

VERB INCORPORATION IN GUARANÍ CAUSATIVE CONSTRUCTIONS

JULIANNE E. HAMMINK

Department of Languages and Linguistics

APPROVED:

---

Dr. Nicholas J. Sobin, Chair

---

Dr. Ellen Courtney

---

Dr. Nancy Mae Antrim

---

Dean of the Graduate School

For my grandparents,

and for my aunt

Judie Lemponen

*Petei ko'éme*

*oja vaekue*

*che küre,*

*opu vaekue*

*che jurúpe,*

*mba'e guasujete,*

*ñe'e.*

~ Susy Delgado

VERB INCORPORATION IN GUARANÍ CAUSATIVE CONSTRUCTIONS

by

JULIANNE E. HAMMINK, B.S.C

THESIS

Presented to the Faculty of the Graduate School of

The University of Texas at El Paso

in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF ARTS

The Department of Languages and Linguistics

THE UNIVERSITY OF TEXAS AT EL PASO

May 2006

## **Acknowledgements**

There are many people I need to thank for their contributions to this thesis. I'm very grateful to Dr. Nicholas Sobin for his patience, honesty, guidance and wise advice. Dr. Ellen Courtney asked exactly the right questions at exactly the right times, and her expertise with Quechua led me to explore some aspects of Guaraní that I hadn't previously considered. Dr. Nancy Antrim has been so generous in so many ways. It was in an independent study with her that the idea for this thesis first emerged, and without her advice and encouragement, that tiny idea would not have developed any further.

My Paraguayan family, Melchora and Marciano Arce, were my first Guaraní teachers. I am deeply grateful to them, and to all the residents of San Roque who opened their homes to me and taught me so much. Thanks also to the A-12 volunteers with whom I shared so many experiences, so many beestings and so much tereré.

Sergio Guzmán, Andrea and Nelson Diarte, Antonio and Lilita Segovia and Yolanda Curtis all provided invaluable feedback on Guaraní sentences.

Thanks to my friends for their friendship.

Thanks to Olaf and Wolfgang for keeping me company while I wrote. Tireless workers, they ensured that all important documents were chewed in a timely manner, that all mealtimes were strictly observed, and that the tiny moving thing inside the printer would never bother me again.

And finally, my parents were very patient while they waited for me to complete this thesis. I told you I'd finish some day, Lefty.

## Table of Contents

	Page
Acknowledgements .....	iv
Chapter 1: Introduction .....	1
Chapter 2: General Mechanisms of Incorporation .....	5
2.1 Overview of Incorporation Theory .....	6
2.1.1 Uniformity of Theta Assignment Hypothesis .....	9
2.1.2 The Empty Category Principle .....	11
2.1.3 The Head Movement Constraint .....	13
2.2 Principles of Incorporation theory.....	14
2.3 Development of Incorporation Theory.....	17
2.3.1 Li's Generalization/ Proper Head Movement Generalization.....	17
2.4 Baker on Lexical Categories .....	20
2.4.1 Characteristics of Lexical Categories.....	20
2.4.1.1 Verbs project a specifier.....	22
2.4.1.2 Nouns have an R-index .....	22
2.4.1.3 Adjectives are neither nouns nor verbs .....	26
2.4.2 Pred.....	29
2.4.2.1 Pred and causative verb incorporation .....	31
2.4.2.2 Pred, Tense and Aspect .....	34
2.4.3 Incorporation versus Conflation.....	34

2.4.4 Syntactic vs. nonsyntactic causativization .....	35
2.5 Predictions of Incorporation Theory .....	38
Chapter 3: Guaraní Causativization .....	40
3.1 Tests for Syntactic Activity.....	46
3.1.1 Category Specificity.....	47
Chapter 4: Nonverbal Predication in Guaraní.....	50
4.1 Three subtypes of nonverbal predicate in Guaraní.....	51
4.1.1 Predicate adjectives .....	52
4.1.2 Clausal possessive nominals .....	56
4.1.3 Equative sentences .....	61
4.2 The question of Pred's status .....	62
4.3 Conclusion.....	68
Chapter 5: Concluding Remarks .....	69
Bibliography.....	71
CURRICULUM VITAE .....	<b>Error! Bookmark not defined.</b>

## Chapter 1: Introduction

Guaraní is a language indigenous to South America. It is a member of the Tupi-Guaraní family of languages, and is spoken by over five million people in the countries of Paraguay, Brazil, Bolivia and Argentina (SIL International, 2006). A number of dialects of Guaraní exist, including Mbyá Guaraní of Brazil, the Chiriguano variety spoken in Bolivia, Brazilian/Paraguayan Kaiwa, and the Spanish-influenced Paraguayan ‘jopará’ variety (Schleicher, 1998). Although differences exist, these varieties share a high degree of mutual intelligibility.

Many grammars of Guaraní have been published; the earliest by Antonio Ruiz de Montoya in 1640. Among the most frequently cited are Gregores and Suárez (1961), Krivoshein de Canese (1983), and Guasch (1996). Yet in spite of the extensive descriptive data available for Guaraní, the language is not frequently examined from a theoretical point of view, nor is data from Guaraní often considered in the development of formal syntactic theory.

What should be especially interesting to linguists is the fact that Guaraní is an agglutinating language (Krivoshein de Canese, 1999), with a large inventory of inflectional and derivational affixes that can attach to the verb. Sometimes the amount of morphology on the verb can be extensive, as Krivoshein de Canese (1983) illustrates in (1):

1. n- o- mbo- guata- se- vé- i- ta- pa- hina  
NEG 3SG.act CAUS walk DES more NEG FUT INT IMP  
‘Will he not want to make him walk anymore?’

This thesis examines a single specific type of causative sentence found in Guaraní. The causative morpheme *mbo-*, which attaches only to intransitive predicates of any class in Guaraní, creates a transitive causative verb (Adelaar, 1986), as was illustrated in (1). In this thesis, I will argue that characteristics like transitivization and the change in person-marking paradigms unique to *mbo-* are the result of the verbal nature of *mbo-*, and that *mbo-* constructions are the result of verb incorporation, as originally defined by Baker (1988).

Baker's (1988) Incorporation theory argues that many syntactic processes, like causativization and passivization, which prior to this work were considered to be disparate phenomena derived by individual transformational rules, are actually individual instances of a single syntactic movement "rule" called Move-Alpha, in which a  $X^0$  level ('head-level') category moves, or "incorporates," into another head-level category elsewhere in the structure. As a syntactic operation, Incorporation is bound by independently-motivated restrictions on movement present in the grammar. Chapter 2 of this thesis presents the relevant points of Incorporation theory, as well as the predictions it makes for Guaraní causative constructions.

Baker (2003) proposes a theory of lexical categories that is rooted in the syntax. Rather than a binary featural system like that proposed by Chomsky (1970), Baker defines each lexical category (noun, verb and adjective- prepositions are considered to be a functional category in Baker's system) with a single characteristic, which he argues is sufficient in each case to explain the complementary distribution of the three categories. Verbs are the only category capable of licensing a specifier, only nouns bear a referential index, and adjectives can neither license a specifier nor bear a referential index. All



languages have all three of these lexical categories, although language-specific processes may make it appear that a language lacks a particular category. According to Baker, no language could, for example, completely lack a class of adjectives. From these three simple definitions emerges a theory of lexical categories that has important implications for, and perhaps some conflicts with, Incorporation theory. The theoretical framework of Baker's theory of lexical categories is also presented in chapter 2.

Chapter 3 examines Guaraní *mbo-* causative constructions within Baker's incorporation framework. This chapter focuses on the causativization of a specific class of intransitive Guaraní verbs: those intransitive verbs which take the same class of person agreement markers as Guaraní transitive verbs. These canonical intransitive verbs, which are sometimes referred to as "active" verbs in Guaraní grammars, present few problems for Baker's Incorporation theory.

A far more interesting challenge to Baker is presented by the other class of Guaraní intransitive verbs. Verbs in this second class are sometimes called "inactive verbs" (Velazquez-Castillo, 2002), "attributive verbs" (Krivoshein de Canese, 1983), or "quality verbs" (Gregores and Suárez, 1961). Other grammars (Muniagurria, 1947) argue that these predicates are adjectives or nouns selected by a phonologically null copula or a portmanteau morpheme which includes both person agreement and the copula. Still others (Guasch, 1996) propose a juxtapositional analysis- that any Guaraní noun or adjective can become a verb simply by juxtaposing it with a personal pronoun or a subject agreement marker. The specific claims of these grammars is not relevant here. What is important to note is that the categorical status of this class of predicates is open to debate among scholars of Guaraní. Baker's (2003) theory offers a possible explanation

for Guaraní predicative structures that appear to have a noun or an adjective at their center. Baker proposes that a phonologically null functional head ‘Pred’ is present in such nonverbal predicate sentences, which serves to license and theta mark a specifier, and which selects the noun or adjective as its complement. A more refined description of Guaraní nonverbal predicates is given in chapter 4, in which three subclasses of nonverbal predicate are identified: predicate adjectives, clausal possessive nominals, and equative sentences.

Chapter 4 demonstrates that Baker’s theory, as it stands, is insufficient to explain the distribution of two of the three subclasses of Guaraní nonverbal predicate. Specifically, Baker predicts that *mbo-* causativization should be impossible with all nonverbal predicates created by Pred, yet ample evidence is presented to show that both predicate adjectives and clausal possessive nominals readily incorporate with *mbo-*, proving this prediction incorrect.

A possible solution to this conflict is proposed at the end of chapter 4. Rather than considering Pred to be a functional head, which Baker argues would block incorporation, if Pred were a lexical, but phonologically null, verb that selected an adjectival or nominal complement, incorporation would not be blocked. Many questions about this alternative account still remain, and provide opportunities for future research.

## **Chapter 2: General Mechanisms of Incorporation**

This chapter will introduce the relevant mechanisms both of original Incorporation theory as well as revisions and additions, and examine how these mechanisms combine to produce the grammatical effects commonly described as “incorporation” and “causativization.”

Hendrick (1995) outlines three general approaches to morphology within generative syntax: the strong lexicalist hypothesis, represented by Di Sciullo and Williams (1987), the split morphology hypothesis of Perlmutter (1988), and the weak lexicalist hypothesis defended by Baker (1988), among others. All three positions are concerned with the relative importance of syntax and the lexicon in derivational and inflectional morphology.

The strong lexicalist position denies that morphology occurs in the syntax. According to this view, no structure below the word level is accessible to syntactic rules or processes. Because word-internal structure is unavailable to syntax, there is no morphosyntactic component in the grammar.

The split morphology hypothesis distinguishes between inflectional and derivational morphology, and assigns the former to syntax, and the latter to the lexicon.

The weak-, or non-lexicalist position argues that much, if not all, of morphology is derived in the syntax. Regular derivational morphology, especially, is said to conform to the principles of syntax. Baker (1988), (1996) and (2003), has been very influential in developing a case for syntactically-derived morphology. Any subsequent research within

the GB framework concerning grammatical operations which appear to involve head movement must acknowledge Baker's work.

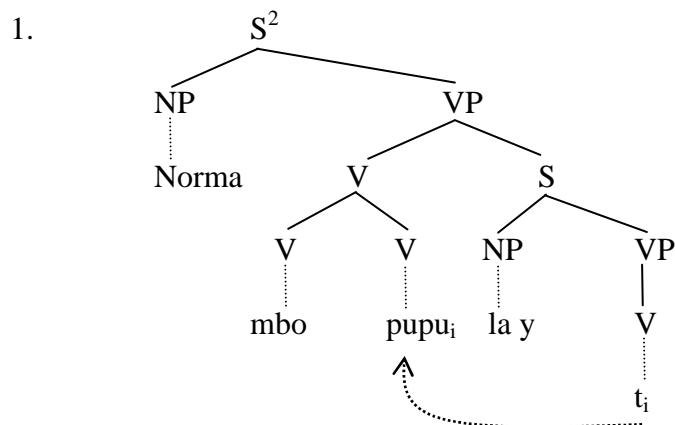
## 2.1 Overview of Incorporation Theory

While his 1988 work concerns itself with morphological constructions that can be explained as entirely syntactic phenomena, Baker (2003:281) explores some cases of morphology that he claims are not syntactically derived. Baker acknowledges a "partial independence of morphology and syntax" (Baker, 2003; 277). He does not subscribe to a non-lexicalist hypothesis which argues that all morphology is derived in the syntax, acknowledging that "once the syntactically predictable morphology has been stripped away, there remains a residue of morphology that seems to have nothing to do with syntax." (Baker, 2003:280) Such cases include unproductive, semantically unpredictable morphology, root compounding and grammatical gender.

In Baker's (1988) theory of incorporation, he proposes that morphological causative constructions, as well as other phenomena like passives and applicatives, are in fact instances of Move-Alpha, which Baker argues may apply to heads ( $X^0$ s) as well as maximal projections (XPs)<sup>1</sup>. Example (1) is one of two possible structures of a morphological causative within Baker's incorporation theory.

---

<sup>1</sup> Baker uses the terms "causativization" and "incorporation" as epiphenomenal names for instances of Move- $\alpha$ ., not as the names of independent derivational rules.



Norma            o-mbo-pupu    la y

Norma            3-CAUS-boil    the water

‘Norma boils the water.’

In (1), the lower verb *pupu* has moved from the head position of the lower VP to adjoin to I and C, and finally to the upper causative morpheme *mbo*-.

A significant result of Move-Alpha operations is that they change the grammatical functions of the arguments involved, as in (1). The apparent changes in (1) can be observed in examples (2) and (3). In (2), *la y* ‘the water’ serves as the grammatical subject of the sentence, while in (3) it appears to be the object. The subject agreement marker on the verb changes, indicating the change in status of the NP.

<sup>2</sup> To the extent possible, I retain the original terminology of Baker in examples throughout this work.

2. La y o-pupu

The water 3-boils

‘The water boils.’

3. Xe a-mbo-pupu la y

I 1-CAUS-boil the water

‘I boil the water’

Baker (1988: 44) argues that grammatical functions “have a derivative rather than a fundamental role” in Incorporation theory. Thus, terms like ‘subject,’ “object,” etc. are only meaningful when explained relative to a particular subtheory of the grammar, like X’ or Theta Theory.. A “structural object” is therefore an object for the purposes of X’-Theory. It occupies the complement position of an X<sup>0</sup> category. Similarly, a Government/Case object bears the surface morphological features associated with an NP that receives structural Case from the verb. The examples in (4) (adapted from Baker, 1988; 44) demonstrate the relative nature of grammatical functions.

4. a. Linda considers **Rover** to be dangerous.

b. Linda considers **him** to be dangerous.

The NP *Rover/him* is structurally a subject, because it is generated in [Spec, IP] and receives the Subject theta-role, but because it is Case-marked by the matrix verb

*considers*, it bears surface object properties. Thus, the grammatical function status of *Rover/him* varies depending upon the subtheory of grammar being considered.

Baker (1988; 8), like Chomsky, claims that the changes in grammatical function such as those that occur in passive, antipassives, applicative, possessor ascension and causative constructions are not the result of construction-specific lexical or syntactic rules. Thus, there is no “passivization rule” that requires that the underlying object become the subject at S-structure. Nor is there any “causativization rule” which adds an agentive argument as subject and demotes the former subject to an object or oblique position. Rather, these changes in grammatical function are the consequence of a single rule of movement, Move-Alpha. Baker calls this movement operation, when applied to heads rather than phrases, “incorporation.” Incorporation may apply to any  $X^0$  level category, and in his 1988 work Baker examines the incorporation by verbs of nouns, prepositions and other verbs.

### 2.1.1 Uniformity of Theta Assignment Hypothesis

Although the surface grammatical functions of the arguments in (2) and (3) are different, Baker argues that the semantic (theta) relationships between the verb and its arguments remain the same. Baker adopts Chomsky’s (1981) assumption that at D-structure, all phrases appear in the position that the theta-role they receive is assigned to” (Baker, 1988:46). Subsequent movement of these phrases to their S-structure positions does not alter their initial thematic relationship to the verb. Baker proposes the Uniformity of Theta Assignment Hypothesis (UTAH) to explain this constant relationship:

UNIFORMITY OF THETA ASSIGNMENT HYPOTHESIS (UTAH):

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure. (Baker, 1988: 46)

Two sentences in which the same verb assigns the same theta roles to the same arguments are said to be “thematic paraphrases.” Under UTAH, thematic paraphrases share the same underlying structure, as in (5).

5. a. The stone rolled down the hill.
- b. Olaf rolled the stone down the hill.

In each of the sentences above, the NP *the stone* serves a theme (or patient?) role and *Olaf* an agentive role. Because the same thematic role is always assigned by the verb to the argument in the same configuration, at D-structure these sentences must share an identical structure.

Because Incorporation is the result of syntactic movement, constructions created as the result of Incorporation are not identical to simple (transitive) structures. Specifically, Baker (1988) says that Incorporation creates a complex category at the  $X^0$  level and creates a syntactic link, via traces, between two positions in the structure. Evidence of movement in incorporation can be detected in the same way that other instances of Move-Alpha can be detected: through their conformity to syntactic constraints.



### 2.1.2 The Empty Category Principle

The Empty Category Principle, formally defined below (Baker, 1988:39), is a particularly important tool for distinguishing acceptable and unacceptable incorporation structures.

EMPTY CATEGORY PRINCIPLE:

A trace must be PROPERLY GOVERNED.

Baker (1988; 39) assumes the following definition of ‘government’:

GOVERNMENT: A governs B iff A c-commands B and there is no category C such that C is a barrier between A and B.

Baker describes Proper Government as a “subset of the government relation” (Baker, 1988: 366)

PROPER GOVERNMENT:

A PROPERLY GOVERNS B iff

(i) A governs B, and

(ii) A is theta-coindexed<sup>3</sup> or chain-coindexed with B.

---

<sup>3</sup> In Baker’s framework, both theta-marking and chain formation via Move-Alpha result in coindexation relationships between the trace and other elements in the structure.

A trace can therefore be licensed either through theta-government or antecedent government.

Baker (1988: 39-40, examples 15-16<sup>4</sup>) provides the following examples to illustrate structures permitted and prohibited by the ECP:

6. a. Who<sub>i</sub> [<sub>S</sub> t<sub>i</sub> [<sub>VP</sub> fixed the car]]?
- b. \* Who<sub>i</sub> do [you wonder [<sub>S'</sub> whether [t<sub>i</sub> [<sub>VP</sub> fixed the car]]]]
7. a. How<sub>i</sub> did [<sub>S</sub> Angelo [<sub>VP</sub> fix the car] t<sub>i</sub> ]?
- b. \* How<sub>i</sub> do [you wonder [<sub>S'</sub> whether [Angelo [<sub>VP</sub> fixed the car] t<sub>i</sub>]]]
8. a. What<sub>i</sub> did [<sub>S</sub> Angelo [<sub>VP</sub> fix t<sub>i</sub>]]?
- b. ? What<sub>i</sub> do [you wonder [<sub>S'</sub> whether [<sub>IP</sub>Angelo [<sub>VP</sub> fixed t<sub>i</sub>]]]]

Example (6) involves *wh*-movement from a structural subject position, (7) from an adjunct position, and (8) from a structural object position. In each case, the (a) examples are acceptable. The (b) examples of (6) and (7), involving much longer movement, are unacceptable, although the comparable movement in (8b) is much less so. The ECP states that a trace must be governed either by the theta-marking verb or by its antecedent. In the (a) examples of (6) and (7), the antecedent of the trace c-commands and therefore antecedent-governs the trace. Neither the subject nor the adjunct trace in (6b) and (7b) is theta-governed since neither position is c-commanded by a theta-marking verb. The S' (CP in later versions of the theory) acts as a barrier to antecedent government in both cases. In contrast, the trace in object position in (8b) is c-commanded by a theta-marking verb, and is therefore theta-governed. Because of this, it does not require antecedent

---

<sup>4</sup> Baker's category labels have been maintained.

government, and the head of the chain is permitted to move somewhat further from its trace<sup>5</sup>. The relevant point is that Move-Alpha is freer to apply to items in a structural object position, because theta-government can license traces in these positions even when antecedent-government cannot.

The ECP constrains the application of incorporation by limiting the positions from which heads may be incorporated. The ECP predicts that incorporation from a subject or an adjunct position should be impossible, since such movement would leave an ungoverned trace, and Baker demonstrates that such incorporation does indeed appear to be non-existent cross-linguistically.

### 2.1.3 The Head Movement Constraint

Baker argues that the ECP also predicts that a moved head cannot skip over an intervening head to adjoin to another head higher up. This constraint, known as the Head Movement Constraint (HMC) (Travis, 1984) is formally stated as follows (Baker, 2003: 49):

HMC: A word-level category X can move to adjoin to another word-level category Y only if the phrase headed by X is immediately dominated by a projection of Y.

Baker (1988) demonstrates that the HMC follows as a consequence of the ECP. Skipping heads is disallowed for the same reasons that movement from an ungoverned

---

<sup>5</sup> “Short” and “long” *wh*-movement are Baker’s terms. As the mechanics of *wh*-movement are not relevant to the discussion, they are omitted here.

position is: both leave an ungoverned trace. Although Baker considers the HMC to be merely a corollary of the ECP, it is a convenient epiphenomenal term to which Baker refers often.

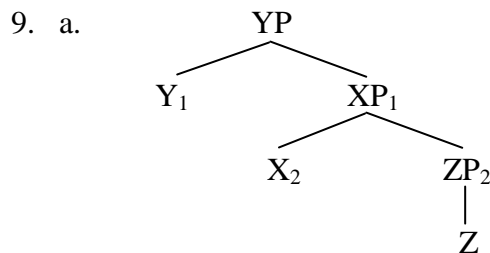
## 2.2 Principles of Incorporation theory

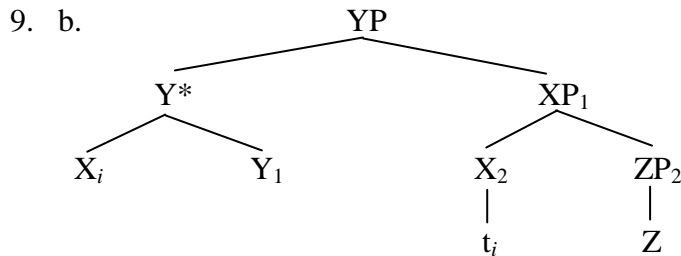
Baker posits a number of principles which explain the behavior of complex structures in which incorporation has taken place.

### 2.2.1 The Government Transparency Corollary

GOVERNMENT TRANSPARENCY COROLLARY (GTC): A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position. (Baker, 1988: 64)

Baker illustrates the effects of GTC with the abstract examples (9 a and b) below (Baker, 1988: 64). (The subscript numerals indicate theta-coindexing relationships).





In an unincorporated structure like (9a), an intervening maximal projection XP forms a barrier to government into the lower maximal projection ZP by the higher head YP, because the head X selects ZP. When the middle head X incorporates with the higher one Y as in (9b), the complex category Y\* governs into XP. Under the ECP, the trace of X must be properly governed. The middle maximal projection XP no longer blocks government of the lowest maximal projection by the highest head.

The GTC explains why the grammatical function of argument NPs in incorporation structures appear to change. The GTC predicts that NPs left in-situ after head movement will be treated like objects for the purposes of Government and Case theory, in that they will be marked like canonical objects in the language, but for the purposes of X-bar theory they will continue to demonstrate some of the behaviors of their original grammatical function.

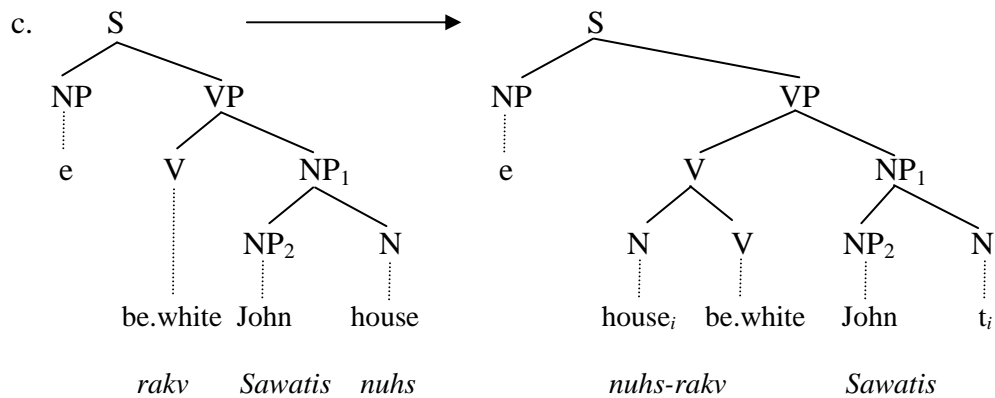
Baker (1988: 65, from Postal, 1962) provides an illustration of the effects of the GTC with an example of Mohawk possessor raising via noun incorporation. The sentences in (10) are thematic paraphrases. (10a) is the unincorporated form, with all NPs in their D-structure positions, while in (10b), the NP *nuhs* ‘house’ has undergone incorporation into the stative verb *rakv* ‘be white.’

10. a. Unincorporated:

Ka-rakv        ne        [Sawatis hrao-**nuhs**-a?].  
 3N-be.white    DET    John    3M-**house**-SUF  
 ‘John’s house is white.’

b. Incorporated:

Hrao-**nuhs**-rakv        ne [Sawatis t]  
 3M-**house**-be.white    DET John  
 ‘John’s house is white.’



In an unincorporated structure like (10a) above, *Sawatis* ‘John’ is not treated as an object. The stative verb *rakv* does not govern the NP<sub>2</sub> headed by *Sawatis*, as the NP<sub>1</sub> headed by *ruhs* ‘house’ forms a barrier to government. For that reason, the verb demonstrates no agreement with *Sawatis*. When the possessee *nuhs* is incorporated by the verb as in (10b), the NP *Sawatis* ‘John,’ left behind by the moved verb, is treated as the direct object of the

verb, as indicated by the change in verb object agreement marking from neuter, in (10a) to masculine, in (9b).

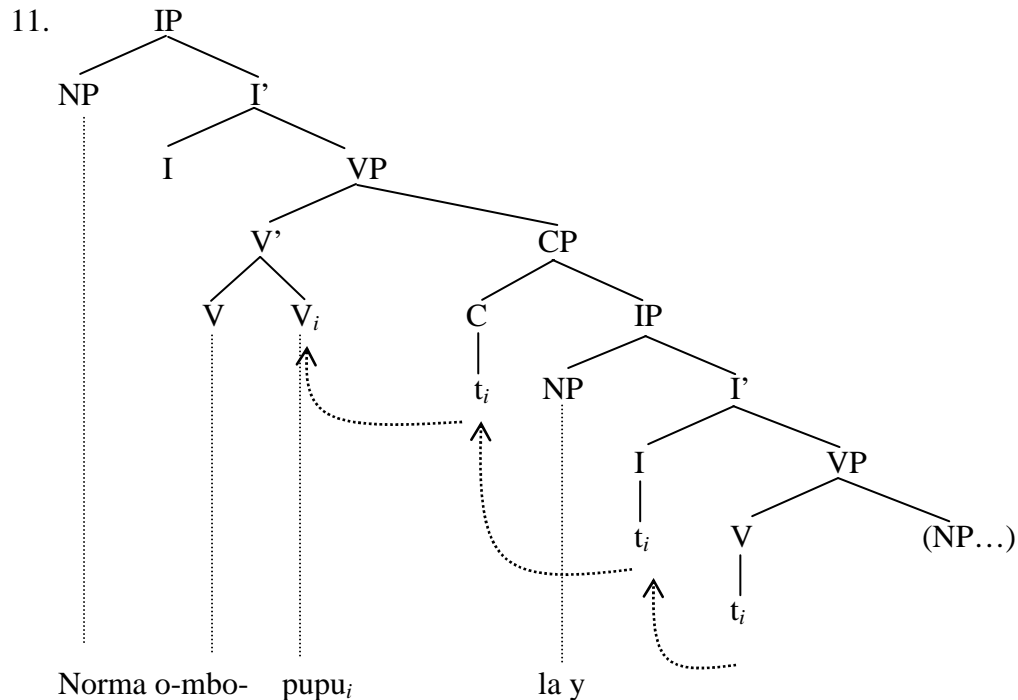
The GTC explains how movement operations like incorporation can appear to change the grammatical category NPs in the sentence. Changing agreement patterns reflect the changing government relationships post-incorporation.

The principles described above, the Uniformity of Theta Assignment Hypothesis, the Empty Category Principle, and the Government Transparency Corollary, form the core of Baker's Incorporation theory as it was originally conceived in 1988. The following section will examine some significant revisions to Incorporation theory.

## 2.3 Development of Incorporation Theory

### 2.3.1 Li's Generalization/ Proper Head Movement Generalization

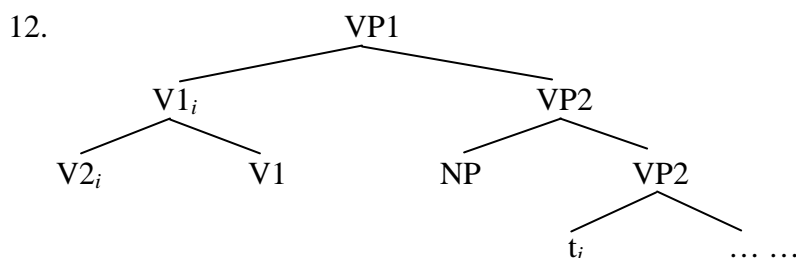
Li (1990) updates Baker's 1988 analysis of causative verb incorporation (illustrated in (1) above) by expanding the S node into separately articulated CP and IP nodes, as in (11):



According to Li, this updated structure reveals a problem with Baker's (1988) original analysis of verb incorporation. Li argues that verb incorporation requires that the matrix causative verb select a VP, rather than the full CP that Baker (1988) proposed. This requirement is a result of Li's modified version of Binding Condition C (first put forward by Chomsky (1986)), which does not allow the formation of chains of traces in both A (argument) and A' (non-argument) positions. Li redefines A-positions as lexical positions (such as V and N), and A'-positions as functional positions (like C and I), and argues that chains cannot include traces in both functional and lexical positions. The updated version (10) of the structure Baker (1988) originally proposed, presented in (1), would create such a mixed chain, in which the verb *pupu* 'to boil' heads a chain of traces in V, I, C and V positions. To avoid the creation of such mixed chains, Li claims that



incorporating verbs must select a VP, rather than a CP, complement. The structure Li proposes is presented in (12).



Although Baker (1996) does not accept Li's argument that a revised Binding Theory applies to verbal traces, he retains Li's original observation that incorporation cannot occur when a functional projection, such as CP or IP, intervenes between the incorporating verb and the lexical head it would incorporate. Baker (1996, 2003) formalizes Li's findings as the Proper Head Movement Generalization (PHMG):

A lexical head A cannot move to a functional head B and then to a lexical head C (Baker, 2003: 53)<sup>6</sup>

Baker, like Li, uses the PHMG to explain why incorporated verbal heads lack tense and agreement morphology. Such verbal morphology is generated in IP, which is a functional projection that would block incorporation if it were present. Because the matrix verb selects a bare VP complement, the incorporated verb cannot be inflected with tense or agreement morphology.

---

<sup>6</sup> Sobin (personal communication) notes that the PHMG can be further generalized as prohibiting a functional head from moving to a lexical head position.

A possibly more important consequence of the PHMG is Baker's claim that the PHMG also prohibits the causativization of nonverbal predicates through verb incorporation. Guaraní appears to offer some counterexamples to this prohibition, and a closer examination of these counterexamples will be made in a later chapter.

## 2.4 Baker on Lexical Categories

While his 1988 work concerns itself with morphological constructions that can be explained as entirely syntactic phenomena, Baker (2003) explores morphology that he claims is not syntactically derived. Baker claims a “partial independence of morphology and syntax” (Baker, 2003; 277).

Baker's later work is principally concerned with arguing the universal nature of the three lexical categories Noun, Verb and Adjective. Baker reduces the definition of these categories to a single characteristic for each. He argues that the three lexical categories of Noun, Adjective and Verb are universally present in human languages, although sometimes only in an abstract form. Nevertheless, the “core grammatical behavior” of these categories is the same, cross-linguistically, and can be defined in syntactic terms.

### 2.4.1 Characteristics of Lexical Categories

Chomsky (1970, and 1972, cited in Webelhuth, 1995) described a two-feature system that distinguished the categories N, V, Adj and P.

13. N= [+N -V]

A= [+N +V]

V= [-N +V]

P= [-N -V]

Baker criticizes this featural system (2003: 21), and other similar systems, as introducing unnecessary structure. Baker argues that specific inherent properties of N and V, independently supported in GB theory, can explain the distribution of lexical categories. He reduces the definition of each category to a single characteristic, which he argues is sufficient to explain their distribution and behavior. A summary of these definitions is given in (14):

14. a. Verbs project a specifier.  
 b. Nouns bear a referential index.  
 c. Adjectives neither project a specifier,  
 nor bear a referential index. (Baker, 2003:21)<sup>7</sup>

---

<sup>7</sup> In Baker's system, the class of adpositions is considered a functional, rather than lexical, category. He notes that adpositions are a closed class, that they are similar in form and function to case markers, and that, unlike nouns, verbs, and adjectives, adpositions do not take derivational morphology. A more complete explanation for Baker's rationale may be found in Baker (2003:303-325).

#### 2.4.1.1 Verbs project a specifier

Baker defines verbs as the only lexical items which may license a subject (by being the only category to take a specifier). His formal definition is given in (15) (Baker, 2003:23):

15. X is a verb iff X is a lexical category and X has a specifier.

Thus, a head must fulfill two requirements to be a verb in Baker's framework. It must have lexical content, and it must project a specifier, to which it assigns a theta role.

#### 2.4.1.2 Nouns have an R-index

The referential nature of nouns is the characteristic which make them unique among lexical categories. Baker's (2003:95) formal definition of nouns is given in (16).

16. X is a noun iff X is a lexical category and X bears a *referential index*, expressed as an ordered pair of integers.

Baker observes that only nouns may bind quantifiers, distinguish between definite and indefinite (or specific and nonspecific), take numerals, and serve as antecedents. All these follow logically from a characterization of nominals as bearers of a referential index, or in Baker's terms, a 'criterion of identity.'

Baker outlines the restrictions on nominal distribution with two conditions. The *Noun Licensing Condition* (NLC) (Baker, 2003: 153) requires nouns to be related to

argument positions, either by receiving a theta-role directly from the verb that is its structural sister in a minimal c-command relationship, or by being coindexed with a trace that receives a theta role in this way.

Baker uses a two-part referential indexing system for nouns. The first member of the index pair is the NP's unique referential role, while the second must be co-indexed either with a theta-assigner, or with its own theta-marked trace. Baker describes this "dependent index" as "the index of an element that does not have intrinsic lexical content of its own: a theta-role, a pronominal, a trace, or a null operator" (Baker, 2003; 153).

*Noun Licensing Condition (NLC)*

The second member of the index of a noun must be systematically identical to some dependent index in the structure that its bearer [minimally] c-commands.

In example (17a), Baker illustrates a violation of the NLC, while (17b) is an acceptable sentence.

17. a. \*The guests<sub>{i,k}</sub> smiled <Ag<sub>k</sub>> a chicken<sub>{n,m}</sub> .  
 b. The guests<sub>{i,k}</sub> ate <Ag<sub>k</sub>, Th<sub>m</sub>> a chicken<sub>{n,m}</sub> .

Baker acknowledges that his NLC resembles the theta criterion of Chomsky (1981: 36):

*Theta Criterion*

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

A unique quality of nouns is that they are the only category of lexical items which can be counted, and the only lexical items that can display a mass/count contrast. In the examples (18), (19) and (20) below (after Baker (2003: 107), this contrast is illustrated.

18. a. Wolfgang has a disease.

b. Wolfgang has (two) diseases.

19. a. Wolfgang is sick.

b.\* Wolfgang is (two) sick.

20. a. Wolfgang will nap this afternoon.

b. \*Wolfgang will (two) naps this afternoon.

The noun *disease* in (18) is able to take plural morphology as well as the number word *two*. Adjectives (19b) and verbs (20b) can neither take plural morphology nor be counted.

Nor do verbs or adjectives display the mass/count distinction. Nouns which cannot be counted with cardinal numbers are called mass nouns. Although they cannot be counted, mass nouns like *water* and *salt* in English can be measured, while even

semantically related verbs and adjectives like *to salt* and *salty* cannot be. The examples in (21) (Baker, 2003:106n) demonstrate this contrast. The noun *salt* in (21a) is measured in cups. The sentences containing the adjective *salty* in (21b) and the verb *salted* in (21c) are unacceptable when the measurement phrase *two cups* is present.

21. a. The soup contains two cups of salt.  
 b. \* The soup is two cups of salty.  
 c. \* Olaf two cups salted the soup.

The nominal ‘criterion of identity’ is what allows nouns and only nouns to be inflected for number or the mass/count feature. Recall that Baker’s indexing system for nouns consists of a pair of indices for each noun. The first index, which represents the NP’s unique referential role, or “criterion of identity”, is what Baker credits with allowing nouns to be counted or measured.

The second condition Baker proposes for defining nominal distribution is what he calls the *Reference-Predication Constraint* (Baker, 2003: 165).

*Reference-Predication Constraint (RPC)*

No syntactic node can both theta-mark a specifier and have a referential index.

This second condition is significant in that it constrains the derivation of verbs from nouns, by preventing the creation of a denominal verb that theta-marks itself. Baker

argues that when denominal verbs do occur, the noun must lose its referential index, as in (22):

22. The solution crystallized. #It was two inches long.

In Baker's words: "the verb *crystallize* does not introduce a referent to a crystal into the discourse." (Baker, 2003:166)

The *Reference-Predication Constraint* also serves to explain the absence of a logically possible fourth lexical category.

23. N= [+N -V]

V= [-N +V]

A= [-N -V]

?= [+N +V]

If Baker's definitions of lexical categories are expressed in featural terms, as in (23), the taxonomy would resemble Chomsky's (13), for nouns and verbs. Adjectives would be described as [-N -V] because according to Baker's system, they are limited to appearing in positions where neither a noun nor a verb would be licensed. The lexical category [+N +V] would be prohibited by the RPC.

#### 2.4.1.3 Adjectives are neither nouns nor verbs

The third lexical category in Baker's framework is that of adjectives. Where nouns and verbs both have inherent properties which define their distribution and



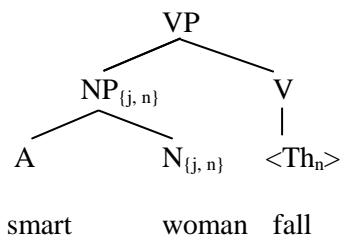
behavior, adjectives can be said to be defined as those lexical items lacking either of these properties. Unlike verbs, bare adjectives in Baker's framework do not project a specifier position, and unlike nouns, adjectives lack an R-index. This lack of properties determines the structure of two major adjectival constructions: the attributive and the predicative.

Baker argues that the non-referential nature of the adjective allows it to appear in non-theta positions like that of an attributive adjective which modifies a noun.<sup>8</sup>

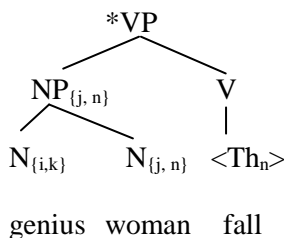
Examples (24) and (25) are adapted from Baker (2003:192):

24. a. a rich man; a shiny coin                    [NP Adj N]  
       b. \*a wealth man; a genius man            \*[NP N N]  
       c. \*a shine coin; a hunger man            \*[NP V N]

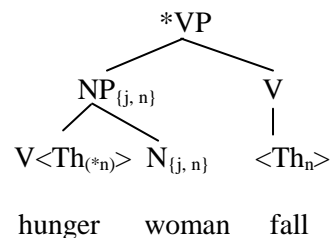
25. a. Attributive adjective



b. Attributive noun



c. Attributive verb



Examples (a) in (24) and (25) show the acceptable attributive modification of a noun by an adjective in English. (24b) and (25b) show the “merger” of a noun with a noun, which

<sup>8</sup> Baker notes that this ability of particular lexical items to merge with a noun within a NP has been used as a diagnostic tool by descriptive grammarians seeking to identify a class of adjectives in particular languages. This fact will prove helpful in determining the categorical status of some lexical items in Guaraní.

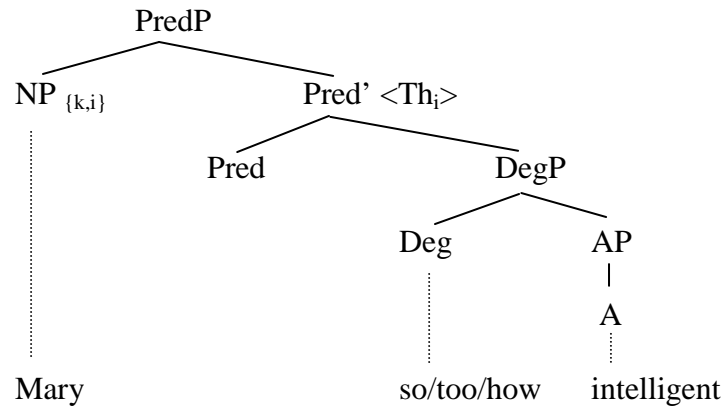
is unacceptable because one of the nouns in the NP (that which is not the head of the NP) would not be coindexed with anything else in the structure, and would therefore violate the NLC, and ultimately, the theta criterion. (24c) and (25c) illustrate an unacceptable modification of a noun by a verb. According to the definition of verb Baker is proposing, a verb is a lexical item which projects, and presumably theta-marks, a specifier. Theta roles are assigned to maximal projections. In (24c) and (25c), the verb is not the head of the maximal projection, and so is unable to assign its theta role, which also violates the theta criterion.

Baker argues that adjectives are also the only lexical category which can be the complement of a degree head like the English *how*, *too*, *so* and *as*. Baker (2003:212) demonstrates this contrast in (26):

26. a. Mary is *too/as/so* intelligent.  
 b. \* Mary is *too/as/so* a genius.  
 c. \* Mary *too/as/so* hungers.

Baker assumes the structure (27) for (26a) (the function of Pred will be discussed in the next section):

27.



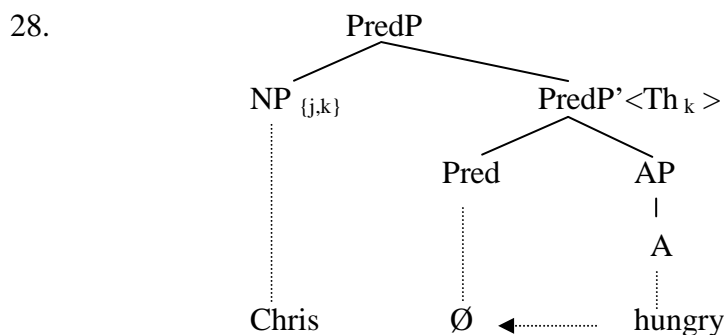
An adjective can be selected by a functional degree head as in (26a), but neither nouns (26b) nor verbs (26c) can. Adjectives can be selected by degree heads for the same reason that they can enter into attributive relationships with nouns: both nouns and verbs are required by Baker's definitions to enter into syntactic relationships with other elements in the structure, but adjectives have no such requirements. The intervening DegP prevents the assignment of a verb's theta-role(s) and so violates the Theta Criterion; and a NP selected as a complement of the degree head would not be coindexed with anything else in the structure, violating the NLC.

The traditional definition of adjectives as modifiers of nouns thus remains relatively unchanged within Baker's framework. Adjectives used predicatively are not as universally recognized as proper adjectives, and Baker must propose some additional structure to account for the predicative behavior of adjectives in some languages.

#### 2.4.2 Pred

Adjectives are un-verb-like in that they are unable to project a specifier position alone, and therefore cannot license a subject. Where adjectives (and nouns) appear in a

predicative construction, they are able to do so only through merger with a functional head which is abstract in many languages, but possibly overt in a few languages like Edo and Chichewa. This functional<sup>9</sup> element, called Pred by Baker, is verbal in that it projects a specifier, assigns a theta-role of ‘theme’ to it, and selects an adjectival or nominal complement. The predicate adjective may optionally incorporate into the null Pred head in some languages. The structure in (28) demonstrates a simple adjectival PredP (adapted from Baker, 2003:35):



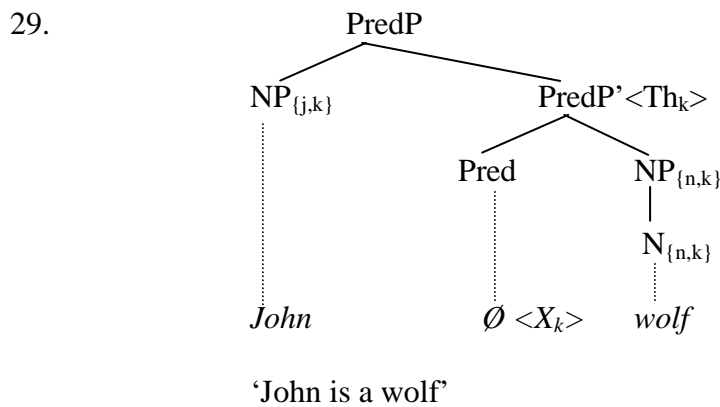
Baker notes that there seems to be an asymmetry between the participation of adjectives and nouns in Pred constructions. Cross-linguistically, nouns are often extremely limited in their ability to combine with Pred. Baker explains this asymmetry as a result of the R-index that nouns, but not adjectives, bear by definition. The noun must be coindexed by some element in the structure which it c-commands (either the verb that

---

9 As a verb, Baker describes Pred as “morphologically defective” in that Pred + Adj complexes are unable to be inflected for tense or agreement in many languages, and, he claims, cannot be causativized with the same causative morpheme used with lexical verbs. Because of these perceived defects, Baker describes Pred as being an intermediate category: neither wholly lexical nor completely functional.

“Intermediate” is a problematic status for a lexical item, especially in a framework like Baker’s which aspires to binary precision. Even within the languages Baker examines, the behavior of the assumed Pred head varies with respect to the verbal morphology it can take. While the evidence suggesting that Pred is a functional head is weak at best, a functional Pred is central to his analysis of nonverbal predication.

theta-marks it or a trace of that theta-marker) under the Noun Licensing Condition (NLC). Baker argues that, for languages which do allow nominal predication, a second Pred head with different properties is present in the lexicon. This nominal-selecting Pred, illustrated in (29), is able to theta-mark its complement as well as its specifier, fulfilling the NLC. Predicate nominals are prevented from incorporating into Pred, because this would create a syntactic node that both theta marks a specifier and bears a referential index- a direct violation of the Reference-Predication Constraint explained above.

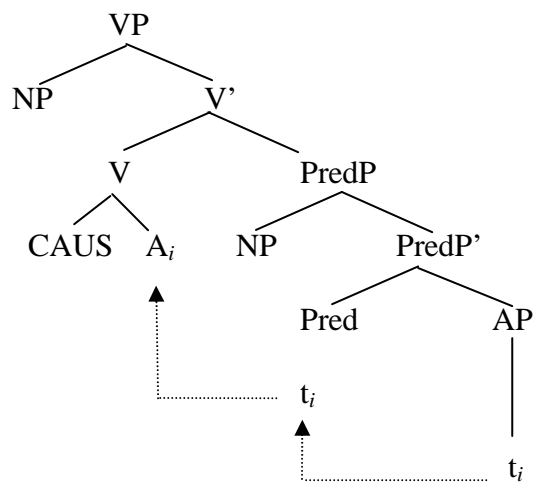


#### 2.4.2.1 Pred and causative verb incorporation

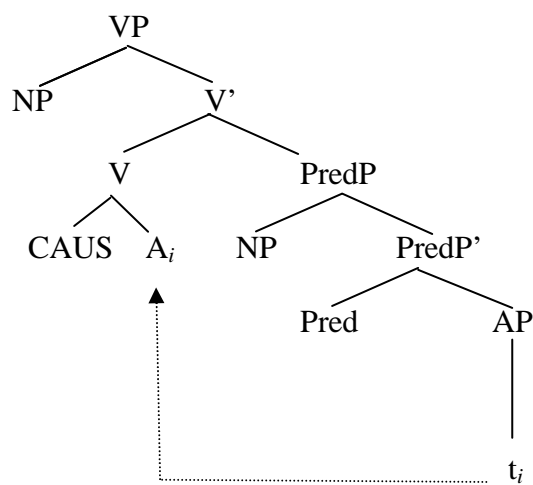
The PHMG prevents the causativization by incorporation of nonverbal predicates derived via incorporation with Pred, since Pred is a functional projection which, like Infl or C, would block movement of the nonverbal predicate to the causative matrix verb.

Baker considers three alternate possibilities for causativizing Pred constructions via incorporation, and explains why they are not permitted by independent principles of the grammar.

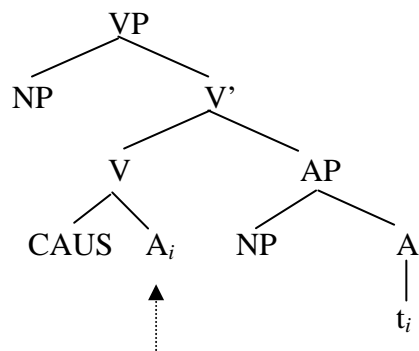
30. a. \*



b. \*



c. \*



First, the nonverbal item could move through Pred to be incorporated into the causative affix as in (30a), second, the nonverbal item could skip over the functional Pred head to incorporate into the causative affix, as in (30b), or third, Pred could be omitted, the causative affix selecting a bare AP or NP, as in (30c).

The first of these possibilities is prohibited by the PHMG, because the movement of the adjective head through the functional Pred to the lexical causative verb would create a non-uniform chain of traces in both functional and lexical projections.

The second option, in which the nonverbal head skips over Pred in order to incorporate with the upper verb, is ruled out by the Empty Category Principle. The trace of the moved head would have neither a lexical nor an antecedent governor if moved element skipped over the Pred projection.

The third of these alternate possibilities, the selection of a bare NP or AP by the causative verb, is excluded by Baker's definition of the verb as the only lexical category able to project a specifier. An adjective or a noun would have no way to license the argument in [Spec, AP].

Baker argues, then, that Pred + N and Pred + Adj structures are prevented from being causativized via verb incorporation due to the PHMG. This argument relies on the assumption that Pred is a functional head, rather than a lexical light verb. That assumption is not well supported, even by Baker's own data. Instead of acknowledging counterexamples as evidence that Pred doesn't necessarily block incorporation, Baker adds a further refinement to his theory to account for the counterexamples.

#### 2.4.2.2 Pred, Tense and Aspect

Baker also observes that Pred constructions are less likely cross linguistically to take affixal tense and aspect morphology. He assumes an “attraction” analysis of tense, in which the verb head moves to the tense affix. Non-affixal tense morphology does not attract the verb in this analysis.

Baker argues that tense affixes in many languages have a requirement that they may only attach to a lexical category. For this reason, tense affixes often cannot attract a Pred + N/ADJ construction, which Baker considers a functional category. Nor can the lexical noun or adjective be attracted out of Pred to the tense affix, as such movement would skip over Pred, thus violating the Head Movement Constraint.

The prohibition against Pred constructions taking tense and aspect affixes is far from universal, Baker admits. Some languages allow tense affixes to attach to any head, lexical or functional. For that reason, tense or aspect affixation alone cannot be used as a diagnostic for establishing the lexical or functional status of predicates in a given language.

#### 2.4.3 Incorporation versus Conflation

Baker acknowledges that some languages appear to allow nonverbal predicates to take verbal morphology. He explains this difference by arguing that incorporation of an adjectival complement into Pred is possible at two levels: pre-syntactically (presumably in the lexicon) and syntactically after insertion into a D-structure representation. Baker calls the incorporation of Pred with a N or Adj head before insertion “conflation.” Conflation, according to Baker, renders the internal structure of the incorporated structure invisible to syntax. The process of conflation causes the Pred + Adj construction to be



reanalyzed as an unaccusative lexical verb, and as a result, conflated Pred + Adj predicates are able to act syntactically as any verb would: combining with a causative morpheme, being marked for tense, aspect and person, and being nominalized. Mohawk, as a language with “adjectival verbs” that are the result of conflation, is able to function in syntax as a lexical verb, without the restrictions placed on Pred + Adj constructions that are syntactically derived.

“Reanalysis” as a result of conflation is a rather ad-hoc explanation for the variation of behavior of nonverbal predicates in different languages. A more satisfactory explanation would find independent motivation for the differing behavior of non-verbal predicates across languages.

#### 2.4.4 Syntactic vs. nonsyntactic causativization

Baker’s examination of the properties of these categories leads him to some interesting hypotheses about the place of morphology in the grammar. Specifically, he proposes several tests which he claims can determine whether the morphology in question is syntactically derived, or whether it occurs pre-insertion, in the lexicon. Baker (2003) lists the following characteristics as possible tests for syntactic morphology: category-specificity, constancy and transparency of meaning, the possibility of recursion and productivity.

Baker’s first proposed test for syntactically active morphology is category-specificity. He argues that “purely morphological processes would be relatively insensitive to category, lexical category not being a crucial notion outside the syntax.” In addition, the unique characteristics of each lexical category disallow the insertion of a



- c. \*Mbidzi      zi-na-mfumu-(i)ts-a                      m-kango  
 IO.zebras    IOS-PAST-chief<sub>N</sub>-CAUS-FV                      3-lion  
 ‘The zebras made the lion a chief.’

In Chichewa, the causative morpheme *-its* is limited to attaching to verbs, as in (32a). Causative *-its* constructions which incorporate nouns or adjectives are prohibited, as in (32b) and (c). This particular Chichewa causative construction was extensively examined in Baker (1988), and, within Baker’s assumptions, can be confidently accepted as an example of syntactically-derived morphology. This construction is productive in Chichewa, and the meaning of the incorporated structure is semantically transparent, meeting two more of Baker’s suggested tests for syntactically-active morphology. And finally, Chichewa may allow the recursive use of the causative morpheme, as shown in (33), which Baker marks as ‘questionable’:

33. ?Asilikali      a-na-vin-its-its-a                      atsikana kwa akaidi  
 Soldiers            3sS-PAST-dance-CAUS-CAUS-FV      girls      to      prisoners  
 ‘The soldiers made the prisoners make the girls dance.’

## 2.5 Predictions of Incorporation Theory

In summary, Baker makes a number of predictions about how a syntactically-derived causative verb construction should behave.

First, if a causative morpheme does indeed trigger verb incorporation, the construction is constrained by syntactic principles. Under the ECP, incorporation from a structural object position should be straightforward, while incorporation from a subject or adjunct position should be impossible.

After incorporation, the grammatical function of lower NPs will appear to change, because under the GTC the complex verb will be able to govern into the lower VP. This apparent shift in grammatical functions will be demonstrated by changes in agreement morphology.

Verbs (or causative morphemes) which trigger verb incorporation will select a VP complement, and for that reason, the lower verb will be incorporated without any tense or agreement morphology. Incorporation of a verb embedded in any functional projection is impossible.

Verbs, nouns and adjectives, because of their individual qualities, each display characteristics and distributional patterns exclusive to their respective categories. Only nouns display a mass/count distinction, inflection for number, and the ability to be numbered or measured. Adjectives are the only lexical items that can be selected by a degree head. Verbs are the only lexical items which may be selected by a causative affix.

The lexical categories of N and Adj can only be used predicatively by combining with the functional head Pred. As a result, these nonverbal predicates do not exhibit the

same characteristics as lexical verbs. One relevant difference is Baker's prediction that under the PHMG, nonverbal predicates cannot undergo verb incorporation.

In the following chapter, the causativization of lexical verbs will be examined, to determine if these, at least, conform to independently-motivated syntactic restrictions on movement described by the HMC and the ECP. In a later chapter, Guaraní nonverbal predicates will be analyzed within Baker (2003)'s framework, to establish the underlying lexical categories of these items, and examine the challenges that Guaraní presents for Baker's framework.

### Chapter 3: Guaraní Causativization<sup>10</sup>

Gregores and Suárez (1961) distinguish between three Guaraní verb classes: transitive verbs, intransitive verbs and quality verbs.<sup>11</sup> Intransitive verbs share a subject-agreement paradigm with transitive verbs. Table 1 outlines this paradigm:

**Table 1. Active subject agreement prefixes**

	Singular	Plural 1 (inclusive)	Plural 2 (exclusive)
1 <sup>st</sup> Person	a-	ja-/ña-	ro-
2 <sup>nd</sup> Person	re-	pe-	pe-
3 <sup>rd</sup> Person	o-	o-	o-

Intransitive verbs appear to agree with an agentive subject, and as a result this class of verbs is often also called the “active” verb class. In contrast, the class of predicates called quality verbs demonstrates an agreement pattern identical with the object agreement pattern of transitive verbs. An argument may be made that this second class of predicates does not consist of lexical verbs at all, but adjectival or nominal predicates combined with a null functional verb. I will discuss the categorical status of these predicates in the following chapter. In this chapter I will discuss the most straightforward case; that of the causativization of “active” intransitive verbs in Guaraní, to see whether the facts match the predictions Baker (1988) and (2003) makes about them.

---

<sup>10</sup> For some non-generative accounts of causativization, see Comrie, 1976, 1985, Shibatani, 1975, 1976a and 1976b, and Song, 1996.

<sup>11</sup> Guasch (1996) uses the terms *transitivos*, *areales* and *chendales*, respectively, for these classes.

(1) shows an active intransitive verb, while (2) shows a transitive verb. Both verbs use the active subject agreement prefixes shown in Table 1.

1. Xe a-guata

1sg 1sg-walk

‘I walk’ (Krivoshein de Canese, 1983: 75)

2. Xe a-gueru mandi’o

1sg 1sg-bring manioc

‘I bring manioc’ (Krivoshein de Canese, 1983: 74)

Guaraní active intransitive verbs are considered by most researchers (Gregores and Suárez, 1961; Krivoshein de Canese, 1983; Guasch, 1991) to be underived lexical verbs which project one argument. These verbs can be causativized with *mbo-*, resulting in a transitive verb which marks the former lower subject as the object, or causee, of the causative construction. Thus, the intransitive sentence in (3) becomes the transitive (4) via the syntactic movement of the verb *puka* ‘to laugh’ to adjoin to the causative morpheme *mbo-*, as illustrated in the diagram below.

## 3. a. Isabel o-puka

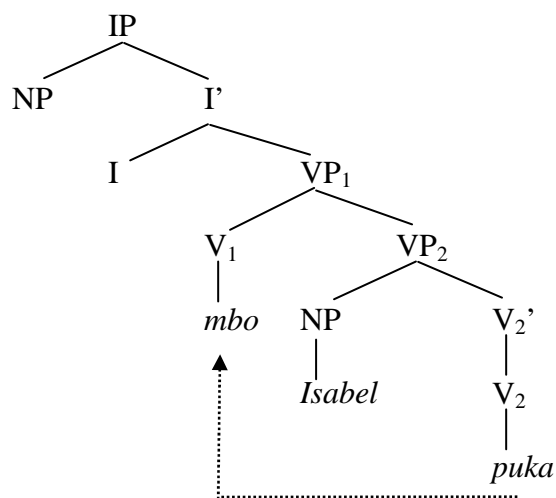
Isabel 3-laugh

'Isabel laughs'

## b. Xe a-mbo-puka Isabel-pe

1 1-CAUS-laugh Isabel-ACC

'I make Isabel laugh'



After causativization with *mbo-* the new verb does not show agreement with the causee argument *Isabel*, but with the higher, causer subject, unless object agreement is triggered through the person hierarchy<sup>12</sup>. The lower argument, when overt, appears in accusative

<sup>12</sup> In transitive sentences with two animate arguments, the verb will agree with the object rather than the subject iff the object is 'higher' on the person hierarchy than the subject (Velazquez-Castillo, 1996: 17).

Person hierarchy: 1<sup>st</sup> person > 2<sup>nd</sup> person > 3<sup>rd</sup> person

Olaf xe- su'u  
 Olaf 3.OBJ bite  
 'Olaf bit me.'



Case. In Guaraní, nouns and pronouns referring to humans are marked with the suffix *-pe* when they are the direct object, or patient, of the verb, as in (4):

4. Petei jagua o-su'u Juanito-pe  
 one dog 3-bite Juanito-pe  
 'A dog bit Juanito.'

When an intransitive verb like *puka* (3a) combines with the causative morpheme *mbo-*, as in (3b), the same accusative inflection with *-pe* occurs on the former subject *Isabel*.

The thematic role of the causee remains the same in both (3a) and (3b), but both agreement marking and the overt forms of the pronoun reflect the change of grammatical function of the argument from subject to object.

Baker (1988) claims that apparent changes in grammatical functions of arguments are a “side effect” of incorporation, in this case, verb incorporation. Because in both (3a) and (3b) *Isabel* is the patient or theme of the verb *puka*, under Baker’s UTAH, the two constructions must assign the thematic role in the same configuration at some level of representation. Therefore (a) and (b) must have an identical structure at the point that theta roles are assigned to arguments. Subsequent movement of the verb, as would be the case in verb incorporation, would result in a lower NP governed by the complex verb as stated in the GTC, and receiving accusative Case from the complex verb through adjacency.

The *mbo-* causative construction is subject to the same limitations on application of rules as other movement-based operations. Specifically, head movement of the

incorporated element leaves a trace which must be properly governed either through theta-government or antecedent-government, according to the Empty Category Principle. Constructions which attempt to incorporate a verb from a subject or adjunct clause can be expected to be unacceptable.

The following examples demonstrate the contrast between the acceptable incorporation in (5b) of a verb from a clausal complement of *mbo-* (in curly brackets) and the unacceptable incorporation (5c) of a verb from an adjunct adverbial clause (in square brackets). (5a) illustrates the D-structure position of the elements:

5. a.    a-mbo            {re-puka}     [re-jeroky vove]  
           1SG-CAUS    {2SG-laugh} [2SG-dance when]
- b.    a-mbo-puka<sub>i</sub>            ndéve t<sub>i</sub>        [re-jeroky vove]  
           1SG-CAUS-laugh    you(ACC)     [2SG-dance when]  
           ‘I make you laugh when you dance’
- c.    \*a-mbo-jeroky<sub>i</sub>-vove        ndéve            {re-puka} t<sub>i</sub>  
           1SG-CAUS-dance-when    you(ACC)     {2SG-laugh}  
           ‘I make when you dance you laugh’

These observations about the causativization of Guaraní intransitive verbs match up well with Baker’s assertions about the behavior of causativized intransitive verbs cross-linguistically. Because intransitive verbs, when causativized, do not present a

problem for the Case Frame Preservation Principle, the behavior of causativized intransitives is identical across languages, Baker (1988; 197) claims. Such causatives should mark the causee as the direct object, assign accusative Case to the causee, allow the causee to trigger object agreement, and allow the causee to become the surface subject in passives:

6. a. Rodolfo o-mbo-puka      Erika-pe

Rodolfo 3-CAUSE-laugh Erika-to

‘Rodolfo makes Erika laugh’

b. Rodolfo xe-mbo-puka

Rodolfo 1SG.OBJ-CAUS-laugh

‘Rodolfo makes me laugh’

c. Erika o-ñe-mbo-puka

Erika 3-CAUS-laugh

‘Erika was made to laugh’ or ‘Erika made herself laugh’<sup>13</sup>

In (6a) above, we can observe that the causee *Erika* is marked with *-pe*, an item similar to the personal *a* of Spanish, which marks human direct objects, as in (7):

---

<sup>13</sup> Passive and reflexive voices in Guaraní are derived the same way, and with the same morpheme *je/ñe*. Interpretation is a matter of context.

7. Rodolfo le hizo reír a Erika  
 Rodolfo 3SG CAUS.PST laugh to Erika  
 ‘Rodolfo made Erika laugh’

This indicates that in both (6a) and (7) *Erika* is functioning as a direct object, and has been assigned accusative Case. Object agreement can be triggered on a verb if the causee lies higher on the Guaraní ‘person hierarchy’ than the causer, as is the case in (6b). Finally, *Erika* can become the surface subject when the sentence is passivized, as in (6c).<sup>14</sup>

### 3.1 Tests for Syntactic Activity

Although Baker (1988) deals with causative morphology in exclusively syntactic terms, Baker (2003) notes that not all causative morphology is syntactically active. Non-syntactic morphology includes that which is “semantically idiosyncratic,” as well as morphemes with limited productivity. Syntactically active morphology, then, would be expected to be productive and semantically transparent.

---

<sup>14</sup> Guasch (1996) notes that active voice is preferred to passive in Guaraní, as it is in Spanish. Specifically, he points out that some sentences containing *mbo-* are unacceptable when passivized, while others are listed as acceptable without comment. The following examples from Guasch (1996:158-159)

\*yyvra o-ñe-mo-mbe yvytu rehe  
 trees 3-PASS-CAUS-flat wind from  
 ‘The trees were flattened by the wind.’

a-ñe-mbo-guapy-ma voi  
 1SG-PASS-CAUS-sit-already quickly  
 ‘I was made to sit down quickly.’

Baker cites the Chichewa causative morpheme /ets/ as a likely morpheme that triggers incorporation:

8. Mtsikana      anau-gw-ets-a      mtsuko  
     girl            AGR-fall-made-ASP    waterpot  
     ‘The girl made the waterpot fall’ (Baker, 1988; 148)

Baker cites the Lezgian affix /-ar/ as an example of an affix not likely to be syntactically active, because it is not fully productive and it doesn’t always change meaning or argument structure of the verb to which it affixes.

Aside from semantic transparency, and full productivity Baker outlines another other possible test for determining the syntactic activity of a particular morpheme. He claims that such morphology is category-specific. Syntactically active affixes should be able to attach to the members of only one lexical category. In his words, “category-specificity seems to correlate with positive evidence of syntactic derivation” (Baker, 2003: 283).

### 3.1.1 Category Specificity

Baker (2003) argues that the unique characteristics of each lexical category disallow the insertion of a member of one category into a position usually occupied by another. Syntactically-derived morphology, then, must be category-specific, allowing a particular affix to combine with members of only one lexical category. Because lexical category is defined entirely in syntactic terms in Baker’s framework, non-syntactic morphology has no such restriction, and Baker gives examples of affixes that combine (at

least to a limited extent) with roots of more than one lexical category. Thus, Baker takes category-specificity as an indicator of syntactically-derived morphology. This assertion creates a problem for the incorporation analysis of *mbo-* being proposed here. As noted previously, *mbo-* is able to combine with any transitive predicate. Active verbs, described above, are a straightforward case, as they are commonly considered to be underived lexical verbs. The categorial status of stative predicates is much less clear. Predicates of this class almost without exception resemble nouns or adjectives, inflected with a class of agreement markers exclusive to predicates of this class. In the following examples, *vaí* ‘ugly’ is used first as an attributive adjective, and then as a stative predicate:

9. Ava vaí        o-guata  
     man ugly      3-walk  
     ‘The ugly man walks’

10. xe-vaí-ete  
     1SG-ugly-very  
     ‘I am very ugly’

It is possible for *vaí* to combine with *mbo-*, as in (11):

11. Yvytu o-mbo-vaí    xe yvotyty  
     Wind 3-CAUS-ugly   my garden  
     ‘The wind made my garden ugly’

Depending on the categorical status of *vaí*, this example may be demonstrating the ability of *mbo-* to combine with more than one lexical category. There are a number of possible analyses of the status of stative predicates: words like *vaí* may have both a verbal and an adjectival form listed in the lexicon, or the predicative form of *vaí* may be derived from the adjectival form.

Clearly, to determine whether *mbo-* causativization is indeed limited to a single lexical category, it is first necessary to determine the nature and categorical status of Guaraní stative predicates. This will be the topic of the following chapter.

## **Chapter 4: Nonverbal Predication in Guaraní**

In the previous chapter, it was noted that the authors of Guaraní grammars divide Guaraní intransitive verbs into two classes: a class of verbs which take subject agreement prefixes from the same paradigm as transitive verbs, and a class of lexical items with its own paradigm of subject agreement prefixes. The lexical category assigned to this second class varies widely by grammar, yet a principled description of this class and its precise categorial status could have important implications for Baker's Theory of Incorporation and his description of the properties of lexical categories.

In Chapter 2, both Baker's (1988) theory of Incorporation as well as his theory of Lexical Categories (2003) are outlined. Incorporation theory argues that causative constructions are derived in the syntax via head movement, and thus are constrained by independent syntactic principles which restrict the application of Move-Alpha: principally the ECP and its corollaries.

Baker's more recent theory of lexical categories makes a number of assertions which will prove especially relevant in the examination of Guaraní nonverbal predicates. Baker argues that every language has all three lexical categories- noun, verb and adjective- at some level of representation. For example, in languages which are considered to lack a class of adjectives, Baker argues that conflation of adjectives with Pred is mandatory. According to Baker, nouns and adjectives cannot project subjects, and therefore cannot serve predicatively without additional (functional) morphology, i.e. a projection of the functional head Pred. Under the PHMG, the functional nature of the morpheme Pred limits the participation of constructions including Pred in movement-based operations such as causativization. If Guaraní nonverbal predicates are indeed Pred



constructions, then their ability to participate in incorporating causative constructions with *mbo-* should be extremely restricted, if not prohibited.

In this chapter, a brief description will be made of three classes of nonverbal Guaraní predicates, and a comparison will be made between the linguistic data for these items and Baker's (1988, 2003) theory and the predictions it makes for such predicates. Where the linguistic evidence contradicts Baker's predictions, possible alternative analyses will be considered.

#### 4.1 Three subtypes of nonverbal predicate in Guaraní

Descriptions of Guaraní differ in regard to the classification of nonverbal predicates. For the purposes of this paper, I will adopt Baker's (2003) assertion that all languages have the three lexical categories of Verb, Noun and Adjective<sup>15</sup>. Initially, I will also adopt Baker's assertion that nouns and adjectives must be selected by a functional Pred head in order to serve as a predicate. Thus, Guaraní has three classes of nonverbal predicates: predicate adjectives, clausal possessive nominals, and equative sentences.

---

<sup>15</sup> For example, some grammars (Guasch, 1996; Gregores and Suarez, 1961) argue that Guaraní entirely lacks a class of adjectives, despite the fact that examples of attributive adjectives modifying nouns are plentiful in Guaraní:

**avá kyra** o- ca'api- í  
 man fat 3.ACT- cut.weeds- NEG  
 A fat man can't cut weeds (Pangrazio, n.d.:51)

#### 4.1.1 Predicate adjectives

Predicate adjectives take a person agreement marker from a different class of agreement markers than that used for verbs (and which was outlined in the previous chapter). This class of nonverbal subject agreement markers is presented in Table 1 and illustrated in examples (1) and (2).

**Table 2 Nonverbal subject agreement markers<sup>16</sup>**

1 singular	xe-
1 PL inclusive	ñane-/ñande-
1 PL exclusive	ore-
2 singular	ne-/nde-
2 plural	pene-/pende-
3 singular and plural	i-/ij-/iñ-

These agreement markers attach to the beginning of the adjective, as in (1):

1. ij- yvate

3- tall

‘He/she/it/they is/are tall’

<sup>16</sup> Multiple forms are phonologically conditioned variants.

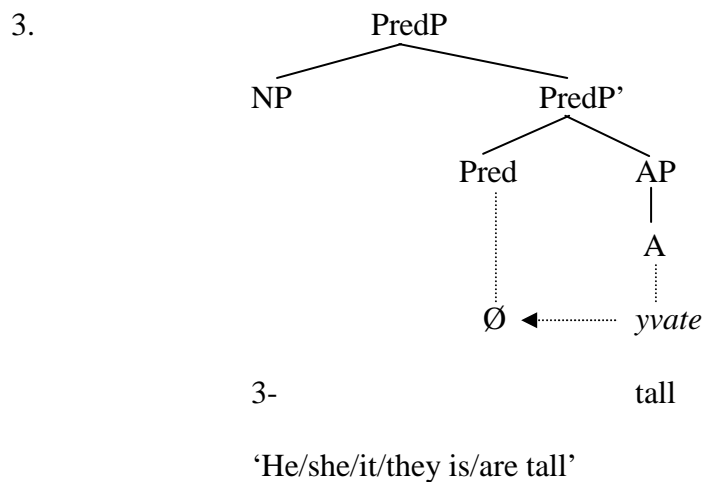
A separate subject NP or pronoun may optionally also be present, but is not required:

2. amo yvyty ij- yvate

that mountain 3- tall

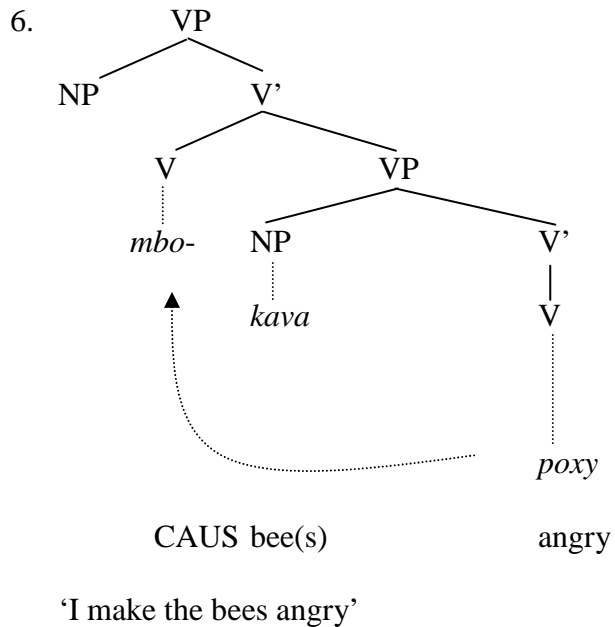
‘That mountain is tall’ (Guasch, 1996:179)

Because adjectives alone cannot project or theta-mark a subject position, they must be selected by a Pred head when used predicatively. The structure of (2) would be as in (3).



Most importantly for the purposes of this discussion, predicate adjectives, like intransitive verbs, can be causativized with *mbo-*, as in (4).





The Proper Head Movement Generalization does not apply, as there is no functional Pred head to block incorporation of *poxy* into the causative affix. Therefore the deadjectival verb *poxy* can freely incorporate into the causative affix *mbo-*.

According to Baker, Conflation creates a lexical verb from the Pred + Adjective complex. If Guaraní predicate adjectives were indeed lexical verbs it would be expected that they would be inflected as such, taking person agreement prefixes like those used for other lexical verbs, as discussed in the previous chapter, instead of a separate class of agreement affixes. Even more puzzling is the fact that this same class of agreement affixes is also used with nonverbal predicates that are prohibited from conflating in Baker’s framework. This class of clausal possessive nominals will be discussed in the following section.

To summarize, Baker argues that, in Guaraní, predicate adjectives are really deadjectival verbs, and should display the characteristics of other intransitive Guaraní verbs, rather than the attributive adjectives from which they are derived. This is not entirely the case for predicate adjectives, but is even more problematic for Guaraní clausal possessive nominals, as will be demonstrated in the following section.

#### 4.1.2 Clausal possessive nominals

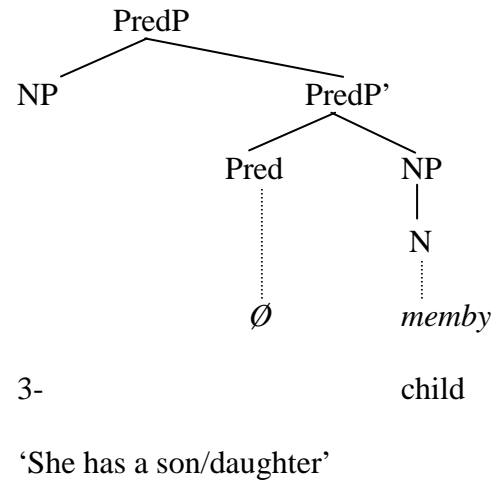
Clausal possessive nominals in most respects resemble the predicate adjectives we have just seen. Clausal possessive nominals select a person marker from the same paradigm of nonverbal subject agreement markers as predicate adjectives (Table 1). The marker appears directly on the nominal, as in (7), as no overt verb or other predicative element need be present in the construction. Clausal possessive nominal sentences convey a meaning of possession, usually the inalienable possession of kinship or body parts (Velazquez-Castillo, 1996):

7. i- memby

3- child

‘She has a son/daughter’ (Velazquez-Castillo, 1996)

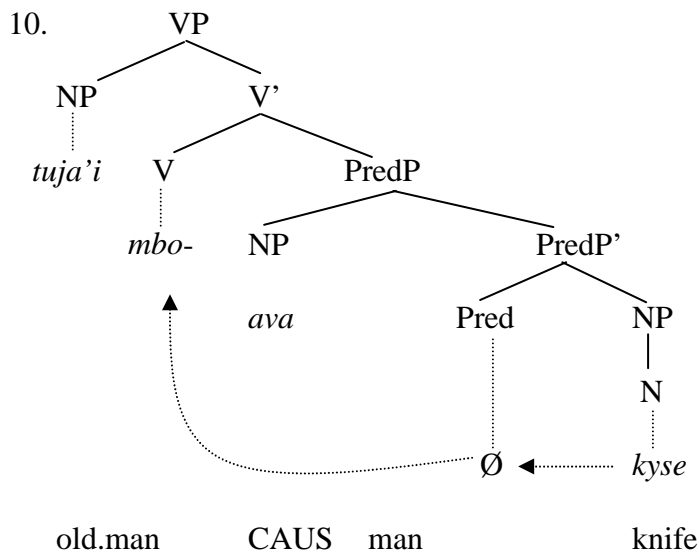
8.



Like predicate adjectives, Guaraní clausal possessive nominals may take the causative affix *mbo-*, with a resulting meaning of “provide A with B,” (Velazquez-Castillo, 2002:519; Damaso Vieira, 1998), as in (9) and (10):

9. tuja-‘i      ava    o- mo-    kyse  
     old-DIM    man    3- CAUS- knife

‘The old man gave the man a knife.’(Damaso Vieira, 2000:399)



As previously discussed for predicate adjectives, incorporation of a Pred construction into a causative affix is prohibited under the PHMG. Conflation was used to explain how predicate adjectives are able to incorporate into a causative affix. A conflation account for clausal possessive nominals is far more problematic than it was for predicate adjectives, however. Under Baker's Reference-Predication Restraint, nouns with a referential index, or criterion of identity<sup>17</sup>, cannot conflate with Pred, as conflation would create a syntactic node that both theta-marks a specifier and bears a referential index. According to Baker, a noun may only conflate with Pred by losing its referential index. Nouns without referential indices are no longer nouns in Baker's theory, but rather adjectives. If Guaraní clausal possessive nominals undergo conflation, the noun lacking a referential index should not demonstrate behavior typical of nouns (like an ability to be quantified or counted), and the conflated noun should be syntactically invisible in the conflated structure. The opposite seems to be the case, however. The nouns in Guaraní

<sup>17</sup> Baker (2003:95) describes the 'referential index' as the syntactic expression of a semantic 'criterion of identity.' Although not strictly synonyms, Baker uses the terms interchangeably.



clausal possessive nominals both appear to be syntactically active, and to retain their status as nouns.

Baker claims that the noun's 'criterion of identity' allows only nouns to be quantified or to bear a mass/count feature. Damaso-Vieira (2000, 2001) illustrates the fact that Guaraní clausal possessive nominals can be quantified, and appear to strand that quantifier. Compare the clausal possessive in (11), where the quantifier *irundy* 'four' appears after the noun *memby* 'child', to the normal order for quantified nouns shown in (12)

11. Pe kuñakarai i- memby irundy

That lady 3SG- child four

'That lady has three children' (Meliá Lliteras et al., 1960)

12. xe a- hexa-se mokõi xivi

I 1SG-see-want two jaguar

'I want to see two jaguars' (Damaso-Vieira, 2000)<sup>18</sup>

In (11), *memby* appears to have undergone head movement, leaving its quantifier *irundy* in situ. Both the quantification and the head movement suggest that *memby* was not inserted into the syntax as a denominal verb, as would be the case in a conflation account.

The possessed noun in Guaraní clausal possessive nominals also maintains its mass/count feature. Count nouns like *pakova* 'banana' can be modified by *reta* 'many',

---

<sup>18</sup> The spelling of examples from Damaso-Vieira (2000, 2001) has been slightly altered to match the Guaraní spelling conventions used elsewhere in this paper.

even when they are part of a clausal possessive nominal (as in (13)), while mass nouns like *mandiokui* ‘manioc’ in the same construction (14) cannot be modified the same way.

13. Ha'e i-pakova reta  
 He 3-banana many  
 ‘He has many bananas’ (Damaso-Vieira, 2000)

14. \* Ha'e i-mandiokui reta  
 He 3-manioc many  
 ‘He has many manioc.’ (Damaso-Vieira, 2000)

Baker argues that a noun which has lost its criterion of identity, as would be required for conflation, cannot take a quantifier or bear a mass/count feature. Yet not only can Guaraní clausal possessive nominals be quantified or display a mass/count distinction, they also appear to strand quantifiers via head movement.

Guaraní clausal possessive nominals therefore are in a paradoxical position. They display properties which, in Baker’s theory, would simultaneously class them as verbs and as nouns. Clausal possessive nominals can be causativized by *mbo-*, and can take other verbal morphology, like tense and negation, as well. On the other hand, Guaraní clausal possessive nominals can be inflected for plural, display a mass/count distinction, and in the case of count nouns, can be numbered: in Baker’s theory, these are qualities exclusive to nouns.

A final class of Guaraní nominal predicate, which conforms exactly to Baker's predictions for Pred constructions, provides an interesting contrast to the case of clausal possessive nominals.

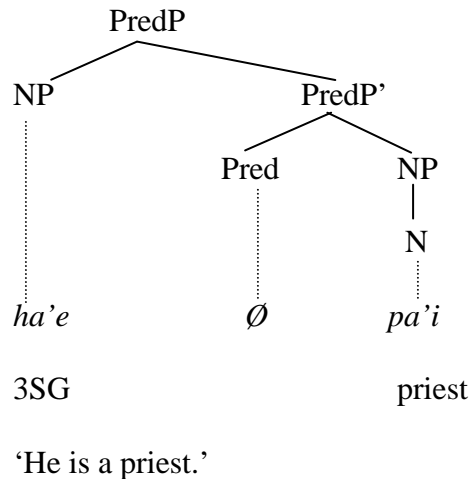
#### 4.1.3 Equative sentences

A third class of nonverbal predicate, the equative predicate, is unique among Guaraní nonverbal predicates in that the second NP is never inflected for person agreement. The subject NP may be either an independent pronoun or a lexical NP, but is never realized as a subject agreement affix. These sentences express the meaning of "A is B," as in (15) and (16):

15. la pombero           peteî espiritu  
       ART pombero       one spirit  
       'The pombero is a ghost' (CHP, n.d.:97)

16. ha'e   pa'i  
       3SG   priest  
       'He is a priest.'

17.



Unlike the classes of predicate adjectives and clausal possessive nominals shown above, equative sentences cannot be causativized with *mbo-*. In this respect, only the class of equative sentences conforms to Baker's prediction that nonverbal predicates formed with **Pred** cannot take causative affixes that trigger incorporation.

#### 4.2 The question of **Pred**'s status

As nominal predicates, clausal possessive nominals and equative sentences should be expected to demonstrate similar syntactic characteristics. As has been demonstrated, this is not the case. In their ability to incorporate into the causative affix *mbo-*, as well as their ability to be inflected with other verbal morphology like subject agreement prefixes, tense and negation, clausal possessive nominals resemble predicate adjectives much more than they do equative sentences- an unexpected situation, given the different distributional requirements Baker's theory establishes for nouns and adjectives. The status of **Pred** as a functional category is at the center of Baker's description of nonverbal

predication. Because Pred is assumed to be a functional category, incorporation of Pred constructions into causative affixes is prohibited under the PHMG. Baker must introduce an additional process, conflation, to account for contradictory evidence. Yet Baker himself is rather ambivalent about the functional status of Pred:

The question of Pred's status with respect to the lexical/functional distinction now arises more critically. In fact, it has a somewhat intermediate status. On the one hand, Pred is like a functional category in that it has no rich, distinctive lexical semantics associated with it. It is also a closed class category: each language has only a small number of Preds, probably no more than one or two. On the other hand, Pred is like a lexical category in that it licenses a noun phrase by theta-role assignment (or by calling for an expletive). This is something that the prototypical functional categories like tense and complementizer cannot do. It seems reasonable then to say that Pred is a functional category in and of itself, because it lacks encyclopedic content. If, however, it acquires encyclopedic content by a process of conflation, it automatically becomes a lexical category. (Baker, 2003: 87)

In Guaraní, Pred clearly contributes semantic information to the sentence. (18) (19) and (20) illustrate the semantic contribution of Pred to a predicate adjective, a clausal possessive nominal and an equative sentence, respectively.

18. xe- kane'o

1SG tired

'I AM tired.'

19. xe- akã mokõi

1SG head two

'I HAVE two heads.'

20. Antonio jaguarete

Antonio tiger

'Antonio IS a tiger.'

In (18), Pred contributes semantic information which could be translated as 'A has the quality B.' In (20), Pred indicates that 'A equals B.' The case of (19) is especially interesting, because nonverbal possessive nominals indicate a particular type of possession which is often inalienable.<sup>19</sup> There is a lexical verb *reko* 'to have' in Guaraní (Illustrated in (21) which does not indicate inalienable possession, and which does not incorporate its direct object as the Pred in (19) appears to.

---

<sup>19</sup> The inalienability of possession in clausal possessive nominals may vary somewhat according to dialect. Velazquez Castillo (1996) asserts that these predicates nearly always indicate inalienable possession (usually of body parts and family members) in Paraguayan Guaraní, while Damaso Vieira (1998) cites several examples of clausal possessive nominals in Mbyá Guaraní that indicate possession of such non-alienable items as baskets and knives. In one important respect the two dialects agree: in neither dialect can the possession of kin or body-parts be expressed with the verb *reko* 'to have.'

21. a- reko mokōi mbarakaja

1SG have two cat

‘I have two cats.’

The boundaries between Pred possessive nominals and the verb *reko* are well defined.

Compare (19) to (21), where possession is indicated with the verb *reko*:

22. a- reko mokōi akã

1SG have two head

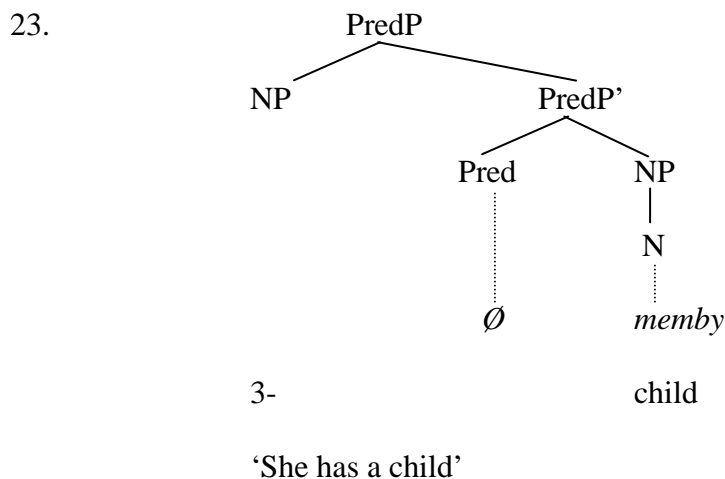
‘I have two heads.’

(22) does not have the same meaning as the clausal possessive nominal (19). (19) expresses the idea that the two heads are inalienable parts of the speaker’s own body, whereas (22), like (21), indicates that the two heads are independent entities.

Nor are closed classes necessarily limited to functional categories. Pronouns belong to a closed class of lexical items, for example.

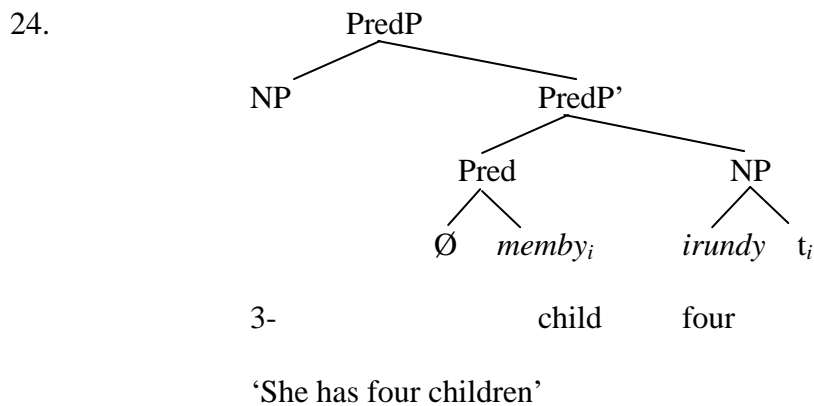
In short, Baker claims Pred is a functional category because of its lack of semantic content and because it is the member of a closed class. This is fragile motivation at best, and the implications of a lexical Pred for Baker’s theory are compelling, primarily because a lexical Pred (essentially a phonologically null light verb) would not constitute a barrier to incorporation under the PHMG.

If we reanalyze the Guaraní clausal possessive nominal as a NP selected by a lexical Pred, the advantages of lexical Pred become clearer. The structure would be (8), repeated here as (23).



The fact that clausal possessive nominals in Guaraní take verbal morphology like tense and agreement suggest that the NP selected by Pred incorporates into it, as in (24).

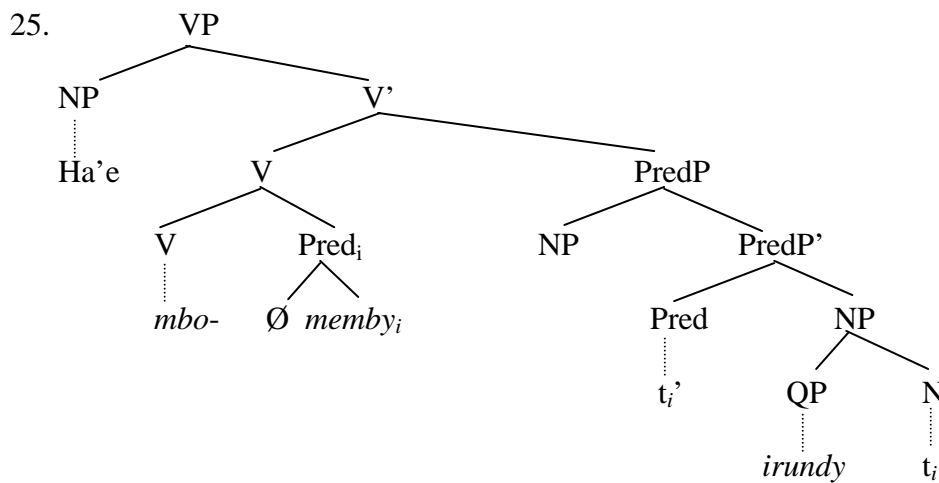
Further evidence indicating that the NP incorporates into Pred is the fact that clausal possessive nominals always strand numerals.<sup>20</sup>



<sup>20</sup> See Baker’s (1988: 92-105) use of stranding as evidence of NP movement in noun incorporation.



In cases where the clausal possessive nominal is causativized with *mbo-*, another cycle of incorporation will occur, this time of the Pred+N complex into *mbo-*, as in (25):



Ha'e o- mo- memby irundy [kuña pe]

He 3- CAUS child four [woman-ACC]

'He made [the woman] have four children.'

A lexical, rather than functional, Pred simplifies the analysis of Guaraní nonverbal predicates, especially when those predicates are causativized with *mbo-*. The PHMG plays no role in such an analysis, and it becomes unnecessary to resort to a conflation mechanism to explain structures like (25) in Guaraní.

Some questions about this alternative analysis of Pred as a lexical verb remain to be answered. Namely, if Pred is verbal, then why do Pred constructions not take verbal subject agreement prefixes? It is possible that lexical verbs and Pred assign different thematic roles to their specifiers. The fact that nonverbal subject agreement prefixes in

many cases are identical to object agreement markers is promising evidence for such a hypothesis. This question deserves a more thorough exploration than is possible here.

#### 4.3 Conclusion

Guaraní nonverbal predicates appear to present some challenges to Baker's theory of lexical categories, particularly where that theory interacts with his earlier work on Incorporation theory. Baker's Proper Head Movement Generalization predicts that Guaraní nonverbal predicates, as Pred constructions, should not undergo causativization via incorporation with *mbo-*. This prediction does not hold up for two classes of Guaraní nonverbal predicate, as has been demonstrated here. While a conflation analysis (where Pred + Adj is inserted in the syntax as a reanalyzed lexical verb) can possibly explain the ability of Guaraní predicate adjectives to causativize with *mbo-*, conflation has been demonstrated to be inadequate as a description of Guaraní clausal possessive nominals. Crucial to Baker's description of nonverbal predicates is the weakly-motivated and unnecessary assumption that Pred is a functional category that blocks the type of head movement involved in incorporation. Assuming the opposite, that Pred is a phonologically-null lexical verb, would make the PHMG irrelevant, and be sufficient to explain the ability of Guaraní nonverbal predicates to be incorporated by the causative affix *mbo-*.

## Chapter 5: Concluding Remarks

This thesis examined two related questions. First, is *mbo-* an affixal verb that incorporates the head of its complement VP? And second, what is the categorial status and internal structure of Guaraní nonverbal predicates? What, type of head, exactly, is *mbo-* incorporating?

In cases where *mbo-* appears on canonical intransitive verbs, an incorporation analysis à la Baker (1988) is straightforward. Baker claims that the Empty Category Principle restricts causative verbs from incorporating verbal heads from subject or adjunct clauses, because such incorporation would leave an ungoverned trace. As it has been shown here, *mbo-* can only incorporate the head of its VP complement.

The fact that the other class of Guaraní intransitive predicates is also able to be incorporated by *mbo-* is a puzzling result for Baker (2003). If these predicates are indeed nouns or adjectives that must combine with a functional Pred head, then that Pred head should block incorporation under the Proper Head Movement Generalization. Baker argued that, in cases such as these, the adjective incorporates into Pred prior to insertion in the syntax, and the Pred + Adjective unit becomes a single lexical verb for the purposes of syntax. This process, which he calls conflation, is only possible for nominals which have been stripped of their referential index.

Conflation proves to be an inadequate explanation of Guaraní predicate adjectives and clausal possessive nominals. If predicate adjectives and clausal possessive nominals are inserted into the syntax as lexical verbs, why do predicates of these types not take person agreement markers from the same class used with other lexical verbs? Also, In the

case of clausal possessive nominals, nouns which after conflation should have become invisible to the syntax continue to display behavior which is both very noun-like, as in their ability to be numbered, and very syntactic, as in their ability to strand that numeral or quantifier.

These issues provide ample material for continuing research. First, one possible modification of Baker (2003) is suggested briefly in this thesis: that Pred is a phonologically null lexical verb, rather than a functional head. As a lexical verb, it would not be a barrier to verb incorporation under the PHMG, and the theoretical implications of this alternative account have yet to be worked out. And finally, the presence of two classes of person-marking prefixes in Guaraní presents some interesting questions. Do these classes encode differing thematic relationships between the verb and its single argument? Could they serve to indicate unergative and unaccusative verbs?

As a language that has, up to the present, been left largely unexplored by linguists working in the Government and Binding tradition, Guaraní provides a wealth of material that can provide both challenge and reinforcing evidence for formal theories of syntax.

## Bibliography

- Adelaar, Willem F. H. 1986. Transitivity as a condition for morphology. *Linguistics*, 24, 493-502.
- Baker, Mark C. 1988. *Incorporation: a theory of grammatical function changing*. Chicago: University of Chicago Press.
- Baker, Mark and Kenneth Hale. 1990. Relativized minimality and pronoun incorporation. *Linguistic Inquiry*, 21, 289-297.
- Baker, Mark C. 1996. *The polysynthesis parameter*. New York: Oxford University Press.
- Baker, Mark. 2003. *Lexical categories: verbs, nouns and adjectives*. Cambridge: Cambridge University Press.
- Bender-Samuel, David, ed. 1971. *Tupi studies I*. Norman, Oklahoma: Summer Institute of Linguistics.
- Caballero Irala, Basiliano. 1971. *Ñane rētã cu'i cuemí*. Asunción, Paraguay:??
- Chomsky, Noam. 1970. Remarks on nominalization. In R. Jacobs and P. Rosenbaum (eds.) *Readings in English Transformational Grammar*. Waltham, MA: MIT Press.
- Chomsky, Noam and Howard Lasnik. 1977. Filters and Control. *Linguistic Inquiry* 8, 425-504.
- Chomsky, Noam. 1995. Bare phrase structure. In G. Webelhuth (Ed.) *Government and binding theory and the minimalist program* (pp. 385-439). Cambridge, MA: Blackwell.
- CHP International. (n.d.). *Guaraní I*. Asunción, Paraguay: CHP International.

- CHP International. (n.d.). *Guaraní II and work book*. Asunción, Paraguay: CHP International.
- CHP International. (n.d.). *Guaraní III and work book*. Asunción, Paraguay: CHP International.
- Comrie, Bernard. 1976. The syntax of causative constructions: cross-language similarities and divergences. In M. Shibatani (Ed.), *The grammar of causative constructions. Syntax and Semantics*, v.6 (pp.264-312). New York: Academic Press.
- Comrie, Bernard. 1985. Causative verb formation and other verb-deriving morphology. In T. Shopen (Ed.), *Language typology and syntactic description*, Vol. 3. Cambridge University Press: Cambridge.
- Damaso Vieira, Marcia M. 2000. The categorial status of lexical items in Mbyá-Guarani. *Memorias/ Encuentro Internacional de Lingüística en el Noroeste*. Hermosillo, Sonora: Editorial Unison.
- Damaso Vieira, Marcia M. 2001. A natureza transitiva das sentenças possessivas em Mbyá-Guaraní. In F Queixalós (Ed.), *Des noms et des verbes en tupi-guarani: état de la question*. Munich:Lincom Europa.
- Dietrich, Wolf. 2001. Categorias lexicais nas línguas Tupi-Guaraní (visão comparativa). In F Queixalós (Ed.), *Des noms et des verbes en tupi-guarani: état de la question*. Munich:Lincom Europa.
- Di Sciullo, Anna-Maria and Edwin Williams. 1987. *On the definition of word*. Cambridge, MA: MIT Press.
- Dixon, R. M. W. 1979. Ergativity. *Language*, 55, 59-138.

- Dooley, Robert A. and J Stephen Quakenbush. 1991. *Work papers of the Summer Institute of Linguistics, University of North Dakota Session*. v. 35. Norman: Summer Institute of Linguistics.
- Dooley, Robert. 1991. A double-verb construction in Mbyá-Guaraní. In Dooley, Robert A. and J. Stephen Quakenbush (Eds.) *Work papers of the Summer Institute of Linguistics, University of North Dakota Session*. v. 35 (pp. 31-63). Norman: Summer Institute of Linguistics.
- Fodor, Jerry and Ernie Lapore. 1999. Impossible words? *Linguistic Inquiry*, 30, 445-453.
- Gregores, Emma and Jorge Suárez. 1961. *A description of colloquial Guaraní*. Ithaca, NY: Cornell University doctoral dissertation.
- Guasch, Antonio. 1996. *El idioma guaraní: grámatica y antología de prosa y verso*. Asunción, Paraguay: CEPAG.
- Guasti, Maria Teresa. 1996. A cross-linguistic study of Romance and Arbëresh Causatives. In A. Belletti and L. Rizzi (Eds.) *Parameters and functional heads: essays in comparative syntax* (pp. 209-238). Oxford: Oxford University Press.
- Hale, Kenneth and Samuel J. Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In K. Hale and S. J. Keyser (Eds.) *The view from building 20: essays in honor of Sylvain Bromberger*. (pp. 53-109). Cambridge, MA: MIT Press.
- Hale, Ken and Samuel J. Keyser. 1999. A response to Fodor and Lepore, "Impossible words?" *Linguistic Inquiry*, 30, 453-466.

- Hendrick, Randall. 1995. Morphosyntax. In G. Webelhuth (Ed.), *Government and binding theory and the minimalist program: principles and parameters in syntactic theory*. Cambridge, MA: Blackwell.
- Jelinek, Eloise. 1998. Voice and transitivity as functional projections in Yaqui. In M. Butt and W. Geuder (Eds.) *The projection of arguments: lexical and compositional factors*. ? : CSLI Publications.
- Jensen, Cheryl. 1987. Object-prefix incorporation in proto Tupí-Guaraní verbs. *Language Sciences*, 9(1), 45-55.
- Jensen, Cheryl. 1990. Cross-referencing changes in some Tupí-Guaraní languages. In D. Payne (Ed.), *Amazonian linguistics: studies in lowland South American languages* (pp.117-158). Austin: University of Texas.
- Klimov, G.A. 1974. On the characteristics of languages of active typology. *Linguistics*, 131, 11-25.
- Krivoshein de Canese, Natalia. 1983. *Gramática de la lengua guaraní*. Asunción, Paraguay: Colección Ñemitỹ.
- Krivoshein de Canese, Natalia. 1999. La polisíntesis (Gramática guaraní III). *Ñemitỹ*, 37, 7-12.
- Krivoshein de Canese, Natalia and Feliciano Acosta Alcaraz. 1990. *Ñe'ẽryru: diccionario guaraní-español*. Asunción, Paraguay: Colección Ñemitỹ.
- Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry*, 19(3), 335-391.



- Larson, Richard K. 1990. Double objects revisited: reply to Jackendoff. *Linguistic Inquiry*, 21(4), 589-632.
- Li, Yafei. 1990. X<sup>0</sup>-binding and verb incorporation. *Linguistic Inquiry*, 21(3), 399-426.
- Li, Yafei. 1995. The thematic hierarchy and causativity. *Natural Language and Linguistic Theory*, 13, 255-282.
- Meliá Lliteras, Bartolomé, Alfonso Pérez Peñasco and Luís Farré Maluquer. 1960. *El guaraní a su alcance*. Asunción, Paraguay: Ediciones Loyola.
- Mithun, Marianne. 1984. The evolution of noun incorporation. *Language*, 60, 847-894.
- Mithun, Marianne. 1991. Active/agentive case marking and its motivations. *Language*, 67, 510-546.
- Muniagurria, Saturnino. 1947. *El guaraní: elementos de gramática guaraní y vocabulario de las voces más importantes de este idioma*. Buenos Aires: Imprenta y Casa Editora CONI.
- Ortiz Mayans, Antonio. 1980. *Nuevo diccionario español-guaraní guaraní-español*. Buenos Aires: Editorial Universitaria de Buenos Aires.
- Pangrazio, Miguel Angel. (n.d.). *Arriero porte: mbae apoha: guaino arasati*. Asunción, Paraguay: Artes Graficas Zamphiropolos.
- Pederson, Donald Leslie. 1977. Grammatical structures of Guaraní. Los Angeles, CA: University of Southern California dissertation.
- Perlmutter, David M. 1988. The split morphology hypothesis: evidence from Yiddish. In M. Hammond and M. Noonan (Eds), *Theoretical morphology: approaches in modern linguistics*. San Diego: Academic Press.

- Queixalós, F.(Ed.) 2001. *Des noms et des verbes en tupi-guarani:état de la question*.  
Munich:Lincom Europa.
- Rosbottom, Harry. 1967. Guaraní. In E. Matteson (Ed.), *Bolivian Indian Grammars: II*.  
(pp.99-194). Norman, OK: Summer Institute of Linguistics of the University of  
Oklahoma.
- Ruiz de Montoya, Antonio. 1640. *Arte de la lengua guaraní*. Madrid: Juan Sanchez.
- Sadock, Jerrold M. Review of Mark C. Baker, *Incorporation: a Theory of Grammatical  
Function Changing*. *Natural Language and Linguistic Theory*, 8, 129-141.
- Schleicher, Charles O. 1998. *Comparative and internal reconstruction of Proto-Tupi-  
Guaraní*. Madison, WI: University of Wisconsin dissertation.
- Seki, Lucy. 1990. Kamaiurá (Tupí-Guaraní) as an active-stative language. In D. Payne  
(Ed.), *Amazonian linguistics: studies in lowland South American languages*  
(pp.117-158). Austin: University of Texas.
- Shibatani, Masayoshi. 1975. *A linguistic study of causative constructions*. IULC:  
Bloomington.
- Shibatani, Masayoshi, ed. 1976a. *The grammar of causative constructions. Syntax and  
Semantics*, v.6. New York: Academic Press.
- Shibatani, Masayoshi.1976b. Causativization. In M. Shibatani, (Ed.), *Japanese  
Generative Grammar. Syntax and Semantics*, v.5. New York: Academic Press.
- SIL International. 2006. Ethnologue. URL: <http://www.ethnologue.com>. Retrieved  
4/1/06.
- Solari, Benjamin T. 1928. *Ensayo de filología: breve vocabulario español-guaraní*.  
Buenos Aires: Imprenta y Casa Editora CONI.

- Song, Jae Jung. 1996. *Causatives and causation: a universal-typological perspective*.  
London: Longman.
- Stassen, Leon. 1997. *Intransitive predication*. Oxford: Clarendon Press.
- Stowell, Tim. 1981. *Origins of phrase structure*. Cambridge, MA: MIT dissertation.
- Velazquez, Maura. 1989. Guaraní possessive constructions. CRL Newsletter, 3(6).  
<http://crl.ucsd.edu/newsletter/3-6/Article1.htm> . Retrieved 1/3/03.
- Velazquez-Castillo, Maura. 1996. *The grammar of possession: inalienability, incorporation and possessor ascension in Guaraní*. Amsterdam: John Benjamins.
- Velazquez-Castillo, Maura. 2002. Guaraní causative constructions. In M. Shibatani (Ed.), *The grammar of causation and interpersonal manipulation*. Amsterdam: John Benjamins.
- Webelhuth, G. 1995. X-bar theory and Case theory. In G. Webelhuth (Ed.), *Government and binding theory and the minimalist program.: principles and parameters in syntactic theory*. Cambridge, MA: Blackwell.
- Williams, Edwin. 1980. Predication. *Linguistic Inquiry*, 11, 203-238.

This thesis was typed by Julianne Hammink