar-nee-Ta 'hat'
li-jaa-gä-räd 'girl'

b. Word-final only:



(CVC C) libs 'clothing'
sim-mint 'eight'
wänz 'river'
(CVV C) beet 'house'
wä-daa 'friend'
fä-Kaad 'permission'

Since geminate consonants occur word-internally, they cannot be tautosyllabic but will fill the coda of one syllable and the onset of the next (or coda and appendix). However, this distribution of geminate elements between two syllables actually follows from the fact that they pattern with consonant clusters as far as the timing slots on the skeletal tier are concerned, and also from the violation of sonority hierarchy requirements in the Universal Syllable (Lowenstamm, 1981, p. 594) that a tautosyllabic analysis of geminates would cause.¹⁶

3.4 Stress Assignment

An investigation of stress in Amharic soon encounters several problems. For one thing, as the linguistic commentators all agree, stress tends to be weak. Cohen (1970, p. 29), after stating that the Ethiopians have no awareness of an intensifying accent, even declares: "Il est pratiquement impossible de désigner les syllabes accentuées."

Nevertheless, the same commentators (including Cohen) all point to the stress effects of geminate consonants. The following passage from Cowley et al. (1976, p. 77) is representative:

"The rhythm of Amharic speech thus sounds quite different from that of English. In English the rhythm is marked mainly by syllables of greater or lesser prominence (loudness and pitch), whereas in Amharic it is marked mainly by longer and shorter syllables depending on the gemination of consonants and by certain features of phrasing."

Most of the grammarians who have described or discussed Amharic have almost entirely ignored the topic of stress. A notable exception is Armbruster (1908), who indicates stress throughout his text. My own observations are generally in accord with the available published information.¹⁷

The reference in the Cowley et al. quotation above to "certain features of phrasing" points to a second problem in studying stress. Not only is it "weak and indeterminate," according to the same authors; there is also the complication that words belonging to a class of enclitics, which exert a "rightward pull" on the stress of the preceding word, form phrases that are among the most common in daily usage. As a consequence, it is all too easy to mistake this "enclitic phrase stress" for basic word stress.¹⁸

Despite these problems, it is possible to identify a regular system of stress, weak though it may sometimes seem. The three statements in (41) summarize the facts.

(41) Amharic Stress

- a. Stress falls on a heavy final syllable only in bisyllabic words when the first syllable is light.
- b. Otherwise, the final syllable is skipped and the rightmost heavy syllable is stressed.
- c. In the absence of any heavy syllable, the leftmost of a string of light syllables is stressed.

In (42a), stress placement on words containing a heavy final syllable preceded by a light syllable is illustrated;

in (42b), the heavy final syllable is preceded by a heavy syllable. The reason for the difference in stress will become clear shortly when the metrical structure rules are discussed.

- (42) a. wā́dāáj 'friend' fā́-kāád 'permission'
 sā́-bátt 'seven'
 b. síd-dítt 'six' sím-mítt 'eight'

In (43), the rightmost heavy syllable is stressed. Recall that the word-final consonant is extrametrical.

- (43) a. tā́-māa-ri 'student' bar-née-Ta 'hat'
 b. mán-gāđ 'street' mi-nál-bađ 'perhaps'
 c. nā́g-gā-dā 'he traded' nā́-gāa-de 'merchant'
 d. lí-jāa-gā-rāđ 'girl' lí-jāa-gā-rā-docđ 'girls'
 Kur-Cím-Ci-miđ 'ankle' Kur-Cím-Ci-mi-tu 'the ankle'
 Kur-Cím-Ci-mi-tocđ 'ankles'
 Kur-Cím-Ci-mi-tóc-ce 'my ankles'

The words in (44) do not contain a heavy syllable. Consequently, stress moves all the way to the left and rests on a light syllable by default.

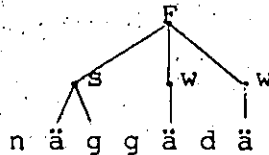
- (44) a. fā́-rās 'horse' sí-ga 'meat'
 mā́-lā-kāđ 'bugle' mā́-lā-kā-te 'my bugle'
 b. fā́-rā-socđ 'horses' mā́-lā-kā-tocđ 'bugles'

Note especially, in (43d), that no alteration of the original stress occurs when the pluralizing suffix -occ (a heavy syllable, since it contains both coda and appendix) is added to the multisyllabic words (l¹jäägärädo¹cc and KurC¹mC¹mito¹cc). Even when this heavy syllable is added to words containing only light syllables, as in färäs¹o¹cc and mäläkät¹o¹cc, in (44b), stress remains in its original location on the leftmost syllable.

3.4.1 Metrical Tree Construction

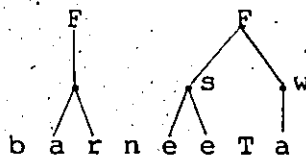
After syllabification, the next step in building a metrical structure is to construct left-headed unbounded feet, based on the rime projections, in which the head is a heavy syllable (that is, has a branching rime) if one exists and the leftmost light syllable otherwise. (Within the foot, the head is labelled s and the non-heads w.) This procedure is illustrated in (45), the sections of which are classified by the symbols H for a heavy syllable and L for a light syllable; a final H signifies a syllable with both a coda and an appendix.

(45) a. H L L



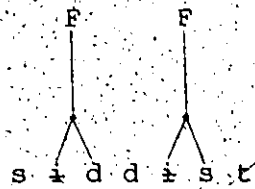
'he traded'

b. H H L



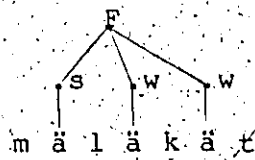
'hat'

c. H.H



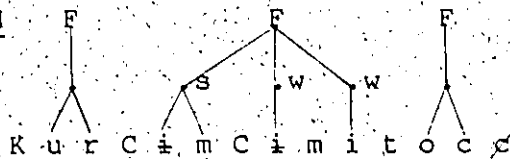
'six'

d. L L L



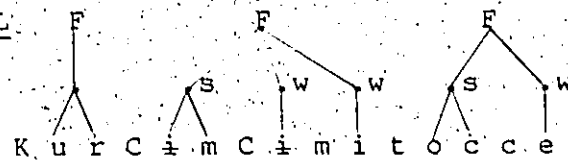
'bugle'

e. H H L L H



'ankles'

f. H H L L H L

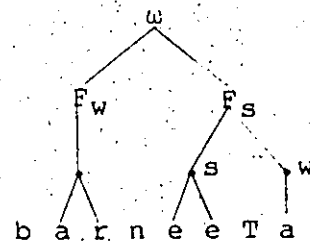
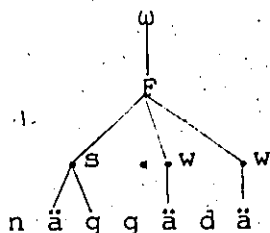


'my ankles'

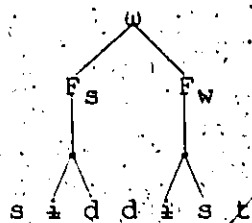
The metrical feet are afterwards joined in a right-branching word tree. At each level, the nodes are labelled s w, except that the rightmost node is labelled s iff it branches.¹⁹ For the words in (45), this procedure will give the correct results, as (46) demonstrates.

(46) a. näggädä 'he traded'

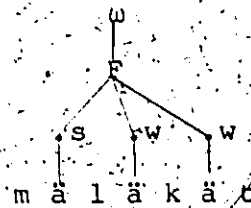
b. barnéeta 'hat'



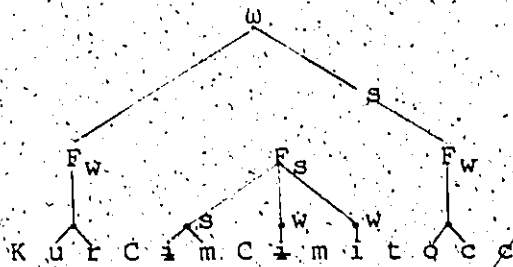
c. siddis̄ 'six'



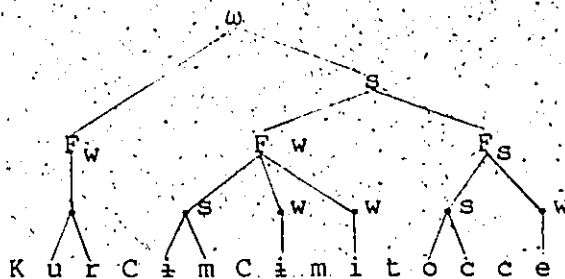
c. mālākāt 'bugle'



d. KurCimCimitoc̄ 'ankles'

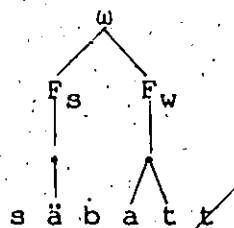


e. KurCimCimitoc̄ce 'my ankles'



However, in the bisyllabic words of (42a), in which a light syllable is followed by a final heavy syllable, stress will be incorrectly assigned to the first syllable because the right-hand foot does not branch. This is illustrated in (47).

(47) *



It therefore seems necessary to apply a defooting rule so that a single light syllable on the left of a foot loses its status as a foot. The defooted syllable will then be attached to the foot on its right by the universal convention of Stray Syllable Adjunction, which is stated in (48) as Hayes (1982) formulated it.²⁰

(48) Stray Syllable Adjunction (SSA) (Hayes, 1982, p. 235)

"Adjoin a stray syllable as a weak member of an adjacent foot."

Defooting the light syllable in (47) will permit the construction of the correct word tree, as in (49).

(49) säbätt 'seven'



The reason that stress is placed differently in the words of (42a) and (42b) is now evident. In (49), the L H word säbätt has only one foot, of which the first member has been labelled w by the SSA. In contrast, the H H word siddist in (46c) contains two feet; since the right foot does not branch, the labelling of the word remains s w.

The rule for stress assignment can now be tentatively stated.

(50) Amharic Stress Rule (Preliminary Version)

1. On the rime projections, construct left-headed unbounded feet in which the head is a branching rime if one exists, and otherwise, the leftmost non-branching rime.
2. Defoot a single light syllable on the left of a foot.
3. Join the feet in a right-branching word tree. Label the nodes s w, except that the rightmost node is labelled s iff it branches.

The stress rule in (50) is successful in assigning stress correctly to all underived words, to words of all lexical categories that have undergone derivational morphology, and to non-verbs that have undergone inflectional morphology, or to which possessive pronominals have been cliticized. Notice, especially, among the examples in (43) that neither the definite article -u nor the noun pluralizing suffix -qcc, on the right edge of KurCimCimit, moves the stress rightwards from the heavy syllable, -Cim-. On the other hand, when the first person pronominal possessive, -e, (or the definite article -u) is cliticized to the plural noun, yielding KurCimCimitócce, the stress does move to the new right-hand branching foot created at the time of cliticization. In each case, the stress rule is obeyed.

Thus, were it not for some vexing problems relating to certain verb forms, one would be able to assign the Amharic

Stress Rule to the domain of the postlexical phonology. Some of these problems are discussed in the next section. The solution that I propose there shows that Amharic has a coherent system of building metrical structure and assigning stress.

3.4.2 Problems for the Stress Rule

While inflected nominals and nouns to which a dependent pronoun has been cliticized are assigned stress by the rule stated in (50), this does not seem to be true of verbs. We encounter two types of problems when studying stress in verb forms: (a) morphological processes change the sequence of light and heavy syllables, yet stress remains on the verbal stem; (b) the cliticization of a pronominal object may seem to create a heavy syllable that "ought" to be stressed, but is not.

Furthermore, as I mentioned briefly at the beginning of section 3.4, the juxtaposition of a lexical item and an encliticizing word, in the syntax, alters the stress in the host item.

Here are some examples of these problems.

3.4.2.1 Perfective Agreement Suffixes

In the perfective, although certain suffixes that mark person, number and gender cause the second syllable to become heavy, stress remains on the first syllable. When the suffix

begins with a vowel, as in (51a), no problem arises for the stress rule. However, as the form in (51b) shows, the first syllable retains the stress when the suffix is consonant-initial, despite the fact that the second syllable is made heavy and is in a position to head a branching foot.

(51)		<u>Suffix</u>	<u>Verb Form</u>	
a.	3.s.f.	-äc	säbbäräc	'she broke'
	3.pl.	-u	säbbäru	'they broke'
b.	1.s.	-ku	säbbärku	'I broke'
			* säbbärku	

The same situation is found in the first plural form for speakers who say säbbärnä (*säbbärnä) instead of the preferred form in contemporary speech, säbbärn.

One possible solution for this problem is suggested by another pronunciation for the first plural: säbbärin. Perhaps all the agreement endings either begin with a specified vowel or may (at some point in their derivation) be separated from the final stem consonant by the vowel /i/, which could later be deleted if syllabic structure did not require it.

Suppose we assume that the CV tier for the perfective endings contains an initial V-slot; if this V-slot is not filled by /ä/ or /u/, /i/ will automatically fill it. By this procedure, säbbäräc and säbbäru would be generated with the vowel segments that appear on the surface, but the first

person singular would originally be sábbäríku and the first plural, sábbärín or sábbärínä. A late rule, after stress has been assigned, would delete /i/, since it is not required for correct syllabification, to yield sábbärku and sábbärn or sábbärnä.

While stress can be located on perfective verb forms correctly by means of this solution, I doubt that it is the right direction to take. First, the placement of stress on the same syllable of a verbal stem, no matter what morphemes are added, is so consistent that it seems trivial to try to explain it by inserting an /i/ only to delete the /i/ later. Besides, there are other problems related to stress in verbs that cannot be so easily accounted for in this manner. It would be preferable to find a solution that can account for all the problems.

3.4.2.2 The Simple Imperfective of Biliteral Verbs

In the simple imperfective of verbs with only two radicals, application of the stress rule to the whole form may incorrectly place stress on the first syllable, which is the agreement prefix, because the stem does not constitute a heavy syllable. Examples from verbs in several sub-classes are given in (52).

(52)	<u>sámína</u> 'hear'	<u>Kárrä</u> 'remain'	<u>sámä</u> 'kiss'
2.s.f.	tisámi	tiKári	tisími
3.s.m.	yisáma	yíKár	yisím
3.pl.	yisámu	yíKáru	yisímu

When the relativizing morpheme yämmi- is attached to one of these biliteral verbs in the simple imperfective, the only heavy syllable in the resulting form is the first, yäm-, yet it is not the stressed syllable. As (53) shows, the stress remains on the verb stem.

- (53) yämmisäma '(the one) that hears' *yämmisäma
yämmikäru '(the ones) that remain' *yämmikäru

Whereas the examples in the previous sub-section show that stress will not move rightwards in perfective forms to a heavy syllable created by a consonant-initial suffix, the examples in this sub-section show that stress will not move leftwards from a light syllable in imperfective forms, even when a heavy syllable is available in a prefix.

A similar problem appears in a derived nominal formed by combining a relational prefix with a noun that contains only light syllables. In (54), stress remains on the first syllable of mäto 'a hundred' although the rule places stress on the leftmost light syllable.

- (54) yä + mäto → yämäto
'of' 'hundred' 'platoon'

The nominal in (54) demonstrates that the cause for the refusal of stress to migrate leftwards in words containing only light syllables cannot be associated with the vowel /ä/, as one might speculate, given the simple imperfective prefixes shown in (52). Furthermore, (54) tells us that this

apparent resistance to the stress rule is not limited to the verbal morphology but is somehow connected with lexical stems.

3.4.2.3 Pronominal Object Clitics

The forms of the pronominal object clitics were presented in Chapter Two (section 2.1). They are repeated here in (55) for convenience.

(55) Pronominal Object Clitics

	<u>O-set</u>	<u>B-set</u>	<u>L-set</u>
1.s.	-ñ*	-bbiñ	-lliñ
2.s.m.	-h*	-bbih	-llih
2.s.f.	-š*	-bbiš	-lliš
2. respect	-wo (-wot)	-bbiwo	-lliwo
3.s.m.	-w *; -t	-bbät	-llät
3.s.f.	-at	-bbat	-llat
3. respect	-accäw	-bbaccäw	-llaccäw
1.pl.	-n*	-bbin	-llin
2.pl.	-accihu	-bbaccihu	-llaccihu
3.pl.	-accäw	-bbaccäw	-llaccäw

* The vowels /ä/ and /i/ serve as connecting vowels when the starred O-clitics occur after a consonant; grammars do not always agree on which of these two vowels is used.

The first problem concerns the forms of the B-set and L-set, which always appear on the surface with an initial geminate. The examples in (56) show that these clitics do not draw the stress away from the first syllable of the verb, even though they seem to create a heavy syllable.

- (56) fárräda + bbiñ → fárrädäbbiñ *fárrädäbbiñ
 'he judged' 'against me' 'he convicted me'
 mälläsku + llät → mälläskullät *mälläskúllät
 'I replied' 'to him' 'I replied to him'

In (56), the same phenomenon seen in 3.4.2.1 is again evident: stress remains in its original location in the verb stem, even though stress should be assigned to a heavy syllable farther to the right.

A second problem in which the pronominal clitics are involved arises when certain forms of the O-clitic set are cliticized to a verb in a compound tense. The clitic appears to be infixes between the predicative verb and the auxiliary: The composition of this form is detailed in (57).²¹

- (57) Compound Imperfective. n g r 'tell'

3.s.m.: yinägrall 'he tells'; yinägratall 'he tells her'

y_i - nägr - at - all

3.s.m. - Imp. - Pro. - auxiliary
 stem clitic 3.s.m.
 3.s.f.

When the second and third person dependent pronouns are cliticized, as in (57), stress is correctly assigned by the rule. The first person singular and plural clitics appear on the surface as geminates, however, and therefore stress should fall on the clitic's vowel, since the geminate creates a heavy syllable that can head a branching foot. Instead, the stress remains in place on the first syllable of the stem, as in (58).

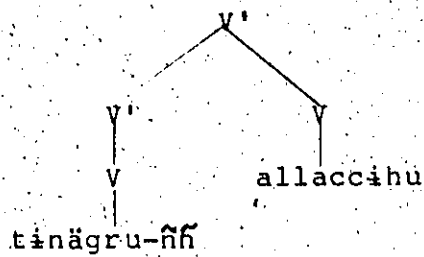
- (58) yinägrāññall 'he tells me' *yinägrāññall
 yinägrānnall 'he tells us' *yinägrānnall

One relevant point should be cleared up immediately. A pronominal object clitic is not an infix, even though the verb-plus-auxiliary is pronounced as one unit, and even though it appears as a single word in the written language. The separateness of verb and auxiliary is emphasized by Goldenberg (1964), who states that, apart from the perfective (and the copula), all indicative verbs require an auxiliary in sentence-final position:

"Formation of tenses in Amharic does not belong to morphology but rather to syntax, since it is by verb-compounds, that is, syntactical constructions and not by verb-forms that this system is characterized." (p. 47).

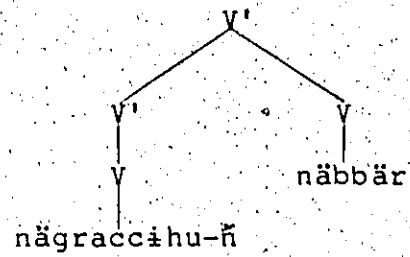
The position of a pronominal clitic in a compound tense, then, is illustrated in (59): (59a) shows the compound imperfective tense, with allä, and (59b), the pluperfect tense, with näbbär.

- (59) a. tinägru-ññ allaccihu b. nägraccihu-ñ nābbär



tell me (PRES)
2.pl.

'you are telling me'



having-told-me (PAST)
2.pl.

'you had told me'

Support for such an analysis can be found in relative clause constructions (which will be discussed at some length in Chapter Five). In the pluperfect tense, the relativizing morpheme yä- precedes the copula nābbär, dividing it from the predicative verb, as in nägro-ñ yänābbärāw līj 'the boy that had told me'. The compound imperfective tense (i.e. the tense with allä, as shown in (59a)) is not used in relative clauses but is replaced by the simple imperfective, as in yäminägrāñ līj 'the boy that is telling me' (in which the relativizing morpheme is yämmi-).

In (59), it is obvious that the clitic is not an infix. It is the final morpheme attached to the predicative verb. In relation to the lexicon pictured at the end of Chapter Two, the dependent pronoun -ñ in (59a) is cliticized to the simple imperfective verb at Level 3. The phonological amalgamation of that combined form, with the final consonant geminated, and the auxiliary allaccihu occurs after S-structure. The particular problem of an O-clitic in the

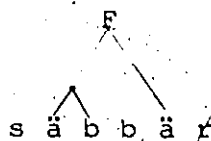
compound imperfective, then, has at least a partial answer, and we can proceed to look for a general solution to the various problems of stress in verb forms.

3.4.2.4 The Integrity of Metrical Feet

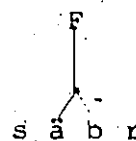
I have already proposed that the formation of metrical feet takes place in Level 1 Phonology. This means that the verbal stems formed on CV stem templates in Level 1 Morphology are the verbal material on which feet are formed. The examples in (60) illustrate the results for a class of triliteral verbs.

(60) Triliteral verbs, Type A: e.g. s b r 'break'

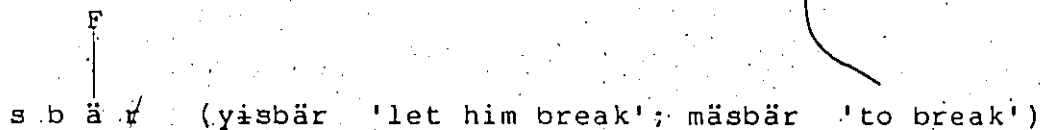
Perfective stem



Imperfective and Gerundive stems



Jussive and Infinitive Stems*



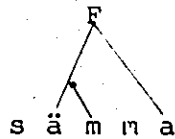
(*The jussive and infinitive stems cannot be completely syllabified, as a consonant cluster is not a permissible onset. When agreement prefixes are added to the jussive stem in Level 2 (and the infinitival prefix mä- is added to the infinitive stem), there will still be a single foot, but it will

"look for" a heavy syllable on the left as a head and therefore become a branching foot, as in yisbär 'let him break' and mäsbär 'to break/breaking'.)

Because of the syllabic structure guaranteed by the stem templates, all the stems in (60) consist of a single foot. This is also the case for biliterals, as in (61). (The gerundive and infinitive stems of the biliteral subclass illustrated in (61) get a third C-slot, which is filled with /t/; see Broselow (1984) for an account of this /t/ as an inserted default consonant.)

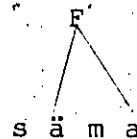
(61) Biliteral verb: sämma 'hear'

Perfective stem



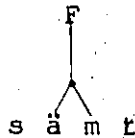
(sämman 'he heard')

Imperfective stem



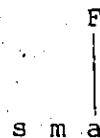
(yisäma 'he hears')

Gerundive stem



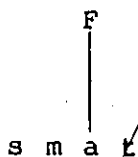
(sämtö 'he, having heard')

Jussive stem



(yisma 'let him hear')

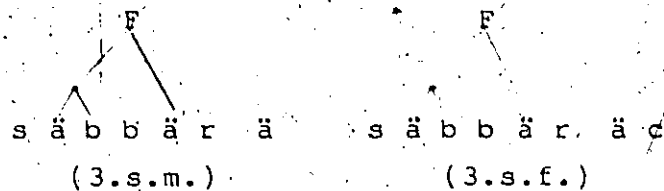
Infinitive stem



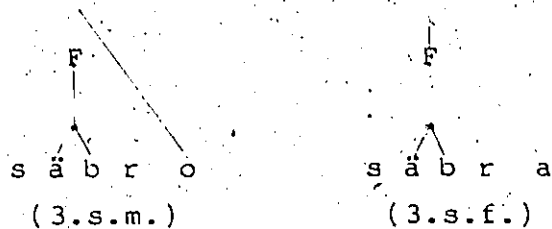
(mäsmat 'hearing' / 'to hear')

To a single-footed stem, which is the output of Level 1, the agreement affixes are added in Level 2 Morphology. The least problematical are the vowel-initial suffixes, such as the third singular endings in the perfective and gerundive stems; as light syllables, they can simply be adjoined to the left-headed unbounded foot.

(62) Perfective

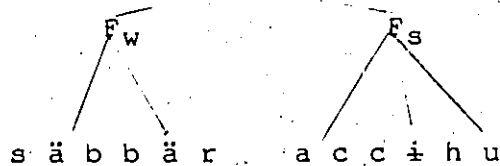


Gerundive



The second plural ending -accihu is of interest because its affixation produces the only perfective form in which the main stress is on the agreement ending. The reason is obvious: it constitutes a branching foot in its own right, as (63) shows. Since it is on the right, it is labelled s.

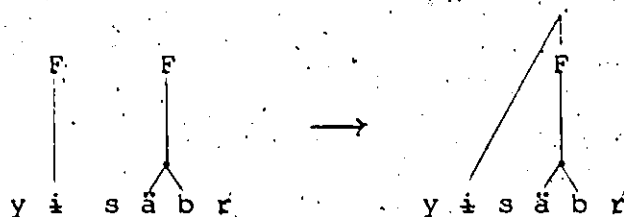
(63)



The prefixes that are added to the imperfective stem are all single light syllables. Any foot that is built on

them will be defooted by the second clause of (50) because they will be on the left of the verbal stem's foot, as in (64), and will be adjoined by SSA as a weak member of the foot.

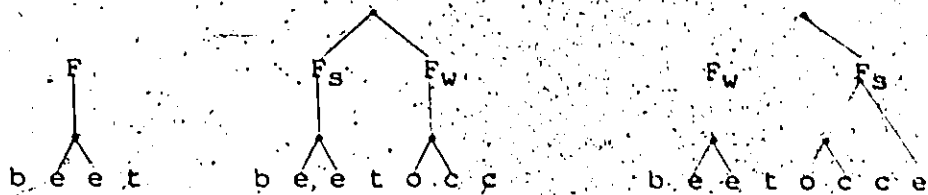
(64)



What we are really seeing here is that affixes retain their intrinsic syllabic weight and contribute only that weight to the word they become part of. They do not alter a foot that has already been constructed. Whether it is a prefix or a suffix, a light-syllabled affix merely becomes a weak member of the existing foot. If a suffix constitutes a heavy syllable, it becomes a foot in its own right; if the foot branches, stress will lodge there.

This analysis is supported by the facts of stress in derived nouns and adjectives. For instance, the affix that pluralizes nouns is -occ; as it is a heavy syllable, it constitutes a foot.²² Affixation of -occ to a singular noun will not in itself alter the noun's stress because the foot on -occ does not branch. However, when a plural noun is followed by an attached definite article (-u) or by a cliticized possessive pronominal, such as -e, the adjoined light syllable causes the foot to branch, and stress moves rightwards, falling on -oc-. This is illustrated in (65).

- (65) béet 'house' béetocc 'houses' beetócce 'my houses'



In (66), three different derivational suffixes are added to a noun or adjective. The consonant in these suffixes is geminate, and therefore the suffix forms a branching foot, which attracts stress to the right.

- (66) a. [[_]N amma]A 'pertaining to'

díngay 'stone'

díngayamma 'stony'



- b. [[_]N āñña]N 'person associated with...'

mārkāb 'ship'

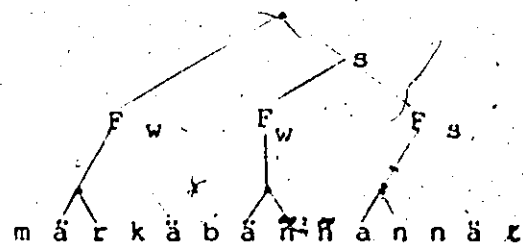
mārkābāñña 'sailor'



- c. [[_]N innāt]N 'set of activities associated with...'

mārkābāñña 'sailor'

mārkābāññānnāt 'shipping'



With these facts in mind, I propose that Foot Formation takes place throughout the levels of the lexicon, as lexical material is added to stems, but before internal brackets are removed. In this way, existing metrical feet are not destroyed (unless a phonological rule alters syllabic content); rather, new light syllables or new metrical feet are added to the metrical structure that has already been built.

The examples in this section of affixation to a verb form demonstrate that a prefix does not tear down a foot built on a light-syllabled stem nor does a suffix trigger a new foot on the verb stem by making a stem's syllable heavy. The single foot on verb stems, to which light syllables are merely adjoined as weak members, serves to lock stress in on the stem. Only a suffix that is a branching foot will move the main stress away from the stem. In this observation we have an explanation for the problematic perfective forms discussed in 3.4.2.1. The suffix -ku in (67) is a light syllable and therefore it becomes a weak member of the verbal stem's foot. The fact that it creates a heavy second syllable seems to be irrelevant.

(67) säbbärku 'I broke'



Prince (1983) argues that much of the "apparatus" of metrical theory, including binary branching trees, s/w

labelling and branchingness conditions, is inessential and that the metrical grid is entirely adequate for the assignment of stress. Specifically, he claims (p. 19) that the surface structure of words and phrases "... should be related directly to the grid, without the intervention of a level where calculations with s and w take place on trees." Later (p. 87) he comments that it would be a simple matter to divide the grid into feet but adds: "It is, as one says, a strictly empirical question whether we need to impose such further structure in the phonology."

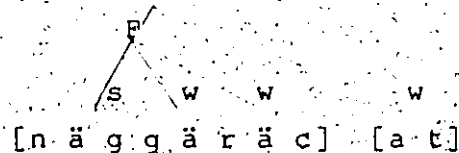
The facts I have just presented concerning stress in Amharic verb forms demonstrate the reality of the metrical foot and constitute empirical evidence that foot structure is an essential component of metrical theory. It is the foot that protects the stress pattern of a verbal stem from disruption. Without the protection of the foot, the rules of stress assignment would (incorrectly) relocate stress on the second syllable of the perfective verb stem in *säbbärku, which has a H H L syllabic pattern, in the same automatic way that they (correctly) locate stress on the second syllable of barneeta 'hat', which also has a H H L syllabic pattern. Similarly, *yisäma 'he hears', containing three light syllables, would incorrectly receive stress on the first syllable; just as the light-syllabled mäläkät 'bugle' does.

Notice also that correct results for the Amharic verbs (and for words like yāmāto 'platoon') cannot be obtained by relating the surface structure of a word to the grid, even by

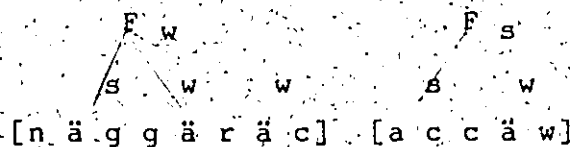
dividing the grid into feet, as Prince says would be possible. The only way the stress pattern of a stem can be protected is to construct a foot in the lexicon, when stems are formed in Level 1.

The procedures for foot construction that I proposed above with respect to affixation are also appropriate to the cliticization of dependent pronouns, which I identified in Chapter Two as morphemes that are neither (Lieberian) stems nor affixes, though they share certain characteristics of both. The clitic's own syllabic weight is the crucial factor: if it is a light syllable, such as the second singular feminine -s, it becomes a weak member of the verb's foot, as in (68a); if it constitutes a branching foot, it will receive the stress, as in (68b). In no case does a clitic draw a verb stem's stress away from the first to the second syllable, however. The foot protects the verbal domain. (In (68), the final /c/ of näggäräc geminates between vowels, after bracket erasure.)

(68) a. näggäräcc-at 'she told her'



b. näggäräcc-accäw 'she told them'



In 3.4.2.3, I described a problem apparently posed by the cliticization of dependent pronouns from the B-set and L-set. The examples in (56) are repeated here as (69) for convenience. These pronominal clitics always appear with an initial geminate, which (according to the Amharic stress rule) ought to make the preceding syllable heavy, causing it to be stressed.

- (69) a. fárrädä + bbiñ → fárrädä-bbiñ *fárrädä-bbiñ
judged against 'he convicted me'
(3.s.m.) me
- b. málläsku + llät → málläsku-llät *málläskú-llät
replied to him 'I replied to him'
(1.s.)

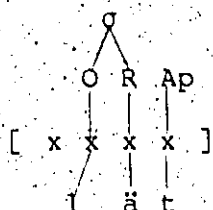
The explanation for this non-assignment of stress to the syllable preceding the clitic lies in two factors: (a) as a lexical dependent that is not an affix, the pronominal object is cliticized in the last level of the lexicon, where internal brackets are not removed prior to insertion into the syntax; (b) the first element of the geminate consonant is extrametrical. The consequence of these two factors in combination is that the syllable is not made heavy by cliticization and therefore stress cannot be placed there.

The claim in (a) has already been amply motivated in Chapter Two of this thesis, but some elaboration is necessary for (b).

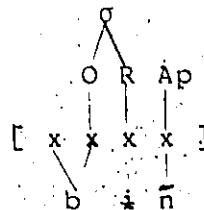
Amharic syllable structure does not permit a branching onset. As a result, the first element of a clitic's geminate

consonant cannot be syllabified. Since it is a geminate, epenthesis cannot violate its integrity. The first /b/ or /l/ of a clitic therefore has to be ignored in the syllabic structure. It is extrametrical. This is illustrated in (70).

(70) a.

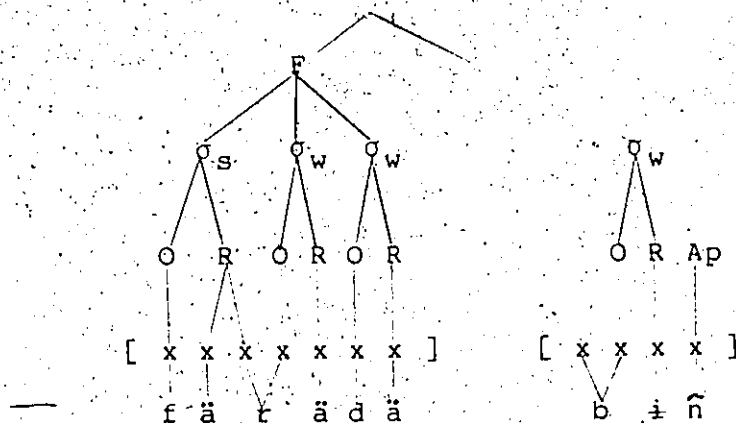


b.



When -bbiñ is cliticized to the fully inflected verb färrädä 'he judged', it consists of a single light syllable. Phonologically, it is a stray syllable that is adjoined as a weak member of the verb's foot, as in (71).

(71)



The extrametrical initial /b/ is still inside the clitic's brackets when the syllable is added to the foot. Therefore, the final syllable of the verb is not made heavy, and stress correctly remains on the first syllable of the verb, protected by the foot.

In this account, the morphological properties of the clitic, which I identified in Chapter Two, are truly revealed. A clitic is like an affix, in that it merely becomes a weak syllable in the verbal foot unless its own syllabic weight dictates otherwise, and it is like a (Lieberian) stem, in that it retains its own lexical identity, distinct from that of its host. I suggest, indeed, that the reason for the unusual initial geminate is a functional one: it serves to preserve the separate identity of the clitic, which is not incorporated into a word as an affix is. In particular, the geminate /b/ will remain /b/ at the surface, resisting spirantization.²³

My proposal that metrical feet, once formed, are not disturbed by affixation or cliticization is, at the moment, subject to challenge by clause 2 of the Stress Rule in (50), which defoots a single light syllable on the left of a foot, as in säbätt 'seven'. In (49), a foot was built on the first syllable, sä-, because Amharic feet are unbounded and may be composed solely of light syllables, if there is no heavy syllable. But whereas it is reasonable that every lexical category have at least one foot, and that two or more light syllables might equal the weight of one heavy syllable and therefore qualify as a foot (since one is almost certainly given more prominence than the other in any case), it is not reasonable that a single light syllable be called a foot where none is required. Why should a foot be erected on that syllable in one instant only to be torn down in the next?

Instead of defooting the syllable by a rule, it seems preferable to state, as a wellformedness condition on metrical structure, that this syllable cannot be a foot, as indeed it never is.

(72) Condition on Amharic Metrical Structure

A single light syllable on the left of a foot cannot be a foot.

Given this condition, the metrical structure on quadriliteral verbs in Amharic is also properly shown as a single foot. The first syllable of the perfective stem is light and therefore adjoined as a weak member of the stem's foot.

(73) mäsäkkär- 'testify' däbälläk- 'confuse'



The Amharic Stress Rule should therefore be revised, as in (74).

(74) Amharic Stress Rule

1. On the rime projections, construct left-headed unbounded feet in which the head is a branching rime if one exists, and otherwise, the leftmost non-branching rime.

Condition: A single light syllable on the left of a foot cannot be a foot.

2. Join the feet in a right-branching word tree.

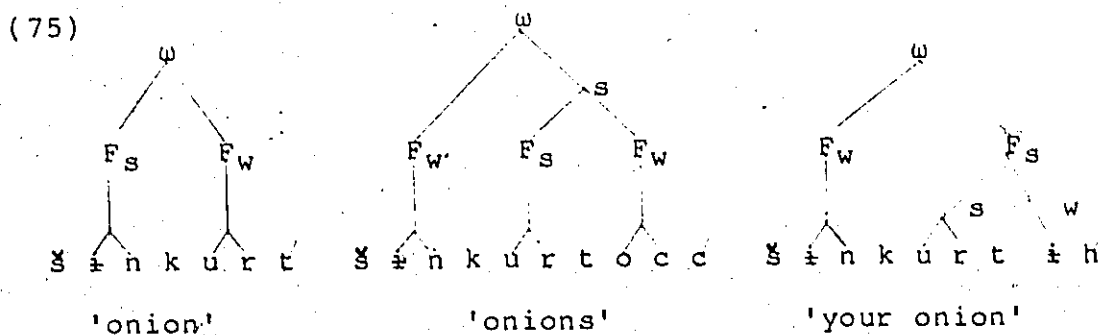
Label the nodes s w , except that the rightmost node is labelled s iff it branches.

The system of Amharic stress assignment that is now emerging displays a high degree of consistency, having a strong constraint against the erasure of metrical structure. Such a constraint is discussed by Drescher (1982). He proposes a principle which states that metrical structure cannot be altered by a metrical structure assignment rule, unless that rule is applying in a derived environment. (A "derived environment" can be produced either by the application of a rule or by cyclic application; the notion is a condition on rules rather than on derivations.)

In this paper, Drescher points out the "learnability" value of a constraint against metrical structure erasure, in that the resulting system offers a degree of "metrical coherence," which facilitates language learning. Indeed, it is easy to see that a child is aided in learning Amharic by the facts that (a) verbal stems have a single foot, (b) metrical feet are not destroyed, and therefore (c) the location of stress will always pick out the most important morpheme in a multi-morphemic verbal form.

It will not be possible to maintain that Amharic metrical structure is not erased, however, if word trees are constructed as soon as a word is complete (which, for words that are not morphologically complex, is in Level 1).

Consider, for instance, nouns containing two feet, the second of which does not branch, such as sammint 'week', šinkurt 'onion', and šifašift 'eyebrow'. A word tree built in Level 1 would have to be reconstructed if the pluralizer, -occ, or a possessive clitic were added in Level 3, because the new right-hand node would branch, and stress would no longer fall on the first syllable.



The word trees do not do any work during derivations. That is, in Amharic, no rules refer to word stress in the levels of the lexicon. No useful purpose is served in building a word tree prior to cliticization that cannot be equally well served by the feet. In any case, the internal brackets are not removed in Level 3 Phonology. I therefore propose that application of the second clause of the Stress Rule, by which word trees are constructed and labelled, be postponed until the stage when no more lexical material can be added to a word. At the earliest, then, a word tree will not be constructed before the end of Level 3 Phonology.

Let us pause for a moment to review the modified proposals for stress assignment.

Foot Formation begins in Level 1 Phonology, assigning left-headed, unbounded feet to stems (and underived words). Foot construction is subject to the condition that a light syllable on the left of a foot cannot be a foot. A lexical category must have at least one foot. When new lexical material is added to a stem or word, feet are constructed, where possible, before the internal brackets are removed. Once the metrical structure is built, it is not erased (unless a phonological rule alters syllabic content). A light-syllabled affix or clitic that is added in Levels 2 and 3 Morphology is adjoined as a weak member of an adjacent foot. The construction of a word tree is postponed until no more lexical material can be added.

This approach answers the problems in verb forms raised earlier in this section, but I have yet to assign word tree construction to a domain. To do that, I must first present the problem of stress in word groups.

3.4.2.5 Stress in Word Groups

There is a set of words, collectively called enclitics by Armbruster (1908), that may cause the stress of the preceding word in a "sense group" to shift rightwards. That these enclitics are recognized by Amharic speakers as a class entirely different from the set of pronominal clitics, and from suffixes that are affixed to a stem, is made clear in the written language, in which the enclitic word remains separate and unattached.

The chief source of organized information and examples concerning these words and their effect on word stress is Armbruster*. Significantly, he describes the enclitic word as being virtually a part of the preceding word.

"An enclitic is a word which is so closely connected both in sense and pronunciation with the preceding word as virtually to form part of it, throwing back, in many cases, its accent upon it, i.e. causing the preceding word, which may or may not preserve its original accent, to be accented on its last syllable. Many monosyllabic words in Amharic are of this nature" (p. 38).

Armbruster provides examples from the four classes listed in (76), thereby showing that these lexical items are not limited to any single syntactic function.

(76) a. The copula *nāw* 'he is'; *nat* 'she is', etc.

(i)	<i>tínniſ</i>	+	<i>nat</i>	→	<i>tínniſ-nat</i>
	little		(3.s.f.)		'she's little'
(ii)	<i>māce</i>	+	<i>nāw</i>	→	<i>mācé-nāw?</i>
	when		(3.s.m.)		'when is it?'

b. Certain monosyllabic substantives, including:

bírr 'dollar'; *beet* 'house'; *kān* 'day'.

(i)	<i>ámsa</i>	→	<i>amsá-bírr</i>
	fifty		'fifty dollars'
(ii)	<i>íkkul</i>	→	<i>ikkúl-kān</i>
	equal		'noon'
(iii)	<i>íka</i>	→	<i>iká-beet</i>
	object		'storehouse'

c. Certain monosyllabic imperatives, including

na 'come'; zur 'turn'; bäl 'say'.

The last of the examples above, bäl (from the irregular verb alä 'say'), combines with a wide variety of "fixed stems" to form frequently used composite verbs that have uncompositional meanings, as in:

cíkkul → cíkkul cíkkúl-bäl!

haste 'make great haste!'

d. The second element of a compound preposition, such as:

bä...lay 'on'; kä...tac 'from under';

bä...wist 'inside'

e.g. góndär → bä góndär-wist

(a town) 'in Gondar'

I should point out from the start that this stress shift is, to a large extent, optional and individual usage varies widely. However, it can be heard frequently, especially in copular phrases, as in (76a), which occur commonly in everyday life. It is noteworthy that Obolensky et al. (1964), a pedagogical text which does not ordinarily mark stress, uses a special symbol to indicate a raised intensity on the syllable preceding this copula.²⁴

Armbruster emphasizes the condition that the host word and the enclitic must form a "sense group" and not be separated by a pause. Surface sequence alone does not license encliticization nor induce an altered stress pattern. In (77), beet follows íKa as it does in (76b), but the two words do not form a logical unit in the sentence, as each word is a constituent of a different syntactic phrase, -zzih íKa being the NP complement of the preposition lä.

- (77) lä - zzih íKa beet yálläwm
 for-these objects house exists not
 'there is no place for these objects'

The sentence in (78) shows that even that most common of enclitics, the copula näw, does not encliticize blindly with whatever is on its left, but only to a syntactic constituent. Although the normal stress of léeba 'thief' moves rightward in the expression lee bá-näw 'he is a thief', there is no such stress effect when the adverb dämmo 'also' intervenes; if näw were encliticized to dämmo, the sentence would assert nonsensically 'a thief is an also'.

- (78) leeba dämmo näw
 thief also is
 'he is a thief, also'

In making an analysis of the data, I first suggest that some of Armbruster's "sense groups" in (76) would be more appropriately treated as compounds than as host-plus-enclitic

phrases. The most obvious example is probably the noun beet 'house' (or 'room'), which combines easily with other nouns to form many nominal compounds, a few of which are listed in (79).

(79)	<u>bunna</u>	'coffee'	→	<u>bunna beet</u>	'tavern'
	<u>timhirt</u>	'study'	→	<u>timhirt beet</u>	'school'
	<u>hakim</u>	'doctor'	→	<u>hakim beet</u>	'hospital'
	<u>mābāl</u>	'eating'	→	<u>mābāl beet</u>	'dining room'
	<u>ingida</u>	'guest'	→	<u>ingida beet</u>	'sitting room'
	<u>agār</u>	'country'	→	<u>agār beet</u>	'countryside'

In all of the compounds with beet in (79), the rightward shift of stress described by Armbruster is a possible option. The other option, of course, is the retention of regular word stress on the first syllable of the left-hand word.²⁵ Since the second word, beet, is monosyllabic, the foot built on it is non-branching and will be labelled w in the new, compound word.

Moreover, the combination described briefly in (76c) of a "fixed stem" with the verb alā 'say' is probably best analyzed as the result of verbal compounding. The fixed stem contains no grammatical information, which is all carried by the verb alā. The stem could not justifiably be inserted in any syntactic node; rather, it is the lexical element that

bears the semantic content of the two-word group. These verbal compounds have no meaning connected with 'saying', as the presence of alä implies. Thus, for instance, KuCC has no existence at all apart from KuCC alä 'sit down', and zimm seems to be purely onomatopoeic in zimm alä 'be quiet'. In a somewhat different type of alä compound, the stem is derived from a verbal root, but the invariant form is never used under any other circumstance. From the verb säbbärä 'break', for example, the fixed stem säbbirr is derived for use only in the compound säbbirr alä 'break into two halves'. Similarly, wäddäKK is derived from wäddäka 'fall' to form wäddäKK alä 'fall down hard'. In every instance of this use, the irregular verb alä may be realized in any tense, aspect, person, number, gender, etc., in the usual way. The singular imperative forms, bäl (m.s.) and bäy (f.s.) are the monosyllables that Armbruster lists as enclitics.²⁶

On the other hand, there is no reason to suppose that other monosyllabic imperatives, such as na 'come' and zur 'turn/go round', form a compound with the preceding word. Rather, the stress change they induce is within a syntactic phrase. Armbruster gives, for example, tä gäbätaw zur 'go round the table', in which gäbätaw 'the table' is the NP complement in a directional PP constituent of the verb phrase headed by zur. The whole verb phrase is spoken with one phrasal stress.

Since the stress shift occurs both in lexically generated compounds and syntactically composed phrases, it is important to discover whether it represents a modification of stress in an extended word or a phenomenon of the phrasal phonology, in which syntactic structure is relevant. On balance, I consider, the data point to phrasal conditions as the crucial factor. Let us first see what properties the eligible word groups have in common.

One property may at first seem too obvious to bother mentioning. It is significant, however, that the two lexical elements in a stress-altering group are both independent words. As we have already seen, neither the attachment of a suffix nor the cliticization of a dependent pronoun is sufficient in itself to pull stress rightwards on the lexical stem or host word. Only if the suffix or clitic constitutes a branching foot in its own right will the stem or host give up its main stress, which then falls on the new rightmost branching foot. The significance of the condition that both elements be independent words lies, I consider, in the fact that, when a word takes the right-hand position, it constitutes a metrical foot, even if it contains only a light syllable. (I am assuming that the copula nāw is treated like a major-class lexical item even though its etymological origin is not verbal, since it fills a V node in the syntax.)

The second property shared by the words that trigger the stress shift is mentioned in the passage from Armbruster quoted near the beginning of this section: they are monosyllabic. We must ask, however, whether the fact that the "enclitics" collected by Armbruster are monosyllabic is

purely coincidental. One way of testing this condition is to add the pluralizing suffix -occ to beet in the compounds of (79). I conclude, as a result of this test, that monosyllabicity is indeed a requirement. Whereas bunná beet and hakím beet are possible and natural, *bunná beetocc and *hakím beetocc seem to be impossible.

Another means of testing this condition for rightward stress shift is to compare compounds in which the second component has a single syllable (80a) with those containing a bisyllabic or multi-syllabic right-hand component (80b). I find that stress shift is a possible option in the former but impossible in the latter.

(80)	a.	márfé	+	Kúlf	→	márfé Kúlf
		needle		key		'safety pin'
		Kífu	+	Kän	→	Kífu Kän
		wicked		day		'hard times'
		múlu	+	libs	→	mulú libs
	b.	full/ complete		clothing		'suit'
		léeba	+	Tat	→	leebá Tat
		thief		finger		'index finger'
		mánta	+	mängäd	→	mánta mängäd
		twin		road		'crossroad'
		kókäb	+	k'wätära	→	kókäb k'wätära
		star		calculation		'astrology'
		wäräkät	+	mäsfiyya	→	wäräkät mäsfiyya
		paper		sewing instrument		'stapler'
		wánna	+	gänzäb	→	wánna gänzäb
		main/ chief		money		'capital'

In addition, when the fixed stems of the verbs compounded with alä precede a finite form with an agreement suffix, such as aläc 'she said', no stress shift is experienced; we have, for instance, cikkul aläc 'she hurried' vs. cikkul bäy 'hurry up!' (fem.).

This second property of monosyllabicity combines with the first property to imply that the second element of the word group must constitute a non-branching foot. As the rightmost foot, it will be labelled w.

The third essential property is the one emphasized by Armbruster, namely, that the words form a "sense group." I interpret this requirement to mean that the words of the group must form a constituent. Since a compound by nature is a lexical constituent, this condition is relevant to enclitic phrases. In a syntactic phrase, the word that exhibits stress shift must not only be adjacent to the triggering word but also must be a component in the phrase headed by that word. In (78), the sentence adverb dämmo 'also' is not a constituent of the predicate phrase formed with the copula näw and does not exhibit rightward stress shift.

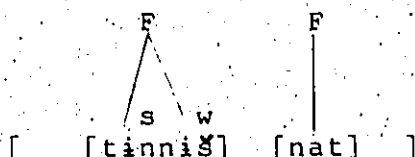
Given these properties, the structure that is eligible for stress shift may be represented as in (81).



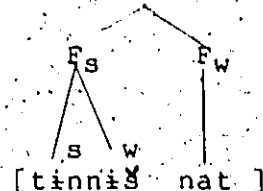
The metrical structure for tinniš nat 'she is little', before the internal brackets are removed, conforms to the

structure in (81). It is shown in (82a). If a phonological word tree is constructed at this point, stress will be assigned by the Amharic Stress Rule to the first syllable of tinniſ, since the right-hand foot does not branch (82b).

(82) a.



b.



It may seem significant that when the internal brackets are removed, the second syllable of tinniſ is no longer light. If the foot had not already been constructed on tinniſ, the medial heavy syllable of the host-plus-enclitic extended word would be the head of a right-hand branching foot. As a result, the Amharic Stress Rule would assign it the stress that is actually spoken: tinniſ nat.

The pertinent facts, then, are that although a foot (with nodes labelled s w) has been built on tinniſ, the pattern is altered to w s in the word group, with the new heavy syllable labelled s. The whole group has the stress pattern w s w; that is, it still has just one stress, but the location of it has moved:

This alteration of stress pattern is strikingly reminiscent of the Rhythm Rule, except that it is the mirror image of that rule. Gimson (1962, p. 265) describes the "rhythm rule phenomenon" as follows:

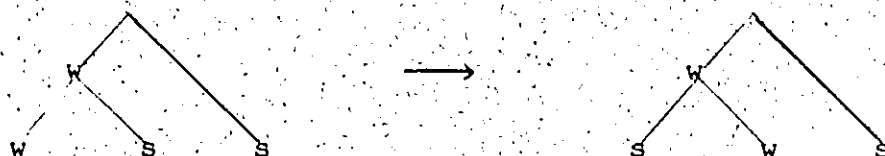
"But it happens that when a word (simple or compound) consists in isolation of a primary accent

preceded by a secondary accent,..., the primary accent may be thrown back to the syllable carrying secondary stress in isolation, if, in connected speech, a strong accent follows closely."

A common illustration of this rhythmic change is that thir-teen becomes thirteen when followed by the stressed word men: thirteen mén.

Kiparsky (1979, p. 424) formalized the Rhythm Rule as the operation on metrical trees shown in (83).

(83)



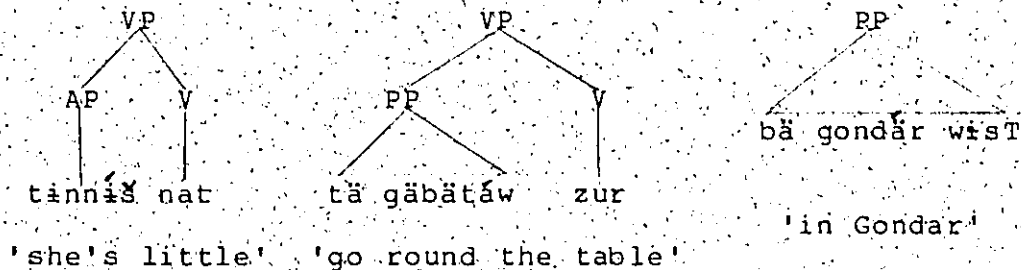
The Amharic conditions for rhythmic alteration are just the opposite. Instead of a strongly stressed element on the right, the right-hand member of the Amharic word group is weak; instead of the w s pattern in the structural description of the Rhythm Rule, the Amharic left-hand foot is originally s w. Nevertheless, the nature of the two operations seems to be of the same order, adjusting a stress pattern within a foot because of the effect of a newly introduced factor. The Rhythm Rule applies because a new stressed element is added on the right of a word. The Amharic rule of rhythmic alteration applies because a second word, consisting of a non-branching (unstressed) foot, is added on the right of a word.

The creation of a new heavy medial syllable, as in tinnis nat, might be regarded as the trigger of a rhythm rule. But if so, how does it happen that the stress pattern is also altered in compounds like punna beet and enclitic

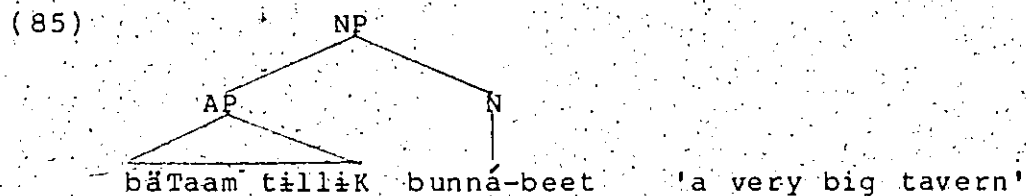
phrases like leeba nāw, in which the medial syllable would remain light? As the new stress pattern is identical whether the medial syllable is heavy or light, the syllable's weight cannot be responsible for the rhythmic alteration. That being so, it may be that tinnis and nat are still considered separate words (so that /s/ is still final and extrametrical) and that the factor responsible for the stress shift is the phrasal nature of the word group.

Because Amharic is a syntactically head-final language, all the word groups under consideration will occur at the right edge of a phrasal category. This is illustrated in (84).

(84) Copula Phrase Imperative Phrase Postpositional Phrase



Even a nominal compound must occur on the right edge of an NP, since it is the head that projects the noun phrase.

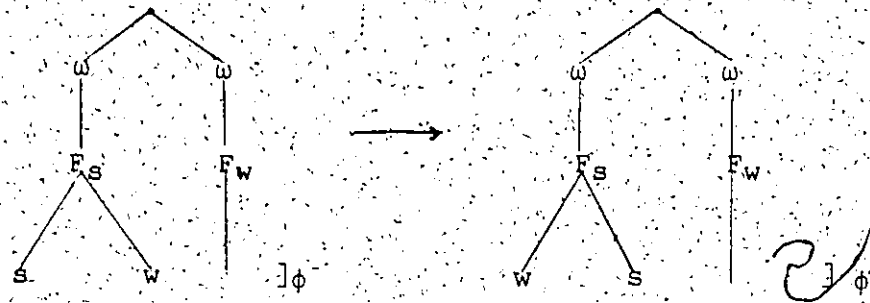


In addition to this characteristic of end-position in a phrasal category is the requirement that a pair of words must be a "sense" group to qualify for stress alteration. Moreover, the altered pattern is optional. Significantly, the

type of word group in which the altered stress pattern is most common is the copula phrase, which will invariably occur at the end of a clause, where some prosodic effect due to pause or finality is most likely to be experienced.

The weight of evidence suggests that the shift of stress in word groups is a phenomenon of phrasal phonology. Accordingly, I propose the Amharic Phrasal Rhythm Rule in (86), which applies to word groups that meet the structural conditions of (81) and occur at the right edge of a syntactic phrase.

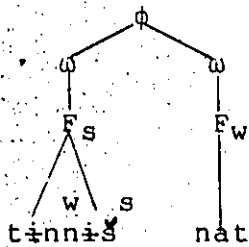
(86) Amharic Phrasal Rhythm Rule



As in Kiparsky's formulation of the Rhythm Rule in (83), (86) is stated as an operation on metrical trees. Notice that the procedure I have proposed is foot-internal. No new metrical feet are constructed, nor is any destroyed. The integrity of metrical feet is preserved in Amharic even at the phrasal level; only the labelling is affected.

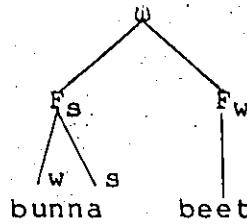
The application of this rule, which is optional, produces tree structures like those in (87), in which the main stress of the phrase falls on the penultimate syllable.

(87) Enclitic Phrase



'she's little'

Compound



'tavern'

Because this alteration of stress is assigned to the domain of phrasal phonology, we have an indication that the domain of nominal compounding is Level 3. In order for the Phrasal Rhythm Rule to apply only to word groups and not word-internally, it is necessary to retain the internal brackets of a compound until the postlexical phonology. If the brackets were erased in the lexicon, the foot structure of bunna beet could not be differentiated from that of šifašift 'eyebrow', for instance; the metrical structure of both would consist of a branching foot followed by a non-branching one. Yet the noun šifašift does not undergo rhythmic alteration while the compound bunna beet does. The assignment of nominal compounding to Level 3, where internal brackets are not erased, permits the Phrasal Rhythm Rule to distinguish a word group from a word.

This Amharic rhythm rule, then, applies after the stress rule has constructed and labelled word trees. It results in a tendency to penultimate stress within phrases, especially in clause-final phrases, in this syntactically head-final language.²⁷

3.5 The Pronominal Clitics and Phonological Rules

This section has a dual purpose. First, there is a need to comment on certain phonological phenomena that appear

in some forms of the pronominal clitics. In addition, the evidence that assigns the rules responsible for these phenomena to a phonological domain prompts me to argue that the application of these rules may not be contingent on lexical category as such, as has been traditionally assumed, but rather depends on the lexical level at which they interact with the morphology. The rule of Palatalization is an example.

I will first consider some points of interest concerning the pronominal object clitics, in particular, the mysterious alternation between -w and -t as the third person singular masculine clitic. The discussion of Palatalization arises as I examine the pronominals that cliticize to nouns.

3.5.1 Pronominal Object Clitics

When the forms of the object clitics were presented in (1) of Chapter Two, the composite nature of the B- and L- clitics was noted. That is, the first person singular prepositional clitics -bbiñ and -lliñ are obviously composed of the O-clitic -ñ and the consonantal morpheme b- or l-, which bears a prepositional sense. Likewise, the third plurals -bbaccāw and -llaccāw are formed by a prepositional consonant and the O-clitic -accāw. This combination of elements occurs sometime

before Level 3 of the lexicon, for bb and ll can never appear on a verb alone. The complete form is cliticized to a verb as one integral dependent pronoun.

I assume that the underlying representation of the prepositional component has two C-slots. The rule of Gemination applies, linking a single segment to the initial consonant slot, as in (88).

(88) bbaccāw: x x x x x x x
 | | | | |
 b a c ā w

According to Broselow (1984), if an empty C-slot cannot be filled by Gemination, the default consonant /t/ will be inserted. Dresher (1985) argues that a slot cannot be left empty after a relevant tier has been activated. Since Broselow shows that the default /t/ is required in verbal stems (e.g. the gerundive and infinitive of certain verb classes), which are formed in Level 1, it follows that the B- and L-clitics must be formed in Level 1. Otherwise, the empty C-slot would either be filled by default /t/ or pruned.

In the Level 1 Phonology, the initial /b/ or /l/ of these clitics cannot be syllabified, since onsets do not branch. As I showed in the previous section, the geminate consonant plays no part in the syllabic weight of a clitic and does not contribute to the weight of the final syllable in the word that hosts the clitic. The function of the initial geminate seems to be to make the clitic heard as a distinct lexical item. The fulfillment of this function is

enhanced in the B-clitics because the geminate prevents the application of Spirantization.

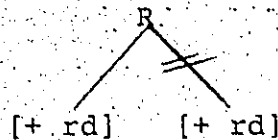
The third person singular masculine forms of the O-set pose a special problem. After the non-round vowels, the form is -w, as in näggärä-w 'he told him'; nägra-w 'she, having told him'; nägäri-w 'tell (f.s.) him!'; etc. However, following the round vowels /u/ and /o/, the third singular masculine clitic is -t, as in nägro-t 'he, having told him' and nägraccihu-t 'you (pl.), having told him'.

Let us note first of all that the actual source of the -t is not mysterious. Moscati (1969) gives the third singular forms of the independent pronouns in Classical Ethiopic as wi?itu (masculine) and yi?itu (feminine). Moreover, Classical Ethiopic combined the preposition lä with pronominal suffixes (not to form a clitic but to constitute a PB), and /t/ appears in both of the third singular forms: lotu 'to him' and lati 'to her'. The problem, therefore, is not why -t is possible but how one of the Amharic alternatives is selected over the other after a verb.

Broselow (1984) accounts for this rather strange alternation in the following way. As Amharic verbal morphology does not allow a sequence of two round segments, the rule of U-Dissociation in (89) delinks the right-hand segment in such a sequence, rendering the slot that fills the syllable coda

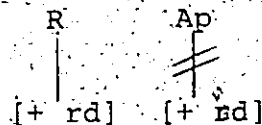
empty. When the pronominal -w is cliticized to a verb ending in a vowel, it fills the right-hand branch of the syllable rime; if that final vowel is /o/ or /u/, U-Dissociation applies. The empty consonant slot is then automatically filled by the default consonant /t/.

(89) U-Dissociation (Broselow, 1984, p.20)



To use this purely phonological solution, I would have to modify the formal statement of the rule in (89) somewhat to adapt it to my analysis of Amharic syllable structure, in which all final consonants are located in the appendix. The essential point of the rule, which is that two word-final [+ round] segments are not allowed, is preserved in (90).

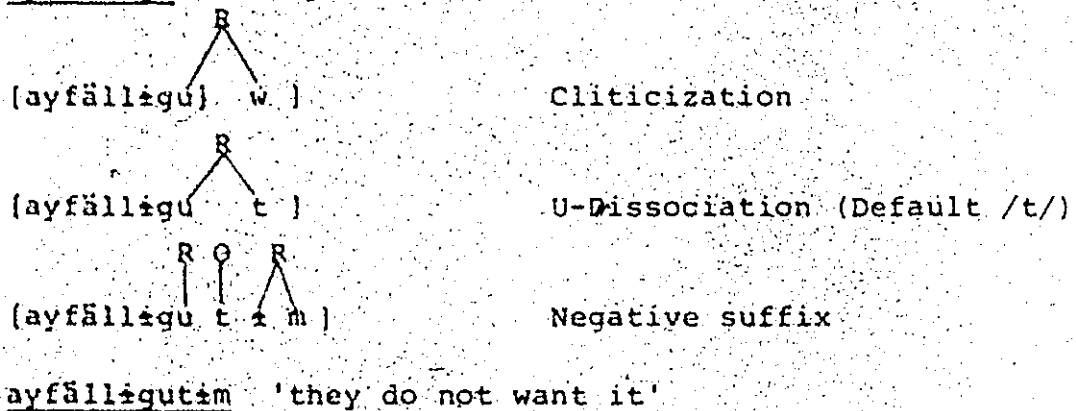
(90) U-Dissociation (modified)



In any case, one instance of the clitic's appearance on a verb as -t cannot be explained by the original rule in (89). In the gerundive, third plural, such as nāgrāw 'they, having told', the subject agreement ending -āw already fills both branches of a maximal Amharic rime, and the cliticization of -w would not satisfy the structural description of (89). Nevertheless, the form taken by the object clitic is -t: nāgrāw-t 'they, having told him'. Consequently, the modified version in (90) is needed to account for this gerundive form.

Broselow identifies U-Dissociation as a cyclic rule, since it must apply at the time internal brackets are removed. She presents the case of certain negative verbs to which a dependent pronoun has been cliticized. For example, when -w is cliticized to a verb ending in -u, such as the negative imperfective ayfälligu 'they don't want', the structural description for U-Dissociation is met. The rule must apply at this stage of the derivation, for if the negative morpheme -m is added, the pronominal clitic will be in the onset of the new syllable and the structural description will not be met. That the correct form is ayfälligutim 'they don't want it' and not *ayfälliguwim is evidence that the rule is cyclic. In (91), where I illustrate the derivation of this form, Broselow's rule (89) is employed, as it is in the subsequent commentary drawn from her work.

(91) ayfälligu 'they do not want'



Suppose instead, Broselow speculates, that the brackets are removed without the application of U-Dissociation, which is postponed until after the negative morpheme has been added. In (92), the /w/ of this clitic would be in a syllabic onset instead of the rime; the structural description of the rule would not be met, so that the delinking of the /w/ could not take place, and the default

/t/ could not be inserted. As a result, the incorrect form would be derived.

- (92)
- | | | | |
|------------------|---|-----|------------------------------------|
| R | O | R | |
| | | / \ | |
| ayfälli <u>g</u> | w | i m | — *ayfälli <u>g</u> wi <u>m</u> |

A fact that has not been taken into consideration, however, is that the negative morpheme -m cannot be suffixed in the lexicon. Whereas the negative prefix al- always remains in place, once affixed at Level 2 to a verb, the negative -m may be absent from its expected position on the right edge of a verb and be found instead on the verb's nominal complement, as in (93). The effect is to focus the negation on the complement. (The example in (93) is due to Armbruster, 1908, p. 117.)

- (93) färäsun alfälläghu 'I didn't want the horse'
 färäsunimm alfälläghu 'I didn't want the HORSE' (...but the mule)

Suffixes do not detach themselves from the word to which they are affixed and move to another word in a sentence. The explanation is that the VP in a syntactic structure contains a Neg node in which -m is inserted. This is illustrated in (94). Ordinarily, -m becomes enclitic on the verb, but a local rule may move it over the verb to the complement NP, to which it encliticizes.

- (94)
- | | | |
|---------------------------------|----------------------------------|------|
| VP | | |
| / \ | | Neg. |
| V' | | |
| / \ | | -m |
| NP | V | |
| / \ | | |
| fä <u>räs</u> un (<u>i</u> mm) | al <u>fällä</u> ghu (<u>m</u>) | |

The encliticization of the negative morpheme -m to ayfälligut in (91), then, must take place after the syntax. If the form ayfälligutim rather than *ayfälliguwim demonstrates the cyclicity of U-Dissociation, it also demonstrates the possibility that post-lexical rules may be cyclic. In the earlier period of lexical phonology development (e.g. Kiparsky 1982b), it was claimed that

only lexical rules apply cyclically, but more recent work has provided evidence to the contrary. For instance, Dresher (1983) shows that there are cyclic rules in the postlexical phonology of Tiberian Hebrew, and he argues that there is no theoretical basis for restricting cyclicity to lexical rules.

In my proposal, cliticization occurs in the final level of the Amharic lexicon, but the internal brackets between the clitic and its lexical host are not erased until after the syntax. In deriving the negative imperfective ayfäll+güt+m, much the same sequence as that shown in (91) would ensue. Removal of the innermost brackets would trigger U-Dissociation and the insertion of default /t/, which would already be in place when the brackets around the encliticized -m are erased. The operation of the rule is still cyclic, even though it is postlexical.

Assignment of this rule to the postlexical domain need not depend solely on my contention that the brackets around the clitic are not erased until after the syntax. The masculine definite article also occurs as -t after a round segment and -w elsewhere, when it is attached to a relativized verb, as in (95). As the definite article is a syntactic element that can be encliticized to the relativized verb only after the syntax, U-Dissociation must be postlexical.

(95)	yā - motä - w fāräs	yā - motu - t fāräsocc
	REL- died -DEF horse	REL- died -DEF horses
	(3.s.)	(3.pl.)
	'the horse that died'	'the horses that died'

So far, I have written as if U-Dissociation provides a full account of the -w/-t alternation, but certain facts lead me to believe that a deeper explanation must still be sought.

First, Amharic does not have a general prohibition against the occurrence of two final [+round] segments in all lexical items. When -w cliticizes to a noun, it never surfaces as -t. A noun ending in a round vowel, such as bäKlo 'mule', takes -w to express 'his mule': bäKlo-w. The usual explanation for this phenomenon is that verbal morphology and nominal morphology obey

different rules in Amharic. In support, attention is ordinarily called to the fact that the final consonant of a noun is not palatalized in the environment that induces palatalization in verbs. However, I am able to show (in 3.5.2.2) that the rule of Palatalization is not confined to the verbal morphology per se; rather, it applies to verbs and not to nouns because of the way morphological and phonological events are organized with respect to each other in the lexicon.

Moreover, when a definite article attaches to an adjective ending in a round vowel, such as Tāru 'good' and kāfu 'wicked', the resulting forms are Tāru-w and kāfu-w, not *Tāru-t or *kāfu-t, yet both of these adjectives are derived from verbs (Tārra 'be pure' and kāffa 'be wicked', respectively). Therefore, if the categorial explanation is to be maintained, it must be restricted specifically to verbs and not to "the verbal morphology" in general.

Second, just as the clitic never surfaces as -t on nouns, so it never surfaces as -u on verbs, even when the syllable structure would permit it. (I am assuming, with Kaye and Lowenstamm (1984) and others, that the high vowel /u/ and the glide /w/ are not differentiated by feature content and that the phonetic difference is determined by the position in the syllable.) The clitic is -u in fīraaš-u 'his mattress' but not after š in nāggārīš-iw 'you(f.) told him'; it is -u in beetocc-u 'his houses' but not in nāggārācc-iw 'she told him'. The implication is that there is some factor, as yet unidentified, that prevents the object clitic, but not the possessive clitic, from filling the syllabic nucleus.

Third, the form of the third singular masculine B- and L- clitics is odd. Every other form of these prepositional clitics is patently compositional: the O-clitic is preceded by a geminate b or l. Thus, beside the first singular O-clitic -ñ, we have -bbiñ and -lliñ; beside the second singular feminine -š, we have -bbiš and -lliš. According to the pattern, the third singular masculine forms should be *-bbiw and *-lliw, but they are not. Instead, the mysterious /t/ appears in -bbāt and -llāt, even though no round segment is present to trigger U-Dissociation. The presence of /t/ here suggests that the reason for its alternation

with -w may not be totally phonological in nature.

Thus, two basic problems must be solved, not just one. There must be a means of preventing the object clitic from filling the nucleus position of a syllable while allowing the possessive clitic to do so. There must also be a way of permitting the object clitic to surface as -t while preventing the possessive clitic from so doing.

At this stage of my research, I have not found an adequate solution and can only offer suggestions for the direction that an investigation might take. First of all, there is no reason to suppose that the lexical content of the object and possessive clitics must be identical. We know that the first singular object clitic is -ñ whereas the corresponding possessive clitic is -e; the third singular feminine object clitic is -at, but its possessive counterpart is -wa. It would be entirely reasonable for the third singular masculine object and possessive clitics to differ also.

Suppose that the lexical entry for the object clitic contains information that prohibits it from being entered in the nucleus position of a syllable whereas this prohibition is absent from the entry for the possessive clitic. The mechanism might simply be that the object clitic is attached to a C slot.

After the correct syllabic placement is established, the rule of U-Dissociation, as modified in (90) and restricted to verbs, could apply as described above. Alternatively, further investigation might reveal that the alternation between -w and -t is not one of the instances explained by the insertion of default /t/. That is, it could be that the lexicon lists two forms for the object clitic, -w and -t, the entry for -t specifying that it attaches after a round segment. Recall that both -w and -t have a possible source in the Classical Ethiopic pronoun wɨʔɨtu. In this way, the appearance of -t with verbs and its non-appearance with nouns could be explained.

Evidently, the construction of adequate arguments in favour of a comprehensive solution requires wider research. Having presented a more complete set of facts than has heretofore been considered, I leave the problem open for resolution in the future.

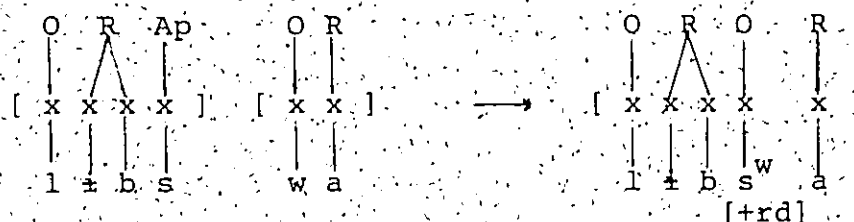
3.5.2. Possessive Pronoun Clitics

Apart from the fact mentioned above that the third singular masculine possessive pronoun clitic never appears as -t, as the object clitic does, the forms of special interest from a phonological point of view are the third singular feminine -wa and the first singular -e.

3.5.2.1 Consonant Rounding

The initial segment of the third singular feminine possessive clitic -wa regularly surfaces as rounding on the final consonant of the word to which -wa cliticizes. Thus, beet-wa becomes beet^wa 'her house' and färäs-wa becomes färäs^wa 'her horse'. Although it is entirely normal for almost any consonant in Amharic to exhibit some degree of rounding before /o/, and frequently before /a/ (see section 3.1), conformity to the syllabic patterns of the language apparently forces this result in certain cases. I assume that the clitic -wa is originally syllabified with /w/ in the onset. When this form is cliticized to a word that ends in two consonants, an illegal sequence of three consonants is produced. After cliticization, the problem is resolved during resyllabification by moving the appendix to the onset of the next syllable. Amharic onsets are not branching, and the consonant therefore takes on the feature of roundness (96).

(96) l+bs + wa 'her dress'



I assume that a similar procedure takes place when -wa is cliticized to a noun ending in only one consonant, even though no illegal consonant sequence would be created by not resyllabifying the cliticized form. The combination of /s/

and /wa/ sounds the same in färäs^{wa} 'her horse' and libs^{wa} 'her dress'. It seems that when a consonant in Amharic has the opportunity of adding a [+round] feature to its matrix, by moving an appendix into an onset, it does.

This rule of Consonant Rounding must belong to the postlexical domain, when the internal brackets between the host word and the clitic are erased.

3.5.2.2 The Palatalization Puzzle

Major descriptions of Amharic invariably mention the fact that a given phonological environment induces palatalization in verbal, but not nominal, morphology. In 3.2.4.1, I discussed palatalization in the first singular form of the gerundive, where a stem-final consonant is palatalized because the subject-agreement suffix -e provides the appropriate non-low, non-back environment. For example, the gerundive stem käft- becomes käfice and wädd-, wädiije.

The first singular possessive pronominal clitic is also -e, having the same features as the gerundive suffix. However, as the examples in (97) show, the final consonant of the nouns to which it is cliticized is not palatalized.

(97)	beet	→	beet-e	miTaad	→	miTaad-e
	'house'		'my house'	'griddle'		'my griddle'
	färäs	→	färäs-e	baal	→	baal-e
	'horse'		'my horse'	'husband'		'my husband'
	ayn	→	ayn-e	muz	→	muz-e
	'eye'		'my eye'	'banana'		'my banana'

The usual explanation given by commentators for these dissimilar results is that palatalization occurs only in verbal morphology. I consider that the facts can be given a phonological explanation instead.

In the first place, merely to associate palatalization with verbs and lack of palatalization with nouns is not to tell quite the whole story. Evidence for this assertion is as follows:

(a) The Amharic infinitive, or verbal noun, is formed by prefixing mä- to a verbal root in the pattern mäCCVC (for the common trilateral verbs of Type A). For example, the infinitive formed from käffätä is mäkfät 'to open', or preferably, 'opening'.

The description of this form given by Hailu Fulass (1968, p. 71) leaves little doubt about its nominal properties:

"The verbal noun indicates the abstract action derived from the meaning of the underlying verb. The categories of tense, aspect, mode, person, number and gender which are characteristic of a verb are absent in the meaning of the verbal noun."

This form may function as the subject or object of a verb and is, in fact, often best translated into English by the gerund -ing form.

To this verbal noun form, the derivational suffix -ya may be attached to yield a noun with an instrumental meaning. The non-low, non-back initial segment of -ya causes the rule of Palatalization (25), to apply, producing nominal forms like those in (98).

(98)	<u>Verb</u>	<u>Verbal Noun</u>	<u>Instrumental Noun</u>
	käffäta 'open'	mäkfät	mäkfäcca 'opener'
	käddänä 'cover'	mäkdän	mäkdänña 'lid'
	abässälä 'cook'	mabsäl	mabsäyya 'oven', 'cooking utensil'

Of course, palatalization might be explained in this instance because a verbal root is involved and the morphology might therefore be classed as verbal. As we shall see shortly, however, this same verbal noun is not always subject to the Palatalization rule.

(b) Another example of deverbal noun formation that induces Palatalization is the derivation of an agentive noun (referred to by traditional grammarians as the "participle"). In Type A trilateral verbs, these nouns are constructed from the consonantal root via the agentive stem, in the pattern: CäCaaC-, to which a final /i/ is added. Thus, the agentive noun derived from säbbärä is säbaari 'one who breaks'. When the final consonant of the root is a coronal, it is palatalized because of the /i/ ending. Some examples are given in (99).

(99)	<u>Verb</u>	<u>Agentive Stem</u>	<u>Agentive Noun</u>
	zäffänä 'sing'	zäfaan + i	zäfaañ 'singer'
	wäddädä 'love'	wädaad + i	wädaaj 'friend'
	gäddälä 'kill'	gädaal + i	gädaay 'killer'

Here, palatalization occurs within verbal morphology, but the derived form is nominal.

(c) The verbal noun described in (a) may appear in a sentence with an attached morpheme expressing the subject of the verb's action. This morpheme is not drawn from the set of agreement suffixes that are affixed to the gerundives, but rather from the possessive pronominal clitics. For instance, the verbal noun māhed 'going' takes the third singular masculine -u to express 'his going', and the first plural -accin for 'our going': māhedu and māhedaccin, respectively. The examples in (100) illustrate the cliticization of the first person singular possessive pronoun -e.

- (100) māhed + e → māhede 'my going.'
mäkfät + e → mäkfäte 'my opening'
mäkdän + e → mäkdäne 'my covering'
mäzfän + e → mäzfäne 'my singing'

The rule of Palatalization has not applied in (100), despite the verbal root and precisely the same environment that induces Palatalization in the gerundive.

These facts suggest that it is not the verbal or nominal category that determines the application of Palatalization. Other factors must be at work.

One of these factors is the difference in morphological status of the lexical element to which an affix or clitic is attached. (See section 2.2 in Chapter Two.) Affixes are attached to stems and clitics to completely inflected words. The gerundive stem, for example, is not a word at all without an agreement suffix, whereas the verbal noun is a complete

word, capable of appearing in a syntactic structure without further derivation.

Because agreement endings are affixed to stems, while dependent pronouns are cliticized to words, affixation and cliticization are in different levels of the lexicon.

The solution to the Amharic palatalization puzzle is that the rule of Palatalization applies at Level 2 of the lexicon, when the inflectional and derivational suffixes under discussion here are affixed to stems. Cliticization of the possessive pronominal clitics to fully inflected words follows at Level 3, which is not the domain of the Palatalization rule, and therefore palatalization cannot take place at the time of cliticization.

Appendix to Chapter Three:

A Note on the Cushitic Connection

During this chapter's discussion of stress assignment (section 3.4), I called attention to two distinctive properties of the Amharic stress system. First, whereas the stress in non-verbal categories may be located well to the right of the underived word, depending on the syllabic structure of the suffixes that have been attached, it characteristically remains on the stem in verbs. Second, a postlexical rule may readjust the stress pattern in a word preceding the last word of a syntactic phrasal category, providing a tendency to phrasal penultimate stress.

These characteristics are not obvious in the parent Semitic language. Scholars are generally unwilling to be dogmatic about stress in Geez (cf. the lengthy discussion in Ullendorff (1955, p. 190), for instance, to which Moscati (1969, p. 69) also refers). Chaine (1938) merely comments that rules concerning stress cannot be specified exactly, as opinions vary according to the source consulted. As a pedagogical text, Lambdin (1978, p. 5) is more willing to take a stand, carefully acknowledging that the description offered has been adopted from one tradition, however. In that tradition, stress for the "vast majority" of words in Geez may be described by the following rules, which have relatively few exceptions. (I use the same symbols to transcribe the Geez as those employed for Amharic in this chapter.)

a) Virtually all finite verb forms without object suffixes are stressed on the penultimate syllable: näbärä, kätälät, yikättäl, yikättälu.

b) Most other words, including nouns, adjectives, and adverbs, are stressed on the last syllable, unless this ends in final -ä, in which case the stress is on the preceding syllable.

No mention is made in Lambdin, or in Ullendorff or Chaine, of anything comparable to the rhythmic readjustment of stress within Amharic phrases.

It is not to be expected, of course, that Amharic would have precisely the same positions for stress in words as Geez; they are two different languages. Nevertheless, it is striking that, with respect to stress, the verb is apparently viewed quite differently in the two languages: in Geez, the fully derived verb form is involved in stress assignment; in Amharic, only the stem.

The rules and examples presented in McCarthy (1982a) for Cairene Colloquial, Damascus Colloquial and Classical Arabic all seem to suggest that stress in some of the other Semitic languages affects the whole of a derived verb form. And Drescher (1983, p. 72) uses as an example (for the lack of an internal cycle on the Tiberian verb prior to cliticization) the form / ya + šmor + e + ka / → yišmorkä 'he will guard you (m s)', in which the suffix represents a cliticized object. Notice that the stress rules have applied to the

entire form, including even the clitic. In contrast, the Amharic clitic neither receives stress itself nor attracts stress rightwards from its lodging place on the stem, (unless it constitutes a branching foot in its own right). *

Ironically, the characteristic of Amharic that most strongly marks it as a Semitic language is the root-and-pattern morphology of its verbal system, yet it is in its verb forms that Amharic stress most notably departs from Semitic stress assignment patterns.

How did Amharic acquire the non-Semitic nature of its stress system? As mentioned in the introductory chapter of this thesis, scholars have long commented on the influence of Cushitic languages on the Semitic languages of Ethiopia. In particular, Leslau (1945) enumerates many examples of Cushitic influence on Amharic phonology, derivational morphology, verbal inflection, syntax and vocabulary. Concerning phonology, he discusses the phonemic status of the labio-velars, the frequency of prepalatal consonants and the distinctive pronunciations of various consonants and vowels. He makes no mention of Cushitic stress rules, however. Although organized information about stress in the Cushitic languages of Ethiopia is scanty, there are hints that suggest some degree of influence on the Amharic stress system.

I must first admit that the Cushitic languages have some tonal characteristics (Palmer, 1971, p. 89); whereas no claims have been made that Amharic uses tone for linguistic

purposes. However, according to Palmer, the use made of tone in the different Cushitic languages varies considerably, and so far, only in Southern Agaw has tone been shown to be phonemic. In addition, Hetzron (1969, p. 7) records a "stress of intensity" as well as tone in Southern Agaw; normally, that stress is on the penultimate syllable.

It is in the study of accent in Galla by Moreno (1936) that I find interesting parallels with Amharic stress²⁸, despite Moreno's introductory summation that - in all Cushitic languages, "as in Amharic" - the position of the stress is "inconstant," depending on factors such as the place of a word in a sentence. The prevailing tendency that Moreno manages to discern is to place stress on the penultimate syllable. Although Amharic word stress is not penultimate, unless the syllabic structure causes it to be so, two of Moreno's generalizations are nevertheless pertinent to the non-Semitic nature of Amharic stress.

First, Galla speakers tend to place the stress on the stem of a verb, even when this approach fixes the stress on a syllable other than the penultimate.²⁹ A monosyllabic stem retains the stress in all its forms. For a multi-syllabic stem, the stress may be on the first or second syllable (according to the syllable structure, as far as I can judge), but in any case it does not move away from the stem to the affixes. The tendency, in Moreno's words (p. 201), is to "concentrate the character of the verb on the root" [translation mine: D.S.M.]. Stress in verbs contrasts with stress

in other lexical categories, where it is most typically found on the penultimate syllable, whatever the affixation may consist of.

The second point of interest that emerges from Moreno's study is that certain "particles," including postpositions and encliticized verbs, transfer the stress of the preceding word to the final syllable. Thus, when -tu is encliticized to nāma, the result is nāmá-tu. (Unfortunately, more often than not Moreno omits glosses.) In addition, the copulas qā and miti are frequently encliticized, causing the stress of the host word to move rightwards to the host's final syllable. The parallels with the description of Amharic enclitics (in section 3.4.2.5) are obvious, especially in view of the remarkable similarity in classes of enclitic words. Armbruster's classification, noted in (76), includes the copula (nāw), the second element in a compound preposition (cf. the Galla postpositions) and certain monosyllabic imperatives (cf. the Galla encliticized verbs).

I will not attempt to push the suggestion of Cushitic influence too far on a shaky foundation of limited data and superficial investigation. Nevertheless, the hypothesis is a reasonable one. The language contact situation over the centuries was not merely the type in which speakers of a Semitic language borrowed and copied from the Cushitic speakers who were their neighbours; rather, many of the far more numerous speakers of Cushitic languages, for various reasons, adopted (and adapted) a Semitic language. It would be entirely

natural that speakers of a Cushitic language would employ
their own rules of stress when speaking their adopted Semitic
tongue. 30-

Notes for Chapter Three

1. In the Amharic writing system there are 33 basic consonant symbols (plus a few others), each varying slightly in shape in seven different ways to represent the combination of the consonant with each of the vowel sounds. The vowel indicator cannot be detached from the consonant symbol. Thus, for a reader of Amharic, a single "letter" is a symbol for a consonant along with its following vowel, as in (i). Each vowel-sound representation for a consonant is referred to as one of the seven "orders" for that consonant.

(i) Orders: First Second Third Fourth Fifth Sixth Seventh

(ä) (u) (i) (a) (e) (ɨ) (o)

e.g.: ሀ ሁ ሂ ሃ ሄ ህ ሆ

bä bu bi ba be bi bö

The writing system masks two important phonological phenomena: (a) it does not distinguish single from geminate consonants, and (b) it does not give any indication of whether ɨ is pronounced or not. As a result, the sixth order of b may represent bɨ or bbɨ or b or bb.

2. Hetzron (1964) claims that the occurrence of /ɨ/ is always predictable. With regard to its use in separating impermissible consonant clusters, so that the syllables of words conform to the allowable syllabic patterns of Amharic,

his observation is correct. However, the facts are not so clear with respect to /i/ in word-initial position. There are apparently several different reasons for its presence in that position. Some examples are:

(a) Imperatives, which are normally formed on the jussive stem on the pattern sibär 'break!' (from säbbärä) and sima 'hear!' (from sämma), frequently occur also in biliteral verbs with the /i/ in initial position, as in the following examples:

both rīda and irda 'help!'

both nika and inka 'touch!'

both sima and isma 'hear!'

Thus, the need for an epenthetic vowel is predictable, but its position may not be.

(b) Before /r/, the vowel /i/ is optionally prothetic even when it is not needed for purposes of syllable structure: e.g. rādda 'he helped' is often pronounced irādda.

(c) In a substantial set of words, an initial /i/ is an integral constituent of the lexical item, as in ibaab 'snake'; ika 'thing, object, goods'.

The explanation here may be that there is actually an initial glottal stop preceding /i/, and that therefore the /i/ is truly epenthetic. Moscati (1969, p. 41) refers to "... the general Semitic rule which requires that every syllable should begin with a consonant"; as a Semitic language, Amharic might be expected to begin words with a consonant,

and in the absence of any other specification, it could be the glottal stop. Supporting this explanation is the fact that when prepositions, such as kä, bä, lä, and yä precede this set of words, /ɿ/ is normally retained, whereas it is lost in words like ärsu 'he', in which it is clearly prothetic; contrast yä äbaab 'of a snake' with yärsu 'his' and bärgäT 'surely' (from ärgäT 'sure', which is a deverbal adjective).

On the other hand, the grammarians that I have cited are unanimous in declaring that, except in a limited number of cases, Amharic has lost its glottal stop. Ullendorff's comment (p. 39) is "... the articulation of ʔ is mostly only a graphic convention as a vowel carrier." Later (p. 42), he adds, "In Amharic - as we have seen - the dissolution of the laryngals is almost complete. Even ʔ and h survive only in certain circumstances, and this too is mostly due to the influence of the traditional pronunciation of Ge'ez."

There is obviously much to be studied here, both in regard to the phonological status of /ɿ/ word-initially and the occurrence of the glottal stop. I leave the question open except to suggest that Amharic speakers may still have the phonological knowledge that a consonant position is present word-initially in words like äbaab, even though they may have a rule to delete it before its phonetic realization.

3. The seven vowels I discuss in 3.1.1 are those found on the surface in Amharic. Linguists have proposed various

radically different inventories of underlying phonemes. At one extreme, for instance, Taddese Beyene (1973) excludes from the list of systematic phonemes all the vowels except one, the mid-central /ä/; i is simply the vowel of epenthesis, and the five other surface vowels are derived by rules.

Podolsky (1980, p. 93) eliminates o, e, u, i and i from the inventory, claiming that /ä/ and /a/ are the only two vocalic phonemes. He admits that, because of the way his analysis reduces the number of vocalic phonemes, "... the number of consonantal phonemes has grown considerably: besides plain consonants the inventory includes also labialized, palatalized and palatolabialized consonants."

Bender (1969a, p. 19), on the other hand, regards all seven surface vowels as phonemic: "Compelling reasons for not taking the surface vowels as the systematic phonemic vowels of Amharic are not yet forthcoming."

It is obvious that this topic involves some very complex issues, requiring extensive investigations which are beyond the scope of this thesis.

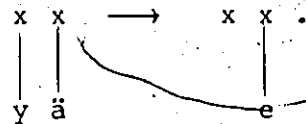
4. A thorough discussion of the Amharic labiovelars can be found in Ullendorff (1955).

5. My own informant, Aynalem Abreha, tends to pronounce a final cluster in the simple imperfective verbs, preferring (for instance) yisäbr 'he breaks' to yisäbir.

6. Also, according to Cohen (1970, p. 41), between vowels the prepalatals are "... le plus souvent au moins légèrement géménées."

7. The adjectives näCC 'white' and aCCir 'short' are derived from the verb näTTa 'be white' and aTTärä 'be short', respectively.

8. The exceptional form of the first person singular gerundive, which differs because of the geminate from all the other gerundive forms, can be explained by the form of the corresponding suffix in Classical Ethiopic. In the ancient language, the first person singular gerundive suffix was -yä whereas the suffixes for all the other forms were vowel-initial. It seems quite probable that when /y/ was lost, the following /ä/ was raised and fronted to /e/ but that the two skeletal slots were retained, thus:



9. Hayes (1984) considers the possible view that inalterability should not be explained on formal grounds at all but is rather a natural phonetic effect, in that the two halves of a geminate have a strong assimilatory effect on each other which overrides any externally applied phonological process. He rejects this view and supports his theoretical approach with convincing arguments.

Nevertheless, the phonetic facts should not be dismissed as entirely irrelevant. In the Amharic case, phonetic

description at least provides a background logic for the resistance of a geminate to Spirantization. Recall that Ethiopian grammarians themselves refer to a geminate as TibK 'tightened' and a non-geminate as "relaxed." Recall also that some Amharic speakers spirantize a single /b/ even when it is not in postvocalic position (except after /m/). Cohen (1970, p. 31) describes non-geminate /b/ as having a relaxed articulation: "... souvent, surtout entre deux voyelles, le relâchement est tel qu'il ne se produit pas d'occlusion; on entend alors la spirant bilabiale sonore." My own informant consistently pronounces words such as manbäb 'to read'; mälbäs 'to dress'; anbätTa 'locust'; anbässa 'lion' with a relaxed /b/ that approaches the spirantized pronunciation.

Gemination, according to the Amharic terminology, involves tightening; spirantization involves laxing; the two tendencies are incompatible and, as a consequence, a geminate /b/ never spirantizes.

In a similar vein, Prince (1975) proposes that the phonetic property of [instant release] be incorporated into the rule of Spirantization in Tiberian Hebrew. He bases this suggestion on the facts (a) that Spirantization must be equally prevented from applying to the oral stops q and t, which belong to the class of emphatics, and to the first member of a geminate stop cluster, and (b) that both the emphatics and the first element in a geminate stop are characterized phonetically by the lack of oral release.

10. This proposal was cited in an unpublished paper by Halle and Vergnaud (1982), "Metrical Structures in Phonology," as a personal communication by J. Kaye. It was also made in an unpublished paper at the University of Illinois at Urbana-Champaign by Kenstowicz, M., Bader, Y. and Benkaddache, R. (1982): "The Phonology of State in Kabyle Berber." Discussion can be found in Steriade (1982), Hayes (1984), Steriade and Schein (1984) and Dresher (1985).

11. The observation that the normal site of epenthesis is altered in the first singular gerundive form was made by Broselow (1984), who states that the shift of an epenthetic vowel to avoid breaking a geminate is a common occurrence across languages.

12. Other linguists do include the appendix in the syllable tree. Lapointe and Feinstein (1982), for instance, assign three branches to the rime: nucleus, coda and appendix.

13. Jonathan Kaye also positions the appendix outside the syllable tree. I first learned about the syllable appendix in an illuminating lecture by J. Kaye (University of Ottawa, 22 September, 1983).

14. Hayes (1982) develops the concept of extrametricality by which a segment, an entire syllable, or an affix may be treated by the stress rules as if it were not there.

15. Some of the example words in (40) contain a long vowel. I stated at the beginning of this chapter that vowel length is not distinctive in Amharic and that I assume vowels in

this language to be underlyingly short, with lengthening occurring by rule.

For the long vowel in tämaari 'student' and wädaaj 'friend', the agentive stem template is responsible; the former actually means 'one who learns' and the latter 'one who loves'; fäkaad 'permission' is also a morphologically derived deverbal nominal. The long vowel in underived nouns like beet 'house', aaf 'mouth' and maar 'honey' must be created by a phonological rule that lengthens a peripheral vowel in monosyllabic words.

16. Detailed arguments for splitting the metrical value of an Amharic geminate between two syllables are presented in Mullen (1983).

17. After much careful listening to native speakers of Amharic, I am convinced that one factor responsible for uncertainty about the placement of stress in certain words is the expectation of foreign listeners (especially English speakers) that an unstressed mid-central /ä/ - one of the two most commonly occurring vowels in Amharic - will be reduced. When an Amharic speaker does not reduce this vowel to a short schwa, the foreign listener may interpret it as a stressed vowel.

For example, the citation form of verbs such as áddärä 'spend the night' and Cällämä 'be dark', as well as infinitives such as mälläyät 'to be separate', are actually stressed on the first syllable. An English speaker would

tend to pronounce Cällämä, for instance, as [čäelämä], reducing the unstressed vowels to schwa, whereas in Amharic the second vowel gets a full [e] pronunciation. Recall, in addition, that Ethiopian grammarians describe a geminate as a "tightened" consonant. It seems reasonable to suppose that the "tightness" of a preceding geminate (the right-hand element of which is the onset of the syllable in question) imparts a degree of tenseness to the vowel that follows it. Such tenseness would be particularly perceptible in an /ä/ if a listener expected it to be lax and reduced.

However, when one hears contrasted forms, such as mälläyät (the passive infinitive) and mäläyyät (its active counterpart 'separate'), it is very clear that the second syllable is not stressed in the former but does receive stress in the latter.

In this regard, Broselow's work on the perceptions of second language learners is relevant (e.g., "An Investigation of Transfer in Second Language Phonology," International Review of Applied Linguistics, 1984, 22:4, pp. 253-269).

18. The investigation of Amharic stress may also involve problems that are not purely linguistic. If an investigator tries to test his judgements by exaggerating stress on a particular syllable, the reaction of the native speaker may be to ignore the question of stress and reject the speech altogether as rude and aggressive. This finding accords with the description by Huebener (1969, p. 91) of the manner in

which Amharic is spoken: "The cultured Ethiopian chooses his words carefully and utters them in a soft, measured cadence."

19. I am aware that other proposals have been made for identifying the stressed syllable of a word that do not mention the branching nature of a node (e.g. the metrical grid (Prince, 1983; Halle and Clements, 1983)). However, it is not immediately evident to me that the principle of labelling a rightmost node strong iff it branches is less effective than other principles that have been proposed.

One alternative that has been brought to my attention also relies on the notion of branchingness but has the virtue of allowing the uniform use of flat trees at the word level as well as at the foot level:

Build flat trees. Label the right node s. The final foot is extrametrical iff it does not branch.

This procedure, which will also give the desired results for Amharic, arose out of talks with E. Selkirk and B. Hayes by E. Dresher, who suggested it to me.

20. Liberman and Prince (1977, p. 294) formulated the Stray Syllable Adjunction somewhat differently, referring in it specifically to the English Stress Rule.

21. The auxiliary -all, in the verb form of (57), yinägr-at-all, 'he tells her', is the existential copula allä. In the Compound Imperfective, allä retains its normal subject agreement endings except in the third singular masculine (which happens to be the citation form of the verb). Some texts,

though not all, transcribe this third person ending as -al, deleting the entire final syllable. Basing my decision on native speaker pronunciations, I have assumed instead that a rule deletes only the final vowel, leaving the geminate /l/ in -all.

22. Grammarians differ in the way they represent the final /c/ of suffixes. Armbruster elected to represent this /c/ as a single segment in both the noun pluralizer, which he writes as -ōc, and the third singular feminine for the perfective, which he writes as -āc. Leslau makes the opposite choice, writing both of these suffixes with a geminate: -occ and -ācc. Of course, both suffixes are geminate when some other morpheme becomes enclitic on the suffixed word.

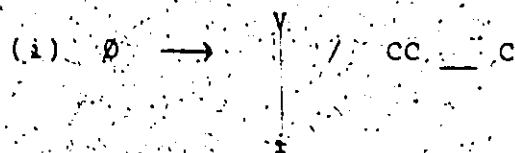
A clue to the correct answer, I believe, lies in Armbruster's indication that the vowel in -ōc is long while the vowel /ä/ of -āc is short, as is normal for this vowel. Ullendorff (1955, p. 140) states that the Amharic plural ending developed from an original -oti, and /o/ in Classical Ethiopic was considered long; the verbal affix -āc was originally -āti (Ullendorff, p. 144), and /ä/ was considered short. When the original forms were palatalized during the development of Amharic, the relative weight of the two suffixes was preserved, a heavy-syllabled -occ and a light-syllabled -āc being the result. The facts of stress in contemporary Amharic support this account.

23. The problem of stress in the first singular of the gerundive also involves the attachment of a light-syllabled

morpheme on the right of a verb and a geminate consonant, but it is somewhat more complicated, for two reasons: (a) the suffix that triggers the gemination is not a separate lexical item, so that the internal brackets will be erased in the lexicon, incorporating the affix into the verb, and (b) the consonant that is geminated does not belong to the suffix but is one of the radicals of the consonant root.

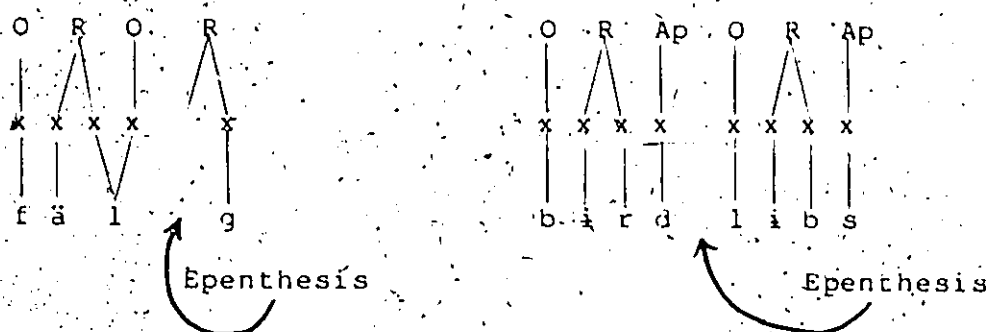
This exceptional form was presented when the ambiguity and integrity of geminates were discussed in section 3.2. An epenthetic /ʔ/ is inserted on the left of two C-slots, contrary to the regular rule that inserts /i/ on the right of a two C-slot sequence, because a geminate cannot be split; hence, for instance, sābirre 'I, having broken'. Despite the new branching foot that should be created by gemination and epenthesis, stress remains on the first syllable, as in all the other singular gerundive forms, e.g. sābro (3.s.m.), sābrih (2.s.m.), etc. Why is the stress not on the heavy syllable?

I suggest that the two problems of unusual epenthesis and apparent non-conformity to the stress rule are related, and that both arise out of constraints on syllabic structure. The usual epenthesis rule cannot apply because the geminate is not in a possible position with respect to the syllable. The rule in (37), repeated here in (i), actually shows the three C-slots in the only possible syllabic positions.



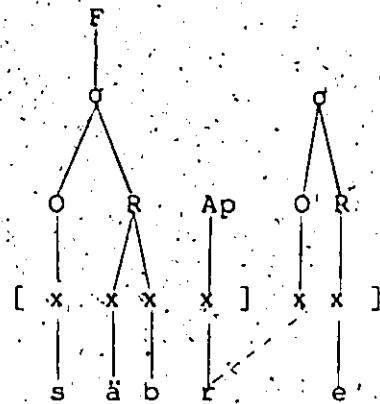
The two C-slots on the left in the structural description can either be coda-onset or coda-appendix; in the former case, /ɪ/ is inserted word-internally, as in a Type B imperfective verb stem, and in the latter, it is inserted between morphemes or words. These types are shown in (ii).

(ii) (a) -fälliq- 'wants' b. bird ilibs 'blanket'



In (iia), there is a rime position between CC and C, and Epenthesis can insert the V-slot with /ɪ/ in that syllabic position. In (iib), the coda and appendix of the first component in the compound provide the requisite two-consonant sequence, and when Epenthesis inserts a V-slot with /ɪ/, the appendix becomes the onset of the new syllable. Now consider the metrical structure when the first person singular gerundive ending (which has two C-slots) is attached to the verbal stem. There is a single foot on the gerundive stem, säbr-.

(iii)



When the rule of Gemination applies, linking /r/ with the empty slot in the onset, the appendix cannot become an onset in a new syllable because the geminate cannot be split. However, there must be epenthesis because a three-consonant sequence cannot be allowed. Therefore, a different rule of epenthesis must apply.

Recall, from the discussion of consonant clusters (in 3.1.2) that /ɬ/ is optionally inserted between the second and third radicals of a triliteral verb in the imperfective, that is, between a coda and an appendix, as in (iv). Certain combinations of consonants make this epenthesized form the normal pronunciation.

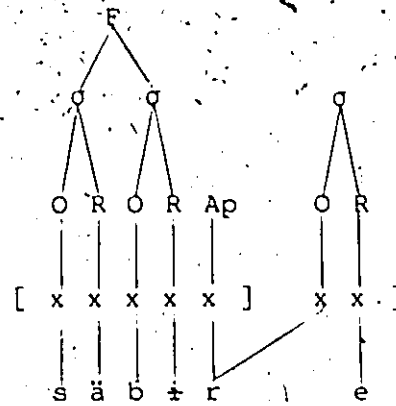
- (iv) yidäfr → yidäfɬr 'he dares'
yikäšf → yikäšɬf 'it misfires'

The single foot that is built on the imperfective stem is not disturbed by this epenthesis; it merely embraces the new light syllable as a weak member.

I propose that the syllabic conditions of (iii) induce this type of epenthesis, which might be called Stem Epenthesis,

before the brackets are erased at the end of Level 2 Phonology. After Gemination applies, /ɣ/ is inserted before the verb stem's final consonant, as in (v).

(v)



Stem Epenthesis

In this analysis, the verb stem still consists of a single foot. As explained in 3.4.2.4, a light-syllabled morpheme that is affixed to a foot is merely adjoined as a weak member of that foot. Metrical structure is not erased. Consequently, stress does not move rightwards from its original place on the first syllable of the verbal stem. The integrity of Amharic verbal stems, as well as the coherence of metrical structure, is confirmed.

24. As might be expected, an Amharic speaker is typically not aware of altering the regular stress in the types of word groups under discussion here. The matter is particularly difficult to investigate because the shifted stress pattern is not obligatory and the same speaker may repeat the same phrase with either the regular word stress or the word-group stress. Armbruster, writing nearly 80 years ago, remarked

(p. 41) that his persistent enquiries on the subject were likely to be met with a recurrent reply, which I translate as: "It's all one and the same; it's just a way of speaking."

25. An exception to the retention of first-syllable stress in the compounds of (79) is tímhírt beet, which is never pronounced *tímhírt beet, to my knowledge. The reason for this exceptionality is probably to be found in the word's super-heavy second syllable, containing both coda and appendix. Moreover, when its two final consonants become adjacent to a third, the initial consonant of beet, an epenthetic /i/ is inserted between the words to break the illicit three-consonant sequence. The /i/ is not usually indicated because its presence is predictable.

26. Waley and Armbruster (1934) present some fascinating observations about the similar combination of a verb meaning 'say' with a second element (yielding a non-compositional meaning) in languages of Africa and Asia as diverse as Chinese and Nubian.

27. Armbruster (p. 40) states that the stress on an enclitic does not rest on a final /i/ or /u/ but instead falls on the preceding syllable. As an example, he presents (i), in which the enclitic is the postposition lay.

(i) mǎngǎd - u → bǎ mǎngǎd-u lay 'on the road'
road -DEF on road -DEF on

If this is correct, my analysis will require something more, to account for the fact that /u/ is ignored in the rhythm-changing operation, since we have the example of stress shift in the three-syllabled word gäbäta: tä gäbätaw zur 'go round the table'. However, I have not been able to confirm the pronunciation given by Armbruster.

28. I acknowledge with thanks the assistance kindly provided to me by Hedy McGarrell in checking my translation of this article, which is written in Italian.

The preferred name for Galla today is Oromo.

29. Moreno adds to this statement about stress in Galla verb forms the phrase "... come in somalo ..." ['as in Somali']. Somali is another Cushitic language.

30. Ullendorff (p. 197) states categorically that he sees no reason for making the Cushitic substrates responsible for the situation regarding stress in South Ethiopic. However, in so writing, he is referring to the well-known, general weakness of stress in languages like Amharic. The parallels to which I have drawn attention in this appendix to Chapter Three are specific. Ullendorff himself admits the possibility that the Cushitic languages have contributed to the presence of a phrasal accent, which may override word stress, in the Semitic Ethiopian languages.

CHAPTER FOUR

The Clitics in Syntactic Structures

At this point in the study of Amharic pronominal clitics, we have already looked at these dependent pronouns in the lexicon, both before and after they are cliticized to a verb or a noun in Level 3. We have also acquired some idea of the phonology that must have taken place before cliticization, and we know that certain phonological rules must apply after the lexical insertion of a verb-plus-clitic into a syntactic structure.

The relation of a dependent pronoun to its host verb or noun was described (in Chapter Two) as analogous to the relation between a syllabic appendix and its host syllable. A syllabic appendix is external to the syllable tree but is eventually adjoined to the metrical word tree, though ignored for purposes of stress assignment. Similarly, a pronominal clitic is external to the verbal or nominal morphological tree but is adjoined to it, without contributing its pronominal features to the verb or noun. Upon cliticization in the lexicon, a dependent pronoun is lexically governed by its host, and a transitive verb will assign its Case feature to the clitic. At the same time, the pronominal is linked to its host's thematic grid, and it will therefore share a

θ-role with the X' category in syntactic structure that is an argument of the clitic's host.

Now it is time to consider the pronominal clitics in syntactic structures, investigating the kinds of constructions in which the clitics participate and the relations between a clitic and the other constituents of such structures. Let us pause for a moment first to consider what we may reasonably expect these syntactic constructions and relations to be like. What can be predicted from the proposals for lexical cliticization that I have made?

First, since the clitic is not an NP, the lexical host of a clitic must satisfy its internal argument structure by generating a phrasal category in the syntactic phrase it projects; however, the projected phrasal category may be empty, as the pronominal clitic associated with it can supply the necessary features of person, number, gender and Case.

Second, since it is the verb-plus-clitic that is inserted under a V node and projects a VP, the clitic will make a contribution in determining the properties of the projected structure.

Third, since the verb (or noun)-plus-clitic is the head of the syntactic phrase it projects, it will govern the phrasal category to which it assigns a thematic role.

Fourth, since the clitic is linked in the lexicon to a θ-slot in the thematic grid of the host verb, properties of θ-role transmission will be crucial in accounting for the

relations between the clitic and the NP with which it exhibits agreement.

Fifth, since the verb (or noun) has already assigned Case to the clitic in the lexicon, a matching lexical complement will be possible only if some special device is available in syntax to assign Case to it.

The purpose of this chapter is to discover the extent to which these predictions are confirmed and to develop specific analyses for the internal and external relations of the Amharic clitic construction.

Like the Romance languages, Amharic has pronominal clitics on verbs, as Modern Hebrew does not; unlike certain Romance languages, Amharic does not allow its clitics to "climb," their position on the right edge of a fully inflected verb never changing, even in compound tenses. Like Modern Hebrew, Amharic has possessive pronominals that cliticize to nouns; unlike this related Semitic language, Amharic has no pronominal clitics on independent prepositions. On the contrary, when a preposition heads a PP with a pronoun in the NP complement position, that word is drawn from a distinct set of independent pronouns.

On the other hand, Amharic does have two sets of pronominals, cliticizing to verbs, that participate in the expression of prepositional meanings. We have met these two sets several times in the previous chapters. They are the "B-clitics," such as -bbiñ in färrädä-bbiñ 'he judged against

me', and the L-clitics, such as -llät in mälläsku-llät 'I replied to him'. These contrast with the O-clitics, which are most often matched with a direct or indirect object of the verb, resembling - in that respect - the object clitics of the Romance languages.

This chapter has three main sections. In the first, I take up questions relating to the pronominal object clitics. The principal reason for beginning with the dependent pronouns that cliticize to verbs, leaving the possessive pronominal clitics until later, is that the former occur in clitic-doubling constructions. As the history of previous analyses has shown, much can be learned by observing the relations between the clitic and the phrasal category that doubles it. I begin, therefore, by presenting data to show how Amharic expresses a wide variety of meanings by selecting the clitic from a particular set and pairing it with a complement NP or PP. It becomes evident that, as analysts have demonstrated for other clitic-doubling languages, the NP with which the clitic shares reference and agreement features must be marked for Case in some way. In other analyses, the need for a special Case marker has been explained as the consequence of "Case absorption" by the clitic; in my proposal, this requirement of special Case marking is predicted by the prior assignment of Case by the verb to the clitic in the lexicon.

Whereas clitic-doubling constructions in which the doubling category is an NP have received much attention in

the literature, the problem of doubling by a prepositional phrase, which may not be subcategorized by the verb that hosts the clitic, has been barely acknowledged. Kayne (1975) refers to "pro-PPs" in his discussion of the French clitics y and en, but standard French does not allow clitic doubling, and he accounted for their cliticizing position on the left of a verb by the movement rule of Clitic Placement. In Amharic, the problem is inescapable, for a PP may double a clitic just as an NP does; furthermore, the clitic is not a fixed form, as y and en are in French, but expresses agreement with the NP complement in the doubling PP in person, number and gender. Consequently, an account of the structural relation between the doubling phrase and the clitic, which permits the coindexing that ensures agreement, is of particular importance in this section. I am able to show that, because the prepositional pronominals of Amharic are cliticized in the lexicon, the syntactic structure containing the PP is a projection from the lexicon, not only of the verb but of the verb augmented by the prepositional content of the clitic. The result is that the PP which shares a θ -role with the clitic is governed by the head of the phrase, the verb-plus-clitic.

Following a discussion of the semantic constraints on clitic-doubling, I proceed to examine the syntactic contexts in which the coindexed phrasal category is empty, as it is when the category is relativized and often is in a matrix sentence. It is then possible to propose an analysis for

certain Amharic structures in which a doubling NP is not Case-marked but appears instead in a non-argument position on the left of the sentence. This structure is employed for three different semantic purposes which, I find, can be given a unified syntactic analysis.

The second section concerns the possessive pronominal clitics. In order to show the syntactic relation between the clitic and the empty NP with which it is coindexed, I first give an account of the Amharic genitive construction. Clitic-doubling is not possible with possessive clitics, as they receive Case from the nominal host in the lexicon, and Amharic has no "saving device" that could assign Case to a lexical NP coindexed with a possessive clitic.

In a final section, I review the essential properties of the Amharic pronominal clitics in syntactic structure, specifically contrasting the nature of pronominal clitics and agreement affixes.

At the risk of being repetitious, I must emphasize that the enclitic words discussed in Chapter Three (section 3.4.2.5), such as the copula nāw, have nothing whatsoever to do with the pronominal clitics that are the subject of this present chapter. It is true that these pronominals always appear on the right edge of a word and can therefore be described as en-clitic, in contrast with pro-clitic morphemes, but the similarity ends with that positional relationship to a host word. Consequently, for reasons of clarity, I have

deliberately chosen to use separate terms for the two classes: in this thesis, the "enclitics" are various independent words that affect the stress of a host to which they are encliticized in the syntax, whereas the term "clitic" is reserved for the dependent pronouns that participate in the referential expressions of a sentence.

4.1 The Pronominal Object Clitics

The brief description of Amharic that appears in the Introduction to this thesis points out that, although this modern language retains the root-and-pattern morphology of its Semitic ancestry, it has abandoned much of the Semitic syntax. One is therefore not surprised to discover that Amharic has adopted novel morphological means for expressing various linguistic relations. Writing about the pronominal clitics, Hetzron (1970, p. 301) observes:

"Amharic tried to make use of its Semitic morphological devices to express Cushitic case-categories, and the result is an absolutely original system, with much coherence and consistency, independent of both sources, Semitic and Cushitic."

Hetzron's reference in this context to "Semitic morphological devices" is a reminder that the device of cliticizing a pronominal object to a verb, even when the nominal complement of that verb is also lexically realized, was not an innovation in Amharic. Classical Ethiopic, like other Semitic languages, employed clitic-doubling constructions. For instance, there were two methods of marking the direct object of a transitive verb. One of these, illustrated in

(1a), simply involved suffixing the accusative ending -ä to the direct object noun. (The noun bi?isi in (1a) has the accusative ending -ä, and a phonological rule has converted /i/ + /ä/ to /e/.) In the alternative method, an object clitic is attached to the verb, and the direct object noun, with no case ending, is preceded by the preposition lä (1b). When the clitic is present, the preposition is obligatory. (The example comes from Hetzron, 1970, p. 317).

- (1) a. ri?iyä bi?ise b. ri?iy- o lä-bi?isi
 saw man saw -him to-man
 (3.s.m.) (ACC) (3.s.m.)
 'he saw the man'

The meaning of the comment by Hetzron quoted above becomes clear when we see how Amharic developed the three sets of clitics that interact with nominal and prepositional phrases to express a range of semantic notions.

Eventually, in this section, we will examine all three sets of clitics.¹ However, since the O-clitics, which are the Amharic counterparts of the Classical Ethiopic clitics illustrated by (1b), appear in structures similar to the well-studied clitic constructions of Modern Romance languages, they provide a useful starting point.

4.1.1 Doubling Constructions with the O-Clitics

The O-clitics, it will be recalled from earlier chapters, take the forms in (2), according to the required

pronominal features of person, number and gender. (When the starred clitics in (2) occur after a consonant, /ä/ or /i/ serves as a connecting vowel; grammars do not always agree on which of the two vowels is used.)

(2) The O-Clitics

1.s.	-ñ *	1.pl.	-n *
2.s.m.	-h *		
2.s.f.	-š *	2.pl.	-accihu
2.s. respect	-wo (-wot)		
3.s.m.	-w *; -t		
3.s.f.	-at	3.pl.	-accāw
3.s. respect	-accāw		

When the forms of the pronominal clitics were introduced in Chapter Two, the explanation offered for the designation "O-clitics" was that the dependent pronouns in this set are characteristically matched with an NP object of the verb. Indeed, the most uncomplicated use of the O-clitic, with which I begin the exposition of this section, matches a clitic from this set with a lexical direct object NP. The predictions implicit in my proposal for lexical cliticization are readily confirmed in this construction: an NP generated in the governed position of a thematic complement satisfies the verb's thematic requirement; the NP shares its θ -role with the clitic, which exhibits agreement with it; the NP receives Case from the accusative marker -n.

The inadequacy of defining O-clitics solely by their matching with direct objects soon becomes evident, however. It is more accurate to associate O-clitics with the internal arguments of a verb, that is, with those inherent thematic roles that a verb assigns within a VP. An O-clitic may be matched not only with a direct object NP, which typically expresses a THEME or PATIENT role, but also with an NP that expresses a GOAL or SOURCE role, for instance. In these latter cases, the fulfillment of the proposal's predictions is less obvious, for the NP is preceded in the syntactic structure by a preposition. If this morpheme is a true preposition, heading a PP, and not merely a dummy Case marker, the NP is not governed by the verb-plus-clitic, since it is dominated by a phrasal category. For this reason, much of this sub-section on the O-clitics is devoted to an analysis that can account for the transmission of the verb's θ -role to the NP and for the "visibility" of the NP's features to the clitic, since the clitic agrees with it in person, number and gender.

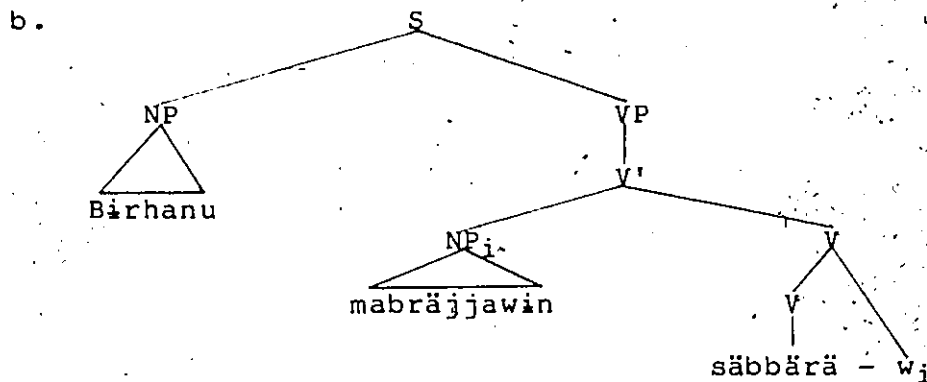
A second question that demands special attention concerns the assignment of Case to an indefinite direct object when the pronominal cliticized to the verb is matched with a different NP, such as the indirect object. The accusative Case marker is available only for definite NPs. I am able to show that, because the verb's features percolated in the lexicon when the dependent pronoun was cliticized to it there, the relation of c-command exists between the verb and

the direct object so that the verb can assign accusative Case to the object in the normal way, under government and adjacency, despite having assigned a (dative) Case feature to a clitic in the lexicon.

The example in (3) illustrates the simplest Amharic clitic-doubling construction, in which an Q-clitic is matched with a direct object NP. The pronominal clitic is the third person singular masculine -w that is cliticized to the verb säbbärä 'break'. The accusative marker -(i)n has been attached to the coindexed, definite NP complement, mabräjjaw 'the jar'. The structure in (3b) shows the clitic adjoined to the verb. (Birhanu is a man's name.)

- (3) a. Birhanu mabräjjä - w - in säbbärä - w
 B. jar -DEF -ACC broke - it
 (3.s.m.)

'Birhanu broke the jar'



The verb with the adjoined clitic governs the NP complement in (3). As mabräjjawin 'the jar' is in the adjacent argument position, it receives the verb's θ -role. Following Stowell (1981), I assume that θ -role assignment results in

coindexation between the θ -role assignee and assigner, the complement's index filling the verb's θ -slot. (See Chapter Two, section 2.3.2.) Since the clitic was already linked to the verb's thematic grid in the lexicon, coindexation of the thematic complement NP and the clitic results, establishing a chain bearing a single θ -role.² This coindexed relation is illustrated in the schematic diagram of (4).

- (4) [_v [s b r] _v : [θ-PATIENT]
- 'break' $\begin{array}{c} \boxed{i} \\ \downarrow \\ cl_i \end{array}$

Moreover, when the dependent pronoun -w was cliticized to the verb in the lexicon, the transitive verb säbbärä assigned it accusative Case. Consequently, the same verb cannot assign the same Case again in the syntax, and the NP complement, mabräjjaw, would be unable to pass the Case Filter without special Case marking. The attachment of the marker -n assigns accusative Case to the NP, thereby permitting the NP complement to be phonetically realized.

The O-clitics are not limited to association with a direct object NP. For instance, they may combine with an NP preceded by the preposition lä 'to' to express the indirect object. In (5), the fact that the first person singular pronominal -ñ is cliticized to the verb, and not the third singular -w, indicates that it is coindexed with the independent pronoun ine, which receives dative Case from the

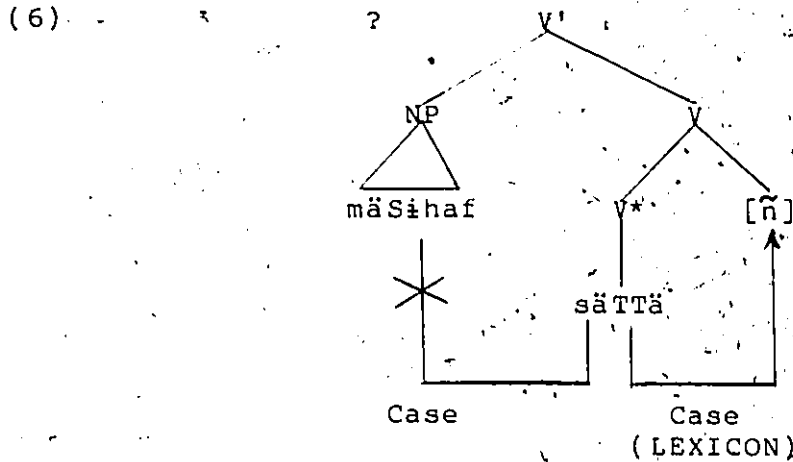
preposition lä, although its rôle of GOAL comes from the verb säTTä 'give'. (The /i/ of ine is unnecessary for proper syllabification when the preposition lä becomes proclitic on it: lä + ine = läne.)

- (5) Birhanu lä-ne; mäSihaf säTTä - ñ;
 B. to-me book gave - me
 (3.s.m.)

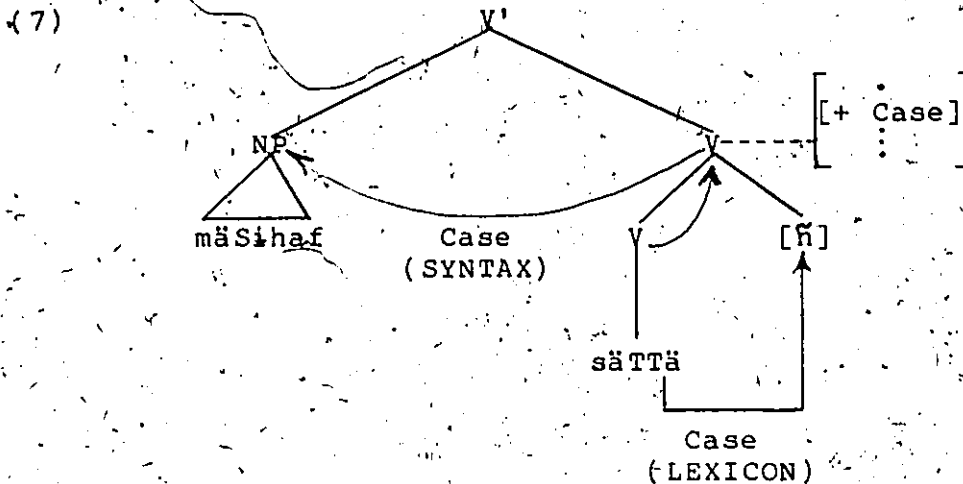
'Birhanu gave me a book'

The sentence in (5) poses an important question: how does the direct object mäSihaf 'book' acquire Case so that it can successfully pass the Case Filter? The two rôles that the verb säTTä 'give' has to assign, GOAL and THEME, are associated with dative and accusative Case, respectively. The clitic -ñ, which is coindexed with the indirect object and shares the θ -role of GOAL with it, receives one of the verb's Case features. (It must be that the clitic has Case, for when its coindexed indirect object NP is an empty category, the chain formed by the empty category and the clitic requires Case so that its θ -role will be "visible" at LF.) The fact that the direct object NP has no accusative Case marker, -n, yet does not make the sentence ungrammatical, suggests that the verb is able to assign its remaining Case feature in the syntax. The problem is that säTTä does not seem to govern mäSihaf, since it does not c-command it under the branching definition of c-command that I have adopted. The adjunction of the clitic forms a branching node that

blocks c-command. This is illustrated in (6), where it is evident that the node marked V* c-commands the clitic but not the NP.



The diagram in (6) does not reflect the whole account of lexical cliticization, however. Recall (from the discussion of the cliticization process in Chapter Two, 2.3.1) that, when the new V node duplicating the verbal host's V node is created for the adjunction of the clitic, the verbal features of the original node percolate to its copy. Thus, the Case feature needed for assignment to the syntactic complement has already percolated to the higher V node at the time of insertion into syntax. The verb säTTä therefore assigns Case to the direct object NP under government and adjacency, in the leftward direction that is expected in an Amharic syntactic structure, as in (7).



Thus, it is the combination of feature percolation with the government relation that accounts for the assignment of two Case features, one in the lexicon and the other in the syntax. The theoretical implication is that the feature percolation conventions interact with the branching definition of c-command to permit a head to act as if it c-commands up to a maximal projection even when a branching node intervenes.

A clitic associated with the indirect object is not obligatory. It is grammatical to say, for example, Birhanu lä wiṣṣa ātint sätTä 'Birhanu gave a dog a bone'. However, a clitic is usual when the complement of lä is one of the independent pronouns, such as ine, the presence of which indicates emphasis. More commonly, perhaps in accordance with the "Avoid Pronoun" principle (Chomsky, 1981), an object pronoun is expressed (on the surface) through the clitic alone. (Such sentences, in which the phrasal category coindexed with the clitic is empty, will be discussed in 4.1.4.)

The sentence in (5) illustrates an important fact about cliticization to an Amharic verb: only one clitic is possible. Both the indirect object ine and the direct object mäSihaf are arguments of the verb säTTä, yet only one of those thematic complements can double a clitic. This restriction can be explained by assuming that Amharic requires strict adjacency for Case assignment. However, since cliticization occurs in the lexicon, adjacency is achieved twice: once in the lexicon, when a dependent pronoun is cliticized on the right of the verb, and once in the syntax, when the verb projects an NP node on its left. Those are precisely the positions in which the verb assigns Case.

An O-clitic may also be optionally paired with an NP preceded by the preposition kä 'from' to express the verb's θ -role of SOURCE OF ACQUISITION. In (8), the third singular feminine clitic, -at, cannot be coindexed with the direct object mäSihaf, which is regarded as masculine, but agrees with setiyyä-wa 'the woman', which receives its Case from kä. As in (5), the direct object NP has no Case marker, receiving accusative Case from the verb that governs it, gäzza 'buy'.

- (8) ine kä setiyyä-wa and mäSihaf gäzzah^w-at
 I from-woman-DEF one book bought - her
 (1.s.)

'I bought a book from the woman'

Although setiyyä-wa receives Case from kä, its θ -role comes from the verb. According to Marantz (1981, p. 30), a

transactional verb such as buy possesses four inherent roles (the maximum number a verb may have): SOURCE (the seller), GOAL (the buyer), THEME (the object bought) and MEANS (the payment). Thus, setiyyä-wa is an argument of the verb gäzza.

At this point, a question arises concerning the nature of the phrasal category coindexed with the clitic in (5) and (8). That is, do kä setiyyä-wa and lä-ne constitute PPs or are they NPs preceded by a Case marker?

Jaeggli (1982), in explaining why Spanish allows clitic-doubling with indirect objects while French does not, observes that both languages have a preposition available that could assign Case to the doubling NP. He suggests that, whereas indirect objects are PPs in Spanish, they are NPs, preceded by à functioning as a Case marker instead of a preposition, in French. He employs two tests to differentiate the Case marking function of French à from its prepositional function. The first is that a conjunction of indirect objects can serve as the antecedent of a relative clause, as in Il a parlé à l'homme et à la femme qui..., whereas a conjunction of PPs cannot: Il a compté sur l'homme et sur la femme qui... Unfortunately, the test is not very helpful when applied to Amharic. A conjoined indirect object may serve as antecedent, but so may a conjoined prepositional object, and in neither case does the preposition-like word appear with the antecedent, the relation of the antecedent in the matrix sentence being shown with the relativized verb, which precedes the antecedent NP, as an adjective does.

The second test is that the complement of a preposition in French can be a conjunction of NPs, as in Ils se sont assis sur la table et les chaises, while each NP in a conjoined indirect object requires the presence of the Case marker à; so that * Ils ont parlé à Marie et le directeur is ungrammatical. This test, applied to Amharic, provides some evidence that lä and kä in (5) and (8) may be mere Case markers, as both must precede each NP in a conjoined complement, just as the accusative marker -n must mark each NP in a conjoined direct object. In contrast, while the word wädä 'towards', which bears intrinsic semantic content, may be repeated before each NP that expresses "place to which," a single PP with a conjoined complement is more acceptable, according to my informant, as in (9d).

- (9) a. Birhanu [lä Kassa-nna lä Hailu]_i mäSihafocc säTT-accäw_i
 B. to Kassa-and to Hailu books gave-them
 (3.s.m.)

'Birhanu gave books to Kassa and Hailu'

* Birhanu lä-Kassa-nna Hailu...

- b. ine [kä Kassa-nna kä Hailu]_i mäSihaf gäzzah^w-accäw_i
 I from Kassa-and from Hailu book bought - them

'I bought a book from Kassa and Hailu'

* ine kä Kassa-nna Hailu...

- c. Birhanu [dimmätu-n-inna wiššaw-in]_i ayy-accäw_i
 B. cat-DEF-ACC-and dog DEF ACC saw-them
 (3.s.m.)

'Birhanu saw the cat and the dog'

* Birhanu dimmätu-n-inna wiššaw ayyaccäw

- d. ine wädä addis abäba - nna gondär ihedallähu
I to Addis Ababa - and Gondar go (I.s.)
'I'll go to Addis Ababa and Gondar'

Also grammatical: ine wädä addis abäba-nna wädä gondär...

The fact that lä and kä are obligatory before each NP in (9) (as the accusative marker -n is, too), while wädä, a word with intrinsic prepositional content, is not, points to a Case marker role for lä and kä in sentences like (5) and (8). In addition, we have already seen, in (1), that lä was used in Classical Ethiopic as a non-prepositional Case marker in a clitic-doubling construction. However, the NP that lä Case marks in (1) is not an indirect object, and lä also had a prepositional use in the ancient language.

On the other hand, according to Jaeggli clitic-doubling of indirect objects in Spanish is possible because they are true PPs. It would follow, then, that indirect objects in Amharic must be PPs, since they frequently double a pronominal clitic. Also, a Case marker must be inserted into syntax by a special rule. A rule for the insertion of one Case marker, such as French à or Spanish a or English of, is reasonable enough, but rules for a whole set of Case marking morphemes seem suspect, as if a syntactic generalization is being missed.³

In summary, the evidence that lä and kä are mere Case markers comes mainly from their obligatory occurrence before each NP in a conjunction, and from one use of lä as a Case

marker in the ancestral language. The evidence that they head prepositional phrases comes mainly from the possibility of clitic-doubling in sentences like (5) and (8) and from the inelegance of needing to state a whole set of special rules for different Case markers.

At this stage, therefore, the evidence is not strong enough to analyze the preposition-like words lä and kä as mere Case markers, and I shall continue for the time being to treat the structures they head as PPs.

In (5) and (8), then, the NPs with which the pronominal clitics agree are not governed by the verb; rather, the verb governs the PPs which dominate these NPs. Nevertheless, the θ -roles of GOAL and SOURCE are assigned by the verb to the NPs. In this analysis, I follow Stowell (1981, p. 144), who suggests that, with regard to a subcategorized PP, such as the one in Carol put the book in her purse, the θ -role of LOCATION is assigned to the object of the preposition.⁴ He explains:

"Presumably, the θ -role would be derived compositionally, combining the meaning of the preposition with the appropriate 'Direction' or 'Location' θ -role of the verb. Since a preposition assigns Case to its object, θ -role assignment to a PP complement would be directly analogous to a θ -role assignment to the object of a dummy Case-marker, differing only insofar as a 'true' preposition contributes to the meaning of the complex θ -role assigned to its object."

In other words, whether lä and kä in (5) and (8) are merely dummy Case markers or true prepositions really makes very little difference, at least as far as Case and θ -role

assignment are concerned. Because they are arguments of the verb, the NPs that follow lā and kā receive both Case and θ -role, whether or not they are dominated by a PP node. I suggest also that the explanation for the clitic's agreement in person, number and gender with the NP that receives the verb's θ -role, despite the domination of that NP by a PP, lies in this compositionality of θ -role assignment by the verb plus the preposition. The same principle that allows the verb to assign its θ -role through the contribution of the preposition also makes the features of the NP "visible" to the clitic, which is linked to the NP in the verb's thematic grid.

In 4.1.5, I will discuss one use of an O-clitic associated with an NP which is not an argument of the host verb. However, in the majority of cases an O-clitic is matched with a subcategorized thematic complement, which is a sister to the verb and daughter of the V' node in a syntactic structure.

4.1.2 Doubling Constructions with the B- and L-Clitics

When the O-clitics are prefixed, in the lexicon, by the prepositional consonants bb- and ll-, the forms in (10) are produced.

(10)	<u>B-Clitics</u>	<u>L-Clitics</u>
1.s.	-bbiñ	-lliñ
2.s.m.	-bbih	-llih
2.s.f.	-bbiſ	-lliſ
2. respect	-bbiwo	-lliwo
3.s.m.	-bbät	-llät
3.s.f.	-bbat	-llat
3. respect	-bbaccäw	-llaccäw
1.pl.	-bbin	-llin
2.pl.	-bbacqihu	-llacqihu
3.pl.	-bbaccäw	-llaccäw

For convenience, I will sometimes refer to these B- and L-clitics as the "prepositional clitics," as they combine a prepositional meaning with a morpheme bearing pronominal features. Despite the presence of a prepositional element, these are still dependent pronouns that cliticize to verbs, and the predictions made by my proposal for cliticization in the lexicon should be as valid for them as for the O-clitics.

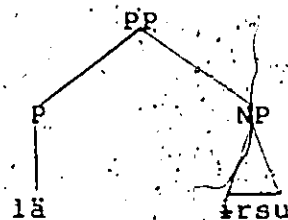
The main problem that has to be investigated is that the B- and L-clitics are often attached to verbs that have no thematic complements. The NP with which a prepositional clitic exhibits agreement is usually contained in a PP, which may not be a subcategorized complement of the verb and would therefore not be projected by the verb. Consequently, it would seem that there is no θ -slot in the verb's thematic grid to which the clitic can be linked, nor is there any necessary syntactic structural relation between the clitic

and the NP it agrees with. Obviously, an additional factor must be present to establish a thematic, and therefore a structural, relation. The solution to the problem, I find, lies in the thematic property of the prepositional element in the clitic, which can be added to the verb's features and contribute to the verbal projection.

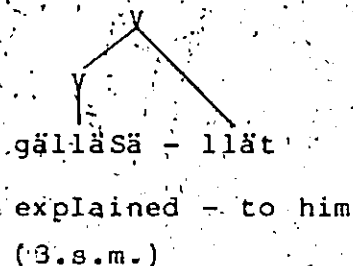
Issues related to thematic role assignment, then, are the major preoccupation of this section.

In an analysis of constructions with the B- and L-clitics, it is first of all essential to remember that they cliticize to verbs. A B- or an L-clitic does not appear in a syntactic structure as a PP. When a pronoun is the object of a preposition, it is drawn from the set of independent pronouns. The examples in (11) illustrate the contrast.

- (11) a. lärsu (lä + *rsu) 'to him' b. gälläsä-llät

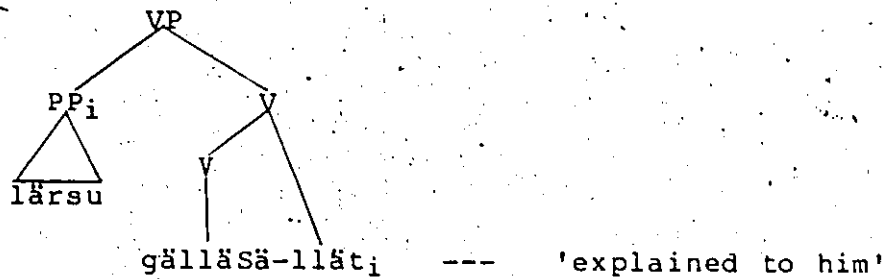


'explained to him'



However, as a clitic on the verb, a B- or L-clitic does occur in a syntactic structure with a PP; that is, it participates in a doubling construction, most often matched with a prepositional phrase, as in the simplified structure below.

(12)



Incidentally, the difference in form between the pronominal component in the B-and L-clitics and the independent pronoun in a PP is a strong argument against a movement analysis for these clitics. If a base-generated PP were to move to a position on the right of the verb, one would expect the form in (11b) to be *gälläSä- lärsu 'he explained to him'.

The same argument can, of course, be made with respect to the O-clitics. Under a movement analysis, we would expect I saw him to be *ayyāhu-rsu and not the correct form, ayyāhu-t.

Clitics from both the B and L sets combine with the following prepositions. (The glosses give the general, common meanings; other meanings are also possible, especially with specific verbs.)

<u>lä</u>	'to, for, for the benefit of'
<u>bä</u>	'in, on, by'
<u>kä</u>	'from'
<u>wädä</u>	'to, towards'
<u>sälä</u>	'concerning, for the sake of'
<u>bä NP lay</u>	'in connection with, in addition to'

As we shall see, a B-clitic also combines with the accusative -n, under strict conditions.

The precise meaning of the prepositional phrase depends on the selection of a particular B- or L- clitic. For example, the L-clitic in (13a) implies that the action of the verb mäTTa 'come' is for the benefit of the NP in the silä phrase, whereas the B-clitic in (13b) states the purpose of the action with respect to that NP.

- (13) a. Birhanu silä'abbaat_i- u mäTTa - llät_i
 B. for father-his came - for him
 (3.s.m.)
 'Birhanu came for his father' (i.e., to help him, or to replace him)
- b. Birhanu silä gudday - u_i mäTTa - bbät_i
 B. for business came - for it
 (DEF)
 'Birhanu came for the business' (i.e., for the purpose of doing business)

In general, the L-clitics tend to indicate some kind of benefit to the NP that is related to the clitic, while the B-clitics suggest a passive involvement of that NP - passive even to the extent of suffering from the involvement. These meanings are tendencies and not rigid definitions.⁵ The analysis of Hetzron (1970) is that the selection of the preposition determines the (morphological) case of the NP, but the selection of the clitic determines the semantic "effect," as suggested in the previous sentence.

The examples in (13) illustrate several important differences between doubling constructions with O-clitics and those with a B- or an L-clitic. First, the prepositional

phrases headed by silä are not arguments of the verb mätTa 'come', which has no inherent "purposive" or "benefactive" roles to assign. The PPs are not subcategorized by the verb and therefore should not be daughters of the V' node, which dominates subcategorized phrasal categories. Yet, clearly, there is a relationship between an NP complement of the preposition silä and the clitic, for agreement in person, number and gender is obligatory, as the examples in (14) show.

- (14) a. Birhanu silä innaati- u mätTa - llati
 B. for mother-his came - for her
 (3.s.f.)

'Birhanu came for his mother'

- b. Birhanu silä (i)nei mätTa - lliñi
 B. for me came - for me

'Birhanu came for me' (i.e., for my sake)

Furthermore, the sentences in (13) and (14) show that the clitic is not assigned Case by the verb, as the O-clitics in (3), (5) and (8) are. The verb mätTa is intransitive and has no Case to assign. Considered simply from the viewpoint of analyzing the clitic-doubling construction exemplified in these sentences, the absence of Case assignment by the verb to the clitic presents no problem, as the preposition silä adequately assigns Case to its NP complement. However, a problem is posed to the "Case Spell-Out" hypothesis, which I outlined briefly in Chapter One. Under this hypothesis, proposed in Borer (1984a), a pronominal clitic is an integral

part of the lexical head of the phrase containing the NP with which it is coindexed, and it becomes that integral part by virtue of being a "spell-out" of the Case feature of that head. The Clitic Spell-Out rule is repeated in (15), for convenience.

(15) Clitic Spell-Out (Borer, 1984a, p. 37)

$[X \ X, \alpha \text{ Case}] \rightarrow [X \ X \ [\alpha \text{ Case}, \beta \text{ gender}, \gamma \text{ number}, \delta \text{ person}]]$

X = [+V] in Romance

X = V, P, N in Semitic

Borer explains that Clitic Spell-Out is an inflectional rule, by which the features of number, gender and person, in certain configurations, are inserted and combined with the Case feature already present in the lexical item; then they are given a phonological representation. As a spell-out of features, the clitic does not satisfy subcategorization or complementation requirements. The complement NP, which fills the argument position that is a projection of the lexical head in D-structure, bears the θ -role assigned by the head to its argument, and the clitic is linked to this complement by coindexation.

The rule in (15) specifies that the lexical head of a clitic construction may be a verb, preposition or noun in Semitic languages. The pronominal object clitics of Amharic, a Semitic language, should therefore be derivable by this rule. While this might be true for some verbs, it cannot be true for all. For verbs such as säbbärä 'break' (3), säTTä

'give' (5) and gäzza 'buy' (8), we might agree that the verb's Case feature could be spelled out, yielding one of the clitic forms. But the verb in (13) is mätTa 'come'. As an intransitive verb, it has no Case to assign and therefore no Case feature to be spelled out. Under the Spell-Out hypothesis, the clitic -bbät in mätTa-bbät should be impossible.

If this verb were an isolated instance, an explanation could probably be developed to allow the Spell-Out hypothesis to go through, but it is not. On the contrary, the presence of B- and L-clitics on intransitive verbs is an important and major part of the Amharic clitic system. My proposal that clitics are lexical items, and not spell-outs of Case features, provides a solution to the problematic appearance of clitics on verbs that have no Case feature that could be responsible for the spelling-out.

Questions concerning Case will arise again in 4.1.4, however, when I discuss the pairing of a clitic with an empty category instead of with a lexically realized category. I will therefore postpone a more complete analysis of Case in Amharic clitic constructions until then. At the moment, more needs to be said about the prepositional clitics and thematic roles.

First, there is evidence that θ -roles are involved in selecting the combination of clitic and phrasal category. For instance, it is possible to express an instrumental

phrase by means of the preposition bä plus an NP (and an optional B-clitic on the verb), as in (16a), or by means of an NP marked by the accusative -n and an obligatory B-clitic, as in (16b), if instrumentality is inherent in the meaning of the verb. (The examples in (16) are from Hetzron (1970).)

- (16) a. ine bä mäkina-wi tätäkkämku-bbät_i
 I by car -DEF used (1.s.)-by it
 b. ine mäkina-w-ini tätäkkämku - bbät_i
 I car- DEF- ACC used (1.s.) - by it
 'I used the car'

In analyzing the facts in (16), one must pay attention to the thematic roles involved. It is also helpful to find a more accurate English translation for the verb than simply 'use'.

The verb tätäkkämä is derived from the primitive verb täkkämä 'be useful' or 'benefit' by affixing the so-called "passive-reflexive" prefix to it. The primitive verb takes as a subject the instrument that is useful to a person, the beneficiary, as in 'the car was useful to me'. When this verb is prefixed by tä-, it has the sense of 'receive benefit' or 'derive profit'. The beneficiary fills the subject position and the instrument is expressed with a preposition, as in 'I received benefit from the car' - the sentence in (16a), where the clitic is optionally used, for emphasis. The verb phrase of (16a) may be analyzed as v[receive benefit] pp[from the car]. The B-clitic provides the possibility of an alternative means of expressing the same meaning. The

prepositional value of the clitic can be merged with the meaning of the verb so that the verb phrase is analyzed, in effect, as $v[\text{receive benefit from}]_{NP}[\text{the car}]$. The prepositional meaning is now embodied in the verb, the complement of which is an NP, not a PP. Since the NP is a direct object of this verb, it is marked with the accusative -n. Thus, the verb's θ -role of INSTRUMENT can be expressed syntactically either by bä - NP or by NP-n with the B-clitic.

In contrast, when instrumentality is not necessarily implied by the verb, as in (17), it is impossible to express INSTRUMENT by NP-n with the B-clitic; only bä - NP, with or without a B-clitic, will serve.

- (17) a. Birhanu bä mäkina -w_i mätTa - bbät_i
 B. by car -DEF came - by it
 'Birhanu came by the car'
- b. Birhanu bä mäkina mätTa
 'Birhanu came by car'
- c. * Birhanu mäkina - w - in_i mätTa - bbät_i
 B. car -DEF - ACC came - by it

There is said to be a distinct preference for the B-clitic to combine with the accusative -n, instead of with bä NP, whenever the verb's inherent thematic properties make this possible. Hetzron (1970, p. 309) explains this preference as the desire to avoid an abundance of /b/ sounds, and cites in support Polotsky (1966, p. 243) on "the euphonic

-n." Hetzron's way of describing the verb's inherent semantic role is to state that the complement must be an "organic, not only an incidental, part of the content of the verb" in order to permit the use of the accusative -n instead of the preposition bä. The sentences in (18) show these possibilities with the verb ammänä 'believe': (18a) has a PP and no clitic; (18b) pairs a B-clitic with the PP; (18c) combines NP-n with a B-clitic; and (18d) incorrectly marks the NP accusative without adding a clitic to the verb. The (b) sentence, according to Hetzron, is the one that is correct but avoided on euphonic grounds; my own informant rejected it out of hand. The sentences in (18) all mean 'the people believe in God'.

- (18) a. säwoccu bä igziabher yamn allu
 people in God believe aux.
 (DEF) (3.pl.)
- b. ? säwoccu bä igziabher yamnu - bbät all
 people in God believe-in him aux
- c. säwoccu igziabher-in yamnu - bbät all
 people God -ACC believe- in him aux
- d. * säwoccu igziabher -in yamn allu
 people God -ACC believe aux

Developing a formal analysis for facts like these would require a much more extensive study, investigating the properties of many verbs, with and without the presence of a prepositional clitic. The implication, I nevertheless suggest, is that the prepositional element in a B-clitic plays

a part in determining the syntactic structure that can be employed to express the verb's inherent θ -role. The (a) sentence in (18) has no ~~clitic~~, and a PP expresses the LOCATION of the people's belief; (18b) expresses LOCATION through the PP, too, but adds emphasis with a clitic that also embodies a locative meaning; in (18c), the locative sense of the B-clitic is added to the verbal meaning 'believe' to produce the augmented verb 'believe in', which allows an NP complement as a direct object, marked with the accusative -n.

However, without the additive prepositional meaning of the clitic, the NP in (18d) cannot be analyzed as a direct object, marked by the accusative -n, and the sentence is ruled out.

Hetzron noted two conditions for the option of NP -n to express the complement instead of bä-NP: the B-clitic must be present and the complement must satisfy an inherent semantic role of the verb. Thus, when a B-clitic is present, the NP paired with it may satisfy the LOCATION role either through a PP, in the same way that an indirect object satisfies the GOAL role of a verb through a PP, or as an NP complement. The implication is that the PP in (18) is subcategorized by the verb and is a daughter of the V' node. The prepositional clitic is obligatory when the accusative marker option is chosen because the NP is not a direct object of ammānā 'believe'. One can believe a story, but one places a belief in a god or a person, and the prepositional content of the clitic must be available to the verb in order to

permit the accusative marking. Instead of the structure [v believe] [pp in God], the addition of bb- permits [v believe in] [NP God].

What seems to be happening is that the locative value of the prepositional component in the clitic has become embodied in the verb. It is no longer necessary for the subcategorized complement of the verb to be a PP headed by a locative preposition.

With other verbs, the addition of the prepositional meaning to the verb's meaning may contribute a θ -role that is lacking in the verb by itself. Let us look again at the verb mäTTa 'come'. It does not necessarily imply a complement that expresses the means by which a person comes somewhere. Consequently, the sentence in (19), which contains no reference to a means of transport, is perfectly correct, omitting or hiding nothing that is obligatory.

- (19) Bīrhanu tīlant mātTa
 B. yesterday came
 'Bīrhanu came yesterday'

However, when a prepositional pronominal is cliticized to the verb, producing mātTa-bbāt, the meaning is that Bīrhanu came 'in it' or 'by it'. His location while he was coming, or the instrument by which he came, is now necessarily implied. In (20), therefore, the prepositional phrase bā-zziḥ mākina is a thematic complement of mātTa-bbāt.

- (20) Birhanu bā-zzih mākina mātTa-bbāt.
 B. by-this car came-by it
 'Birhanu came by this car'

The verb and the prepositional element together bear the θ-role of INSTRUMENT, and the PP is now a subcategorized complement, just as PP complements in (5) and (8) are.

Marantz (1981) describes similar phenomena in other languages under the heading of "applied affixes." An applied affix is a morpheme, bearing its own argument structure, which is affixed to a verb. Marantz assumes that applied affixes have the same lexical entries as prepositions, such as English for and to, except that only the affixes contain the morphological subcategorization features of a bound affix, indicating that they attach to verbs to make verbs. "Most of the features of applied verb constructions follow immediately from this assumption that the applied affix is just like a preposition" (p. 23).

In Amharic, the prepositional elements bb and ll are not affixed to the verb. A verb ending in either of these elements can never be found. They form, instead, part of the pronominal that cliticizes to the verb. Nevertheless, it seems clear that this prepositional component of the clitic performs precisely the same function that Marantz ascribes to the applied affixes of other languages. It adds its argument structure to that of the verb that hosts the clitic, thereby yielding a new grammatical relation: the relation between

the verb-plus-prepositional clitic and the phrasal category in the syntax that is its thematic complement.

Many interesting questions arise concerning the argument structure of Amharic verbs to which a B- or L-clitic has been adjoined, but they must await future research.

A syntactic structure which represents the phrasal category that doubles the clitic in (20) as a daughter of V', the node dominating subcategorized complements, is a natural consequence of my proposal that the Amharic dependent pronouns are cliticized in the lexicon. If we take the notion of projection from the lexicon seriously, a verb that is inserted into syntactic structure with the clitic already adjoined to it will project not only the verb's argument structure but the verb-plus-clitic's argument structure. When the clitic bears a θ -role such as INSTRUMENT, that role must be satisfied by a category in the projected syntactic structure. In (20), the role is assigned to the NP in the subcategorized PP, as suggested by Stowell. Coindexation of the NP and the pronominal that is cliticized to the governing verb takes place, ensuring the agreement of the pronominal features with the person, number and gender features²⁴ of the NP.

I shall return to this analysis in 4.1.4 when I continue to discuss questions about Case assignment in clitic constructions.

4.1.3 Semantic Constraints on Clitic-Doubling

So far, I have treated Amharic clitic-doubling constructions as if they are always a possible option. Actually, the construction is strictly limited in its use. This section examines the constraints on clitic-doubling in Amharic and shows that the analysis of cliticization in the lexicon provides a logical explanation for them.

The discussion just completed concerning the B- and L-clitics has brought to light the thematic contribution they are able to make in projecting a verb phrase because they are cliticized in the lexicon and therefore are a part of the phrasal head. In a similar way, I will argue, one of the properties belonging to all the pronominal clitics is crucial in constraining the nature of the phrasal category it is coindexed with. Although the clitics are dependent pronominals, they are nevertheless definite. It is only to be expected that this property of definiteness, which is present in the verb-plus-clitic that projects a verb phrase, will require a lexical thematic complement to be definite, too. A phrasal head that expresses "saw-him," for instance, cannot project a coindexed complement that means "some person or other."

Getatchew Haile (1970) describes the conditions that must obtain for clitic-doubling in Amharic. As all commentators note, if the lexical complement is not definite, a clitic will not be used. Compare (21a), where a definite NP

is coindexed with a clitic, and (21b), where the direct object NP is indefinite and no clitic is present.

(21) a. Almaz färäs - u - n_i fällägäcc - iw_i

A. horse -DEF-ACC wanted - it
(3.s.f.)

'Almaz wanted the horse'

b. Almaz färäs fällägäc

A. horse wanted

'Almaz wanted a horse'

The purpose of a clitic in a doubling construction has sometimes been described as "apposition for emphasis" (e.g. Obolensky et al., 1964). Getatchew Haile shows that the emphasis achieved through using a clitic in combination with a lexical complement permits quite subtle semantic distinctions to be made. He demonstrates that definiteness alone is insufficient to guarantee the acceptability of a clitic-doubling construction. The clitic in (22) may or may not be justified, according to the circumstances of the utterance.

(22) Almaz mäSihaf- u - n_i gäzzacc-iw_i

A. book -DEF-ACC bought-it
(3.s.f.)

'Almaz bought the book'

If the speaker means to say either (a) that Almaz bought one specific copy of a particular title or (b) that she bought up all the existing copies of that title, the sentence

is accurate. If, on the other hand, the speaker is merely referring in general or abstract terms to "the book" that was written by author X on subject Y, it is not.⁶

Getatchew Haile concludes that clitic-doubling can occur only if the lexical complement is definite, limited, specific and concrete. Interestingly, there are similar semantic constraints in other clitic-doubling languages. Khan (1984, p. 469) declares that in most of the Semitic languages, a necessary condition for the occurrence of an "object marker" or "agreement pronoun" is that the nominal with which either co-occurs is definite. Aoun (1981, p. 296) states that a non-specific, non-definite element may not be doubled by a clitic in Lebanese Arabic. Rumanian has certain requirements of definiteness, specificity and animacy (Steriade, 1980). The River Plate (RP) Spanish restrictions, described in Jaeggli (1982), prohibit clitic-doubling with inanimate direct objects, whereas it is the preferred construction when the direct object is animate and specific, and obligatory if the direct object is pronominal.

Some nuances in Getatchew Haile's list of constraints, involving as they do a speaker's intentions, extend beyond the scope of this syntactic study. We can, however, identify definiteness in the forms of lexical items; if such a lexical item is an object NP, a clitic on the verb is possible. The accusative marker -n is not required for every nominal that is a direct object; that is, it is not like an accusative case-ending in a language like Latin. It is normally used

only when the object NP is definite, satisfying one of the following conditions: (a) its head is modified by a demonstrative, or (b) its head has a definite article or possessive clitic, or (c) it is a proper name, or (d) it is an independent pronoun.

It is important to note, therefore, that the function of -n is not solely reserved for a clitic-doubling construction, since the clitic may not always be essential when -n is used to mark a definite object. The sentences in (23), based on the content of (21), illustrate the possibilities.

- (23)
- | | | |
|----|-----------------------------|--------------------------------|
| a. | Almaz färäs fällägäc | Indefinite; no clitic: |
| | 'Almaz wanted a horse' | GRAMMATICAL |
| b. | Almaz färäsun fällägäcc-iw | Definite; clitic: |
| | 'Almaz wanted the horse' | GRAMMATICAL |
| c. | Almaz färäsun fällägäc | Definite; no clitic: |
| | 'Almaz wanted the horse' | GRAMMATICAL |
| d. | * Almaz färäs fällägäcc-iw | Indefinite; clitic: |
| | 'Almaz wanted a horse' | UNGRAMMATICAL |
| e. | * Almaz färäsu fällägäcc-iw | Definite; clitic; no <u>-n</u> |
| | 'Almaz wanted the horse' | UNGRAMMATICAL |

In summary, the accusative -n is always available for use on the object nominal, though it is not always required there. A parallel situation exists in other languages that have clitic-doubling constructions. Jaeggli (1982) shows that, in RP Spanish, the environments in which clitic-doubling occurs are a subset of the environments in

which the dummy Case marker a is available. A clue to the explanation for this fact can be found in a revealing reference made by Borer (1984a, p. 17) to "...the specificity marker a...which also has the property of assigning Case." Later (p. 26), Borer contrasts RP Spanish a with Modern Hebrew šel, commenting that the former is a specificity marker while the latter has no semantic function. Thus, the set of environments in which a is available in RP Spanish is the set of NPs marked for specificity; pronominal clitics require specific complements and therefore clitic-doubling constructions form a subset of the total environments in which a is available. It also serves to assign Case.

Similarly, the set of environments in which -n is available in Amharic is the set of definite NPs that are assigned accusative Case. Since a pronominal clitic, which has a [+ definite] feature, requires a coindexed lexical NP to be definite, clitic-doubling constructions involving a direct object form a subset of the environments in which the accusative marker -n is available.

The essential point that arises from this examination of semantic constraints on clitic-doubling is that it is the clitic that constrains the phrasal complement to be definite and specific; it is not the case that a definite phrasal complement permits a pronominal clitic to be generated.

4.1.4 The Clitic Construction Without a Lexical Complement

In my proposal, a pronominal clitic is not an NP and therefore cannot be an argument. It is linked to a verb's

thematic grid, but satisfaction of the verb's internal argument structure must come from an X' category in a syntactic structure. One prediction of my proposal, then, is that a phrasal category must be generated in a clitic construction, even if it is not lexically filled; this requirement applies to all the sets of pronominal clitics.

The new question that must be addressed here concerns the nature of the empty phrasal category and the relation existing between it and the clitic. The conclusion that the EC and the clitic form a chain entails that the clitic have Case, so that the shared θ -role will be "visible" for interpretation in LF. My proposal specifically accounts for the assignment of Case to an O-clitic by a transitive verb, but something more needs to be said about the acquisition of Case by a B- or L-clitic that is attached to an intransitive verb, which has no Case feature to assign. I explore some possibilities in this section.

Before concluding this discussion of clitic constructions involving an empty category as complement, I present very briefly the particular use of this EC-clitic combination in Amharic relative clauses, which will be studied in greater detail in Chapter Five.

Amharic pronominal object clitics are used to make definite and specific reference even when a lexical complement is not expressed. Hetzron (1966) distinguishes three syntactic contexts in which these clitics occur. In his terminology,

a clitic may be a "full pronoun," a "recalling pronoun" or a "connective pronoun." We have already seen the use of clitics as "recalling pronouns" in the clitic-doubling constructions just discussed: the clitic "recalls" a lexical NP that has already been mentioned. In fact, the use of a clitic as a "full pronoun" may be considered a subset of the recalling use, for it "recalls" an NP mentioned in a previous sentence, or perhaps an entity that is present in the physical rather than the linguistic context. Getatchew Haile (1970) gives the following examples.

- (24) a. māSihafu yāt nāw? Almaz wässädäcc - iw
book where is A. took - it
(DEF) (3.s.m.) (3.s.f.) (3.s.m.)
'where is the book? Almaz took it'
b. irs^{wa} yāt alläc? abbaat^{wa} wässäd-at
her where exist father-her took - her (away)
(3.s.f.) (3.s.m.)-(3.s.f.)
'where is she? Her father took her (away)'

The pronominal cliticized to wässädäcc in (24a) is masculine singular, agreeing with mäSihafu in the previous sentence; the one cliticized to wässäd(ä) in (24b) is feminine singular, agreeing with the independent feminine pronoun ärs^{wa} in the question that precedes the sentence containing the clitic. Since the clitics are the only phonetic material that surfaces to express the thematic complementation of the verb in the response sentences, superficially they are "full pronouns." The underlying sentence tells a different story, however. The lexical entry for wässädä 'take (away)'

contains the information that the verb assigns the θ -role of THEME and that this role is assigned to the θ -position on the left of the verb in D-structure. Since this role is not lexically realized in (24), the θ -position is filled by an empty category. Without lexical content, the NP has no referential index to transmit to the appropriate θ -slot in the verb's thematic grid. It must acquire one by coindexation with the clitic, which is assigned an index but cannot transmit it directly to the thematic grid, since it is not in a θ -position. The empty category and the clitic are thus in a symbiotic relation, neither viable without the other. The clitics possess the pronominal features of person, number and gender, but they can fulfill their referential potential only by being coindexed with a θ -position. Therefore, the sentences in (24) are more correctly represented with an empty category in the complement position, coindexed with the clitic, as in (25). The empty category is properly governed by the verb-plus-clitic, which c-commands it and is coindexed with it.

- (25) a. Almaz $[e]_i$ wässädäcc - iw_i
 'Almaz took it'
 b. abbaat^{wa} $[e]_i$ wässäd - at_i
 'her father took her (away)'

In most clitic-doubling constructions, the clitic is optionally present, but when the verbal complement is an empty category, the clitic is obligatory. Without a clitic, the sentence in (25a), * Almaz wässädäc would be as ungrammatical as the English * Almaz took.

As we have already seen, Amharic clitics can be paired with a subcategorized PP as well as with an NP. This combination is equally possible when the PP is not lexically realized, as the examples in (26) show.

- (26) a. Birhanu [e]_i māSihaf sāTTä - ñ_i
 B. book gave - me
 'Birhanu gave me a book'
- b. ɪne [e]_i and māSihaf gāzzah^w - at_i
 I one book bought - her
 'I bought a book from her'

The indirect object in (26a) does not appear on the surface, but since it is coindexed with the clitic -ñ, it can find expression as the first singular pronoun. Likewise, in (26b), the source of acquisition is not lexically realized but is expressed through the coindexed clitic. In neither sentence is the preposition spoken; in Amharic, a preposition never occurs, stranded, without a complement. The implication is that the whole PP complement is an empty category (EC), not just the NP that is assigned the θ -role.

Not only the O-clitics, but also the B- and L-clitics can be paired with an EC so that they serve as "full pronouns." The examples in (27-29) show that the only difference between the (a) and (b) sentences in each set is that the PP is lexical in the former and empty in the latter. The structure and the coindexing are the same. (The sentences in (27) and (28) illustrate combinations that Hetzron (1966) calls "symmetrical": bä with the B-clitic and lä with the

L-clitic; in contrast, the combination of kä with the B-clitic in (29) is said to be "asymmetrical."

- (27) a. Almaz bä-zzih mākina_i mätTacc_i - bbät_i
 A. in-this car came - in it
 'Almaz came in this car'
- b. Almaz [e]_i mätTacc_i-bbät_i
 'Almaz came in it'
- (28) a. Birhanu lä säwoccu_i mälläsä - llaccäw_i
 B. to men replied - to them
 (DEF)
 'Birhanu replied to the men'
- b. Birhanu [e]_i mälläsä - llaccäw_i
 'Birhanu replied to them'
- (29) a. säwıyyäw kä-zzih beet wıst_i wätTa - bbät_i
 man (DEF) from-this house inside went out - from it
 'the man went out from this house'
- b. säwıyyäw [e]_i wätTa - bbät_i
 'the man went out from it'

When the complement is an empty category, the chain established by coindexation with the clitic requires Case in order to be "visible" at LF, but an intransitive verb, such as wätTa 'go out' in (29) has no Case to assign. Brody (1985), who assumes that the EC associated with clitics is a nonpronominal anaphor, argues that an EC is the head of a chain only when it is ungoverned, and that a head of a chain

either has Case or is an ungoverned EC. The EC in (29) is governed by the verb-plus-clitic, wäTTa-bbät, and is therefore the non-head member of the chain. Consequently, the clitic must be the head, and it must have Case. How does it acquire it?

I have called attention to the prepositional origin and properties of the bb- or ll- element in these clitics. The simplest answer to the Case problem would be that the prepositional element assigns Case to the pronominal element in the lexicon in much the same way that a transitive verb assigns Case to a dependent pronoun that is cliticized to it. Under this analysis, the B- and L- clitics may be viewed compositionally and compared with a PP, as in (30).

(30) bä mäkinaw 'in the car' -bbät 'in it'

$$[_{PP} \text{bä} \left[\begin{array}{l} \text{3. person} \\ \text{s. number} \\ \text{m. gender} \end{array} \right]_{NP}] \quad [_{Cl} \text{bb} \left[\begin{array}{l} \text{3. person} \\ \text{s. number} \\ \text{m. gender} \end{array} \right]_{Pr}]_{[+P]}$$

Pictured in this way, the whole clitic is seen to correspond to the whole PP; the pronominal component, which is labelled as a lexical but not a syntactic category, corresponds to the NP, and the consonantal prepositional element bb corresponds to the preposition bä. Whereas bä belongs to the category P, we might consider that bb contains a [+P] feature.

The prepositional component of these clitics functions like an "applied affix," which (according to Marantz) has a lexical entry just like that of a preposition, except that

its subcategorization frame defines it as a bound affix. Let us tentatively suppose that the pronominal component (which amounts to an O-clitic) first cliticizes in the lexicon to the prepositional component, which assigns it Case; then the combined form cliticizes to the verb as a complex clitic. The result might be thought of as the Amharic version of Semitic cliticization to prepositions, which in other languages yields a PP in the syntax.

One must ask, however, why such a process is limited to two prepositions. Why is there no K-clitic, such as *-kkät 'from it', corresponding to kä NP, or no *wädä-ñ 'towards me', corresponding to wädä NP? There is absolutely no evidence that cliticization to prepositions is a productive process in Amharic.

A variant suggestion is that the B- and L-clitics do not acquire Case through a process of Amharic grammar but as a product of historical developments. Since the prepositional component is never found alone on the verb but invariably appears with the pronominal component, the combined form may have become lexicalized with Case.⁷ An analogy can be made with the English personal pronouns. For example, the third singular masculine pronoun, which takes the form of he in positions where nominative Case must be assigned, also manifests objective Case in the form him and genitive Case in the form his.

I conclude that, in some manner or other, the Case assigning property of the prepositional component imbues the

B- and L-clitics with intrinsic Case, so that they are able to head a chain with an EC as the other member, making the shared θ -role of the chain "visible" for interpretation. It might be argued that this conclusion amounts to a "spell-out" analysis of the clitics, with the pronominal component being a "spell-out" of the Case feature borne by the prepositional component. However, the Case Spell-out hypothesis specifies that the Case feature of the lexical host is spelled out, making the clitic an integral part of the lexical head of the clitic construction. In Amharic, the lexical host of the clitic is a verb, and it is not the Case feature of a verb which can account for the presence of a prepositional clitic. In (29), for example, the host verb wäTTa has no Case feature, and the whole -bbät clitic can therefore not be a spell-out of the lexical host's Case feature.

When an Amharic pronominal is cliticized to the verb in a relative clause, it serves as a "connective pronoun." I will not dwell on relative clauses here, since Chapter Five is wholly devoted to them, but will merely illustrate this use of clitics at this time.

For the sake of comparison, the simple declarative sentence in (3) is repeated in (31a) before its relativized counterpart is given in (31b).

- (31) a. Birhanu mabräjjä-w-in; säbbärä - w;
 B. jar -DEF-ACC broke - it
 'Birhanu broke the jar'

- b. Birhanu [e]_i yä säbbärä - w_i mabräjjä
 B. REL broke - it jar
 'the jar that Birhanu broke'

Notice that, when the complement of the verb in (31a) becomes the head NP of the relative clause, it loses its definite article -w and the accusative marker -n. In its position as the internal NP heading a relative construction, it no longer requires a Case marker. When it is the object of a preposition that is relativized, as in (32), which is based on (27), no preposition appears. Instead, the prepositional clitic shows the relation of the head NP to the verb of the relative clause.

- (32) Almaz [e]_i yä mätTaccä - bbät_i mäkina
 A. REL came - in it car
 'the car in which Almaz came'

In (33), corresponding to (28), the preposition lä is dropped and the L-clitic -llaccäw shows the function of the head NP with respect to the verb of the relative clause. No definite article appears on the head noun.

- (33) Birhanu [e]_i yä mälläsä - llaccäw_i säwocc
 B. REL replied - to them men
 'the men that Birhanu replied to'

I mentioned earlier that Brody (1985) identifies the EC in a clitic construction as a nonpronominal anaphor.⁸ As such, it must be locally bound in its governing category.

This function is fulfilled by the clitic, which acts as the anaphor's antecedent, whether the EC occurs in a matrix sentence or in a relative clause.

The three syntactic contexts described by Hetzron, then, share a single syntactic structure, in which an NP or PP complement, governed by a verb with an adjoined clitic, may be either lexically realized or an empty category.

4.1.5 Clitic Doubling Without Case Marking

My proposal for the lexical generation of pronominal clitics includes the assignment of Case by the verb to the clitic and therefore predicts that a lexical NP doubling the clitic must be marked for Case by some non-verbal means. Yet in certain Amharic constructions, in which the clitic is always obligatory, an NP without a Case marker doubles the clitic. This sub-section is devoted to accounting for this lack of Case marking. The explanation, I find, is that the NP in question is not in the complement position of the clitic construction; this position is filled instead by an empty category, coindexed with the clitic. The EC-clitic chain constitutes one pronoun, and a rule relates this pronoun anaphorically to the NP, which is in a non-argument position where it does not require Case.

For illustration, I present the following constructions, used in Amharic to express possession, obligation and a malefactive role.

(a) Possession. Where English uses the verb have to indicate some kind of ownership relation, Amharic employs the existential copula allä in a construction that is not unlike the Latin est mihi liber (there is to me a book) 'I have a book'. The thing possessed is the subject of the sentences in (34); the plural agreement ending on the copula in (34b) conclusively demonstrates that the subject is the plural mäsihafocc 'books'. The possessor must be expressed by an O-clitic on the copula. If the possessor is also identified by a nominal, that NP comes at the beginning of the sentence and does not have any kind of Case marking.

(34) a. yäh säw_i mäsihaf allä - w_i
this man book exist - him
(3.s.m.)

'this man has a book'

b. ine_i mäsihafocc allu - ñ_i
I books exist - me
(3.pl.)

'I have books'

(b) Obligation. The Amharic construction by which obligation or necessity is expressed follows a similar pattern. The person who is obliged to perform some action is always expressed by a B-clitic on the existential copula allä. A related lexical NP, if it exists, appears at the beginning of the sentence with no Case marking. The action that must be performed is stated in the form of an infinitive, or verbal noun.

(35) a. yih säw_i mähed allä - bbät_i
 this man to-go exist - in him
 'this man has to go'

b. ine_i mähed allä - bbiñ_i
 I to-go exist - in me
 'I have to go'

c. Malefactive. The B-clitics may be attached to virtually any verb to add the meaning that the action or event is detrimental to someone. The pronominal features of person, number and gender indicate the one who suffers from the action of the verb. In (36a), that person is the speaker, and no corresponding NP appears on the surface. If reference to the sufferer is not made clear, by a first or second person clitic or by the context, an NP identifying that person appears at the beginning of the sentence without any Case marking, as yih säw does in (36b).

(36) a. and li?ir säbbärä - bbiñ
 one boy pen broke - in me
 'a boy broke my pen' (to my detriment)

b. yih säw_i and li?ir säbbärä - bbät_i
 this man one boy pen broke - in him
 'a boy broke this man's pen' (to his detriment)

It seems clear that, in all of these constructions, the NP that doubles the clitic is outside the S-structure S. In each case, the sentence subject is some other NP; moreover, the lack of Case marking suggests that the doubling NP is in

a non-argument position where Case is not required. I analyze these three constructions as Left Dislocations. As described by Rivero (1980), left-dislocated structures have an NP in TOP position, to which a pronoun or NP in the sentence is anaphorically related. The phrase in TOP position is generated in the base. A rule of semantic interpretation establishes an anaphoric relation between the dislocated NP and a pronoun inside the S which functions as a bound variable with respect to it. The structure is interpreted with S as an open sentence satisfied by the NP in TOP.

The dislocated NP in (34)-(36) is obviously coreferential with the pronominal cliticized to the verb; the agreement features demonstrate that coreferentiality. But the Amharic clitic is incomplete by itself and only becomes a "full pronoun" by its association with an empty category. This empty category is missing in the surface representations of (34)-(36). I assume that the underlying sentences include an empty NP coindexed with the clitic and that, when the rule of semantic interpretation applies, an anaphoric relation is established between the NP in TOP position and the $[[e]_i, cl_i]$ chain, which functions as a single bound variable with respect to it. The NP in TOP is an argument, even though it occurs in non-A position, and it therefore needs to be linked with a category that does fill an A-position. Linking with a clitic alone would be inadequate.

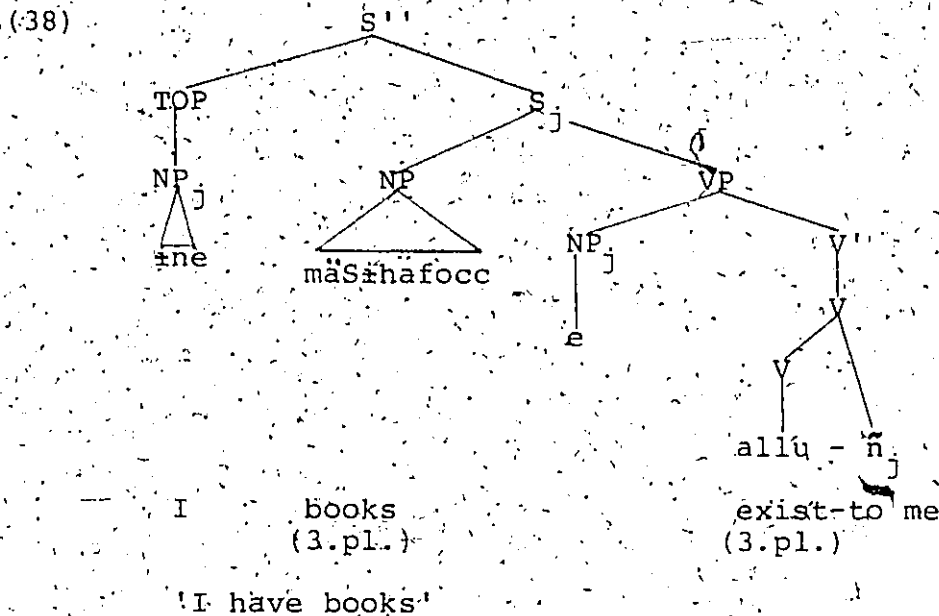
It is natural to wonder what the three constructions in (34)-(36), expressing possession, obligation and malefaction,

have in common so that they have been allotted a single syntactic structure. I suggest that the NP under consideration in each of these constructions has a semantic function that is expressed by the dative in some other languages. As I already mentioned, the way of expressing possession in (34) is similar to the Latin est mihi liber 'I have a book', in which the possessor mihi is the dative form of the first singular pronoun, ego. Jackendoff (1976, p. 136) offers as an example of the "ethical dative" the sentence my car broke down on me. The pronominal object of on expresses "the recipient of a misfortune," just as yih säw, linked with the EC and the clitic -bbät in (36), suffers the misfortune of having his pen broken. The on phrase would provide a very suitable translation for the Amharic sentence in (36a): 'a boy broke my pen on me'.⁹ In the same article, Jackendoff assigns a GOAL role to the individuals named in sentences such as it remained to Dan to clean up the mess and it fell to Ivanovich to throw the bomb. He explains that both of these complements of the preposition to are the GOALS of an obligation to bring about an event. They have no control over the obligation, which is imposed on them. A similar interpretation is valid for (35), in which the obligation of going is imposed on the NP in TOP position, linked with the EC and the clitic. Interestingly, Latin may use the dative Case for the NP that expresses the person who is under obligation to take some action. One example is shown in (37).

- (37) tibi haec cura suscipienda est
 you this care undertaking exists
 (DATIVE)

'you must undertake this charge' (Lane, 1903, p.400)

In each of the constructions (34)-(36), an NP node is generated in the verb phrase for the expression of a dative notion, but the NP is not subcategorized by the verb and is therefore not a daughter of V'. When a lexical nominal is needed, it is generated in TOP position. An example of this structure is given in (38).



An important point to emerge from this discussion is that the chain $[[e]_i, cl_i]$ acts as an entity in relation to other constituents of a syntactic structure. The elements share one θ -role, and together they comprise one, discontinuous, pronoun. The operation of predication that establishes an anaphoric

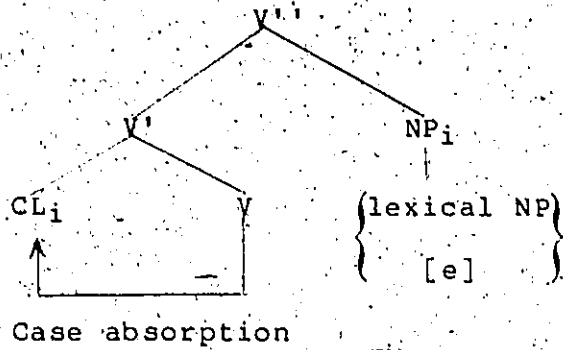
relation between the NP in TOP position and a pronoun inside the sentences (34) - (36) would mark as ill-formed a sentence in which no pronoun is available to function as a variable with respect to the NP. It is the EC and clitic together that perform this function in the open sentence.

4.1.6 Summary

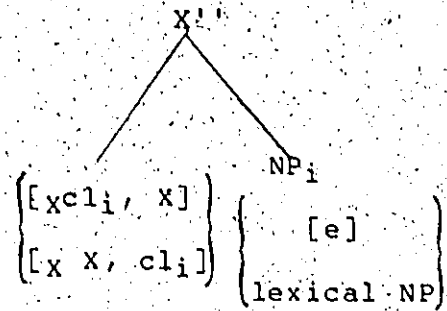
In government-binding theory, D-structure can be regarded as essentially a representation of grammatical functions, such as subject and object, that are associated with θ -roles. Consequently, even when there is no lexically realized complement to which a verb can assign one of its θ -roles, the θ -position is necessarily generated, and the A-position is filled by an empty category.

To represent the relation between a pronominal that is cliticized to a lexical head and its coindexed NP, both Jaeggli (1982) and Borer (1984a) indicate that the coindexed phrase may be either a lexical NP or an empty category. Jaeggli's structure, reproduced in (39a), represents the clitic construction as a verb phrase, since he was investigating Romance languages. Borer's (39b) employs X-bar notation to show that any lexical category may be the head of a clitic construction. In Semitic languages, for instance, pronominals may be cliticized to nouns and prepositions as well as to verbs.

(39) a. Jaeggli (1982)

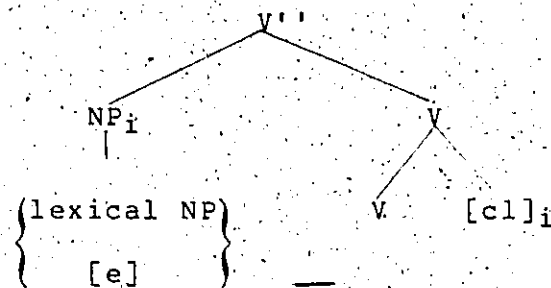


b. Borer (1984a)



A comparable structure reflecting the analysis that I have been proposing for cliticization in the Amharic lexicon is shown in (40). (Since Amharic has SOV word order, the direction of complementation is opposite to that in the structures of (39)).

(40)

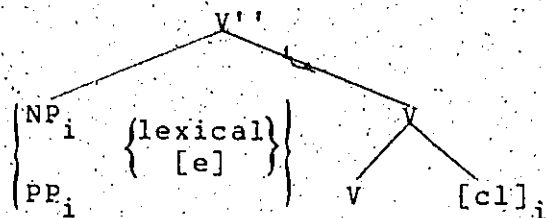


The construction in (40) may seem to resemble those in (39) rather closely. It differs from Jaeggli's, however, in that the clitic in (40) was adjoined to the verb in the lexicon, the complex verb-plus-clitic being inserted under the V node, whereas Jaeggli's clitic is introduced by a phrase structure rule, $V' \rightarrow CL + V$, so that the clitic is a daughter of V' . Moreover, I have argued that the clitic does not absorb Case from the verb in the syntax but is assigned Case by the verb in the lexicon.

In contrast to Borer's structure in (39), in which the clitic is an integral part of the verb because it is a spell-out of the verb's Case feature, (40) shows the clitic to be lexically distinct from the verb, though adjoined to it.

The structure in (40) does not fully represent the analyses I have made of Amharic clitic constructions, however, since PPs as well as NPs may be coindexed with the clitics. In order to represent the structure in which Amharic pronominal object clitics may participate, it is necessary to include the possibility of a PP complement, as in (41). The pronominal features of the clitic will agree with those of a lexical NP or the lexical nominal in a PP, or they will determine the features of an EC, which may be either an NP or a PP.

(41)



In one sense, then, it may be said that all clitic constructions are underlyingly doubling constructions, but that sometimes the doubling phrasal category is empty and sometimes it is lexically realized.

A corollary conclusion to be drawn from this structure is that a clitic never acts independently. It is always a dependent pronoun, not only in the sense that it "leans" on the verb in order to be brought into the syntax, but also in

that it acts in concert with the phrasal category to which it is coindexed. Together they have one θ -role; together, if the phrase is an EC, they serve as one pronoun; together they may function as one variable with respect to a lexical NP in TOP position.

The selection of the clitic plays a part in determining the possibilities for the verbal complement. First, the generation of a clitic on the verb makes the presence of an EC in the complement position possible. Without a clitic, which is "visible" in the syntax for indexing, an EC complement would have no index to transmit to the verb's thematic grid, and the structure would be ruled out. Second, the presence of the clitic allows the complement to be lexical only if that phrasal category is definite and specific. Also, a B- or L-clitic may add an extra θ -role to the verb's argument structure; the verbal projection from the lexicon is thereby augmented, and a particular Case assigning element is required for expressing that role.

Thus, my proposal for generating the pronominal object clitics in the lexicon explains not only the different syntactic contexts in which a clitic occurs but also the use Amharic has made of these clitics for expressing a range of thematic roles.

4.2 The Possessive Pronominal Clitics

My description of lexical cliticization in Chapter Two includes those dependent pronouns that cliticize to nouns as

well as those that cliticize to verbs. We should therefore expect the basic predictions of the proposal to be equally valid for the possessive pronominal clitics as for the pronominal object clitics. In general, we have a right to expect the generation of a phrasal category (in a syntactic position governed by the noun-plus-clitic) with which the clitic can share a θ -role. Assuming that nouns in this Semitic language can assign Case, and that they do assign Case to a clitic in the lexicon, we would expect the coindexed phrasal category to be lexical only if a special device is available in Amharic to assign Case to it.

This section contains an investigation of these predictions.

The dependent pronouns that cliticize to nouns, to express a relation that can be generalized as "possessive," were first listed in Chapter Two and are repeated here for convenience in (42). Some of the forms bear a strong similarity to the pronominal object clitics, but there are important differences. First, the plural forms all include the syllable -acc- (which is etymologically related to a noun pluralizing suffix), whereas this syllable appears only in the second person plural object clitic. Second, the third singular masculine never surfaces as -t, and the feminine is -wa instead of -at. Finally, the first person singular consists only of the vowel -e, which is entirely different from the corresponding object clitic, -ñ.

(42) Possessive Pronominal Clitics

1.s.	-e	1.pl.	-accin
2.s.m.	-h		
2.s.f.	-š	2.pl.	-accihu
2. respect	-wo		
3.s.m.	-u / -w	3.pl.	-accāw
3.s.f.	-wa		

Given the understanding already gained about the obligatory pairing of a clitic with a phrasal category, one is justified in expecting the same of these possessive clitics, and that is exactly what we find. As these clitics occur in the same structure that is required for the assignment of genitive Case to a lexical NP, I begin this section by describing the essential characteristics of the Amharic genitive construction.

The basic facts can be presented quite easily. For an analysis of the facts, I rely to some extent on the work done by Borer (1984a) on Modern Hebrew. Although the Amharic genitive construction is not exactly the same as that of Modern Hebrew (MH), there are enough parallels between the two Semitic languages in this regard to make Borer's account valuable to the study of Amharic.

4.2.1 The Amharic Genitive Construction

There is just one structure in Amharic for expressing the various relations that exist between the head of an NP and another nominal phrase inside the dominating NP. Thus, the verbal noun of manner, akkāfafāl 'way of dividing, division' in (43a) takes an NP complement on its left, assigning

it a θ -role of THEME. The noun l $\acute{a}$ ju 'the boy', in (b), may function as a subject of the verbal noun māhed 'going'. Since the head noun in (c), jīrat 'tail', has no intrinsic arguments, the noun on its left can be neither its subject nor its object. Nevertheless, the same structure serves for all three relations.¹⁰ As in other languages, the genitive may express a variety of relations. According to Williams (1982, p. 203), "The relation between the possessive NP and the following N' can be any relation at all."

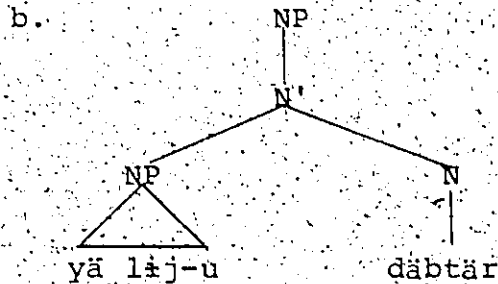
- (43) a. yā gānzāb akkāfāfāl
REL money way of dividing
'the division of the money'
- b. yā l $\acute{a}$ j-u māhed
REL boy-the going
'the boy's going'
- c. yā bāg -u jīrat
REL sheep-the tail
'the tail of the sheep / -the sheep's tail'

The point is that the first nominal in each of the examples in (43) is a referential expression and therefore bears some sort of θ -role. It can acquire such a role only from the lexical head of the construction, that is, the second noun. A non-derived noun, such as tail, has no specific θ -role to assign, but presumably does so in the context of the relational structure it heads.¹¹

The simplest genitive phrase in Amharic, then, consists of the possessor NP, preceded by the relational morpheme yā,

and the head noun, which expresses the possessed object.¹²
For the moment, I will assume the structure in (44b) and will discuss it in more detail shortly.

- (44) a. yā lāj - u dābtār
REL boy - the notebook
'the boy's notebook'



The examples in (43) and (44) might seem to indicate that yā is the exact counterpart of the English word of, which precedes the complement of a head noun in phrases such as the destruction of the city and the tail of the dog, where of is required to give Case to the complement NP. In English, however, the word of (or an 's') is required for each complement in a sequence, as in (45a), whereas only one yā is required for a similar sequence in Amharic (45b).

- (45) a. the notebook of the brother of the boy
b. yā lāju wāndim dābtār

Indeed, it is theoretically possible to have an indefinitely long string of complements, yet only one yā suffices to introduce the entire construction, as in (46).

- (46) yā Birhanu lij wiṣṣa buccilla jirat
 REL Birhanu child dog puppy tail
 'the tail of the puppy of Birhanu's child's dog'

In (46), the complement of jirat 'tail' is not merely buccilla 'puppy'; it is Birhanu lij wiṣṣa buccilla 'Birhanu's child's dog's puppy'.¹³

The fact that yā is needed only once for the entire complement of jirat suggests that the function of yā is not that of Case assigner, for it could hardly assign Case to all five NPs.¹⁴ Nevertheless, each NP must acquire Case in order to pass the Case Filter. It seems clear that genitive Case in Amharic is structurally assigned, as in other languages (e.g. Chomsky, 1981). I will temporarily leave aside questions about the function of yā in order to establish the necessary structural conditions for assignment of Case to the complement NP in a genitive phrase.

When a noun in a definite NP is modified by an adjective, the definite article is attached to the modifier, as in (47).

- (47)
- | | |
|-----------|---------------------|
| NP | |
| AP | N' |
| | |
| tallik-u | N |
| | |
| big - DEF | lij |
| | boy = 'the big boy' |

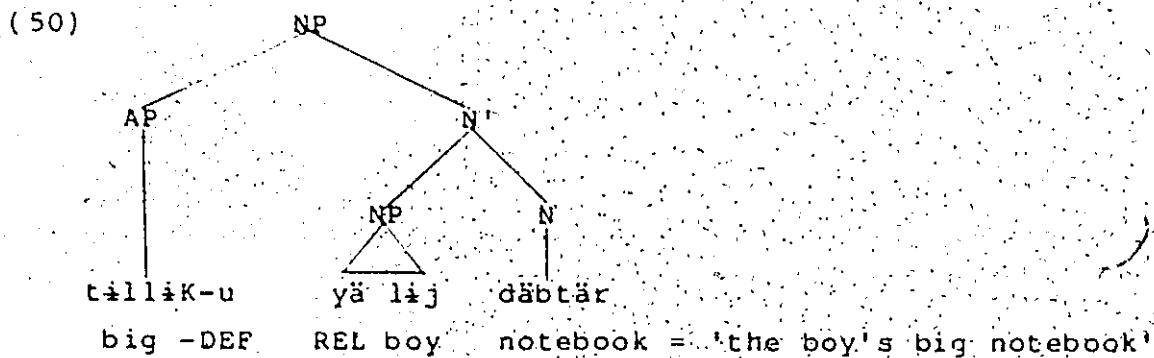
In a genitive phrase, when the complement is modified, the relational morpheme yā precedes the adjective, as in (48).

- (48) yä tällik-u lij däbtär
 REL big -DEF boy notebook
 'the big boy's notebook' (i.e. the notebook of the big boy)

When, in contrast, it is the head noun that is modified by an adjective, the relational morpheme precedes the complement in the genitive phrase.

- (49) tällik - u yä lij däbtär
 big -DEF REL boy notebook
 'the boy's big notebook'

The different positions for yä are readily understandable if we study the two structures in (44) and (47). Evidently, the genitive phrase, as a daughter of the N' node, fits into the N' node of (47) between the AP and the head noun, as shown in (50).¹⁵



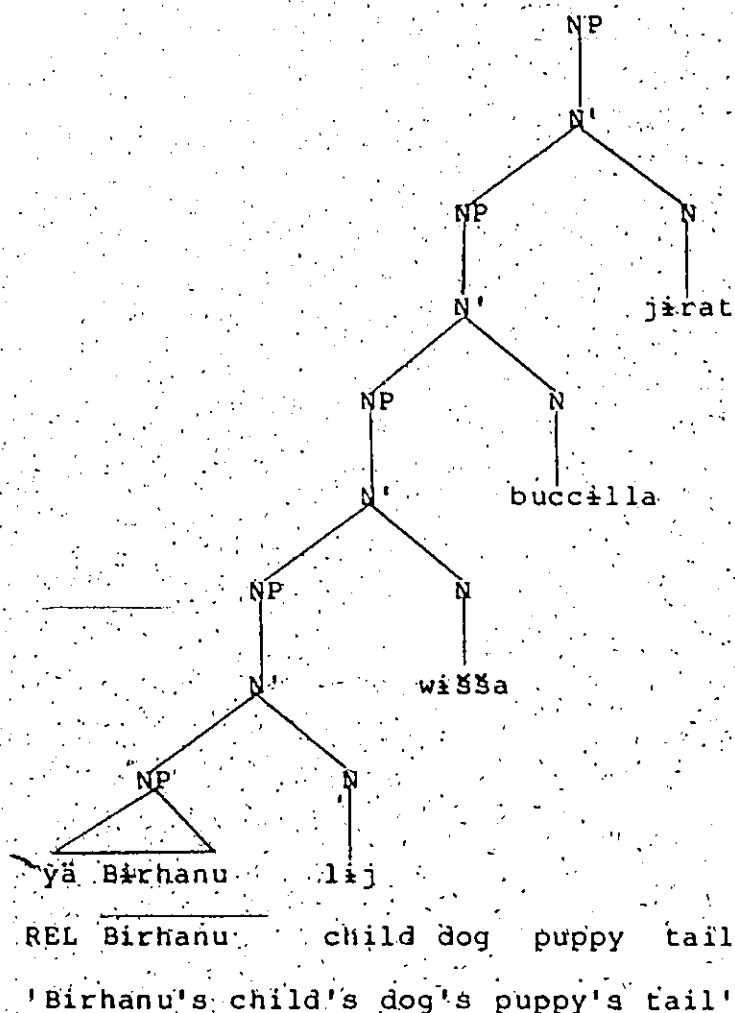
The important point that emerges from the example phrases and their structures is that the complement NP is always structurally adjacent to its head noun and is, in fact, a sister to it.

According to Borer, genitive Case can potentially be assigned by all nouns in Semitic; however, this potential

must be activated by a certain structural environment. A noun assigns genitive Case to its complement when the first node that dominates it, namely N', immediately dominates that complement. The noun governs the NP complement and is adjacent to it.

Consequently, the structure for (46) places each complement under an N' node, as in (51).

(51)



The head noun jirat is able to assign Case to its sister NP, the head of which is buccilla; buccilla assigns genitive Case to its sister NP, the head of which is wiṣṣa, and so on.

In Modern Hebrew, when the obligatory environment is absent, an alternative method of Case assignment exists: the dummy Case marker šel is inserted to the left of the complement NP. In Amharic, however, yä is not used in that way. Whereas šel is inserted in special instances, when the required structural environment is lacking, yä is always necessary on the left of a genitive construction (except inside a PP, as I explain below).

I have already pointed out one reason for maintaining that yä is not a dummy Case assigner like MH šel. In (51), only one occurrence of yä is sufficient for the entire sequence of genitive phrases, yet (under the assumption that a syntactic governor assigns Case only once) one preposition-like morpheme would be required for each NP, if Case assignment were its function. Moreover, the structure that activates Case assignment is present in (51) for each instance of a genitive phrase. If yä assigns Case and the head nouns also assign Case because of the structure in which they appear, at least one of the complement NPs will be assigned Case by two distinct means.

A further complication lies in the Amharic method for marking Case on an accusative NP. The accusative marker -n is always attached to the word that exhibits definiteness. Observe, in (47), that it is the adjective which bears the definite article -u. The reason is that Amharic always locates the definite article (and therefore the accusative -n, where required) on the leftmost phrasal category constituent

of a definite NP. Thus, the Case marker -n is attached to the complement when the NP containing the genitive phrase is the object of a transitive verb, as in (52).

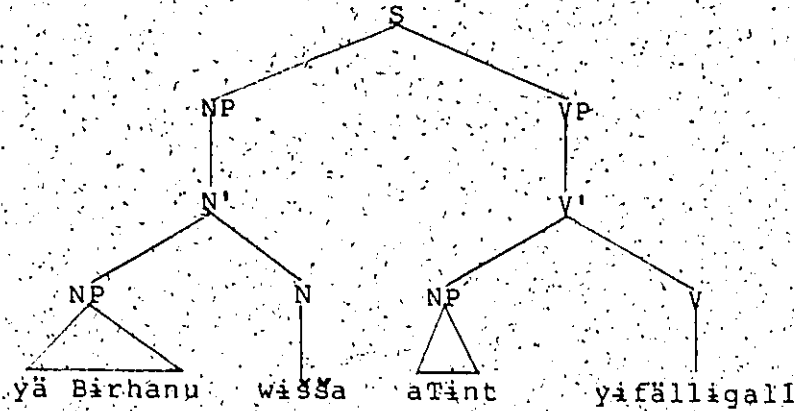
- (52) Birhanu yä lij - u - n däbtär wässädä-w
 B. REL boy - DEF - ACC notebook took -it
 'Birhanu took the boy's notebook'

As far as Case is concerned, then, the complement in the genitive phrase of (52), lijun, might be thought to display an embarras de richesses. The noun lijun is assigned genitive Case by the head noun däbtär. If yä were considered to be a Case assigner, lijun would receive some Case (perhaps oblique) from it, and the marker -n would seem to identify it as accusative. In reality, of course, two of those indications of Case are irrelevant for lijun. The accusative -n marks the whole NP yä lijun däbtär as the direct object of wässädä-w, and yä does not assign Case to anything.

If yä is not a Case assigner, like MH šel and English of, why is it there at all? It is my claim that yä is primarily needed for functional reasons. The natural tendency for the hearer of an utterance in an SOV language is to assume that the first noun is the sentence subject. Consider the confusion that could result if yä were omitted from (53a), the structure of which is shown in (53b).

- (53) - a. yä Birhanu wišša atint yifälligall
 REL B. dog bone want
 'Birhanu's dog wants a bone'

b.



Without yā, in Birhanu wiṣṣa atint yifälligall, the name Birhanu would seem at first to be the sentence subject. As the sentence progressed, the hearer would discover that he was mistaken, and he would parse the sentence again. To the syntactic, semantic and pragmatic clues available in (53) to alert the hearer to his error would be added a phonological clue, for the genitive phrase - however extended it might be made - would be spoken as one phrase, separated from the complement in the verb phrase. Nevertheless, if yā were not present, the possibility of initial misunderstanding would constantly bedevil Amharic speakers.

★ Although environments that induce false parsing are probably inevitable in every language, it seems probable that a language will find some means of avoiding the regular and frequent occurrence of structures that invite a failure of efficient communication. The Amharic use of yā at the beginning of a genitive construction is a clear signal that the first nominal must be interpreted in relation to a following nominal. The speaker can thereby communicate accurately.

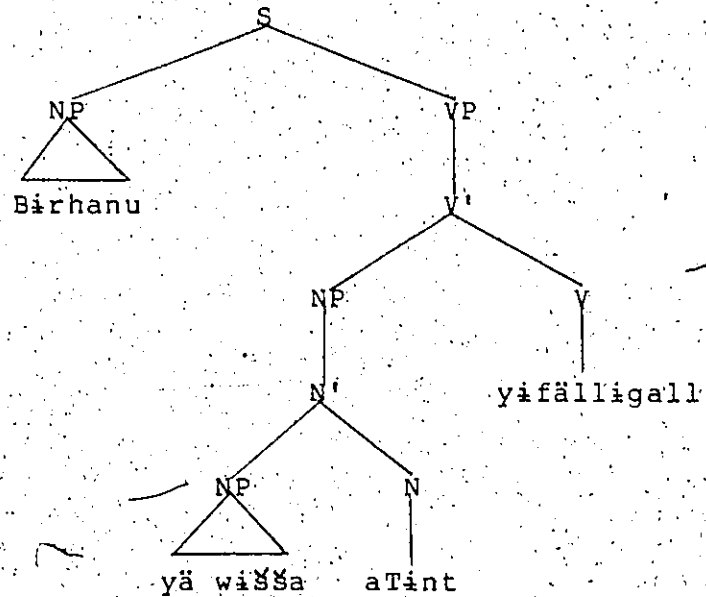
whether it is Birhanu's dog that wants a bone, as in (53), or Birhanu himself who wants a dog's bone, as in (54).

(54) a. Birhanu yä wiſſa aTint yifälligall

B. REL dog bone want

'Birhanu wants a dog's bone'

b.



So far, I have not considered the question of where yä is attached in a structural configuration. I will now argue that yä is located under a P node that is a sister to the N' node which dominates the genitive head and its complement. Here are the reasons.

First, it seems improbable that yä is affixed in the lexicon, for it appears on the left of whatever kind of word fills the leftmost phrasal constituent in the complement NP. If tilliK in (48) were modified by the adverb bäTaam 'very', yä would be affixed to the adverb: yä-bäTaam tilliKu lij däbtär 'the very big boy's notebook' (that is, the notebook

of the very big boy). It is unlikely that the morpheme would be subcategorized as a prefix for every lexical category.

Second, it is equally improbable that yä is the head of a PP and takes an NP as a complement. For one thing, yä "disappears" when a preposition precedes it. In (55), for example, the phrase yä Birhanu beet 'Birhanu's house' loses yä when the NP is the complement of the preposition wädä 'towards'.

- (55) Kassa wädä Birhanu beet hedä
 K. towards B. house went
 'Kassa went towards Birhanu's house'

The reason for the omission of yä cannot be phonological. That is, there is no phonological rule (or combination of rules) to delete the segments /y/ and /ä/ after a morpheme ending in /ä/, as the examples of non-deletion in (56) demonstrate. When the preposition bä in (56a) heads a prepositional phrase in which the NP complement contains a genitive phrase, the relational morpheme yä does not appear. However, the syllable yä is not touched when it is initial in a word that is the complement of bä (56b).

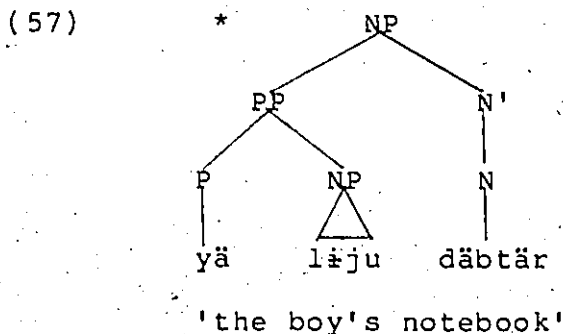
- (56) a. bä gäbäre - w beet wist
 in farmer - DEF house inside
 'inside the farmer's house'
- b. (i) bä yämän wist
 in Yemen inside
 'inside (the country of) Yemen'

(ii) *bä yäkaatit*

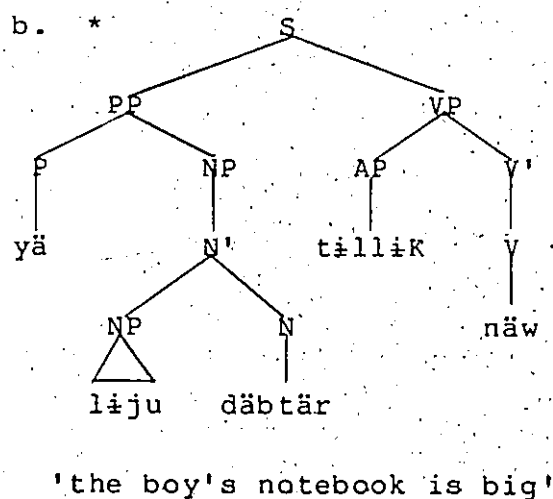
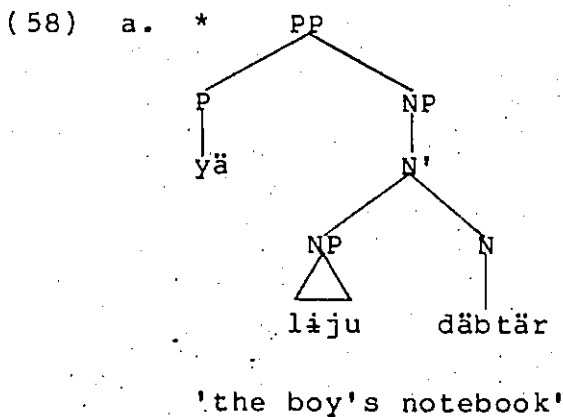
in Yakaatit (the name of a month)

'in February'

Furthermore, if *yä* were to head a prepositional phrase that is a daughter of the dominating NP, a structure would be generated in which the complement NP is not an adjacent sister of the head noun and could therefore not be assigned genitive Case. This is illustrated in (57).



Alternatively, if *yä*, as a preposition, were to take the entire genitive construction as its complement (58a), every NP containing a genitive phrase - sentence subjects and direct objects included - would become a PP, as (58b) illustrates.



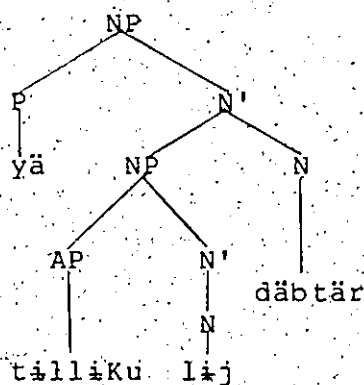
Neither option in (57) and (58) is acceptable, and I conclude that yä does not function here as the head of a PP.

Nevertheless, yä evidently has a certain preposition-like function. Although it does not relate one independent NP to another independent NP, in the same way that in relates the spoon to the bowl in he saw the spoon in the bowl, it does signal a relation between a dominating NP and an NP it contains. That is, it signals an intra-NP relation rather than an inter-NP relation. In terms of a spoken sentence, yä shows that the NP that follows it is not related to the main clause but to another nominal inside an NP.

For these reasons, I suggest that an NP in Amharic may expand to P N' , with yä fulfilling its purely relational role inside an NP as a kind of specifier. Its lexical entry would reveal it to be a preposition with no Case or θ -role to assign.

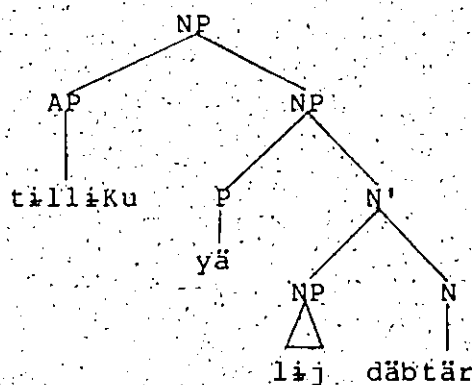
Accordingly, I propose the following structures for (48) and (50). In (59a), the adjective is shown to modify only the noun lij, whereas in (59b), it modifies the entire genitive construction.

(59) a.



'the big boy's notebook'

b.



'the boy's big notebook'

1

-

'towards Birhanu's house'

deleted.

- (61) a. yä Tärriahu - t säw
REL invited - him person
(1.s.)
'the person that I invited'
- b. ine lä Tärriahu - t säw näggärku - t
I to invited - him person told - it
(1.s.) (1.s.)
'I told it to the person that I invited'

The fact that yä is omitted in both circumstances prompts the generalization that Amharic has a surface filter that prohibits a sequence of two subordinators. The function

of the first subordinator in (60), wädä, contributes essential semantic content and assigns a DIRECTIONAL θ -role to its complement, Birhanu.beet 'Birhanu's house'. Birhanu has been assigned genitive Case by the noun beet, under government and adjacency. Consequently, the second subordinator, yä, has lost its function, and the node is pruned.

Support for a prohibition in Amharic against a sequence of two subordinators comes from its use of postpositions. Whereas English, for instance, permits prepositional sequences such as from under the table, Amharic does not. Instead, it distributes the relational words on each side of the NP, as in (62).

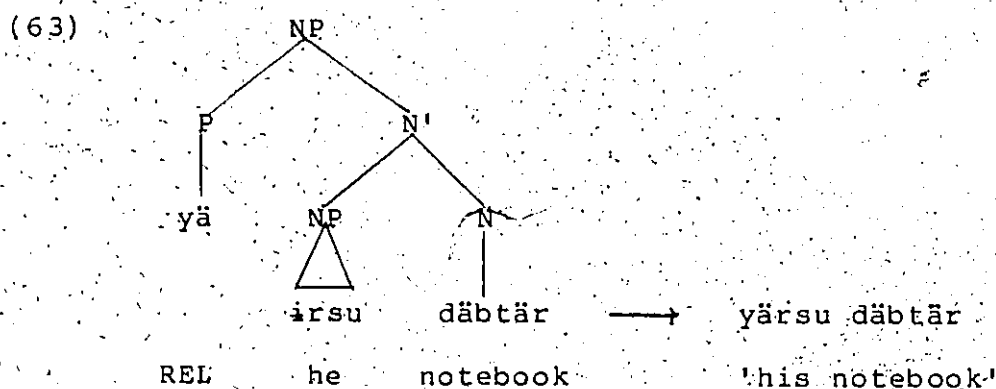
- (62) kä TäräPpeza - w tac
 from table - DEF under
 'from under the table'

With this background understanding of the genitive construction, we are prepared to look at the possessive clitics themselves and the structure they appear in.

4.2.2 Clitics in the Genitive Construction

The configuration in (41) represents the lexical category to which a pronominal element is cliticized as the head of a maximal verbal projection and the governor of the NP or PP complement position. In a similar way, the possessive pronominal clitics of Amharic are cliticized to nouns that head the genitive construction, which are in the correct position to govern the genitive NP that is in complement position.

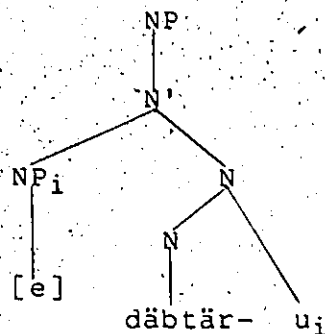
The claim that the possessive clitic participates in this way in a genitive construction, and is not merely a suffix that has no structural association with an NP complement, is supported by a comparison with an alternative method of expressing exactly the same semantic content. Recall that Amharic has a set of independent pronouns which are employed as full NPs. One of these independent pronouns, therefore, may serve as the complement in a genitive construction. Thus, in the structure of (44), the third singular masculine pronoun irsu may be substituted for liju; this is illustrated in (63). (The /i/ of irsu is unnecessary for proper syllabification when the relational morpheme yä becomes proclitic on it: yä + irsu = yärsu.)



Although the independent pronouns are always available for use in an NP, speakers of Amharic tend to reserve them for purposes of disambiguation, when the reference is not otherwise clear, and for emphasis. (As a "null-subject" or "pro-drop" language, Amharic allows its speakers to avoid using the independent pronouns in subject position, unless

disambiguation is necessary or emphasis is desired.) Commonly, his notebook is expressed by the noun däbtär followed by the third singular masculine clitic, -u. The fact that no relational morpheme is required is significant: there is no overt nominal for which a signal of complementation is needed because the complement NP is filled by an empty category. Nevertheless, the basic structure in (64) is the same as the one in (63).

(64) .



notebook-his = 'his notebook'

The structure in (64) explains why the pronominal clitic expresses the possessor: it is coindexed with the NP position that always contains the possessor-nominal. It also explains why the clitic may have a feature of one gender while its host noun has a feature of the other gender, as in mist-u 'his wife' and wändim^{wa} 'her brother'. If the clitic were an agreement suffix, we would expect it to display agreement in gender with the noun to which it is affixed.

All nouns in Semitic languages, it will be recalled, can potentially assign genitive Case, but that Case assigning property must be activated by a certain structural environment. When the first node that dominates a noun immediately dominates an adjacent complement, the noun's Case assigning

potential can be realized and the complement receives genitive Case. Clearly, these conditions for genitive Case assignment are present when a dependent pronoun is cliticized to a noun in the lexicon. Thus, a clitic on a noun has already become "possessive," or genitive, when its host noun carries it into the syntax.

The empty category in the complement position is bound in its governing category, the NP, by the clitic. The latter has no θ -role of its own, since it is not an NP and not in a θ -position, but coindexation with the NP complement position, which is θ -marked by the lexical head, enables the clitic to share that θ -role and be its lexical expression.

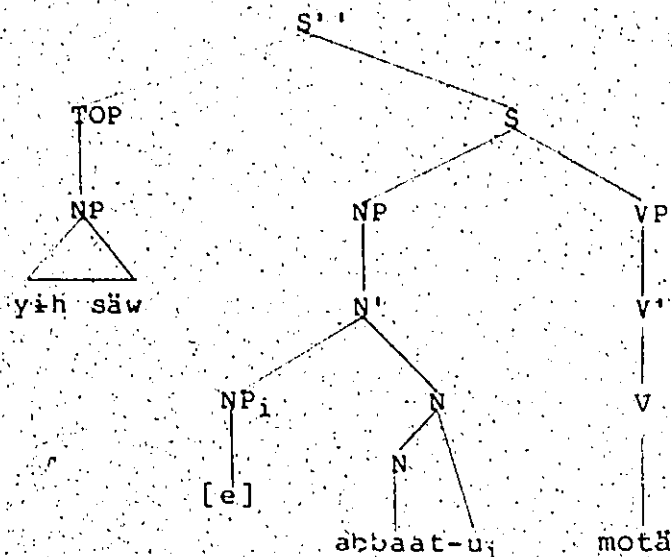
Clitic-doubling, with a nominal counterpart of the pronominal clitic appearing in the complement position, does not occur with the Amharic possessive clitics. When a noun-plus-clitic is inserted into the head position of a genitive construction, no nominal can fill the complement position because it would not get Case from the head noun (which already assigned its Case to the clitic) and because Amharic has no Case marker to serve as a "saving device," in the way that šel permits clitic-doubling in Modern Hebrew.

However, an NP with the same reference as the possessive clitic may appear outside the bounds of the NP, in TOP position. There is a distinct pause after the initial NP when a speaker says a sentence like (65a), for which I assume a structure of the type in (65b).¹⁶

- (65) a. yih säw abbaat - u motä
 this man father - his died
 (3.s.m.)

'this man's father died'

b.



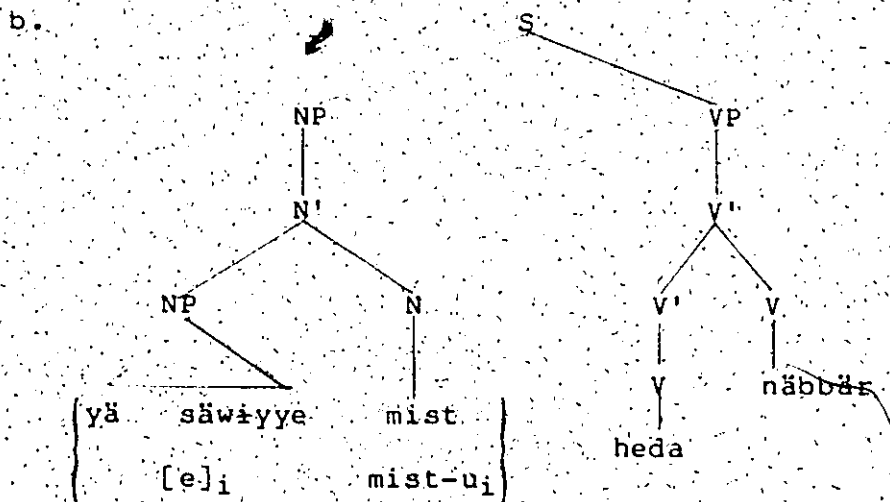
The structure in (65) is similar to the left-dislocated structures discussed in 4.1.5. A rule of semantic interpretation establishes an anaphoric relation between the dislocated NP and the $[[e]_i, cl_i]$ pronominal chain, which functions as a bound variable with respect to it.

When the complement of a noun in a genitive phrase is relativized, a clitic on that noun is indispensable, for otherwise there would be no means of relating the noun remaining in the clause with the one that is outside, heading the relative clause. The example in (66) is discussed in Hailu Fulass (1972).

- (66) mist - u hed-a yä - näbbärä - w säwiyye
 wife - his having REL - PAST - DEF man
 gone
 (3.s.f.)
 'the man whose wife had gone'

The declarative sentence corresponding to (66) is given in (67a), along with its basic structure in (67b), where I have shown the alternative genitive phrase with a clitic instead of the lexical NP.

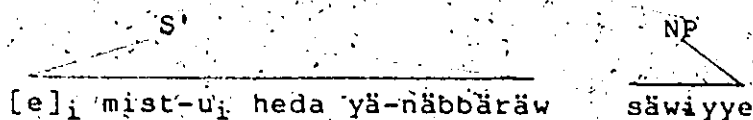
- (67) a. yä säwiyye mist hed - a näbbär
 REL man wife having PAST
 gone
 (3.s.f.)
 'the man's wife had gone'



Without going into details concerning the structure of relative clauses, which I treat in Chapter Five, I assume that (66) has the basic structure of (68). The noun that bears a genitive relation to the subject of the clause, mist 'wife' is now outside the S, serving as the head noun of the clause.

(68)

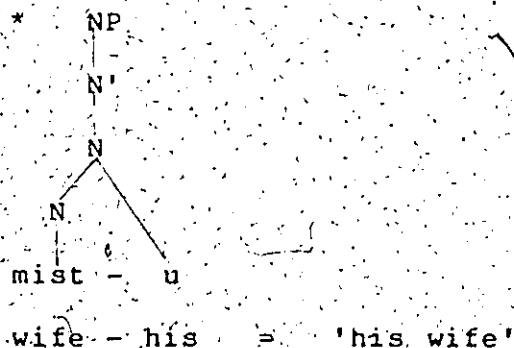
NP



The genitive position in (68) is empty, but since it is coindexed with the clitic, the relation can be expressed. As we saw in the left-dislocated structures of 4.1.5. and in (65), the EC and the clitic form one single pronoun; it functions here as the variable in the sentence that is predicated of the head NP.

Finally, I have not yet explicitly stated why a noun with a pronominal cliticized to it cannot be inserted into an NP node that contains no NP as a complement to its head. That is, since the clitic has received Case in the lexicon, and since it is "visible" in a syntactic structure for indexing purposes, and since no lexical NP can ever double a possessive clitic, how can we know that there must be an empty category for the clitic to be coindexed with? Why can there be no NP like the one in (69)? A verb, such as säbbärä 'break' has an argument structure that requires an NP complement position to be projected, but a noun, such as mist 'wife', does not.

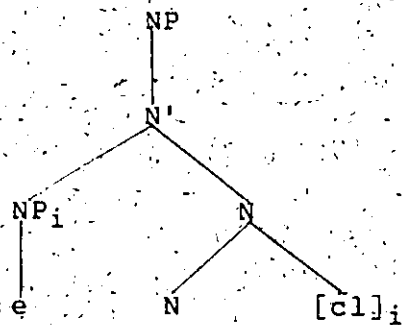
(69)



The structure in (69) can be faulted in more than one way. First, the clitic has no θ -role and could therefore receive no interpretation in LF. A clitic acquires its θ -role by virtue of coindexation with an θ -marked position, which does not exist in (69). Second, the NP of which mist-u is the head would have its own θ -role in a sentence and its own referential index, j , which would label all the NP's heads. The clitic, as a nominal, would receive a referential index, i , but would have no complement NP to be coindexed with. A single NP with two referential indices would be uninterpretable. A structure like that in (69) would seem to deny the essential pronominal properties of the clitic, which has referential potential. Two NPs must be involved in order to account for reference to two distinct entities, the "possessor" and the "possessed."

In conclusion, the clitic construction in which the possessive pronominal clitic participates is structurally similar to the one in which the object clitics participate. However, the complement position coindexed with a possessive clitic will always be an empty NP dominated by N' , as in (70).

(70)



4.3 Pronominal Clitics vs. Agreement Suffixes

In Chapter Two, I claimed that the Amharic dependent pronouns, which cliticize to verbs and nouns, belong to a morphological class that is distinct from both stems and affixes, although these are the only classes of lexical items allowed for in the lexicon of Lieber (1981). I showed that these pronominals are neither stems nor affixes but rather share certain properties of both. Like a stem, a dependent pronoun belongs to an identifiable category; like an affix, it has a subcategorization frame that specifies the kind of lexical terminal to which it can attach.

My classification of these pronominals as [+category], [+subcategorization] laid the foundation for cliticization in the lexicon, with the consequent events of Case assignment, under government and adjacency, and linking with the lexical host's thematic grid. As an appendix to the lexical host, the clitic is adjoined to it in the final level of the lexicon, where internal brackets are not erased, so that the pronoun does not become an indistinguishable element in its host.

This present chapter has been concerned with the fate of these dependent pronouns after they have been brought into a syntactic structure. It is now appropriate to review the original motivation for differentiating the pronominal clitics from agreement affixes, which also possess features of person, number and gender and display them overtly. From the

syntactic point of view, are the clitics really different from inflectional affixes that express agreement with some other element in the syntax? In my affirmative response to this question, I first contrast the properties of the pronominal clitics and the subject agreement affixes within Amharic and then go on to show that the same properties differentiate pronominal clitics from object agreement affixes generally.

(a) Most obvious, perhaps, is the matter of optionality. In the large majority of cases, use of a pronominal clitic is optional, and a speaker may omit it or choose another way of expressing what he wants to say. This high degree of optionality stands in sharp contrast to the obligatory presence of a subject agreement affix, without which an Amharic sentence is ungrammatical. In fact, an Amharic verb is not even a word capable of insertion into a syntactic structure without an agreement affix.

(b) A corollary to (a) is that, since a syntactic rule makes evidence of agreement with the subject obligatory, the affix cannot impose semantic conditions on the nominal in subject position, with which it agrees, in the way that the presence of a pronominal clitic requires the NP complement to be definite and specific.

(c) In a similar vein, whereas the presence of a pronominal object clitic may cause repercussions in the syntax, such as the need for a special Case assigner, a subject

agreement affix has no comparable effect on the NP subject with which it agrees.

(d) The precise form a subject agreement affix takes varies according to the tense, aspect or other property of the verb to which it is affixed. There is a set of agreement endings for a perfective verb that differs radically from the combination of prefix and suffix that is used for subject agreement with verbs in the imperfective, for instance. Thus, the agreement affixes may be said to be "verb-related." In contrast, the clitics are invariable in form with respect to the verb's tense and aspect. The paradigmatic variation in a clitic's form is entirely an expression of its pronominal features. Whereas the clitics are dependent pronouns, the subject agreement affixes are not pronouns at all. In the theory of Lexical Morphology and Phonology, as Jensen and Stong-Jensen (1984, p. 482) explain clearly, an agreement marker is simply an affix to a verb which contributes a syntactic feature (or set of syntactic features) to the meaning of the verb.

(e) Similarly, with regard to subject agreement, there is no possibility of selecting one particular affix form over another in order to express semantic content; the form is dictated by the features of the subject. Under certain circumstances, however, a speaker of Amharic can choose a clitic to express a desired semantic concept. The selection of an L-clitic that imparts the meaning "to X's benefit" versus the choice of a B-clitic that expresses the sense "to X's detriment" is a very obvious example of this possibility.

(f) The subject agreement affixes of Amharic attach to a stem of a verb, thereby yielding a word, but a clitic can only attach to a word that has already been completed by its agreement affix.

The properties listed above portray the subject agreement affixes of Amharic as rigid grammatical necessities while the pronominal clitics are characterized as more flexible, semantic options, notwithstanding their obligation to agree with a coindexed lexical nominal. The object clitics can be distinguished from object agreement suffixes in a parallel way. In languages where verbs agree with their objects, as well as with their subjects, such as Navajo, the agreement is obligatory and not a matter of choice. Since agreement is a grammatical requirement, the presence of the suffix cannot exert semantic constraints, such as definiteness or specificity, nor can it demand an exceptional means of marking Case on the object. As Everett (n.d., p. 21) comments:

"Agreement morphemes as traditionally defined (e.g. subject-verb agreement in English, noun-adjective agreement in Romance, object-verb/subject-verb agreement in Georgian (Anderson (1984) etc.) do not impose any restrictions on the nominal elements with which they agree." ¹⁷

Furthermore, the form of an object agreement affix may be dependent on the tense or aspect of the verb, as in Georgian (Harris, 1981), and cannot be selected to express semantic distinctions.

Jaeggli (1982, p. 55), while acknowledging that a clitic-verb combination functions as a very close unit, nevertheless insists on distinguishing the clitics from agreement inflections, arguing that clitics, unlike agreement affixes, are words which are separate from their verbs. In addition to the contrasts already discussed above with regard to the Amharic pronominal clitics, he refers to the fact that in some languages (such as Romance) clitics are not always found attached to the verbs to which they logically belong (e.g. French causatives). He remarks that subject agreement markers, in contrast, "... cannot wander off to a different verb. They do not have the mobility granted to clitics."

Jaeggli makes an important point in support of his opinion that it is crucial to maintain a distinction between the object clitics in Romance and agreement markers. The issue gains importance, he states, when one considers languages outside the Romance family, such as Navajo, in which object agreement markers share the properties of subject agreement markers rather than those of pronominal clitics, with the verb being obligatorily inflected to agree with both subject and object. "Our decision to separate clitics from agreement markers in Romance embodies the claim that there is a crucial difference between, say, Spanish and Navajo."

Although Amharic clitics lack the mobility of their counterparts in Romance, they clearly possess the distinctive pronominal qualities that prompt Everett and Jaeggli to differentiate clitics from agreement affixes. The contrasting

properties of agreement affixes and pronominal clitics, as revealed in syntactic structures, justify the different morphological classification and the different mode of association with a lexical category that I have proposed: that is, cliticization, or appending to the category, and not affixation, or incorporation in the category.

Notes for Chapter Four

1. Hetzron (1970) is probably the most comprehensive study so far of the meanings expressed by means of the Amharic clitic-doubling constructions, and I have relied heavily in this section on his observations and comments.

2. Thematic complements are those arguments which bear a thematic link to the head. They are selected by the head and assigned a θ -role by it. Non-thematic complements are arguments which may be complements of the head in a broader sense but are not assigned a θ -role by it. Borer (1984a, p. 38) gives the examples in (i) for illustration.

(i) a. John dedicated his dissertation to Mary.

b. John drove from Paris.

In (a), the PP to Mary is a complement of the verb, which assigns the θ -role of GOAL to Mary. In (b), the PP from Paris is not a thematic complement of the verb, since drove does not assign a θ -role to Paris, which is related semantically to the preposition from.

3. The preposition-like morpheme bä might also be analyzed as a Case marker, assigning locative-instrumental Case to the following NP.

Hetzron (1970, p. 304) refers to "adnominal complement markers" in his discussion, and he names the cases that these "case-marking morphs" assign as follows: -n (accusative),

lā (dative), bā (locative-instrumental), kā (ablative), wādā (directional), sālā (purposive). The last two are not normally the names of cases.

However, as Hetzron also refers to these morphemes as prepositions, it is clear that he is not trying to distinguish mere Case markers from true prepositions.

4. Stowell attributes the suggestion concerning θ -role assignment to Hagit Borer.

5. A favourite example of commentators who wish to illustrate the effect of the prepositional clitics on a verb's meaning is: fārrādā -llāñ 'he judged in my favour', or 'he acquitted me', contrasted with fārrādā-bbāñ 'he judged against me', or 'he convicted me'.

6. Getatchew Haile's account suggests that the clitic-doubling construction may be correlated with a quantificational reading and not merely a definite one. Jaeggli (1982, p. 48) relates similar definiteness effects to Quantifier Raising, claiming that the definiteness restriction need not be stipulated but follows from his assumptions. If a true indefinite were generated in a clitic-doubling construction, it would be moved outside of the S by the Quantifier Raising rule. The resulting sentence would be ungrammatical because, in his approach, the trace left by that raising would be ungoverned, since the verb's government feature has been absorbed by the clitic.

My analysis of cliticization in the lexicon leads me to a different conclusion. A pronominal clitic, though dependent on the verb, is nevertheless a definite pronoun, with potential for definite and specific reference. Therefore, the NP complement, which is projected in syntax by the verb-plus-clitic, must be definite and specific. To attach 'it' or 'him' to the verb heading a phrase that contains a co-referential expression such as 'a book' or 'a person', in the sense of 'some book/person or other', would be contradictory.

7. The lexicalization account receives support from the fact that the third singular masculine forms are -bbät and -llät. If the O-clitics were joined to bb and ll by a productive process in the lexicon, the expected forms would be *-bbäw and *-lläw.

8. I do not intend to imply that Brody (1985) is the first to identify the EC in a clitic construction as an anaphor. Chomsky (1982, p. 87), in a brief, speculative discussion of the topic that refers to earlier work on cliticization within the Extended Standard Theory framework, considers it plausible that cliticization is subject to the binding conditions for anaphors and that the EC is an anaphor subject to the ECP and Principle A of the binding theory. He mentions an alternative analysis of the EC as the pronominal nonanaphor, pro, but he does not pursue this possibility.

9. The statement that the referent expressed by the B-clitic in sentences like (36) represents "the recipient of

a misfortune" (to repeat the phrase of Jackendoff) is confirmed by the Amharic expression for having a flat tire, given in (i).

- (i) gommaye li - fānādda - bbān nāw
 tire-my to - burst - on me is
 'my tire is about to go flat'

Another misfortune, according to Obolensky et al. (1964), the source of these examples, is that "an examination has arrived to my detriment." This is illustrated in (ii).

- (ii) fātāna dārrāsā - bbān
 test arrived - on me
 'I have to take a test'

10. According to Borer (1984a, p. 47), it is similarly possible in the Modern Hebrew construct state to construe the NP in complement position as either subject or object, if the deverbal head noun can take both:

- (i) kätivat ha-ma'amar (ii) kätivat Dan
 'the writing of the article' 'Dan's writing'

Later (p. 88), Borer assumes that even when the head noun is not derived from a verb, as in the tail of the dog, the complement is best characterized as selected by the head noun and assigned a θ -role by it.

11. As a possible θ -role for the possessor, I suggest LOCATION, following the intuition of Jackendoff (1983,

p. 192) that possession expresses the relation of a thing to a place where that thing is:

"Whichever notion of possession we consider, we find it plays the role that location does in the spatial field."

Thus, the phrase the sheep's tail expresses ~~the notion~~ that the tail is "located in" the sheep.

12. As the initial paragraphs of this sub-section (4.2.1) make clear, I am aware that the Amharic genitive construction, as well as the pronominal clitics I call "possessive," can express other relations besides possession. I use the terms "possession" and "possessive" only for convenience.

13. Cohen (1970, p. 79) comments that Amharic speakers avoid long sequences of complements, usually breaking the chain by some device, such as topicalization.

My own informant dislikes any sentence with a series of pronominal adjectives or genitive phrases and invariably tries to change the word order, even though he cannot bring himself to say that a lengthy sequence is impossible.

14. It has been argued that Cases are uniquely assigned. Chomsky (1981, p. 172), for instance, indicates a preference for the analysis of the English "double NP" construction whereby the indirect object receives structural Case from the verb and the direct object receives structural Case from V', which is admitted as a governor. Significantly, he comments:

"Then each governor assigns only a single Case." Also, during a discussion of the difference between Spanish and French indirect objects, Jaeggli (1982, p. 32) assumes that a verb can assign Case to at most one element.

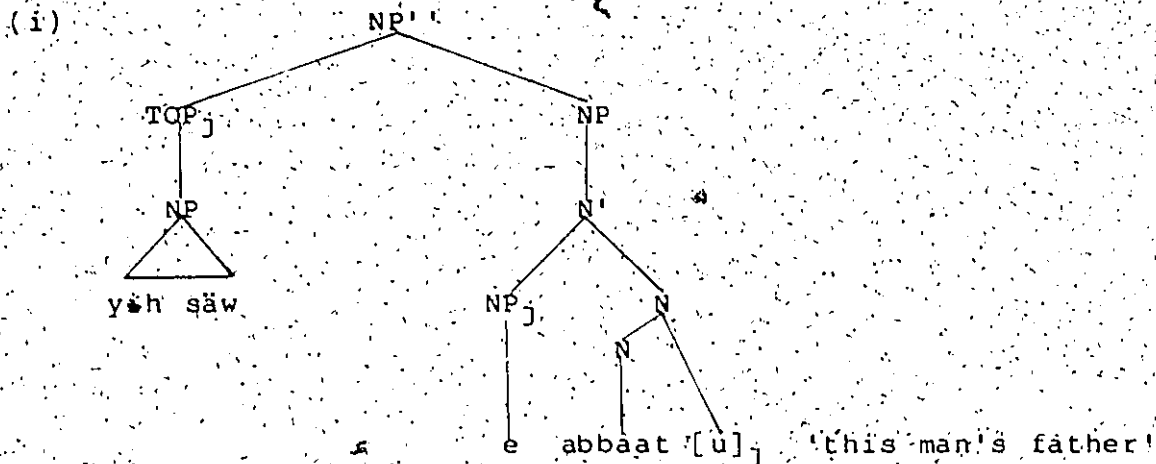
I have agreed (4.1.1) that a governor can assign only one Case in the syntax but have reasoned that it may have also assigned a Case (to a clitic) in the lexicon. From the syntactic viewpoint, in this approach, Cases are still uniquely assigned.

15. It is possible for the surface word order to differ from that in the structure given here. After presenting the phrase tállik yä šum beet 'a chief's large house', which is similar in pattern to (49), Armbruster (1908, p. 181) also gives the alternative order yä šum tállik beet, with the explanation that this word order emphasizes šum, 'chief'. Apparently, the NP of which šum is the head is moved into a position of focus in order to achieve the desired emphasis.

When asked about similar phrases involving an adjective and a genitive expression, my informant tends to respond first with the adjective-genitive NP order and then to add that the genitive-adjective order is also all right. For instance, the first response to 'Birhanu's new coat' was addis yä Bīrhanu kot (new-of Bīrhanu-coat), but yä Bīrhanu addis kot was also acceptable. I consider, with Armbruster, that the second word order is a way of focussing on the possessor.

16. In (65), I have located the topicalized NP under S'.

It is possible that this NP should be considered a topic on the NP itself, as in (i):



However, the essential point of the discussion, namely, that Amharic does not allow clitic-doubling in a genitive construction, remains valid under either analysis, and I leave the question open.

17. The paper referred to by Everett as Anderson (1984) is

"On Representations in Morphology: Case Marking, Agreement and Inversion in Georgian," NLLT, 157-218.

CHAPTER FIVE

The Role of Pronominal Clitics in Amharic Relative Clauses

In the previous chapter, I showed that the pronominal clitics of Amharic, both verbal and possessive, play an essential role in the syntax of certain types of relative clauses, expressing the grammatical function of the head noun within the clause itself. It is now time to present an analysis of the relative construction that will clarify this function of the pronominal clitics.

I begin by describing the distribution and use of the definite article in Amharic, as the appearance of this morpheme on a relativized verb raises questions about the category of this verb form and, therefore, about the phrasal category of which such a lexical item can be the head. My conclusions, in the second section, are that there is no justification for considering that the relativized verb belongs to a non-verbal category and, moreover, that the structural configuration of an Amharic relative clause is remarkably like that in other languages. However, the surface order of the relational morpheme and the verb, within a verb-final relative clause that precedes its head noun, leads me to propose, in section 3, that the presence of a complementizer that subcategorizes a tensed verb causes the verb in the relative clause to move into COMP.

In the fourth section, I discuss the interpretation of the relative by a rule of predication. The clause is taken as an open sentence predicated of its head noun. Object relativization in Amharic involves a "predication-resumptive" strategy, with the pronominal clitic and the coindexed empty phrasal category together constituting the resumptive phrase that is the variable of predication. The two elements have a symbiotic relation, neither being viable without the other. The EC itself is shown to be an anaphor, the non-head member of a chain that is headed by the pronominal clitic.

I will not be treating in detail questions concerning subject relativization, but will concentrate on the association of the pronominal object clitics with the verbal complements that are relativized.

5.1 The Definite Article¹

Not an independent word, the definite article cliticizes to the right-hand edge of nominals, assuming the forms in (1). The term "nominals" is used for a sort of super-class of lexical items defined (by Cowley et al., 1976, p. 89) as those words that can occur as the subject of a sentence; it includes nouns, adjectives, pronouns, demonstratives and numerals.

- (1) Masculine singular: -u / -w
 Feminine singular: -wa (alternatively, -itu,
 depending (in part) on regional
 usage)
 Plural, both genders: -u

The appearance of these forms on nouns is illustrated in (2).

- 2.
a.	färäs-	'horse'	b.	lajaagäräd	'girl'
	färäsu	'the horse'		lajaagäräd ^{wa}	'the girl'
	geeta	'master'		färäs ^{wa}	'the mare'
	geetaw	'the master'			
c.	färäsocc	'horses'		lajaagärädocc	'girls'
	färäsoccu	{ 'the horses' 'the mares' }		lajaagärädoccu	'the girls'

The similarity between the -u/-w and -wa forms of the definite article and the third person singular possessive clitics is obvious.² Note, however, that the definite article has no distinctive plural form, as the clitic does. Differences in distribution will be mentioned in the course of the presentation.

If the head of a determined NP is unmodified, the article appears on the noun in a suffixed position (3a), but when there is a modifier, the article is found on the modifying word, which precedes the head. If several modifiers are present, each one has the article attached to it (3b).

- (3)
- | | | | | | | |
|----|---------|---|-----------|------------------|-------|-----------------------|
| a. | färäs- | u | mätTa | 'the horse came' | | |
| | | | horse-DEF | | | |
| b. | tillak- | u | näCC- | u | färäs | 'the big white horse' |
| | big | | -DEF | white-DEF | horse | |

In an appropriate context, an adjective-plus-article can be used without a noun, as a substantive. For instance, a

statement such as I was waiting for the two horses might be followed by the sentence in (4).

- (4) tɪllɪK - u mätTa 'the big (one) came'
big - DEF came

Whereas the definite article may be attached to modifying adjectives or the unmodified noun, the possessive pronoun clitic is restricted to the head noun. If a noun bearing a possessive clitic is modified, the article is also added to the adjective, as in (5).

- (5) a. tɪllɪK - u färäs - e mätTa
big - DEF horse - my came 'my big horse came'
b. tɪllɪK - u färäs - wa mätTa
big - DEF horse - her came 'her big horse came'

The accusative marker, -n, is attached to any definite morpheme in a determined direct object NP. Therefore, -n appears on both the adjective that carries the definite article and the noun that bears the possessive clitic in (6).

- (6) tɪllɪK - u - n färäs - e - n äyyähu-t
big - DEF - ACC horse - my - ACC saw - it
(l.s.)

'I saw my big horse'

Two facts that differentiate the use of the definite article and the possessive pronoun clitic have already come to light. First, the article agrees in gender with the head

noun of a determined NP; in (2b), for instance, the article must take the feminine form -wa because lijaagäräd 'girl' is feminine. In contrast, there is no reason for a possessive clitic, as a pronoun expressing the possessor, to agree with the noun to which it is cliticized. Consequently, it is entirely correct to say mist-u 'his wife', in which the clitic is masculine while the noun is feminine. Second, the position of the definite article is contingent on the syntax, since it appears on any modifiers of the head noun or on the unmodified noun, whereas there is only one possible position for the possessive clitic: on the right of the head noun itself.

The facts (a) that a definite article may be required more than once in a single NP, as in (3b), and (b) that the entire content of the NP determines its position(s), suggest that a phrase structure rule is not responsible for its insertion into a syntactic structure. Evidently, the Amharic definite article is attached - by some means - on the right of the head word in each modifying phrasal category of a determined NP, or on the right of the nominal head that projects the NP if there are no modifiers. I therefore propose the rule in (7) that adjoins the article at S-structure.

(7) Definite Article Insertion

Adjoin the definite article on the right of each maximal projection lacking a [+ definite] feature in the left branch of a complex NP, or to a non-complex NP by default.

In the next section, additional support for this rule of Definite Article Insertion will be found, as I show that a relative clause in Amharic is one of the maximal projections that may occur in the left branch of a complex NP and, as a result, will be affected by the rule.

5.2 The Relativized Verb

In stating that the article appears on modifiers, I have thus far mentioned only adjectival modifiers. The complete story about the use of the definite article has not yet been told, and it is now necessary to consider the definite article in relative clauses.

In Amharic, the verb of a relative clause is preceded by the morpheme yä, unless it is in the imperfective, in which case the relativizing morpheme is yämmi. Both forms blend phonologically with the verb at some point in the derivation of a sentence. If the predicative verb is part of a compound tense formed with näbbärä, yä precedes the auxiliary. In other words, yä is always attached to the rightmost verbal element in the clause, which is the element that contains [tense]. These forms of the relativized verb are illustrated in (8), where they precede the noun they modify. (I have separated yä from the verb with a hyphen, to make the components of the relativized verb distinct, but in Amharic script yä and the verb are written as one unit.)

(8) wäddäKä 'fall (down)'

- yä-wäddäKä beet 'a house that fell down'
 yämm-i-wädK beet 'a house that is falling down'
 wädKo yä-näbbärä beet 'a house that had fallen down'

The close resemblance between a relativized verb and an adjective can be noted by translating yä-wäddäKä beet as 'a fallen-down house' and comparing it with tälläK beet 'a big house'. In fact, Armbruster (1908, p. 169) equates the relative clause with an adjective:³

"If an antecedent to the relative clause is expressed, the relative-plus-verb, as an adjectival clause, amounts to an adjective qualifying that antecedent and follows the analogy of an adjective as regards position."

If the NP containing the relative clause is determined, the definite article appears on the relativized verb, as in (9), in the same way that it is required on an adjective rather than on the head noun. If the NP is a direct object, the accusative marker is also attached, as in (9b).

- (9) a. yä-wäddäKä-w färäs motä
 REL-fell-DEF horse died
 (3.s.m.) (3.s.m.)
 'the horse that fell down died'
- b. yä -wäddäKä-w - in färäs ayyähu-t
 REL-fell- DEF - ACC horse saw it
 (3.s.m.) (1.s.)
 'I saw the horse that fell down'

However, if there is already a pronominal clitic on the verb, the definite article need not, and indeed cannot, be attached. Just as the presence of a possessive pronoun clitic makes an NP definite (see section 4.1.3), so a pronominal object clitic satisfies the definiteness requirement of a determined NP. As we saw in Chapter Four, an object clitic, coindexed with an empty phrasal category, is a "full" personal pronoun, which is definite.

If no antecedent is expressed, the relative-plus-verb amounts to a substantive and can be used, as tillik is used in (4), to fill a subject or object position. In such cases, it is considered to be definite and, if it is the object of the matrix verb, it therefore receives both the definite article and the accusative marker -n, as in (10).

- (10) yä -fällägä - w - in agäññä-w
 REL- wanted -DEF-ACC found-it
 (3.s.m.) (3.s.m.)
 'he found what he wanted'

In summary, the following facts suggest that the relativized verb construction is nominal in nature:

- (11) a. The definite article may be attached to the relativized verb, just as it attaches to a noun or adjective.
 b. When the definite article is present on the verb, the accusative marker -n may also be attached, as it is to nouns and adjectives, thus indicating the

status of the containing NP as an object of a verb in the matrix sentence.

c. The construction precedes the noun it qualifies, as an adjective characteristically does.

d. Without an overt antecedent, the construction may serve as subject or object of a verb, or the object of a preposition, just as a noun may do.

e. In addition, it is interesting to note that in two dialects of Amharic, some speakers attach the noun-pluralizing suffix -occ to a relativized verb instead of the usual subject agreement ending. Ambruster (p. 71) gives the following example of the dialectal form; the Standard Amharic form is shown beside it for comparison.⁴

<u>Dialect</u>		<u>Standard Amharic</u>
yä -hed - occ	naccäw	yä -hed - u - t naccäw
REL-went- NOUN	be	REL-went-3.pl.-DEF be
PLURALIZER (3.pl.)		(3.pl.)
'they are those who went'		

Indeed, most grammarians are united in describing the Amharic relativized verb as a nominal of some description. Cohen (1970, p. 114) comments that the relativized verb constitutes simultaneously the essential element of a clause and "l'équivalent d'un nom." Titov (1976, p. 87) calls it a participle. Leslau (1945, p. 78) remarks on the "nominal character of the relative clause," suggesting a Cushitic

influence. Cotterell (1973, p. 90) says categorically that "the relative construction is a verbal noun." And Kapeliuk (1980) writes an entire paper discussing (p. 97): "... l'extraordinaire accroissement dans l'emploi de deux formes nominales du verbe, à savoir de l'infinitif et de la forme relative."

In other words, Kapeliuk classes the Amharic relative with forms that have been traditionally called "verbal nouns", that is, the gerund and infinitive. She bases this classification as a nominal on both function and morpheme attachment (p. 103):

"Les formes relatives du verbe - yāhedā et yāmmihed - doivent être considérées comme des formes nominales car tout en étant conjuguées et en changeant d'après le temps, elles se comportent dans une proposition comme des noms. Non seulement elles remplissent la fonction d'un adjectif, d'un substantif, ou d'un infinitif mais encore elles peuvent s'accompagner de l'article défini, de la marque de l'accusatif -n ou d'une préposition."

Nevertheless, as Kapeliuk admits, the verb in a relative construction does not lose any of its verbal properties. In (12a), for example, the relativized verb yā-fälläqä-w has a direct object, mäsīhafun, which must be marked with -n since the clitic -w has already been assigned Case by the verb in the lexicon. In (12b), the negative prefix al-, which appears only on a verb, remains in its usual, preverbal position, and the relativizer, yä, becomes proclitic on it (losing its final /ä/ before the initial /a/ of the negative).⁵

- (12) a. [e] māšihaf- u - n yā-fällägä-w lāj
 book -DEF-ACC REL-wanted-it boy
 (3.s.m.)

'the boy that wanted the book'

- b. ine [e] y -al -fälläghu-t māšihaf
 I REL-NEG-wanted -it book
 (1.s.)

'the book that I didn't want'

Furthermore, the relativized verb may have an overt subject, as in (13). The subject, laju, must have been assigned Case, since the Case filter has not ruled it out, and the Case it has been assigned must be nominative, since laju is clearly not in a genitive construction nor can it be a direct object, for an empty category fills the complement position before the verb.

- (13) laj- u [e] yā -gäddälä-wi ibaab
 boy-DEF REL-killed -it snake
 (3.s.m.)

'the snake that the boy killed'

In contrast to the set of facts in (11), which portrays the relativized verb as a nominal, the set in (14) lists the verbal properties.

- (14) a. The relativized verb expresses, through the form of its stems and affixes, not only the agreement features of person, number and gender, but also tense.
 b. It retains its argument structure and therefore may have an object to which the accusative Case marker is attached.

c. The relativized verb is final in its clause, thus reflecting the characteristically "strictly final" position of the verb in Amharic.

d. It may have a pronominal object clitic, which is cliticized to it in the usual way.

e. Like any other verb, it may be made negative, in the usual way.

f. Its subject may be lexical and, if so, its Case must be nominative, since it is neither accusative nor genitive.

To what lexical category does the relative construction belong, then? Neither nouns nor adjectives take direct objects or assign accusative Case. In English and other languages, there are "verbal nouns," such as gerunds and infinitives, and "verbal adjectives," or participles, but none of these has tense, as the relativized verb has.

According to Kiparsky (1982b, p. 138), nouns can only be formed from untensed verbs, because tense must agree with a nominative subject and nouns do not have nominative subjects. On the other hand, verbs are not known to modify nouns or take a definite article or be marked for accusative Case.

The crucial facts to be taken into consideration in ascertaining the lexical category of a relativized verb are the [+tense] feature of the verb and the presence of a nominative subject. These two properties are mutually dependent, for the verb's affixes mark agreement in person, number and gender with the subject and it is the verb's

inflection (i.e. tense/agreement features) that assigns nominative Case to the subject.

Let us first look at this question from the morphological viewpoint of feature percolation, taking as an example the relativized verb yäfälläghut in the construction ine [e] yäfälläghut; mäs:haf 'the book that I wanted'.

The form yäfälläghut contains four morphemes: the relativizing morpheme yä, the perfective stem fälläq-, the first person singular subject agreement suffix for the perfective, -hu, and the third person singular masculine pronominal clitic, -t. That means that the feature specifications of the unrelativized verb fälläghu contain a [+tense] feature and agreement features matching the subject ine 'I'.

If the morpheme yä is regarded as a category-changing prefix, converting a verb into a verbal noun, for instance, it must be affixed in the lexicon either before or after the verb stem acquires its agreement suffix. It could not be affixed prior to the affixation of the agreement suffix, however, for if it were, it would label the morphological tree as a noun; since the verbal agreement suffixes are subcategorized for a verb, the suffix -hu could not be affixed to a noun *yäfälläq. On the other hand, yä cannot be affixed after the agreement ending has been attached, for after it labelled the morphological tree as a noun, the pronominal object clitic -t would not cliticize to it, as it is subcategorized for cliticization to a verb. As I have already

demonstrated (in Chapters Two and Three), the clitic -t cannot be attached earlier. A pronominal object clitic's lexical specifications require that it cliticize only to a fully inflected verb at the V^0 level, and Amharic verbs reach the fully inflected stage only in Level 2 of the lexicon when agreement affixes are added. Cliticization takes place in the next (and final) lexical level.

Moreover, there would be no reason for a category-changing prefix to select a verb that already has tense and an agreement suffix, as the features of tense and subject agreement would be "lost" in the morphological tree construction. Recall (from the discussion in Chapter One of Lieber's system of feature percolation) that features belonging to one category class are blocked from percolating to a node dominating another category. Consequently, in yäfalläghut, if yä converted the fully inflected form into a noun, the features specifying tense and agreement would not percolate to the mother node, as they are not features belonging to a noun. Why, then, should they be affixed in the first place?

From the syntactic viewpoint of clause structure, analyses of the relativized verb as a participle or verbal noun also fail. If we supposed, for instance, that the verb in the example sentence is a participle, we would expect the subject of the clause to be PRO and not the overt, independent pronoun ine, with which the verb exhibits agreement in person and number.

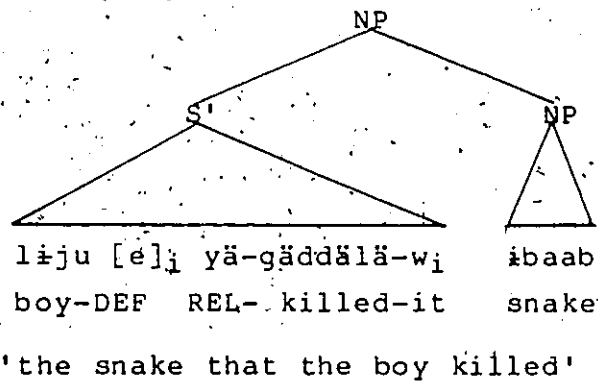
Suppose, alternatively, that the Amharic relativized verb is a verbal noun, like the English gerund, for example. I cited above Kiparsky's statement that nouns cannot be formed from tensed verbs because tense must agree with a nominative subject and nouns do not have nominative subjects, such constituents ordinarily being in the genitive Case, as in Napoleon's destruction of the city and John's Writing the poem.⁶

Reuland (1983) discusses other types of -ing clauses in English, in which the subject is lexical and therefore has Case. One of his examples shows a nominative subject (he): Elaine's winking at Roddy was fruitless, he being a confirmed bachelor. He argues that this absolute construction is a tenseless finite clause and that the -ing of being is a realization of the nominal element AG, the (possibly abstract) agreement marker of a finite clause, which can assign nominative Case to the subject. However, there are no evident parallels between the -ing in question and the yä of the Amharic relativized verb. Note that -ing is the only inflectional affix on the verb, whereas the Amharic verb already has full inflection without yä, marking both tense and agreement. Note, too, that the tensed Amharic verb gives no appearance of being rendered tenseless by the affixation of yä. In addition, the Amharic relative clause cannot be analyzed as absolute, for it is fully integrated (by some means that I have yet to describe) into an NP that is a constituent of a matrix sentence.

Moreover, if the relativized verb yäfälläghut were analyzed as a verbal noun (and not the verb of a VP dominated by a clausal NP), it would itself have to have Case, and it is not in a position to receive Case from any Case-assigning element.

In summary, every indication reveals the relativized verb to be a tensed finite verb to which yä is attached at some (as yet undetermined) stage. The clause in a relative construction, such as laju [e] yägäddälä-w in (13), exhibits all the essential properties of a sentence, differing in no obvious way from a completely independent sentence except for the presence of yä. The structure of (13), in that case, has the general configuration of (15), in which I have labelled the clause S' since it contains a tensed verb.

(15)-



If the relativized verb were analyzed as some sort of nominal, Amharic relative clauses would appear to be highly marked with respect to universal grammar, presenting many complications for the subsystems of core grammar, especially those concerned with government and X-bar theory. In

contrast, when it is treated according to its descriptive name, that is, as a verb with tense/agreement features preceded by a relational morpheme, the structure of its clause can be seen to resemble the structure of a clause in the relative constructions of other languages, such as English, conforming to the interacting systems of principles within the government-binding model.

Rothstein (1983) argues that phrase structure configurations at S-structure are correctly analyzed in terms of syntactically defined subjects and predicates. A non-argument maximal phrase is understood as a syntactic predicate, that is, an open function, which must be "saturated," or closed, by being linked to an appropriate, external argument, its formal subject. The representation of syntactic subjects and predicates is not isomorphic to the semantic representations, but the Rule of Predicate-Linking, quoted below, which represents strings in terms of formal subjects and predicates, facilitates the mapping from syntactic to semantic relations.

Rule of Predicate-Linking (Rothstein, 1983, p. 27)

"Every non-theta-marked XP must be linked at S-structure to an argument which it immediately c-commands and which immediately c-commands it."

The S' in (15) is a maximal projection that requires closure by an argument, as it is not a θ -marked XP. The head NP, baab, is an argument and it is external to the S', as it

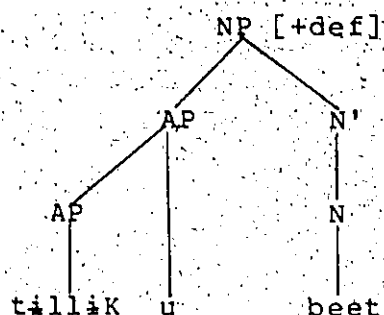
is not c-commanded by the head of S', the COMP. However, the required c-command relation does exist between the S' and the head NP, since the first branching node dominating each immediately dominates the other. The head NP is thus the formal subject of which S' is predicated. Evidently, the basic structure that I have proposed for the Amharic relative construction satisfies the requirements of predicate-linking at S-structure.

There are also a number of other satisfying consequences of the analysis that the relative clause is an S'. First, since S' is a maximal projection, it is possible to establish a unified rule for the insertion of the definite article in a determined NP. I showed in the previous section that the definite article appears on the right of any modifier of a definite NP or, failing a modifier, on the head noun itself. The rule of Definite Article Insertion, which I originally formulated in (7) and repeat here for convenience in (16), will satisfy the definiteness requirement of an NP in each of the structural types illustrated in (17), in which the definite article -u (or, -w) is adjoined to a maximal projection.

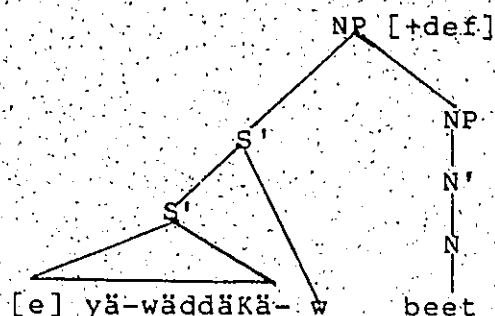
(16) Definite Article Insertion

Adjoin the definite article on the right of each maximal projection lacking a [+definite] feature in the left branch of a complex NP, or to a non-complex NP by default.

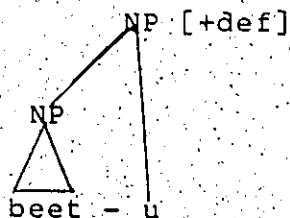
(17) a. tillik-u beet
'the big house'



b. yä-wäddäkä-w beet
'the house that fell down'



c. beet-u 'the house'



Adjunction to the right ensures that, in surface structure, the article will appear on the (phrase-final) head of the maximal projection, so that it can be encliticized to the head in the postsyntactic phonology.

In (17a) and (17b), the maximal projections contained in the NP are AP and S', respectively; in (17c), as NP is the only maximal projection, the rule adjoins the definite article to its right by default.

The second satisfying consequence of analyzing the relative clause as an S' is that the mystery of a verb marked by a definite article (and, perhaps, by an accusative marker) is thereby solved. A verb does not acquire the definite article by virtue of being some special kind of nominal but by virtue of its final position in the major phrasal category, S'.⁷

Finally, the structure in (17b) accurately portrays the function of the Amharic relative clause as a type of modifier of the head noun; it is an adnominal clause. The reason that some grammarians have analyzed the Amharic relative as adjectival is now obvious: the whole S', in an adjective's prenominal position, is interpreted through an operation of predication, the relative clause being regarded as an open sentence predicated of the head.

I will return to a discussion of predication in 5.4, but first it is necessary to investigate some puzzling questions concerning the function of the relational morpheme yä and its position in a syntactic structure.

5.3 The Relational Morpheme

It was necessary, in Chapter Four, to clarify the function and category of yä in the Amharic genitive construction. I reasoned there that this relational morpheme in a genitive expression is a preposition that does not assign Case; it does not take an NP as a complement but is a sister to the N' node. The function of yä in the Amharic relative construction is also problematic. As I explore the matter in this section, it will become clear that yä again plays a relational role, but instead of signalling a relation between one NP and another NP that dominates it, yä in a relative clause participates in relating a sentence to an NP.

The problem can be stated succinctly as follows: what properties must a morpheme have in order, by preceding a

verb, to relate the entire sentence in which the verb is final to the noun that follows the sentence, as in (18)?

- (18) [[lɨju- [e]i yä - gäddälä - wi]sɨ ɨbaab] NP
boy-DEF REL - killed-it snake
'the snake that the boy killed'

To provide a background for my proposed analysis, I will begin with a brief description of the relative construction in Amharic's ancestor language. In Classical Ethiopic, there was a relative pronoun that took the following three forms:

masculine singular: zä-
feminine singular: ?intä
plural (common): ?illä

As the hyphen suggests, zä- appeared in the written language attached to the verb, but the other two forms remained separate from it.

Examples of Ethiopic relative clauses in which the relative pronoun is the subject of the clause are given in (19). (They are taken from Lambdin (1978, p. 106), but the transliteration has been modified to be similar to the symbols used in this thesis for the corresponding sounds in Amharic.)

- (19) a. bi?si zä- täšayätä betiyä
man who bought house-my
'the man who bought my house'

- 1

10

- 1

1

- 10

Note that, at S-structure, the relative pronoun ʔintā precedes the verb immediately.

Tigrinya, the modern Ethio-Semitic language that most closely resembles the classical language, has retained zā- as a relative (usually as zī-) but dropped the feminine and plural forms. Like Amharic, it has adopted the prenominal position for most relative clauses, the same position in which other modifiers of a noun appear. According to Palmer (1962, p. 38), the element zī- should no longer be referred to as a "relative pronoun" but only as a "relative particle."

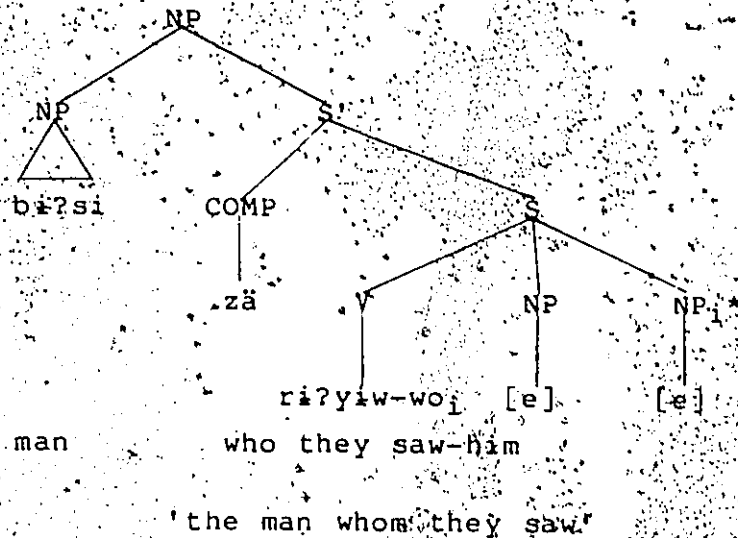
"The choice of terminology results from the fact that zī- indicates that a clause is a relative clause, but it does not in any way mark the kind of distinctions that are shown by relative pronouns, such as English 'who', 'whom', 'whose'. Distinctions of this kind, which are here called 'referential relations' are marked in Tigrinya by the concord of certain elements within the relative clause with the noun it modifies."

Hailu Fulass (1972) argues for a similar approach in analyzing Amharic relative clauses. The relational morpheme yā seems to be the Amharic reflex of Ethiopic zā-. Referential relations are marked in Amharic by the concord of elements present on the verb of the relative clause with the head noun of the clause, and in this concord the pronominal clitics play a part.

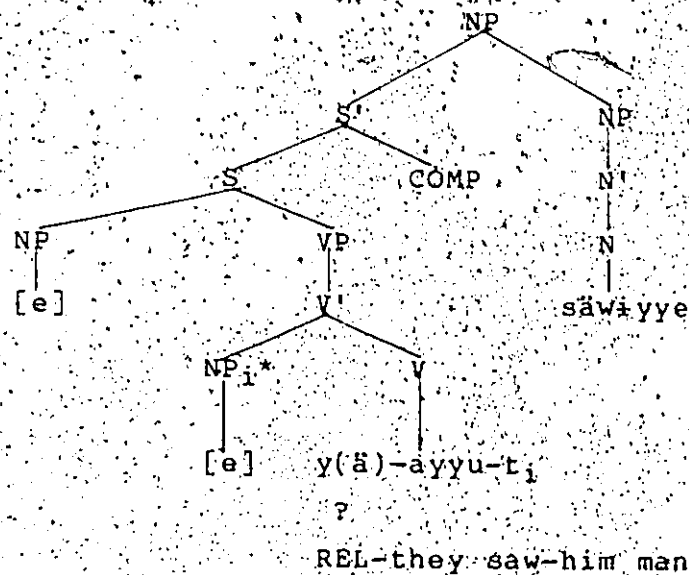
What I have not yet explained is the position of yā before the verb. A comparison of (22a), which is the structure I assume for the Classical Ethiopic sentence in (20), and the Amharic counterpart in (22b) may help us to imagine

how the Amharic relativized form may have developed. In (22b), I have added a question mark under yä to indicate that its structural position has not yet been established. (The relativized NP in each structure is marked with an asterisk.)

(22) a.



b.



yayyut säwiyye = 'the man that they saw'

What may have happened to the Classical Ethiopic structure in (22a) when Amharic developed an SOV order out of the

Ethiopic VSO order? First, we may speculate, the reordering of these three sentence components may have brought in its train a reversal of the Ethiopic relative construction order, in which the clause followed the NP, situating the Amharic clause in prenominal position. With the clause then preceding the head noun, the COMP node that joins the clause to the head would normally be the right, rather than the left, sister of S.⁹ As a result, zä- or (yä) in COMP would be on the right of the verb, but since zä- had a close connection with the verb, even being attached to it in written form, speakers might understandably tend to transfer the two elements together. Moreover, along with the loss of the feminine and plural forms of the relative pronoun, there was apparently a deletion of pronominal features, as Palmer suggests for Tigrinya (see above), leaving yä the character of "relative" without the content of a relative pronoun.

Speculation on the historical evolution responsible for the contemporary surface position of yä is interesting but it is not a synchronic analysis. Speakers of Amharic not only retain the linear sequence of yä and the verb; their tacit knowledge of underlying structure situates these lexical elements under the nodes of a syntactic tree. As a relational morpheme, yä should relate the whole clause, not just the verb, to the head NP. An appropriate location for an element performing this function is the head of the S', that is, COMP. The problem to be solved is how, if yä is in COMP, the verb can be on its right. In any case, the undeniable surface form, yä + VERB, requires a syntactic explanation.

Several possible ways of accounting for the form of the Amharic relativized verb in its clause structure come to mind.

- a. The "complementizer solution": yä, as a complementizer, might be generated in COMP and the verb moved out of V to the right of yä in the syntax.
- b. The "morphological solution": yä might be affixed to the verb in the lexicon and the prefixed form inserted in the V node; in the syntax, the whole form would move to COMP.
- c. The "adjunction solution": yä might be inserted by rule at S-structure and adjoined to the left of the rightmost V node; this complex V node would then move to COMP.
- d. The "in-situ" solution": either prefixation of yä in the lexicon or its adjunction at S-structure might take place, but the relativized verb would remain in place inside the S, with no movement to COMP at all.¹⁰

Let us work through the suggested solutions backwards, beginning with the possibility of (d), that the verb, with yä already in prefix position by some means, remains in its base-generated V position. An apparent advantage of this account, whereby no movement would occur, is that the EC of a relativized verb's complement would be in no danger of violating the Empty Category Principle, as the verb would remain

in the position of a proper governor. On the other hand, there are several disadvantages in this account. For one thing, if yä is not in COMP, its function is not at all clear. Unlike a preposition or a Case marker, which assigns Case and perhaps transmits a θ -role to the following NP, yä provides the verb with no identifiable requisite feature. Unlike yä in a genitive construction, where it is leftmost and can therefore signal that the following NP is to be interpreted in relation to another noun and not to the matrix sentence, yä before an S-final verb occurs too late to signal that the whole sentence is to be interpreted in relation to an NP; it is "buried" inside the clause, appearing just before the last element of it. The presence of yä on the surface does serve to distinguish a relativized verb from a matrix verb, however. The tacit knowledge possessed by speakers of the language concerning the position of yä in underlying structure must then enable them to relate the whole clause, and not just the verb, to the NP that follows.

The most telling disadvantage comes to light when the entire relative construction is definite. Some morpheme with a [+definite] feature must then appear on the right of the maximal projection that is in the left branch of the dominating NP. In this case, the maximal projection is the 'S'. Recall that a pronominal clitic provides the essential [+definite] feature that satisfies the definiteness requirement of a determined NP. If a relativized verb, to which a pronominal clitic is adjoined, remains under its V node, it

is "buried" inside the S , and the clitic with its feature will not be "visible" on the right of the S'. Consequently, the rule of Definite Article Insertion (16), will apply, adjoining a definite article on the right of the maximal projection, S' . This article will thereafter have to be deleted, since the clitic fills the only available position on the verb for a [+definite] lexical element.

I see no solution for this particular problem and consider the "in situ" account unfeasible. By some means or other, the relativized verb should be located in COMP, which is the head of S' . Any solution that moves the verb out of its V position into COMP must, however, account for the proper government of an EC in the complement position of the relative clause. This problem should therefore be settled before any of the other (a)-(c) possibilities are considered. I will argue, following Koopman (1983), that movement of the verb into COMP leaves a trace and that this verbal trace serves as a proper governor for an EC complement.

In her exposition of the verbal syntax of the Kru languages, Koopman describes a rule in Vata, restricted to tensed clauses, that moves a V into INFL, leaving a verbal trace in the VP. This rule derives Vata surface structures, in which a verb may precede its complements, from the D-structures, where the verb is final in its VP. When a Vata verb is moved by this V-Movement rule, the verb in INFL no longer governs its NP complement, which remains in the VP. Koopman assumes that this NP receives Case from the verbal

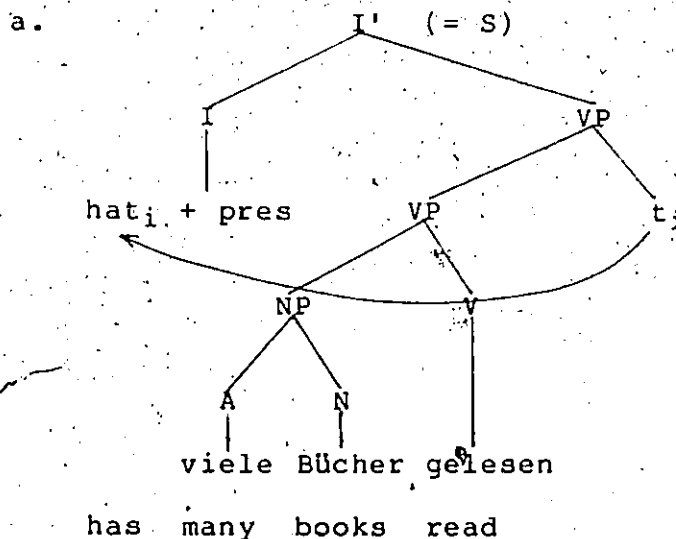
trace, "which, in this respect acts like the lexical verb, assigning Case to an NP under government" (p. 195).

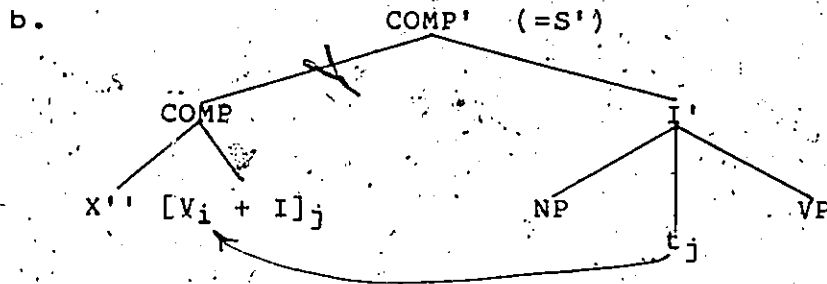
Koopman then argues that V-Movement, which is not particular to Vata but is available in universal grammar, has the same formal properties as the NP-Movement rule. Both are structure-preserving, in that an element is moved from one obligatory base position to another. Just as [NP,VP] may move into the [NP,S] position, so a verb moves into an obligatory base position recognized as a verbal landing site (that is, from a V-position to a V-position). Furthermore, just as an NP in a θ -position can move only into a $\bar{\theta}$ -position, lest the θ -criterion be violated, so a verb in V, a θ -assigning position, can move only into a $\bar{\theta}$ -assigning position.

INFL, in Koopman's analysis, is one of the verbal landing sites that fulfills the conditions described above; COMP has been identified as another. For instance, den Besten (e.g. 1978, 1982) describes COMP as [+Tense] and therefore an appropriate landing site for the verb that is moved by the Dutch rule of V-Second. Travis (1984, p. 112) agrees that the Dutch verb, with INFL, moves to sentence-initial position, assuming with den Besten that "... INFL is in COMP when it is fronted." In an analysis of German, Travis proposes that the auxiliary verb is generated in sentence-final position and moved into INFL, which governs the auxiliary verb's trace; then the complex INFL containing this verb may move into COMP, which properly governs the INFL node.

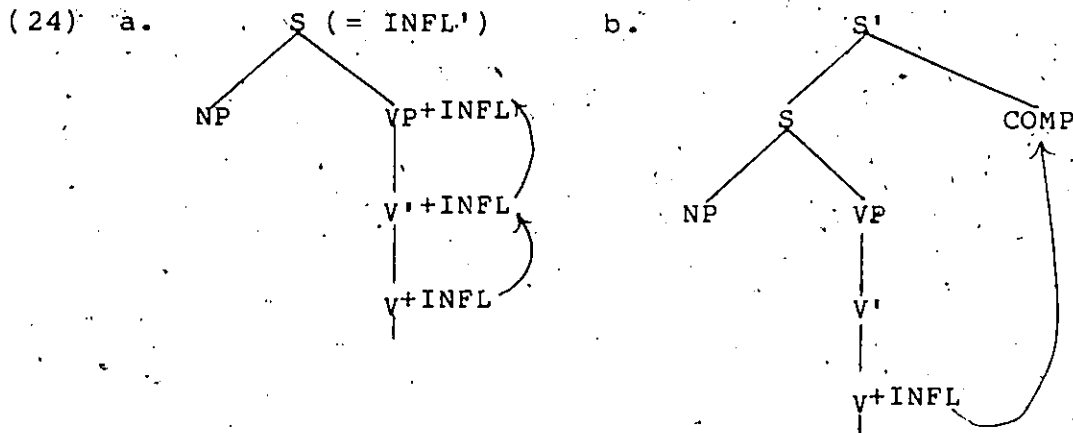
The movement of a verb, then, is constrained by general principles, just as NP movement is, with a head moving only into a head position. Travis (p. 24) articulates the Head Movement Constraint, which states: "An X^0 can only move into a Y^0 that properly governs it." Thus, in the German analysis outlined above, the verb (which is the head of VP) moves into INFL (the head of S), and INFL moves into COMP (the head of S'). In each case, movement is into a properly governing head position. The trees in (23), taken from Travis (1984, p. 132), illustrate these movements. In (23a), the auxiliary hat has moved from its sentence-final position into INFL, which properly governs the trace. In (23b), INFL has moved into COMP (and the X' category has moved into the initial (non-head) position in COMP, according to the usual V-second analysis). The trace that is left by the movement of INFL into COMP is antecedent governed.

(23) ... hat viele Bücher gelesen
'... has read many books'





Let us now see if the movement of an Amharic verb into COMP conforms to these principles. In the Lexical Morphology and Phonology model that I have adopted, verbal inflections, like other affixes, are attached to the verb in the lexicon (cf. Kiparsky, 1982a; Lieber, 1981; Pesetsky, 1979; Jensen and Stong-Jensen 1984). I have been assuming with Bouchard (1982, p. 365) that INFL is not a syntactic node and that the percolation of INFL features takes place in the syntax after the insertion of a verb that acquired these features in the lexicon. In syntax, the features climb to the VP, yielding a complex node of VP + INFL, as in (24a).



Given this notion of the presence of INFL features in the verb and their percolation, it is plain that the inflected head of the VP contains the INFL features that are the head of S. Since COMP governs INFL, the head of INFL may

correctly move into COMP, when it is present, as in (24b).

It is significant in this respect that, in an Amharic compound tense, only the tensed component follows the relational morpheme, yä, as (25) shows.

(25) wädKo yä - näbbärä - w beet
having- REL- PAST - DEF house
fallen

'the house that had fallen down'

If the inflected verb moves into COMP, it leaves a trace behind. Koopman's claim that the verbal trace retains the verb's ability to assign a Case to a Vata NP, under government, is confirmed by Sproat (1984, p. 426). He concludes that the proper government of the object position by a verbal trace in Welsh reflects the general trend and that cases in which a verbal trace does not properly govern are exceptional.

This discussion has demonstrated that the Amharic verb may correctly move into COMP in a relative clause, without endangering the proper government of its complement, EC, and it is now possible to return to the original question concerning the function and position of the relational morpheme, yä. Is yä adjoined to the verb in the syntax and then moved with it into COMP? Is yä prefixed to the verb in the lexicon and the entire relativized verb moved? Or is yä a complementizer inserted under the COMP node, eventually becoming proclitic on the verb that is moved into COMP by V-Movement?

All of these approaches would solve the problem related to

the application of the Definite Article Insertion rule, for the [+definite] feature of a pronominal clitic on a verb moved into COMP will be "visible" on the right edge of S' and prevent the rule from applying.

The adjunction solution in (c) seems to offer no advantages, except the dubious one of getting yä in the correct surface structure position, and it can be faulted on several grounds. First, the ordering of adjunction and movement is wrong. The movement of the verb, which is clearly obligatory and not stylistic, must be an instance of Move α , occurring between D-structure and S-structure, before adjunction would take place. Besides, if a morpheme is to be introduced into syntactic structure by a rule, it would be logical to insert it at the desired position and not expect it to migrate away from the point of adjunction. In other words, if the relativized verb is to be moved into COMP, that is where any adjunction of yä should be made.

A final disadvantage that leads me to reject the adjunction solution involves a wider field of Amharic syntax, which I shall merely mention briefly. Relational yä is by no means the only morpheme of syntactic significance that appears between the verb's complements and the verb, blending phonologically with the verb. Virtually every clausal subordinator occurs in that position, including, for example, indä 'that/as soon as'; indä 'so that/that'; istä 'until'; si 'when/if', among others. The two examples in (26) illustrate the position of these subordinators on the left of a verb

that is final in its clause. (In (26b), the final /i/ of indi has become /i/ before the y- third person plural agreement prefix on the verb.)

- (26) a. (ine) indä - näggärh - äñ wädä hakim beetu hedku
I as told - me to hospital-DEF went
soon as (2.s.m.) (1.s.)

'I went to the hospital as soon as you told me'

- b. māsihaf-u-n indi - yanäbbu näggärku^w- accäw
book-DEF-ACC that - read told - to them
(3.pl.) (1.s.)

'I told them to read the book' (...that they should read...)

The decision that yä might enter syntactic structure by adjunction to a V node could therefore have far-reaching implications for the analysis of almost all subordinated clauses. Is it reasonable that an entire class of subordinators be inserted by a rule? To me, that approach is entirely unattractive.

The morphological solution in (b), whereby yä is affixed to a verb in the lexicon and (the relativized verb moved out of its base-generated position, seems to have two factors in its favour. First, it would perhaps be easier to account for the selection of the appropriate form of the relational morpheme in the lexicon, which deals in idiosyncrasies, than in the syntax, where generality is expected; the subcategorization frame for yämmi could specify the imperfective form of the verb and that of yä, the non-imperfective forms. Second, the presence of the relational

morpheme on a verb inserted under a V node would render the S ungrammatical and force movement of the combined form out of S.

One problem with this approach is that the function of yä is not well defined when it is treated as an affix. It does not seem to be an inflectional affix, for it contributes no grammatical feature to the verb, and it does not seem to be a derivational affix, for it does not change the semantic sense or alter the category of the verb. The reason that yä is present in a relative clause has to do with relating a sentence to an NP, and that is a function that affixation does not very accurately reflect. Moreover, although it would not be impossible, it would seem odd for yä to fill a syntactic node in one construction (i.e. the genitive) and to be an affix in another (i.e. the relative). In both constructions, yä fulfills a relational function; in the former, it involves an NP and in the latter, an S'. (The same might be said for words such as English as, since, until, etc.)

Ironically, it is the matter of the two forms, yä and yämmi, which was listed above as an apparent advantage offered by the affixation solution, that convinces me that this morphological approach cannot be correct. It is far too simplistic to say that the relative morpheme appears as yämmi with the imperfective and yä elsewhere, and to stop there. It is surely more correct to say that yämmi consists of yä plus the morpheme -m-, which geminates when it precedes a word and therefore requires an epenthetic /i/. The semantic and/or grammatical value of this morpheme is uncertain (though Hudson (1983) has interesting ideas on the subject),

but there appears to be little doubt that it is distinct from
yā.11

The two points about -m- of special relevance to the present topic are the following. First, it is prefixed to the simple imperfective, a form of the verb that possesses tense and agreement features but is unable, by itself, to be the verb of a declarative sentence; in this respect it resembles a subjunctive form in other languages. Second, it appears with the simple imperfective after subordinators such as indä 'that', iskä 'until', silä 'because', without being preceded by yä. Indeed, because of the presence of -m-, some grammarians (e.g. Obolensky et al., 1964) describe clauses with these subordinators as relative clauses from which yä has been omitted, and Leslau (1968) refers to a verb in the simple imperfective on which -m- appears as the "relative imperfect."

For example, when relativized, the third singular masculine perfective mätTa 'came' has the form yämätTa; the third singular masculine simple imperfective of the same verb, yimäTa, has the relativized form yämmimäTa. Note in the sentences below that the perfective form in (27a) lacks any evidence of relativization after indä 'that', whereas the simple imperfective in (27b) retains the (geminated) -m- in the same construction.

- (27) a. tīlant indā - mātTa nāggārācc-iñ
 yesterday that - came told -me
 (perf.)
 (3.s.m.) (3.s.f.)

'she told me that he came yesterday'

- b. nägä indä - mm - imäTa awKallähu
 tomorrow that - ? - come know
 (imper.) (comp. imp.)
 (3.s.m.) (1.s.)

'I know that he'll come tomorrow'

If, as grammarians have claimed, the presence of -m- in sentences like (27b) indicates that the verbs in (27) are relativized verbs from which yä has been omitted (because a subordinator precedes it), it follows not only that yä and -m- must be distinct but also that yä cannot be a prefix attached in the lexicon. Once affixed as an integral element in a relativized verb, yä could not be deleted by a syntactic rule.

On the other hand, it does seem possible that -m- may be an inflectional affix, the lexical entry of which contains a subcategorization frame specifying its prefixation to a simple imperfective verb. With respect to its verb, a relative clause has all the characteristics of a declarative sentence, and a simple imperfective verb, by itself, is not able to be the verb of such a sentence. (Note, in (27b), that the matrix verb awKallähu 'I know' is in the compound imperfective, formed with the auxiliary allä.) It seems reasonable to suggest that the morpheme -m- adds some necessary grammatical feature that allows a simple imperfective verb to head the verb phrase of a relative clause, in the same way that the perfective form does.

Criticism of the morphological approach to the problem has led, in fact, to the complementizer solution. Let us

suppose that yä is a complementizer, inserted into COMP at D-Structure, and that a tensed verb in a relative clause moves into COMP in the syntax. If yämmi is analyzed as two distinct morphemes, with -m- an inflectional prefix added in the lexicon, there is no need to devise a special syntactic mechanism to ensure the correct matching of the complementizer form and the tense of the verb. Also, the resemblance between the Classical Ethiopic zä-rī?yāw-wo, in which zä- in COMP is immediately followed by the verb of a VSO sentence, and the Amharic y(ä)-ayyā-w, both meaning 'whom he saw', is thus accounted for, not only with respect to surface order but also to underlying syntactic structure.

As in other languages, Amharic subordinators in COMP may participate with the matrix verb in selecting certain verb forms in the lower sentence, and it therefore seems reasonable to suppose that yä, as a complementizer, may subcategorize a [+tense] element to follow it, thus triggering the movement of the verb-plus-INFL into COMP. The significance of INFL's presence in COMP is that the head of the sentence has moved into a relativized position after yä. The whole clause is thereby relativized, not just the verb.

Chomsky (1981, p. 53) describes COMP as in (28), a node with two positions, one of which arises from a rule of adjunction.

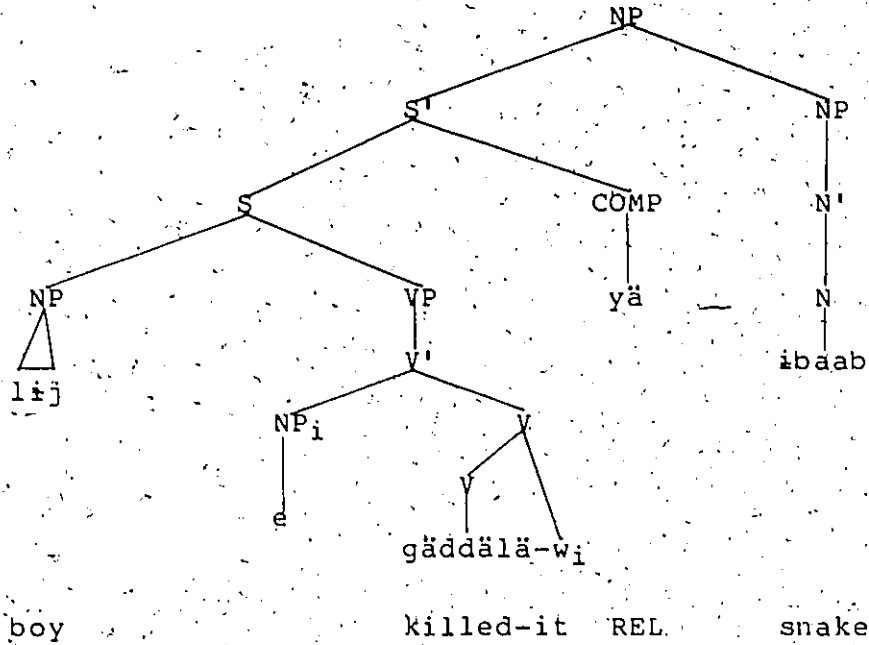
(28) [COMP X [COMP $\left\{ \begin{array}{l} \pm \text{WH} \\ \text{for} \end{array} \right\}$]]

[4WH] is the abstract element that appears in direct or indirect questions, [-WH] is the English that and its analogues in other languages and X is a phrase moved into COMP. In those languages where a wh-phrase, such as who, moves to COMP in a relative construction, that wh-phrase would be X. As Amharic has no wh-phrase that moves in relative clauses, let us assume that X in Amharic is the inflected verb and that it is adjoined to the head of COMP. (Travis (1984) argues that the head of COMP may be licensed in a number of ways, including the possibility that it may be lexical, as in the case of that in English.) Allowing for the reverse order of items in this SOV language, then, COMP in the Amharic relative construction of (15), liju [e] yä gäddälä-w ibaab 'the snake that the boy killed', looks like (29).

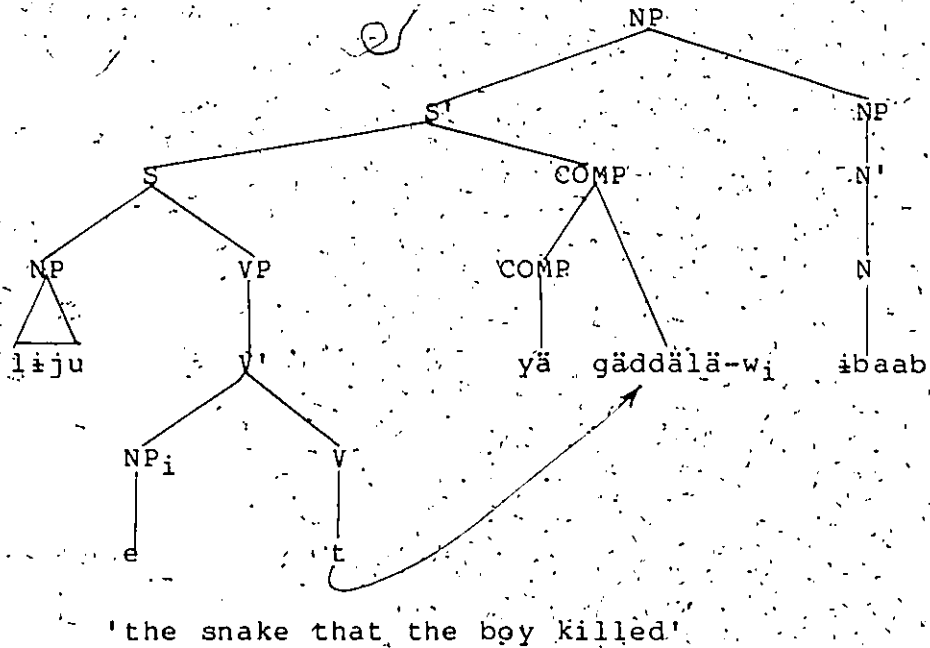
(29) [[COMP yä] COMP. gäddälä-w]

In summary, the weight of advantage lies with the complementizer solution, and that is the approach that I have taken. Accordingly, the D-structure of the relative clause in (15) is as shown in (30a); in (30b), the S-structure representation shows that the verb has moved into COMP.¹²

(30) a.



b.



In the next section I will discuss the nature of the relation between the pronominal clitic in a relative clause and the empty category in A-position with which it is coindexed. In that regard, it may seem significant that the

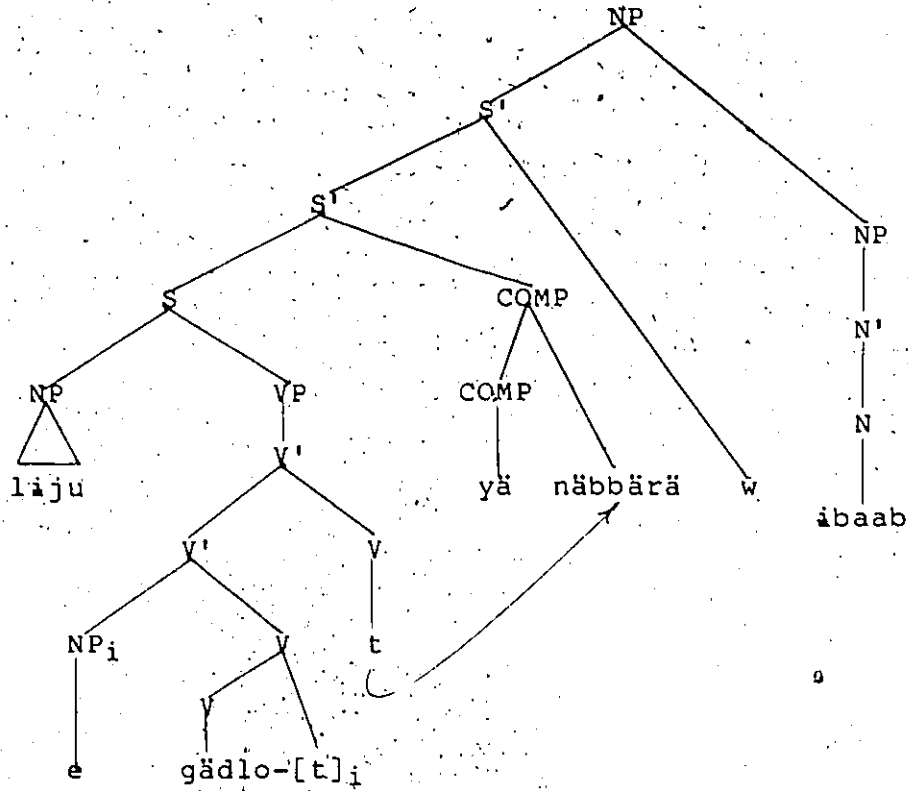
clitic is present in COMP at S-structure, having been moved there with its host verb. Therefore, it is important to note immediately that the pronominal clitic is not always moved into COMP in a relative clause. Consider, for instance, the sentence in (31), which is identical to (30) except that the verb is in the past perfect tense.

(31) lɛjɔ [e]ᵢ gädlo - tᵢ yä năbbärä - w ɪbaab
 boy having it REL PAST - DEF snake
 (DEF) killed - (3.s.m.)
 (3.s.m.)

'the snake that the boy had killed'

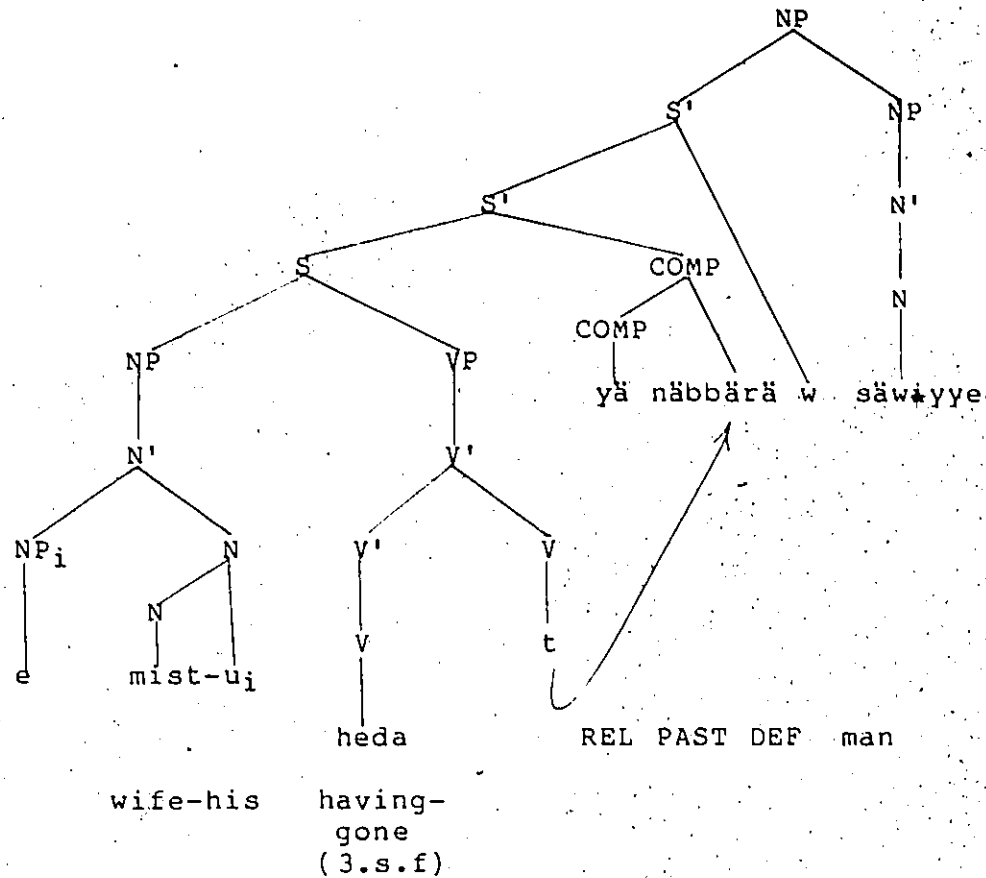
The past perfect tense is formed by combining the gerundive of the predicative verb (gädlo 'having killed') with the past auxiliary năbbärä. The dependent pronoun is cliticized to the predicative verb (and is realized after the [+round] vowel as -t). The auxiliary, which fills the rightmost V node in a syntactic structure, is the verbal element that moves to COMP, as it contains INFL. This is illustrated in (32).

(32)



Furthermore, when the possessive pronominal cliticizes to a noun in a genitive construction, as in (33), it obviously cannot be present on the verb moved into COMP.

(33)



'the man whose wife had gone (away)'

Evidently, there is no obligation that the pronominal clitic be in COMP in a relative construction.

On the basis of these facts, we can see that the decision of Hetzron (1966) to refer to the pronominal clitic in a relative clause as a "connective pronoun," and not as a "relative pronoun," is wise. Clearly, the clitic plays a role in relative clauses, associating the NP that is relativized with the head NP and indicating the grammatical function of that head NP within the clause, but it is not the same as a relative pronoun, such as English who, which moves

under rule into COMP, where it can bind a variable in the clause.

An additional question that arises at this point concerns the definite article. The sentence in (33) shows that the article -w eventually becomes enclitic on the auxiliary in COMP. If this morpheme were not the definite article but rather the dependent pronoun, perhaps forming some sort of chain with the pronominal clitic -t on gädlo, then COMP would contain a pronominal clitic, and we would have to consider that a pronominal in COMP might play some kind of binding role there. The similarity in form of -w, the definite article, and -w, the third singular masculine pronominal clitic, might provoke the thought that it should perhaps be analyzed as the clitic here and not the article.

The morpheme that encliticizes to the auxiliary cannot be the dependent pronoun, however. Suppose that the head NP in (32) is the plural noun ibaabocc 'snakes'. The pronominal clitic on gädlo would then be the third person plural -accäw, but the morpheme that encliticizes to the auxiliary is simply -w, as in (34).

(34) läju [e]_i gädlo^w - accäw_i yä näbbärä - w ibaabocc
 boy having them REL PAST - DEF snakes
 (DEF) killed -

'the snakes that the boy had killed'

In addition, the definite article is also required when the subject of the clause is relativized. In (35), the article surfaces as -t because the plural verb ends in

a [+round] vowel. It cannot be the pronominal clitic, as the object *ibaab* is not a definite NP.

(35) [e] i baab yä gäddälu - t lijocc
 snake REL killed - DEF boys
 (3.pl.)

'the boys that killed a snake'

The conclusions that must be drawn are: (a) that the presence of a pronominal clitic in COMP is not obligatory in the relative construction, and (b) that when a pronominal clitic is not present in COMP, the rule that adjoins the definite article to maximal phrases in the left branch of a definite NP applies, presumably because the [+ definite] feature of a pronominal clitic is not "visible" on the right of S' unless the clitic is present in the head of S', that is, COMP.

5.4 The Amharic Relative Clause as a Predication

In his paper on wh-movement, Chomsky (1977) points out that relativization does not always involve a movement rule; in some languages the process simply interprets a base-generated resumptive pronoun in the relative clause. Modern Hebrew is cited as an example of a language that employs both types of relativization: a movement rule and an interpretive process involving the resumptive pronoun strategy.

Borer (1984b), in her discussion of Modern Hebrew restrictive relatives, assumes that the rule of predication

which interprets a relative clause operates by linking an abstract relative operator, coindexed with the head of the relative clause, with a coindexed resumptive pronoun. In other words, the abstract operator is an intermediate link in the coindexation of the resumptive pronoun with the head of the relative clause.

Chomsky (1982), however, after remarking that the resumptive pronoun strategy normally involves no overt operator in COMP, speculates that perhaps there may not be an empty operator there, either. He suggests that, if there is no operator at all, relative clauses with resumptive pronouns might simply be interpreted through an operation of predication, the relative clause being regarded as an open sentence predicated of the head.

In this section, I will first argue that relativization in Amharic is not a product of wh-movement; rather, the EC-clitic chain constitutes a resumptive pronoun. I will adopt the suggestion of Chomsky (1982), outlined above, for interpreting Amharic relative clauses as open sentences predicated of the head noun. I assume, in keeping with Chomsky's speculation, that there is no abstract operator in COMP. In this analysis, I am limiting my attention to object relatives, as my main concern is with the pronominal clitics, which are not coindexed with sentence subjects.

Since several examples of relative clauses have already been given, it is probably unnecessary to point out that

relativization in Amharic does not call for any overt wh-words, such as English who and which, for instance. Like Modern Hebrew (Borer, 1984a), Amharic has no relative pronoun. The relational morpheme yä, which I have argued serves as a complementizer, seems quite similar, in this respect, to the Modern Hebrew še, which (according to Borer (1984b, p. 235)) is the "standard [- wh] complementizer in Hebrew."

The first characteristic of wh-movement listed by Chomsky (1977) is that it leaves a gap. The examples of object relatives offered in this thesis clearly show a gap, an empty category, in the position with which the head noun is associated. A comparison of a relative construction with the corresponding simple declarative sentence, however, shows that the gap is not one that is necessarily associated with relativization. Consider, for instance, the relative in (15), repeated here as (36a), along with the corresponding declarative sentence in (36b) and the same sentence without a lexical element in the object NP position in (36c).

- (36) a. [[lɨju [e]_i yä gäddälä - w_i]_S i^hbaab]_{NP}
 boy REL killed - it snake
 'the snake that the boy killed'
- b. lɨju i^hbaab - u - n_i gäddälä - w_i
 boy snake - DEF - ACC killed - it
 'the boy killed the snake'
- c. lɨju [e]_i gäddälä - w_i
 'the boy killed it'

In (36c), it is possible for the subcategorized NP position to be empty only because it is coindexed with the pronominal clitic. That is, an NP gap exists here in the simple sentence, having been base-generated there, licensed by the clitic. The gap in the relative construction of (36a) is also base-generated in the subcategorized position and licensed by the clitic, which cannot exist in a syntactic structure without being coindexed with a phrasal category in θ -position. What is obligatory in the relative clause of (36a) is not the EC in its own right but rather a pronoun in the discontinuous form of the EC-clitic chain.

Given these facts, an analysis of the Amharic relative construction involves determining the following:

- (a) the relation of the EC to the clitic in a matrix sentence;
- (b) the categorial status of the EC-clitic chain in a matrix sentence;
- (c) the relation of clause and head NP in a relative construction;
- (d) the function of the EC-clitic chain in a relative construction.

Let us begin with the nature of the empty category that is coindexed with a clitic in a matrix sentence.

In Chomsky (1981, 1982), empty categories have to be assigned to an appropriate subclass by the properties

[+ pronominal], [+ anaphor] so that the various subsystems of the grammar, which are sensitive to these descriptions, can operate. Chomsky (1981, p. 330) provides definitions for identifying ECs as variable, anaphor or pronominal on the basis of their contexts. Later (1982), he argues for the existence of a pronominal nonanaphor, pro, by reasoning that its nonexistence would leave a surprising and unexplained gap in the paradigm. Describing pro as an EC that has the capacity for specific, definite reference despite its lack of phonetic content, "... as definite as is he in the translation [... of [e] parla 'he is speaking']" (p. 79), he mentions the possibility that the EC associated with a clitic may be pro.

Zagona (1982, p. 133) supports that speculation and maintains that the EC linked with a clitic must be pro. It cannot be NP trace, she reasons, since it is not bound by an antecedent in A-position. Since it is governed, it cannot be PRO. It cannot be a variable, as it has no binder in an $\bar{A}$ -position (COMP). Therefore, it must be pro, "which it may be, since it is governed and A-free." The flaw in this argument, in my view, is that, while the EC may be A-free in that it is not bound by an NP in A-position, intuitively it is not free. If the EC associated with a clitic is pro, and if pro is a pronominal nonanaphor like he or him except for its lack of a phonetic matrix, it ought to be truly free in its governing category, but it is not. Were it not for its coindexation with the clitic, it would be illegal. Its existence

depends on its participation in a chain with the clitic.

Moreover, while the clitic is not in COMP, it is in $\bar{A}$ -position, under a V node.

Brody (1984) shows that contextual definitions are only auxiliary stipulations and that, to the extent that they are correct, they follow from independently necessary principles of grammar. He proposes the random characterization of ECs, constrained by independently motivated principles, including the binding theory and the theory of chains. Brody (1985, p. 530) further argues that the distinction between pronominal and nonpronominal ECs is an artifact of the GB account for the complementary distribution of PRO and trace. On the contrary, Brody demonstrates, all ECs are nonpronominal categories and all are anaphors. Through the theory of chains, he shows that the head of a chain is Case-linked and all non-head members of chains are ECs; the distinguishing property of PRO, which is an anaphor, is that it heads a chain.

Under Brody's analysis, then, the EC in a clitic construction must be an anaphor. However, an [EC, clitic] chain does not perfectly fulfill the definition of a chain given by Brody (1985, p. 507); which states that a set of categories $[x_1, \dots, x_n]$ is a chain if all the categories are coindexed, if x_1 is an NP, if all the other categories are ECs and if each member c-commands the next. Since the pronominal clitic is the only non-EC, it must be x_1 , and it is not an NP. Nevertheless, as we have seen, it does have Case, acquired not as an NP but under lexical government.

Its Case qualifies it to head the chain and serve as antecedent to the anaphor EC, which, though in a governed position, does not have Case because the verb's Case feature was assigned to the clitic in the lexicon.

Chomsky (1981, p. 188) declares that the principles of the binding theory all concern A-binding. Brody (1985), however, in extending the binding theory to $\bar{A}$ -chains, has shown that Principle A (i.e. "an anaphor is bound in its governing category") need not be limited to A-binding. He defines the term "bound" as follows (p. 532):

"x is bound by y iff y c-commands x and x and y have identical referential sets."

The analysis of the EC in a clitic construction as an anaphor is therefore in conformity with this extension of the binding theory, as it is locally bound by the pronominal clitic, which c-commands it and shares a referential index with it. The EC is an $\bar{A}$ -anaphor, and its local $\bar{A}$ -binder is the clitic generated under the V node.

In (36c), the chain formed by the EC anaphor and its antecedent, the clitic, constitutes a single argument and bears a single θ -role. Together the EC and the pronominal clitic function as one discontinuous pronoun, the clitic supplying person, number, gender and Case features and the EC contributing the relevant argument position. In the terminology of Hetzron (1966), the EC-clitic combination is a "full

pronoun." As a pronoun, it falls under Principle B of the binding theory and is free in its governing category.¹³

Since the EC and clitic form a single pronominal unit, the EC by itself is not significant in any relation that is external to the clitic construction. Any process or relation that involves an element outside of the S' "sees" only the [EC_i, cl_i] chain, which counts as a single pronoun. Thus the EC and clitic in the relative clause of (36a) count as one pronoun in the interpretation of the relative clause. The relativized syntactic position is filled by one component of the overt pronoun; it is not a gap due to relativization. In linguistic theory, a lexical pronoun in this relativized position has been referred to by the term "resumptive."

As noted at the beginning of this section, Chomsky (1977) pointed out that relativization in some languages does not involve a movement rule but simply interprets a base-generated resumptive pronoun in the relative clause. He proposed that a rule of predication is responsible for this interpretation. To express the fact that the resumptive pronoun, which is free in its own clause, must be coreferential with the head of the relative construction, the rule requires that "... the relative be taken as an open sentence satisfied by the entity referred to by the NP in which it appears; hence there must be an NP in the relative that is interpreted as having no independent reference" (p. 81).

Chomsky (1982) suggests two alternative analyses for the "resumptive pronoun strategy," depending on whether or

not there is a base-generated operator. In the first alternative, a base-generated operator is coindexed at LF with the resumptive pronoun, making the pronoun a bound variable. When there is no base-generated operator in COMP, the index of the resumptive pronoun is coindexed with the head NP of the relative construction by the predication rule that maps LF representations into LF' representations by identifying indices.

Rivero (1986) develops the distinction between these two types of resumptive pronoun treatment, calling the former one, which relates to quantification, the "operator-resumptive" strategy and the latter the "predication-resumptive" strategy. In predication, the resumptive phrase is not an operator-bound variable but rather the variable of predication. Williams (1980, p. 209) describes the predicate variable as "... the open position in the S which makes it a (one-place) predicate." In languages that permit a lexical pronoun to fill the "open position" of Williams' description, that pronoun is similarly interpreted as the "variable of predication." It acquires its reference through the reference of the predicate's subject, the head NP.

The relative construction of Amharic meets the conditions for interpretation by a rule of predication. Since the EC-clitic combination is one pronoun, the resumptive strategy is not mediated by an EC. There is no wh-phrase, and there is no evidence of wh-movement. There is no empty operator in COMP to cause the EC-clitic combination to be a variable bound to a quantifier-like element.

Williams (1980) argues that relative clauses are complex predicates formed on S' , where wh-movement is responsible for creating the predicate-variable gap. In languages like Amharic, in which there is neither wh-movement nor a gap, the predicate variable is the pronoun occupying the position of relativization. All predication is indicated by coindexing a referential expression with a predicative one. The rule of predication assigns the index of the subject, the internal NP of the relative construction, to the S' that is predicated of it. The index is then passed on to the pronoun as the variable of predication. The generalized rule formulated by Williams (1980, p. 221) can be adapted to the Amharic relative construction as follows:

$S' \text{ NP}_j \rightarrow S'_{\text{pred } j} \text{ NP}_{\text{subj } j}$

Accordingly, in (37) the relative clause of (36a) is coindexed with the head NP, and the index is then passed on to the $[EC_i, cl_i]$ pronoun, the variable of predication.

(37) $[laju \text{ } [e]_i \text{ } yä \text{ } gäddälä \text{ } -w_i] \text{ } S' \text{ } [äbaab]_{NP_j}$

Rule of Predication

$[laju \text{ } [e]_j \text{ } yä \text{ } gäddälä \text{ } -w_j] \text{ } S' \text{ } [äbaab]_{NP_j}$

'the snake that the boy killed'

The Amharic relative construction, then, utilizes a predication-resumptive strategy, in which the overt pronoun is not a bound variable. Instead of being locally $\bar{A}$ -bound,

it acquires its index indirectly, by virtue of being the variable of predication in the S' that is predicated of the head NP.¹⁴

Notes for Chapter Five

1. Some grammars of Amharic do not call this Amharic determiner a definite article, preferring instead "definite marker" or "definite suffix."

When an NP is indefinite, no article is needed. It is increasingly the case, however, that Amharic speakers use the numeral and 'one' where an English speaker would use the indefinite article a. Older grammars mention this as a possibility, while stating that Amharic has no indefinite article, whereas my informant often seems uncomfortable without and.

2. According to Moscati (1969, p. 99), long before the development of Amharic, Classical Ethiopic had evolved a "suffix-substitute" from the pronominal suffixes, for use as an article. Moscati adds: "From these elements of frozen suffixes, no longer dependent on any antecedents, Amharic has developed a type of suffix-article."

3. On the other hand, elsewhere (p. 71) Armbruster states that the relative-plus-verb is "tantamount to a noun" and therefore may take the -n of the accusative and the definite article. Presumably, Armbruster would accept the classification of the relativized verb as a "nominal" (that is, a member of the "super-class" of lexical items defined by Cowley et al. (1976, p. 89) as those words that can occur as the subject of a sentence) since this term includes both nouns

and adjectives and since both nouns and adjectives may have these two morphemes attached to them.

4. According to Habte Mariam Marcos (1973, p. 116), members of a team that investigated regional variations in Amharic speculate that the nominal plural morpheme -occ is used in this construction (by speakers of the Gojjam dialect) as a definite determiner.

Contemporary standard Amharic, with which Habte Mariam Marcos contrasts yä-hed-occ 'those that went', expresses both the third plural subject agreement ending -u and the definite article -t (after the [+ round] vowel): yä-hed-u-t. The Gojjam dialect speakers seem to allow one nominal plural morpheme to express both definiteness and plurality.

5. Note that the definite article added to yäfälläghu is -t, not -w, because of the rule of U-Dissociation.

6. For example, Williams (1983, p. 305) differentiates the "special exocentric type" of clausal NP formed by the nominal gerund from "ordinary NPs" which do not have subjects, including PRO subjects.

Williams (1984, p. 643) states that the determiner of an NP may be the subject of the N that heads the NP, though it may not be the external argument, since the maximal projection of the N contains the determiner NP.

7. The method of introducing the accusative marker -n into syntax involves another mystery which (to my knowledge) has

never before been seriously addressed. A Case marker in other languages is normally inserted by a rule that adjoins it to the marked NP, and that is a possible option for Amharic. However, it seems (to say the least) inelegant to arrange for a sequence of adjunctions, first of the definite article and then of the accusative marker. Surely, a generalization would thereby be missed, as the -n marker appears only in definite NPs. That is, every occurrence of the definite article in an accusative NP will be followed by -n.

My suggestion is that the Amharic definite article is available from the lexicon in two forms, one unmarked for Case and the other with the accusative ending -n. The appropriate form is selected according to the demands of the syntax.

Since there are also accusative and non-accusative forms of the other classes of lexical items that identify an NP as definite, including demonstratives, possessive clitics and proper nouns, I assume that the Case ending -n is an inflectional suffix, subcategorized for any lexical item with a [+ definite] feature, which (like other inflectional affixes) is affixed in Level 2 of the lexicon.

If this is so, when a definite article is adjoined by rule to the verb of a relative clause that is predicated of a direct object NP, it is the accusative form -win that is inserted. Similarly, when a possessive pronoun, such as the third plural -accāw, is cliticized to a noun heading a direct object NP, the accusative form -accāwin is selected.

An analogy can be made with a language like German, although German declensions involve many more forms. The German definite article, demonstratives, quantifiers and possessive adjectives all assume different forms according to the required Case (plus gender and number), and the appropriate form is selected for the syntactic structure, as in Lieber (1981).

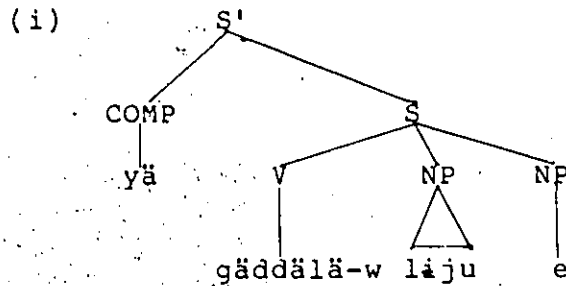
8. The Ethiopic relative zä- bears a phonetic resemblance to the Modern Hebrew complementizer še. The example in (i), drawn from Borer (1984a), is an exact parallel of the Ethiopic sentence in (20).

- (i) ha -ʔiʂ še - raʔiti ʔoto
 the-man that-saw-I him
 'the man that I saw'

9. With regard to the position of COMP as the right sister of S, Kaisse (1982, p. 9) comments, concerning one of the Australian languages: "Ngancara is a verb-final language, and is therefore typologically likely to have a S'-final COMP node."

10. Bach (1970) proposed that Amharic is a VSO language underlyingly. As mentioned in the Introduction to this thesis, both Hailu Fulass (1972) and Hudson (1972) refuted that claim. However, since there is a word order problem in the relative construction, I should at least be open to the possibility of an underlying VSO order.

Positing this order of sentence elements does nothing to solve the mysteries of the surface order and syntactic analysis of yä + VERB. Consider the hypothetical structure in (i) (which resembles that of Classical Ethiopic).



The correct word order might be achieved as in Dutch, by moving the verb into COMP and then moving some nominal or other [-INFL] constituent into the "C₁" position, or position of a first constituent; in this case, it would be the subject NP, lāju. But in Dutch, this kind of movement takes place in matrix sentences, and only when COMP is empty.

Consider now the problem of achieving the correct surface order in an Amharic matrix sentence, such as lāju ibaabun gäddälä-w 'the boy killed the snake'. If the verb moves to an empty COMP, both subject and object, plus any additional PPs, etc., would have to move into "C₁"; in other words, virtually the whole S would move. Alternatively, the verb could move to the right and adjoin S or S'. We would then have SOV order, which we might as well start with. Furthermore, in this structure there is no VP, as the discussion throughout this thesis suggests there must be. Moreover, one would have to ask why movement should be of

one type in the matrix sentence and another for the relative clause.

In comparison to the complicated and possibly inconsistent movement that would be required under the VSO hypothesis, the assumption of underlying SOV order, with the verb moving into COMP when a lexical element is present there, seems straightforward and more readily learnable.

11. Jean Lowenstamm very kindly called my attention to the article by Hudson and provided me with a copy of it.

12. Demissie Manahlot (1977) analyzed yä as a clause-marker that fills the CM (or, COMP) node in the expansion of S' (S' $\rightarrow$ S CM). He solved the ordering problem by formulating the transformational rule of CM-Attachment, which moves the clause-marker leftwards over the V node and adjoins it to the verb.

13. Borer (1984a) similarly concludes that the combination of clitic and empty category in a Modern Hebrew simple sentence is a discontinuous pronominal element. She argues, however, that the EC has variable properties following extraction in larger structures and, in such instances, the formation of a discontinuous pronominal element is impossible.

14. Sells (1984, p. 16) provides the following definition of a resumptive pronoun: "A resumptive pronoun is a pronoun

that is operator-bound." Later (p. 67), he comments that "... there appears to be no one universal way (supporting a 'parameter') in which languages effect the statement that allows resumptive pronouns" (i.e. that a pronoun may be operator-bound).

My proposed analysis for Amharic relative clauses supports this view of diversity with respect to resumptive pronoun strategies, but does not restrict the strategies to operator-binding.

Sells includes the English "relative that" among the set of operators. Concerning Modern Hebrew, he recognizes še as the regular complementizer but notes that it is also used in relative clauses, analogous to English that, adding (p. 35): "For my purposes here I will assume that še is the operator." Presumably, in this approach, the Amharic relational morpheme yä, (which I identified as a complementizer) would also be classed as an operator.

CONCLUSION

In the preceding pages, I have developed a proposal for generating the pronominal clitics of Amharic in the lexicon. Exploring the consequences of lexical cliticization has, in effect, produced a detailed "life history" of these pronouns, from the specifications in their lexical entries to their interpretation in a sentence. Now, before standing back to assess the implications for the whole grammatical model, it may be useful to review the essential content of the proposal.

An Amharic pronominal clitic begins its life as a lexical element with an entry containing specifications that identify it as a dependent personal pronoun. It belongs to the [+N] category Pr, but it also has a subcategorization frame that requires it to be attached to a fully inflected verb or noun which is already capable of insertion into a syntactic structure. The labelled bracket representation in its lexical entry reflects both its stem-like and its affix-like properties, thereby simultaneously preventing affixation, which would integrate it completely with its host, and independent insertion into syntax. It therefore cliticizes to the host in the lexicon, retaining its distinct category and pronominal features. Like a word-final syllable's appendix, which is extrametrical and does not "count" in the calculation of stress, this pronominal element does not "count" in

the sum of verbal properties. And just as a syllabic appendix is eventually adjoined by a universal convention to its word, so the clitic is eventually adjoined to the morphological tree built by its host. Thus, it is the verb (or noun)-plus-clitic that enters the syntax and projects a syntactic phrase.

At the time of cliticization, a pronominal object clitic is linked to a slot in the verb's thematic grid, but it cannot "close" the slot with a referential index, as this function can be filled only by an argument, which must be an X' category. Nevertheless, since this linkage to the thematic grid, at the lexical level, corresponds to the coindexation of a θ -role assignee and assigner, at the syntactic level, it is adequate to establish the relation of government of the clitic by the verb. As a result, a transitive verb assigns its Case to the clitic, under government and adjacency. This is the explanation of the notion that has been called "Case-absorption" in other analyses.

I have suggested that the prepositional element of the B- and L-clitics bears a θ -role of its own, which can be added to the thematic grid of the host verb. Therefore, when a prepositional dependent pronoun is cliticized to a verb that has no internal θ -role, the verb-plus-clitic has a role to assign and subcategorizes a phrasal category to fill this θ -role. This thematic complement of the phrasal head transmits its index to the appropriate θ -slot in the thematic

grid. It is significant that this enhancement of a verb's thematic properties occurs in the lexicon. No restructuring is required between syntactic levels, and the lexical properties of the phrasal head are satisfied at each level. There is no violation of the Projection Principle.

Moreover, a pronominal object clitic plays a part in determining the lexical and syntactic means whereby a thematic role of the phrasal head is satisfied. For example, the attachment of a prepositional clitic may add an optional subcategorization of a direct object NP to the verb's original subcategorization of a PP. The choice of a particular prepositional clitic may constrain the selection of the preposition that can head a coindexed PP complement. Additionally, the [+ definite] feature possessed by all the pronominal clitics imposes the constraint of definiteness on a lexically realized thematic complement.

The clitic's linkage via the thematic grid to its lexical host's thematic complement makes a clear prediction about the structural relation that will hold between these elements in syntax. Since the verb-plus-clitic heads the VP, the thematic complement, as a subcategorized phrase, will be its sister, under the V' node. Because the features of the verb percolate to the higher V node created for the adjunction of the clitic, the verb-plus-clitic c-commands and governs the phrasal category that is coindexed with the clitic.

It is therefore possible for this phrasal category, which must be projected to satisfy the verb's complementation

requirements, to be empty. The clitic licenses the empty category. A chain is formed, consisting of the anaphor EC and its antecedent, the clitic, which heads the chain. Since the clitic has Case, the θ -role shared by the two members of the chain is "visible" for interpretation at LF.

Because a verb or noun assigns its Case feature to the dependent pronoun that is cliticized to it, it no longer has that Case feature to assign in the syntax. As a result, a lexically realized phrasal category in a clitic-doubling construction must be Case-marked by some other means, such as the accusative marker -n or an appropriate preposition. In Amharic, there is no special marker that can assign genitive Case to a lexical NP doubling a possessive clitic, and therefore the possessive clitics are matched only with an EC and not with a lexical NP. In the terminology of Hetzron (1966), whereas the pronominal object clitics can function as "recalling pronouns" (in clitic-doubling constructions), "full pronouns" (when the complement in a matrix sentence is non-lexical), and "connective pronouns" (in relative clauses), the possessive clitics are limited to the latter two functions.

A pronominal clitic never has its own, unshared θ -role, is never an NP, is never an argument. It cannot exist in syntax without a coindexed phrasal category. Nor can that phrasal category, should it be empty, exist without the clitic to license it. The two elements are mutually dependent, and the chain they form constitutes a single, discontinuous pronoun.

In this study of the Amharic pronominal clitics, in both lexicon and syntax, the investigation of lexical and postlexical phonology has made an important contribution to the total picture. If the clitics are generated in the lexicon, cliticization must take place in the final level of the Amharic lexicon, which morphological and phonological evidence identifies as Level 3. First, the analogy already made between a clitic and the appendix of a syllable emphasizes the clitic's nature as an extra element added on the right of a fully inflected verb or noun, and an Amharic verb reaches this completely inflected state only after a V^{-1} stem has been built from a V^{-2} consonantal root in Level 1 and a VO word has been constructed by the affixation of an agreement morpheme in Level 2. Second, since the phonological rule of Palatalization applies in Level 2, where agreement suffixes are added, but does not affect a noun when a possessive pronominal is cliticized, cliticization must take place after Level 2.

My adoption of the suggestion by Kiparsky (1985) that internal brackets are not erased at the end of the final lexical level permits the clitic to remain distinct from its verbal or nominal host in the syntax. After the syntax, removal of the internal brackets yields a single phonological unit at the surface, even though the two elements do not constitute a single lexical unit. In the postlexical phonology, the Amharic Stress Rule completes the metrical structure, constructing and labelling the word trees on the

metrical feet that were built, whenever possible, during word formation in the lexicon.

Within the Lexical Morphology and Phonology model, then, the Amharic lexicon is not only coherently organized; it is also well able to accommodate the generation of pronominal clitics.

As the "life history" of the Amharic pronominal clitics demonstrates, cliticization in the lexicon permits a similarly coherent account of the clitic construction in syntax. It overcomes the awkward problems posed for a clitic-doubling language by a movement analysis. It allows the assignment of Case and θ -role in a syntactic structure to be accomplished according to the normal procedures and in the canonical direction selected by a language. It explains the acquisition of Case by a clitic. It locates the clitic in the head of the phrasal projection containing the doubling NP without destroying the clitic's identity by incorporating it into its lexical host. And since the existence of a clitic is not made to depend on the "spell-out" of a Case feature, the proposal successfully avoids the difficulty of accounting for a clitic on an intransitive verb that has no Case feature to be spelled out.

While the picture of the internal and external relations of an Amharic clitic construction in syntax displays conformity to the principles of the grammar's subsystems, it is nonetheless true that pronominal clitic constructions

deviate from the unmarked verbal or nominal phrase, and an analysis should acknowledge this deviance. In my proposal, the morphological markedness of the Amharic pronominal clitics is reflected in their unusual specification as neither stem nor affix, formalized in a subcategorization frame that distinguishes cliticization from affixation. The syntactic markedness of the Amharic clitic construction is reflected in its "unity in discontinuity," which is perhaps most obvious when the second element is an empty category. Then the two members form a single, discontinuous pronoun, neither of which is relevant by itself to any rule or operation external to the construction.

One of the satisfying consequences of the proposal is that the essential functions of the lexicon and the syntax remain distinct. The formation of words is not brought into the syntax, nor are the relations of syntactic phrases taken into the lexicon. In X-bar terminology, the domain of the lexicon has not been extended beyond the X^0 level; higher levels have been strictly reserved for syntactic phrases.

Instead of blurring the borders of the lexical and syntactic domains, the proposal preserves the boundaries intact while revealing the cooperation of the two components. An inherent lexical specification of a lexical category may receive complete or partial satisfaction in the lexicon, in a manner appropriate to that level of the grammar, but those specifications that require a phrasal category are satisfied only at the syntactic level. Thus, for example, a lexical

category assigns its Case feature as soon as it can. Since the conditions for Case assignment are met when a dependent pronoun is cliticized to a verb or noun in the lexicon, the clitic is assigned Case there. The assignment of a θ -role can only be initiated in the lexicon, however, and completion of the assignment must await the syntactic formation of an X' category that can be an argument.

Since both Case and θ -role are assigned under government, an important distinction between the two becomes evident in this analysis. Case is assigned on the basis of a morphological type $[+N]$ feature; this morphological type is available in the lexicon. In contrast, θ -role is assigned on the basis of potential referentiality, and therefore θ -role assignment cannot be completed until an NP, with a specifier or determiner that indicates reference and denotation, is projected in the syntax. In this respect, it seems significant that the pronominal clitics, which are linked to a thematic grid in the lexicon, bear the feature $[+ \text{determiner}]$.

I began the first chapter of this thesis with the observation that the routes by which the non-tonic pronouns of various languages arrive at their locations in a syntactic structure, and the role they play in those structures, are diverse. This study of Amharic has demonstrated that cliticization in the lexicon is one of those routes and that the lexical generation of pronominal clitics is one of the permissible ways in which the value of the clitic parameter in Universal Grammar may be fixed.

As Jensen and Stong-Jensen (1984, p. 475)-comment:

"... a lexical morphology formulated with a morphemic approach allows compounding, derivation and inflection to be unified under a single type of operation, that of attaching a morpheme in accordance with its subcategorization frame." The proposal of this thesis has extended the unified morphological approach of Lexical Morphology and Phonology to include pronominal cliticization, as well. In exploring the syntactic consequences of this extension, the thesis has also depicted the cooperative operation of lexicon and syntax, two distinct components of the grammar functioning harmoniously within a single, modular grammatical system.

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