THE TEMPORAL SEMANTICS OF NOUN PHRASES:
EVIDENCE FROM GUARANÍ

A DISSERTATION
SUBMITTED TO THE DEPARTMENT OF LINGUISTICS
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FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

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August 2006
I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy.

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Paul Kiparsky

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Beth Levin

Approved for the University Committee on Graduate Studies.
Abstract

This dissertation presents a crosslinguistic study of the temporal semantics of noun phrases. Through an investigation of languages with “nominal temporality markers”, i.e. markers that attach to noun phrases and affect their temporal interpretation, I propose that the semantic categories grammatical aspect and modality, but not tense, are relevant to the temporal interpretation of noun phrases. I propose a dynamic semantic theory of the temporal interpretation of noun phrases, which sheds light on similarities and differences to the temporal interpretation of verb phrases.

Previous discussions of the temporal interpretation of noun phrases (cf. Enç 1981; Musan 1995; Tonhauser 2002) are limited in two ways: they are restricted to data from English and German, and they do not discuss the semantic categories that play a role in the temporal interpretation of noun phrases (besides pointing out that verbal tense does not affect noun phrases). These limitations are remedied in this dissertation by drawing on data from languages with nominal temporality markers. About 20 such languages have been identified, including Guaraní (Tupí-Guaraní), Halkomelem (Salish) and Movima (isolate in Bolivia). I develop criteria for determining the semantic category of temporal expressions and propose that, crosslinguistically, nominal temporality markers instantiate the semantic categories grammatical aspect, modality and a novel category “existence” that is restricted to noun phrases. I defend this proposal against previous claims according to which the nominal temporality markers are nominal past and future tenses (e.g. Burton 1997; Lecarme 1999; Nordlinger and Sadler 2004).

The focus of the dissertation is Guaraní, a language with two nominal temporality markers. Based on data collected during fieldwork in Paraguay, I explore the morphosyntax, lexical restrictions, meaning and use of these markers, which, to the best of my knowledge, is the first detailed study of such markers. I develop a semantic analysis of the markers as grammatical aspect and modality markers, and show that they do not behave like tenses. The discussion of the Guaraní nominal temporality markers is couched in a larger study of the grammar of noun phrases and verbal temporality of Guaraní. One result of this study is that Guaraní is a (verbally) tenseless language. I compare the temporal interpretation of noun phrases in English and Guaraní and suggest that it is determined by the same constraint in the two languages. I identify two areas of crosslinguistic variation in the temporal semantics of noun phrases: the morphosyntactic realization of the semantic categories grammatical aspect, modality, and existence and
the use of nominal temporality markers in particular discourse contexts.

I develop a dynamic semantic theory of the temporal interpretation of noun phrases where the time relative to which a noun phrase is interpreted is resolved according to the link between the denotation of the noun phrase and the discourse context. Contrary to previous proposals, I argue that the temporal interpretation of noun phrases does not depend on tense and, hence, is not parallel to that of verb phrases. I support this claim by pointing to several empirical differences in the way in which noun phrases and verb phrases are temporally interpreted. Further motivation for a tenseless analysis of the temporal interpretation of noun phrases is the finding that none of the languages with nominal temporality markers provide empirical evidence for nominal tense. Consequently, the temporal interpretation of both noun phrases and verb phrases depends on the discourse context, but on different facets of it: contextually given times are relevant for verb phrases, whereas the individuals of the discourse context are relevant for noun phrases.
Acknowledgements

The inspiration for this dissertation was a series of papers by Rachel Nordlinger and Louisa Sadler that reported on languages with nominal tenses. I had worked on English and German noun phrase temporality in Stuttgart already, and languages with nominal tenses promised to hold the key to discoveries in noun phrase temporality. In early 2004, I booked a flight to Paraguay and started working on Guarani, a language that has been claimed to have nominal tenses. Thereby began my exploration of the temporal semantics of noun phrases in Guarani. Many people have accompanied me on this adventure and the completion of this dissertation owes much to all of them.

I would not have been able to write this dissertation without the support of many people in Paraguay. My first thanks go to my Guarani consultants: Maria de la Cruz Bogado, Nicolas Cantero, Felix Alissio Arce Doldan, Mario Ayala Esteche, Ancia Sabina Maciel, Marité Maldonado, and Mariano Elias Moreira. Thank you for working with me for many hours, inviting me to your homes, and sharing your life. The family of Don Salvador, especially Maria, Rossani and Arturo, deserves special mention. They not only provided shelter and food in San Isidro, but made their home my home in every respect and helped me unwind with a nightly showing of the Simpsons. In Barcequillo, Josefina, Luli and Marité Maldonado made sure I had everything I needed. Thank you for taking me in like a daughter and for the many evenings of conversation and laughter. In the summer before I went to Paraguay for the first time, I had the incredible luck of meeting Pedro and Hedwig Theis, who have been living in Paraguay for many decades. Pedro and Hedwig provided food and shelter, put me in touch with my consultants, shared their knowledge about Paraguay, took me on trips through the country, and made my life in Paraguay so much more interesting, healthy, and enjoyable than it otherwise would have been. Without their help and support I would not have been able to conduct my research in the time and manner that I did. Aguyjehetaeterei!

I am extremely grateful to my dissertation committee for their unwavering commitment to my project. Many facets of noun phrase temporality would have gone unexplored if the members of my committee had not been so engaged with my research and drawn my attention to details I had overlooked, novel perspectives on the data and connections to the theoretical literature. The advice and encouragement I received from each of them has contributed immeasurably to this work.

David Beaver has been my advisor since the first day I arrived at Stanford and he has
contributed enormously to my development as a semanticist. His sharp insights have improved my research in every topic I’ve worked on and my research style has benefited greatly from seeing him work through data and analyses. He was the first to voice doubts as to whether the Guaraní nominal markers really are tenses, thereby putting the dissertation on the path it would ultimately take. Cleo Condoravdi patiently guided me through the thickets of temporality and the thorn bushes of modality. She challenged my assumptions about temporality and helped me arrive at a clearer picture of the Guaraní nominal markers and noun phrase temporality. Her comments were always on the mark and invaluable in the development of this dissertation. It was a great pleasure to have Paul Kiparsky on my dissertation committee. I’ve benefited from his advice on many linguistic and non-linguistic matters, and am inspired by his deep knowledge of linguistics and languages. He’s drawn my attention to many facets of my research that I had overlooked. I’ve always enjoyed our discussions, in particular the ‘big picture’ thoughts because Paul never neglects the details on which such thoughts stand or fall. Beth Levin has been constantly supportive of my research and has been a wonderful mentor since my first quarter at Stanford. We’ve covered many topics in our weekly meetings and Beth always brought to my attention connections between my research and the lexical semantic, syntactic and cognitive science literature. Her attention to the details of my research has often forced me to reconsider my assumptions. Thank you all!

In addition to my committee, the dissertation has benefited from input from many other people. I first met Maria Bittner on a cold winter day in Germany in November 2000 and she has been my mentor in crosslinguistic semantics ever since, and a friend too. Her visit to Stanford in early 2006 came just at the right time to remind me (again) to be as precise as possible. My research on noun phrase temporality owes a great deal to Hans Kamp with whom I worked on this topic in Stuttgart during 1998-2000. Much of the theory of noun phrase temporality presented in this dissertation is the way it is because of his comments and insights from back then. At Stanford, John Beavers, Ashwini Deo, Itamar Francez, Philip Hofmeister, Andrew Koontz-Garboden, and Dmitry Levinson were my semantics support group. Their feedback, advice, criticism, and comments have considerably improved the dissertation and contributed to my education. I will miss having you around! I will also miss the thoughtful, kind and entertaining company of Lev Blumenfeld, who has been my office mate at Stanford for five years.

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ity in St’at’imcets Salish for me. Thank you! Various parts of this dissertation have been presented at the 9th Sinn und Bedeutung conference in Nijmegen in November 2004, at the January 2005 Annual Meeting of the Society for the Study of Indigenous Languages in Oakland, at Semantics of Under-represented Languages in the Americas at The University at Buffalo in May 2005, at the 9th Texas Linguistics Forum in Austin in November 2005, the January 2006 Annual Meetings of the Linguistic Society of America and the Society for the Study of Indigenous Languages in Albuquerque, as well as at department colloquia at the University of California at Berkeley in November 2005, and Brandeis, Northwestern, The Ohio State University, the University of California at San Diego and Santa Cruz, and the University of Texas in Austin in 2006. I thank my respective audi-
ences for many helpful and critical comments, and pointers to related research.

I was first welcomed to the Linguistics Department at Stanford in 1997 as a Fulbright visiting student, and gladly returned in 2001 as a Ph.D. student. I would like to thank each and every member of the department community for making this place so enjoyable. I would like to particularly thank the staff for keeping the department running so smoothly. Thank you, Gretchen Lantz, Melanie Levin, Sharmila Mani, Natalie Mendoza, Nikhila Pai, Coco Relova and Allen Scitto! I’d also like to thank Ivan Sag and Peter Sells. Ivan sponsored me as a visiting student and started teaching me how to think like a linguist, not a computational linguist. Peter employed me in an NSF project that led me to consider what it would mean for languages to have nominal tenses and, ultimately, led to my dissertation topic. Peter is a role model as a teacher, advisor, and researcher. He was the first I would turn to in times of turmoil, knowing that he would have a wise and friendly word for me. He also contributed in innumerable ways to my training as a linguist. Thank you!

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### Glosses

**Convention:** The glosses specified here are used in the Guaraní, Yucatec Mayan, Spanish and German data that I transcribed. The glosses of other authors are represented in the original and explained in footnotes when necessary.

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<table>
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<tr>
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<tbody>
<tr>
<td>12sg</td>
<td>1st person A-argument, 2nd person singular O-argument marker ro(i)–</td>
</tr>
<tr>
<td>12pl</td>
<td>1st person A-argument, 2nd person plural O-argument marker po(i)–</td>
</tr>
<tr>
<td>3</td>
<td>3rd person</td>
</tr>
<tr>
<td>3.pron</td>
<td>3rd person pronoun ha’e</td>
</tr>
<tr>
<td>3.PL</td>
<td>3rd person plural argument marker hikuai</td>
</tr>
<tr>
<td>A1/2sg</td>
<td>1st/2nd person singular set A crossreference marker</td>
</tr>
<tr>
<td>A1pl.incl/excl</td>
<td>1st person plural inclusive/exclusive set A crossreference marker</td>
</tr>
<tr>
<td>A3</td>
<td>3rd person set A crossreference marker</td>
</tr>
<tr>
<td>-AG</td>
<td>agentive marker –ra</td>
</tr>
<tr>
<td>-AT</td>
<td>cotemporaneity connector –vo</td>
</tr>
<tr>
<td>B1/2sg</td>
<td>1st/2nd person singular set B crossreference marker</td>
</tr>
<tr>
<td>B1pl.incl/excl</td>
<td>1st person plural inclusive/exclusive set B crossreference marker</td>
</tr>
<tr>
<td>CAUS1-</td>
<td>causative prefix mbo– (intransitive predicates)</td>
</tr>
<tr>
<td>-CAUS2</td>
<td>causative suffix –(u)ka (transitive predicates)</td>
</tr>
<tr>
<td>-CF</td>
<td>counterfactual modality marker –mo‘ā</td>
</tr>
<tr>
<td>-COMPL</td>
<td>completive aspect marker –pa</td>
</tr>
<tr>
<td>-COND</td>
<td>conditional marker –ramo</td>
</tr>
<tr>
<td>-DES</td>
<td>desiderative modal marker –se</td>
</tr>
<tr>
<td>-DIM</td>
<td>diminutive suffix –mi/–i</td>
</tr>
<tr>
<td>EMPH</td>
<td>emphatic marker –nko</td>
</tr>
<tr>
<td>EXPL</td>
<td>expletive pronoun ku</td>
</tr>
<tr>
<td>-GUI</td>
<td>causative marker/ablative case –gui</td>
</tr>
<tr>
<td>IMP-</td>
<td>imperative prefix t–</td>
</tr>
<tr>
<td>JE-</td>
<td>reflexive and middle prefix je–</td>
</tr>
<tr>
<td>-KUE</td>
<td>terminative nominal aspect –kue</td>
</tr>
<tr>
<td>KURI</td>
<td>past-time denoting adverb kuri</td>
</tr>
<tr>
<td>LA</td>
<td>definiteness/cleft/noun phrase marker la (borrowed from Spanish)</td>
</tr>
<tr>
<td>-MA</td>
<td>perfect aspect suffix –ma</td>
</tr>
<tr>
<td>-MIGHT</td>
<td>modal marker –ne</td>
</tr>
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xi
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<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>NEG-…-NEG</td>
<td>clausal negation circumflex nda—...—i</td>
</tr>
<tr>
<td>NEG.IMP</td>
<td>negative imperative marker ani</td>
</tr>
<tr>
<td>-NG</td>
<td>predicate negation marker –ī</td>
</tr>
<tr>
<td>-NOM</td>
<td>(location) nominalizer –ha (also complement clause marker)</td>
</tr>
<tr>
<td>OBJ.NOM-</td>
<td>object nominalizer embi–</td>
</tr>
<tr>
<td>-PE</td>
<td>marker of non-A arguments and spatiotemporal locations –pe</td>
</tr>
<tr>
<td>-PL</td>
<td>plural marker –kuéra</td>
</tr>
<tr>
<td>PROG</td>
<td>progressive aspect hina (Guaraní), tāan (Yucatec Maya)</td>
</tr>
<tr>
<td>-PURP</td>
<td>purposive/benefactive marker –gūa</td>
</tr>
<tr>
<td>-PY</td>
<td>participle suffix</td>
</tr>
<tr>
<td>-RA</td>
<td>prospective nominal aspect –rā</td>
</tr>
<tr>
<td>RAE</td>
<td>non-expected evidential marker –ra’e</td>
</tr>
<tr>
<td>RAKAE</td>
<td>past-time oriented temporal marker raka’e</td>
</tr>
<tr>
<td>RECIP-</td>
<td>reciprocity prefix jo–</td>
</tr>
<tr>
<td>REL-</td>
<td>relational prefix</td>
</tr>
<tr>
<td>-RC</td>
<td>relative clause marker –va’e</td>
</tr>
<tr>
<td>-RE</td>
<td>“in”/“for” postposition -re</td>
</tr>
<tr>
<td>-REHE</td>
<td>“in”/“for” postposition -rehe</td>
</tr>
<tr>
<td>-SAY</td>
<td>reportative evidential -(nda)je</td>
</tr>
<tr>
<td>-TA</td>
<td>irrealis modal marker –ta</td>
</tr>
<tr>
<td>-QU</td>
<td>interrogative marker –pa</td>
</tr>
<tr>
<td>-QU.EMPH</td>
<td>emphatic question marker –piko</td>
</tr>
<tr>
<td>VAEKUE</td>
<td>past-time locating adverb va’ekue</td>
</tr>
<tr>
<td>VAERA</td>
<td>necessity modal (deontic or epistemic) va’erā</td>
</tr>
<tr>
<td>-VE</td>
<td>indirect object (dative) marker –ve</td>
</tr>
</tbody>
</table>
### Glosses used exclusively for Yucatec Maya, German or Spanish

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACAUS</td>
<td>anticausative (Yucatec Maya)</td>
</tr>
<tr>
<td>ALT</td>
<td>marker of alternatives <em>wa</em> (Yucatec Maya)</td>
</tr>
<tr>
<td>ASS</td>
<td>assurative aspect/mood marker (Yucatec Maya)</td>
</tr>
<tr>
<td>B3</td>
<td>third person set B crossreference marker (Yucatec Maya)</td>
</tr>
<tr>
<td>D2</td>
<td>deictic marker -o' (Yucatec Maya)</td>
</tr>
<tr>
<td>DEF</td>
<td>definiteness marker le (Yucatec Maya)</td>
</tr>
<tr>
<td>PAST</td>
<td>past tense (German, Spanish)</td>
</tr>
<tr>
<td>FUT</td>
<td>future tense (Spanish)</td>
</tr>
<tr>
<td>PRES</td>
<td>present tense (German, Spanish)</td>
</tr>
<tr>
<td>NONPAST</td>
<td>nonpast tense (German)</td>
</tr>
<tr>
<td>-INC</td>
<td>incompleitive status (Yucatec Maya)</td>
</tr>
<tr>
<td>-CMP</td>
<td>completive status (Yucatec Maya)</td>
</tr>
<tr>
<td>-CL</td>
<td>classifier (Yucatec Maya)</td>
</tr>
<tr>
<td>PREP</td>
<td>all-purpose preposition ti' (Yucatec Maya)</td>
</tr>
<tr>
<td>PRV</td>
<td>perfective aspect/mood marker (YM)</td>
</tr>
<tr>
<td>PRSP</td>
<td>prospective aspect/mood marker <em>mukah</em> (Yucatec Maya)</td>
</tr>
<tr>
<td>SR</td>
<td>subordinating marker <em>kaa</em> (Yucatec Maya)</td>
</tr>
<tr>
<td>SUBJ</td>
<td>subjunctive status (Yucatec Maya)</td>
</tr>
<tr>
<td>TERM</td>
<td>terminative aspect/mood marker <em>ts'o'ok</em> (Yucatec Maya)</td>
</tr>
<tr>
<td>-TOP</td>
<td>topic marker -e' (Yucatec Maya)</td>
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Chapter 1

Introduction

Contents

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On April 12, 2006, a headline on CNN read:

(1) Dead rapper fired first shot.¹

Of course, the rapper Proof (aka Deshaun Holton), the subject of (1), did not shoot after he died, but when he was still alive. The correct interpretation of (1) requires the noun phrase dead rapper to be interpreted at the utterance time (the time when the property ‘dead rapper’ is true of Proof), whereas the verb phrase fired first shot is interpreted at a time in the past. How is the temporal interpretation of noun phrases and verb phrases determined?

The study of temporal interpretation of verb phrases has a long tradition, and has identified the contribution of several semantic categories, including TENSE, grammatical ASPECT and MODALITY, to the temporal semantics of verb phrases (e.g. Reichenbach 1947; Kamp and Rohrer 1983; Smith 1991; Kamp and Reyle 1993; Klein 1994; Bittner 2005). In (1), for example, the past tense morphology –ed on the verb fired indicates that the verb phrase is interpreted at a time in the past of the utterance time.

¹http://www.cnn.com/2006/SHOWBIZ/Music/04/12/rapper.killed.ap/index.html
The noun phrase *dead rapper* in (1) is not interpreted in the past, but at the utterance time, and the noun phrase is not marked with temporal information. How, then, is the temporal interpretation of the noun phrase determined? Noun phrases have received much less attention regarding their temporal interpretation, perhaps as a consequence of the fact that in Indo-European languages, the language family that has received most attention in linguistics, noun phrases are not endowed with a rich tense/aspect/modality system.

In this dissertation, I bring evidence from languages with “nominal temporality markers”, i.e. markers that attach to noun phrases and affect their temporal interpretation, to bear on the question of how noun phrases are temporally interpreted. I present a crosslinguistic study of the temporal semantics of noun phrases which demonstrates that the temporal interpretation of noun phrases and verb phrases is not completely parallel.\(^2\) One of the main claims is that the semantic categories grammatical ASPECT and MODALITY, but not the category TENSE, are relevant to the temporal semantics of noun phrases.\(^3\)

### 1.1 Previous Research

There are two lines of research on the temporal semantics of noun phrases.

The first is a theoretical semantic one, based almost exclusively on English data (cf. Enç (1981, 1986), Musan (1995, 1999) and Tonhauser (2000, 2002)). This line of research is concerned with identifying the constraints which determine the time relative to which a noun phrase is interpreted. The observation that noun phrases need not be interpreted at the same time as verb phrases (cf. (1)) was first addressed in Bach (1968) and Montague (1976), and then discussed in great detail by Enç (1981). The example in (2) illustrates that two noun phrases in the same utterance need not be interpreted at the same time either:

(2) When they were finally freed from their captors, the president threw a dinner party for the hostages.

---

\(^2\)Semanticists sometimes talk about the temporal interpretation of ‘propositions’ rather than ‘verb phrases’. I choose to talk about ‘verb phrases’ here rather than ‘propositions’ to bring out the contrast with ‘noun phrases’ and mean to denote phrases that (minimally) include a finite verb, its arguments and adjuncts.

\(^3\)The notion ‘nominal aspect’ is understood in this dissertation as a temporal notion, in parallel to ‘verbal aspect’. This differs from Rijkhoff’s (2002:220) use where ‘nominal aspect’ “relates to the way a nominal property is represented in the spatial dimension”.

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1.1. PREVIOUS RESEARCH

The noun phrase the president is interpreted at the time relative to which the verb threw is interpreted, i.e. the individual was president when he threw the party. The noun phrase the hostages, on the other hand, is interpreted relative to a time that precedes the time relative to which the verb is interpreted: the individuals were hostages at a time prior to the party.

The question addressed in this line of research on the temporal semantics of noun phrases is, what determines the time relative to which a noun phrase is interpreted? The consensus between Enç (1981, 1986), Musan (1995, 1999) and Tonhauser (2000, 2002) is that the discourse context plays a key role. Musan and Tonhauser further point out that a particular noun phrase’s ability to denote contextually established entities affects its potential to be interpreted at a time distinct from the time relative to which the verb phrase is interpreted.

While these theories provide insight into the temporal semantics of noun phrases, they are restricted in two ways. First, since they are based almost exclusively on English data, their crosslinguistic applicability and validity is not ascertained. Second, these theories make no claim regarding the semantic categories relevant to the temporal semantics of noun phrases. Hence, they do not provide a complete picture of the temporal semantics of noun phrases that could be compared to the temporal semantics of verb phrases.

The second line of research consists of a small number of papers which report on languages with (what I refer to as) nominal temporality markers, (e.g. Hockett (1958) on Potowatomi (Algonquian), Joseph (1979) on Cree (Algonquian), Burton (1997) on Halkomelem (Salish), Haude (2004) on Movima (isolate in Bolivia), Lecarme (1999, 2004b) on Somali (Cushitic)). One language with nominal temporality markers is Guaraní, a Tupi-Guarani language spoken in Paraguay. Its markers –kue and –rā are illustrated in (3), where they attach to the noun phrases pare ‘wall’ and hembireko ‘his wife’, respectively.

---

4Musan’s theory is applied to St’át’imcets (Salish) in Demirdache (1996).
5The term ‘nominal temporality marker’ refers to markers that affect the temporal interpretation of noun phrases. The term does not make a claim about the semantic category of these markers but subsumes tense, grammatical aspect, existence and modality markers.
(3) Guaraní (Paraguay)

a. Jagua-ndadje o-kuaru o-ñakamby-pe’a-há-pe, yma
dog-SAY A3-urinate A3-spread.legs-open-NOM-PE long.time.ago
ho’a-gui-ve hi’-ári pare-kue, petei fárra-há-pe.
A3.fall-GUI-VE 3-on wall-KUE, one party-NOM-PE

‘It is said that dogs urinate with their legs spread open (one up) because a
long time ago an old wall fell onto a dog at a party.’

b. O-ho petei arriéro o-jeruré-vo la h-embireko-rā-re.
A3-go one man A3-ask.for-AT LA 3-wife-RA-RE

‘A man went to ask for his future wife.’

The marker –kue on the noun pare ‘wall’ in (3a) asserts that an old wall fell onto the dog,
i.e. what fell was a proper wall in the past. –rā on the possessive phrase hembireko ‘his
wife’ in (3b) asserts that the individual that the man went to ask for was not his wife yet
but might become his wife in the future (of the time of asking).

The existence of nominal temporality markers like –kue and -rā raises a set of ques-
tions, which are addressed in this dissertation: What is the semantic category of these
markers? Is this semantic category comparable to one of the semantic categories of rele-
vance for the temporal interpretation of verb phrases (e.g. TENSE or ASPECT), or a com-
pletely new semantic category that only pertains to noun phrases? How do these mark-
ers contribute to the temporal interpretation of noun phrases? How does the temporal
interpretation of noun phrases in languages with such markers relate to the temporal in-
terpretation of noun phrases in languages that do not have such markers (like English)?

1.2 Temporal Semantics of Noun Phrases

The goal of this dissertation is to bring together the two lines of research on the temporal
semantics of noun phrases, the crosslinguistic one and the formal semantic one, and to
present a crosslinguistic study of the temporal semantics of noun phrases. The questions
raised above are synthesized in those in (4), the main questions of this dissertation:

---

5This dissertation is not concerned with temporality markers that are restricted to nominal predicates in predicative function, i.e. markers that do not occur on nominal predicates in noun phrases, nor with temporality markers that attach to an expression in a particular position, regardless of the category of the expression (e.g. second position clitics). See Nordlinger and Sadler (2003, 2004:§3) for a discussion of such temporality markers.
1.2. TEMPORAL SEMANTICS OF NOUN PHRASES

(4) Questions for a Theory of Temporality of Noun Phrases

a. Which semantic categories are relevant to the temporal semantics of noun phrases?

b. How are noun phrases temporally interpreted?

c. What is crosslinguistic variation in the temporal semantics of noun phrases?

Nominal temporality markers provide direct evidence for the temporal dimension of the interpretation of noun phrases. I focus on the nominal temporality markers of Guaraní, the language on which I conducted fieldwork for this dissertation. Part of the enterprise of exploring the meaning and use of the Guaraní nominal temporality markers, is to determine their semantic category (question (4a)). One of the challenges here is that there are no agreed upon criteria in the linguistic literature for distinguishing TENSE, grammatical ASPECT and MODALITY.\(^7\) What makes it difficult to establish such criteria is that languages differ in the morphosyntactic realization of the semantic categories relevant to temporality and that there is variation in the literature in how the semantic categories are characterized. The challenge is to develop criteria that are language-independent, can be applied to both nominal and verbal temporality markers and do not depend on particular theories. I develop such criteria in this dissertation, and apply them to the nominal temporality markers of Guaraní and other languages. The main result of this investigation is that nominal temporality markers instantiate the semantic categories ASPECT and MODALITY, as well as a novel semantic category EXISTENCE, which indicates whether the denotation of the noun phrase exists at a particular time or not. Assuming that the semantic categories that are empirically instantiated are those that are relevant to the temporal semantics of a phrase, the following picture emerges for noun phrases and verb phrases:

<table>
<thead>
<tr>
<th></th>
<th>TENSE</th>
<th>ASPECT</th>
<th>MODALITY</th>
<th>EXISTENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>noun phrases</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>verb phrases</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 1.1: Semantic Categories Relevant to Noun and Verb Phrase Temporality

\(^7\)In this dissertation, I reserve the term ‘aspect’ to refer to “grammatical” aspect but acknowledge that both “lexical” and “grammatical” aspect are relevant for temporal interpretation.
CHAPTER 1. INTRODUCTION

Whereas ASPECT and MODALITY are relevant to both noun phrases and verb phrases, TENSE is relevant only to verb phrases and EXISTENCE is an exclusively nominal category. Thus, one of the results of this dissertation is that ASPECT and MODALITY are not exclusively verbal categories, as is commonly assumed (e.g. Crystal 1997).

One of the most prominent claims regarding languages with nominal temporality markers is that the markers of such languages instantiate the semantic category TENSE (cf. e.g. Burton 1997; Lecarme 1999; Nordlinger and Sadler 2004). As Table 1.1 suggests, I reassess this claim on the basis of the criteria for distinguishing semantic categories that I develop in this dissertation, and find that this claim cannot be maintained on closer inspection.

The question of which semantic categories are relevant to the temporal semantics of noun phrases (4a) is subsumed by the larger question of how noun phrases are temporally interpreted (4b). That is, how do the semantic categories contribute to the temporal interpretation of noun phrases? I demonstrate in this dissertation that grammatical ASPECT and MODALITY are semantic categories that are instantiated by nominal temporality markers and play the same role in the temporal interpretation of noun phrases as they do for verb phrases. At the same time, I argue against proposals according to which the temporal interpretation of noun phrases is completely parallel to that of verb phrases (e.g. Lecarme 1999, 2004b) by pointing to several empirical differences in the way in which noun phrases and verb phrases are temporally interpreted. In particular, I argue that TENSE does not play a role in the temporal semantics of noun phrases. I propose instead that the time relative to which a noun phrase is interpreted is determined by the link between the denotation of the noun phrase and the contextually established discourse participants: if no such link is available, the noun phrase is interpreted at the topic time; if a link is available, the nature of the link determines the time relative to which the noun phrase is interpreted. This proposal is formalized in a dynamic semantic theory where the time relative to which a noun phrase is interpreted is a temporal anaphor that is resolved in the discourse context. Further support for this proposal comes from my finding that there is no empirical evidence for nominal TENSE. One of the main claims of the dissertation is that, while the interpretation of both noun and verb phrases depends on the discourse context, they are sensitive to different facets of the discourse context.

The third question (4c) addresses crosslinguistic variation in the temporal semantics of noun phrases. I identify two areas of variation. The first concerns the morphosyntactic
realization of the semantic categories of relevance to noun phrase temporality. Across languages, nominal ASPECT, MODALITY and EXISTENCE can be realized either by morphologically bound forms or by adjectives. Despite the morphosyntactic variation, nominal temporality expressions across languages encode similar meanings. I propose a semantic taxonomy that captures the range of meanings encoded by such expressions.

The second area of crosslinguistic variation in the temporal semantics of noun phrases is illustrated with English, Guaraní (Tupí-Guaraní) and St’at’imcets (Salish). These three languages differ with respect to the times relative to which noun phrases in comparable discourse contexts are interpreted. St’a’timcets noun phrases are most restricted: they are interpreted relative to the topic time in more contexts than Guaraní noun phrases, which in turn are more restrictive than English noun phrases. Hence, the three languages form a restrictiveness hierarchy with respect to the way in which the interpretation of noun phrases is affected by contextually established properties and individuals.

1.3 Organization of the Dissertation

The dissertation has three parts: the theoretical tools are developed in part I, part II examines the temporal semantics of noun phrases in Guaraní, and part III discusses crosslinguistic variation in the temporal semantics of noun phrases.

The two chapters of part I (chapters 2 and 3) are the two legs on which the dissertation stands. In chapter 2, I develop the semantic criteria for distinguishing the semantic category of temporality markers, which are applied to the nominal temporality markers of Guaraní and other languages in parts II and III of the dissertation. In chapter 3, I present a theory of the temporal interpretation of noun phrases and formalize it in a dynamic semantic framework. On the basis of this theory, I develop five hypotheses of the crosslinguistic temporal semantics of noun phrases, which are explored in parts II and III of the dissertation.

The temporal semantics of noun phrases in Guaraní is examined in part II (chapters 4-8). Since there is little description available on this language, I briefly introduce the language in chapter 4, and elaborate on the grammar of noun phrases (chapter 5) and verbal temporality (chapter 7), thereby contributing to the documentation of this underrepresented language. The temporal semantics of noun phrases in Guaraní is explored in chapters 6 and 8. The distributional properties and meaning of the nominal temporality
markers are discussed in chapter 6, and the topic of chapter 8 is the temporal semantics of noun phrases in Guaraní.

Part III (chapter 9) explores crosslinguistic variation in the temporal semantics of noun phrases. I examine the meaning of nominal temporality markers of Halkomelem (Salish), Tariana (Arawak), Somali (Cushitic), and Movima (isolate, Bolivia). Contrary to what has been proposed in the literature, none of these languages provide empirical evidence for nominal TENSE but instead instantiate the semantic categories ASPECT, MODALITY and EXISTENCE. This chapter goes on to investigating crosslinguistic variation in the morphosyntactic realization of the nominal semantic categories and the times relative to which noun phrases are temporally interpreted in English, Guaraní and St’at’imcets.
Part I

A Theory of Temporal Interpretation
Chapter 2
Distinguishing Tense, Aspect and Modality

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When we examine temporality markers of natural languages, whether nominal or verbal, we cannot rely on our pretheoretical intuitions to determine their semantic categories. In
this chapter, I propose language- and category-independent semantic criteria for distinguishing the semantic categories TENSE, ASPECT and MODALITY. I set out in section 2.1 by characterizing the three semantic categories and their relevance for the temporal interpretation of verb phrases.\(^1\) These semantic characterizations, which I show are compatible with what is assumed in major theories of temporality, provide the basis for the criteria, which are developed in section 2.2. I apply the criteria to the English temporal expressions former, future, would-be and then— in section 2.3 and find that they are ASPECT and MODALITY markers. (The criteria are applied to Guaraní nominal temporality markers in part II.)

2.1 Semantic Categories Relevant for Temporality

In order to develop criteria for determining the semantic category of temporality expressions, a semantic characterization of the meaning of TENSE, ASPECT and MODALITY is needed. I show here that although there does not exist a general consensus in the semantic literature on temporality on how to characterize the meaning of TENSE, ASPECT and MODALITY, it is possible to distill a core meaning for each semantic category, which can then serve as the basis for developing theory-independent and maximally general criteria for distinguishing the semantic categories.

The minimal theoretical assumption I make here is that verbal predicates together with their arguments and adjuncts denote eventuality descriptions, i.e. sets of eventualities (de Swart 1998). It is these eventuality descriptions for which TENSE, ASPECT and MODALITY expressions specify times and worlds of evaluation.

2.1.1 Tense

The semantic category TENSE is generally assumed to express a precedence relation involving, in most cases, the utterance time. Spanish, for instance, has three tenses — past, present and future — which, in (1), result in different localizations of the eventuality description ‘Matt sing’ with respect to the utterance time.

\(^1\)I assume that both lexical aspect and grammatical aspect are relevant for temporal interpretation (Smith 1991; Bohnemeyer and Swift 2004) but only grammatical aspect will be relevant in my discussion here. Other categories relevant for temporality are evidentiality (cf. Faller 2004) and the spatiotemporal distance meaning component of determiners (e.g. St’at’îmcets, Matthewson 1998). The latter are briefly discussed in chapter 9.
2.1. SEMANTIC CATEGORIES RELEVANT FOR TEMPORALITY

(1) Spanish
      Matt sing-3sg.PRES
      ‘Matt sings.’
   b. Matt cant-ó.
      Matt sing-3sg.PAST
      ‘Matt sang.’
   c. Matt cantar-á.
      Matt sing-3sg.FUT
      Matt will sing.

The present tense in (1a) situates the eventuality description at the utterance time (resulting in a non-existential, i.e. generic or habitual, interpretation). The past tense in (1b) locates the eventuality description ‘Matt sing’ prior to the utterance time; future tense (1c) locates it subsequent to the utterance time.

Not all languages encode a three-way tense distinction: English and German, for instance, have been proposed to encode a past/non-past distinction (Comrie 1985:10). Consider the German examples in (2).

(2) German
   a. Matt sang gestern.
      Matt sing.PAST.3sg yesterday
      ‘Matt sang yesterday.’
   b. Matt singt gerade / morgen.
      Matt sing.NONPAST.3sg right.now / tomorrow
      ‘Matt is singing now / will sing tomorrow.’

The past tense form sang in (2a) locates the eventuality description ‘Matt sing’ at a time in the past of the utterance time. The present (or non-past) tense form in (2b), however, is compatible with both present and future time reference, as indicated by the temporal adverbs gerade ‘right now’ and morgen ‘tomorrow’. (English forms like will as in Matt will sing have received analyses both as future tenses and as future oriented modalities; for discussion see Hornstein 1990; Sarkar 1997; Condoravdi 2003.)

Languages that do not encode any tense distinctions are called “tenseless” languages. Yucatec Maya is one such language:
(3) Yucatec Maya

Juan-e’ táan uy óok’ot-ɬ).
Juan-TOP PROG A3 dance-INC

‘Juan is/was/will be dancing.’

Without further discourse context, the temporal location of the eventuality description ‘Juan be dancing’ in (3) is not determined because Yucatec Mayan utterances do not include tense markers. At the same time, Yucatec Mayan utterances can, of course, be located in time. Therefore, it is important to distinguish between tense markers (which Yucatec Maya does not have) and the semantic TENSE relation, which expresses the location of an eventuality description in time (and which is determined in the discourse context in Yucatec Maya, cf. chapter 3).

Characterizing the semantic TENSE relation is complicated by the fact that tense markers in some languages need not express a precedence relation relative to the utterance time. In Japanese, for instance, tenses can relate to a time given by a higher clause. (In the glosses in (4), ‘top.’ stands for topic and ‘nom’ for nominal case.)

(4) Japanese

Taroo-wa Hanako ga Siatoru-ni i-ru to it-ta.
Taroo-top. Hanako nom Seattle-in be-pres that say-past

‘Taro said that Hanako was in Seattle.’ (Gennari 2001:75)

The embedded present tense in (4) is not interpreted relative to the utterance time but relative to the past time provided by the higher clause. Thus, Hanako’s being in Seattle is not asserted to overlap with the utterance time but rather with the time of Taro’s saying. In order to include Japanese tenses, I characterize TENSE as expressing a precedence

---

2It has also been argued that English embedded past tenses must in some cases be interpreted relative to a time provided by a higher clause. Consider (i).

(i) Matt said that Mary jumped into the lake.

Thus, one proposal for examples like (i) is that the past tense jumped is interpreted as preceding the past time provided by said (e.g. Stechow 1995). Gennari (2003), on the other hand, argues that such examples can be explained by maintaining the assumption that English tenses relate to the utterance time.

3I changed the format of the gloss in this example.
2.1. **Semantic Categories Relevant for Temporality**

relation between two times, one of which is the perspective time. The perspective time, then, is the utterance time, unless the tense marker is realized in an embedded clause.

(T) **TENSE**: a relation between times, one of which is the perspective time

This characterization of the semantic TENSE relation is rather broad but it captures what is generally assumed about TENSE and suffices as the basis for developing criteria to distinguish tense and grammatical aspect. One type of variation in the theoretical literature that (T) captures concerns the time that TENSE relates to the perspective time. In Priorian tense logic (Prior 1967), for instance, which features in Montague Grammar (Montague 1976), the second time is the time relative to which the proposition is evaluated. Tenses are operators which locate the time at which the untensed (or, rather, present tense) sentence is evaluated relative to the perspective time. The operators P and F for the past and future tense, respectively, are given in (5). (C, w, t are indices for the context, the world and the time of evaluation, respectively.)

\[
(5) \quad \begin{align*}
\text{a.} & \quad P(\phi)_{C, w, t=1} & \text{iff } \phi_{C, w, t'=}1 \text{ for some } t' < t. \\
\text{b.} & \quad F(\phi)_{C, w, t=1} & \text{iff } \phi_{C, w, t'=1} \text{ for some } t < t'. 
\end{align*}
\]

For example, *Matt sang* is true if and only if there is a past moment when *Matt sings* is true:

\[
(6) \quad P(\text{sing(matt)})_{C, w, t=1} \text{ iff sing(matt)}_{C, w, t'=1} \text{ for some } t' < t. 
\]

In a Reichenbachian framework (Reichenbach 1947), which underlies many modern theories of temporality, the temporal properties of utterances are analyzed as a relation between three times, the event time E, the speech (or, utterance) time S and the reference time R. A simple past, as in (7a), is analyzed as E,R–S, i.e. the event time E overlaps with the reference time R (written E,R), and both precede the time of speech (written R–S). In a past perfect (7b), the event time E precedes the reference time R, which in turn precedes the speech time S.

\[
(7) \quad \begin{align*}
\text{a.} & \quad \text{Matt left the house.} & \text{E,R–S} \\
\text{b.} & \quad \text{(When Billy called,) Matt had left the house.} & \text{E–R–S} 
\end{align*}
\]

In Reichenbach’s system, then, tense is a relation between times, one of which is the utterance time. This, too, is captured by (T).
CHAPTER 2. DISTINGUISHING TENSE, ASPECT AND MODALITY

Since in Reichenbach’s system only forms involving the perfect aspect necessitate a separation of E and R (e.g. (7b)), a simplified characterization of TENSE as relation between the event time E and the speech time S has been proposed e.g. by Zagona (1995) and Stowell (1996). Again, this proposal is captured by (T).

The move to abandon the reference time R would not be possible in Klein’s (1994) analysis of temporality. Klein’s analysis superficially resembles Reichenbach’s in that it also involves three times: the speech time S, the event time E and the topic time T. On this approach, however, tense and grammatical aspect are separated, with tense specifying the relation between S and T, and grammatical aspect the relation between T and E. Furthermore, Klein’s characterization of the topic time differs crucially from Reichenbach’s reference time. In contrast to the reference time, which was not given an independent characterization by Reichenbach (and therefore is prone to be ‘abandoned’, cf. Zagona 1995; Stowell 1996), Klein’s topic time is characterized as the time the discourse is about in a way similar to the way in which discourses are about topical discourse participants (Chafe 1976). Klein’s proposal, then, is again compatible with (T).

In sum, modern semantic theories of temporality generally characterize TENSE as a relation between two times, one of which is the perspective time. One of the differences between the theories is the identity of the second time: in some theories, TENSE relates the perspective time to the event time (e.g. Zagona 1995; Stowell 1996) or the time at which the proposition is evaluated (Prior 1967; Montague 1976), in other theories, TENSE relates the perspective time to the topic time (Kamp and Reyle 1993; Klein 1994).

A second difference between the approaches concerns the meaning contribution of tense markers. One type of proposal maintains that tense markers are assertive. On this proposal, tense markers assert a particular relation between the two times, and thereby determines or constrains the location of the event time or the topic/reference time relative to the perspective time (e.g. Comrie 1985; Chung and Timberlake 1985; Dowty 1982; Hinrichs 1986). A second type of proposal maintains that tense markers presuppose a particular TENSE relation (Stone 1997; Kratzer 1998; Bittner To appear). I illustrate the two proposals with the examples in (8).

(8) When I saw Matt in the park,
    a. ...he was frightened.
    b. #...he is/will be frightened.
The discourse context in (8), *when I saw Matt in the park*, situates the discourse in the past of the utterance time. The past tense continuation in (8a) is acceptable in this discourse context, in contrast to the present or future tense continuations in (8b). Under the assertion analysis of tense, (8a) is felicitous because the past tense asserts a past TENSE relation, which accords with the past TENSE relation given in the discourse context. (8b), on the other hand, is ruled out because a present or future TENSE assertion contradicts the past TENSE relation that is contextually given. Under the analysis of tense markers as presuppositions, (8a) is felicitous because the past tense marker presupposes a PAST tense relation, which is fulfilled in the discourse context. (8b) is infelicitous because the present and future TENSE presuppositions are not fulfilled by the past TENSE relation that is contextually given.

In conclusion, the semantic category TENSE is generally characterized a relation between two times, one of which is the perspective time. Current theoretical proposals differ with respect to the nature of the second time and whether tense markers assert or presuppose the TENSE relation.

### 2.1.2 Grammatical Aspect

The examples in (9) give an initial illustration of the effect of grammatical aspect on temporal interpretation. In the four examples, the eventuality description ‘Matt sing’ is realized in the present tense but with different aspectual meanings:

(9)  
- a. Matt is singing. [present progressive]
- b. Matt sings. [simple present]
- c. Matt has sung. [present perfect]
- d. Matt is going to sing. [present prospective]

In each example in (9), a different aspectual marker applies to the eventuality description ‘Matt sing’. In (9a), the progressive aspect asserts that the singing is ongoing at the utterance time. The simple (perfective) aspect in (9b) results in generic or habitual interpretations of the eventuality description. The perfect aspect (9c) asserts that the result state of Matt’s singing is true at the utterance time, which entails that Matt must have sung prior to the utterance time, and the prospective aspect in (9d) asserts that Matt’s
singing is likely or intended to happen at a time in the future of the utterance time.\footnote{The prospective is analyzed as a prospective aspect in Bohnemeyer (2002) and as a future modal in Copley (2002).} One observation that is important here is that the perfect and prospective grammatical aspect markers in (9c,d) convey a precedence relation similar to the precedence relation of tense markers: in (9c) ‘Matt sing’ is true prior to the utterance time and in (9d) ‘Matt sing is true in the future of the utterance time (although both are realized in the present tense).

Grammatical aspect markers are sensitive to the aspectual features of the eventuality description they apply to. For example, the English progressive aspect applies to dynamic predicates (10a) but not to static predicates like be happy (10b).

(10)  a. Matt is singing.
      b. #Matt is being happy.
      c. Matt is living in France.

Under certain conditions, input eventuality descriptions can be coerced to the particular type required by the grammatical aspect marker (cf. de Swart 1998; Michaelis 2004). In (10c), for example, the static predicate live is coerced to an episodic state which holds of Matt only temporarily.

Similarly, the perfect aspect in English can apply to dynamic, stage-level predicates (11a), but not to static, individual-level predicates (11b). The perfect aspect can apply to a progressive (11c) but not vice versa (11d) (cf. Wagner 1997).

(11)  a. Matt has sung.
      b. #Matt has been tall.
      c. Matt has been singing.
      d. #Matt is having sung.

A second empirical observation about grammatical aspect markers is that they can be stacked (cf. Comrie 1976:23-32, de Swart 1998). Some examples are given in (12).

(12)  a. Matt has been singing loudly.
      b. Spanish
          Toda la tarde estuvieron entrando visitas.
          all the afternoon be.past enter visitors
          ‘All the afternoon, visitors kept arriving.’
          (de Swart 1998:375)
2.1. **SEMANTIC CATEGORIES RELEVANT FOR TEMPORALITY**

c. **Bulgarian**

\[
\text{\text{nem\v s}e}zorata, izkarvax ovcite \\
as-soon-as broke.3sg.perf-imp dawn.the drove.1sg.imp-imp sheep.the
outside
\]

‘As soon as dawn broke, I used to drive the sheep out.’ (de Swart 1998:376)

In the English example in (12a), both the progressive marker and the perfect marker apply to the eventuality description ‘Matt sing loudly’. The Spanish example in (12b) illustrates a perfective progressive, and the Bulgarian example in (12c) features a perfective imperfect, which refers to a habitual situation using the imperfect, but each individual event is described as a complete whole by the perfective.

One of the most widespread characterization of ASPECT is that it is an eventuality description modifier, i.e. it maps eventuality descriptions to novel eventuality descriptions (cf. e.g. Mourelatos 1981; Moens and Steedman 1988; Parsons 1990; de Swart 1998; Michaelis 2004). According to this proposal, the application of, for instance, a progressive aspect PROG to the eventuality description ‘Matt sing’ as in (9a) results in a novel eventuality description ‘PROG(Matt sing)’ which denotes a set of eventualities during which Matt’s singing is ongoing, as discussed above. This characterization accounts for the two properties of ASPECT identified above. First, since grammatical aspect markers on this proposal apply to eventuality descriptions, the grammatical aspect marker can impose restrictions on the kind of eventuality description it can apply to (e.g. the progressive can specify that it applies only to eventive eventuality descriptions). Second, since the output of grammatical aspect markers are eventuality descriptions, nothing impedes the application of (zero or one or) more than one grammatical aspect marker to an eventuality description.

Other proposals, too, characterize ASPECT as applying to eventuality descriptions but they differ in how the output of an aspect marker is characterized. For Klein (1994), grammatical aspect is a relation between two times, the topic time and the situation time of the eventuality description (cf. also Bohnemeyer 2002; Bohnemeyer and Swift 2004). Under this proposal, the output of applying a grammatical aspect marker is a temporal relation between the situation time and the topic time. Here, grammatical aspect markers apply to eventuality descriptions but their recursive application is prevented by the fact

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\(^5\)In the glosses, ‘perf’ stands for perfective aspect and ‘imp’ for imperfective aspect.
that the output of applying an aspect marker is not an eventuality description, i.e. cannot be the input to a second aspect marker. Another type of proposal is found in Comrie (1976) and Smith (1991). Here, too, grammatical aspect (or viewpoint aspect, in Smith’s (1991) terminology) applies to eventuality descriptions, and specifies “the internal temporal constituency of a situation” (Comrie 1976:6).

In conclusion, semantic characterizations of ASPECT minimally assume that grammatical aspect markers apply to eventuality descriptions, as in (A):

(A) ASPECT: an operation on eventuality descriptions

(A) subsumes proposals according to which the output of an ASPECT marker is a novel eventuality description (e.g. Mourelatos (1981) and references above), a temporal relation (Klein 1994) or a novel perspective on the eventuality description (Comrie 1976; Smith 1991).

2.1.3 Modality

MODALITY, though not a temporal category, can have an effect on temporal interpretation. Particular modal expressions are therefore included here under the term ‘temporal-ity’ expressions which includes all expressions that affect temporal interpretation. The auxiliary might in (13) is an example of a modal expression with a temporal contribution.

(13) I might sing at the party tomorrow.

Roughly speaking, the modal auxiliary might quantifies over a particular set of accessible worlds, asserts that this set is not empty and implicates that the eventuality description ‘I sing at party’ is true in these worlds at the time denoted by tomorrow. The effect of modality on temporal interpretation is also discussed in Bohnemeyer (2002), Condrovadi (2002, 2003), Dowty (1979) and Kaufmann (2005).

The realis/irrealis distinction that is encoded in Inuktitut, a tenseless Eskimo-Aleut language, is a second example of the role of modality for temporal interpretation. According to Swift (2004), eventualities that are asserted with ‘realis’ modality are asserted as realized or factual by the speaker, whereas eventualities that are asserted with ‘irrealis’ modality are not asserted as realized or factual (see also Bittner (In press) for Kalaallisut). Consider the examples in (14):6

6In the glosses, PAR.3sS stands for ‘participial mood 3rd person singular subject’.
2.1. SEMANTIC CATEGORIES RELEVANT FOR TEMPORALITY

(14) Inuktitut (Eskimo-Aleut)
   a. Anijuq.
      ani-juq
      go.out-PAR.3sS
      ‘She went out.’
   b. Pisuttuq.
      pisuk-juq
      walk-PAR.3sS
      ‘She is walking.’
   c. Kaattuq.
      kaak-juq
      be.hungry-PAR.3sS
      ‘He is hungry.’

Realis is the unmarked member of the realis/irrealis opposition in Inuktitut. Therefore, the unmarked eventualities in (14) are realized as realis. The interval at which an eventuality counts as factual or realized, depends on the lexical aspect of the eventuality: a state or activity (atelic) is realized when it has started, whereas an event must have been completed to count as realized. Thus, since the event predicate ani ‘go out’ in (14a) is asserted as realized, the agent must have already gone out (which is translated with the past tense translation in English). The stative predicates pisuk ‘walk’ and kaak ‘be hungry’ in (14b,c), are asserted as realized, too, from which it follows that the activity/state is ongoing.

Non-factual modalities (also called ‘non-realis’) are always overtly marked in Inuktitut. An example of such a modality, here prospective (PRSP) modality, is in (15).

(15) Inuktitut (Eskimo-Aleut)
   Aaa anisijuq.

   aaa ani-si-juq
   yes go.out-PRSP-PAR.3sS
   ‘Yes, he’s about to go out.’

In this example, the eventuality description ‘he go out’ is asserted to be non-factual at the utterance time. Consequently, the eventive predicate has not yet completed, or not even started at all. The prospective aspect/modality marker specifies that the latter is the case,
namely that the individual is has not yet gone out but is in a preparatory state of going out.

The semantic category MODALITY encompasses a diverse set of meanings and modal expressions. Bybee et al. (1994) distinguishes four types of modality, including agent-oriented, speaker-oriented, epistemic and subordinating modality. Agent-oriented and speaker-oriented modalities convey the conditions on the agent (e.g. obligation, ability) and directives of the speaker (e.g. imperative, permissive), respectively, with regard to the realization of the eventuality denoted by the clause. Epistemic modality “indicates the extent to which the speaker is committed to the truth of the proposition” (Bybee et al. 1994:179). Subordinating modal expressions, finally, are those that mark verbs in certain types of subordinate clauses (e.g. complement and purpose clauses). Palmer (2001) suggests two basic modal categories, propositional modality and event modality: modal expressions differ with respect to whether they involve the speaker’s attitude to the factual status of the proposition (propositional modality) or not (event modality). The most formal and widely adopted semantic framework for analyzing modality is Kratzer (1981, 1991)). The general idea of this framework is that modal expressions determine the set of possible worlds that are quantified over. There are two parameters that determine this set of worlds: the modal base, which represents the set of worlds that are accessible and in some sense ‘ideal’, and the ordering source, a set of worlds which provides an ordering of the accessible worlds in the modal base.

What these characterizations and analyses have in common is that MODALITY is the semantic category that determines the set of worlds within which the eventuality description is evaluated. In other words, MODALITY indicates the relation between the actual world and the worlds in which an eventuality description is evaluated:

(M) MODALITY: the relation between the actual world and the worlds of evaluation

Again, this characterization of modality is rather broad but it suffices for the purpose of developing criteria for distinguishing TENSE, ASPECT and MODALITY.
2.1.4 Summary

I have shown in this section that, despite the fact that there are no generally agreed upon characterizations of TENSE, ASPECT and MODALITY, it is possible to distill semantic characterizations which encompass the general assumptions about the meaning of these semantic categories:

(16) **General Characterizations of TENSE, ASPECT and MODALITY**
    a. TENSE: a relation between times, one of which is the perspective time
    b. ASPECT: an operation on eventuality descriptions
    c. MODALITY: the relation between the actual world and the worlds of evaluation

These characterizations provide the basis for the criteria for determining the semantic category of a temporality expression that I develop in the next section.

2.2 Criteria for Distinguishing Tense, Aspect and Modality

I develop criteria for distinguishing TENSE and ASPECT in section 2.2.1, for distinguishing future TENSE and MODALITY in section 2.2.2 and discuss the distinction between future-oriented ASPECT and future-oriented MODALITY in section 2.2.3. The criteria are of semantic nature in order to abstract away from language- or category-particular morphosyntactic realizations.\(^7\)

2.2.1 Tense versus Aspect

I propose five criteria that distinguish tense markers and aspect markers: (i) cooccurrence restrictions with members of particular semantic classes, (ii) cooccurrence with markers of the same type, (iii) the entailment of a state change, (iv) restriction of the time of evaluation and (v) anaphoricity. Roughly speaking, criteria (i) through (iii) apply at the level of morphosyntax, (iv) is a sentence-level criterion, and (v) is a discourse-level criterion.

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\(^7\)Some of these criteria were already proposed in Tonhauser (To appear). This chapter attempts to derive the criteria from theory-neutral semantic characterizations of TENSE, grammatical ASPECT and MODALITY.
(i) Cooccurrence Restrictions With Members of Particular Semantic Classes

Grammatical aspect markers, but not tenses, may show restrictions with members of particular semantic classes.

The empirical basis for this criterion is the observation that grammatical aspect markers, but not tenses, across languages exhibit restrictions with respect to the lexical aspect of the input eventuality description. For example, the progressive aspect does not typically occur with stative verbs (*I am being in New York), the inchoative aspect does not typically occur with achievements (*I started arriving) and verbs of inception or cessation are incompatible with the perfective aspect (e.g. Spanish Juanita acababa/*acabó de llegar ‘Juanita just arrived’). No such restrictions are reported for tenses: for instance, there are no tenses that would apply to events but not to states, and no tenses that are sensitive to whether the eventuality description is a progressive or a perfect.

This first criterion for distinguishing tense and aspect falls out from the semantic characterizations of the two semantic categories proposed above: grammatical aspect markers can be sensitive to the semantic class of the eventuality description because they are operations on eventuality descriptions, i.e. they apply to the eventuality description. Tenses, on the other hand, do not apply to eventuality descriptions but relate times: thus, even if a tense marker is taken to relate the perspective time to the time of the eventuality (e.g. Zagona 1995; Stowell 1996), the tense marker relates the time of the eventuality and does not apply to the eventuality description itself. We therefore expect aspects but not tenses to exhibit cooccurrence restrictions with particular eventuality descriptions, as confirmed by the empirical observations.

(ii) Cooccurrence With Markers of the Same Type

Grammatical aspect markers, but not tenses, may cooccur.

The empirical motivation behind this criterion is the observation that the cooccurrence of grammatical aspect markers is widely attested crosslinguistically (cf. the examples in (12), Comrie 1976:23-32 and de Swart 1998). Cooccurring tense markers, on the other hand, are not attested (Comrie 1985).

The semantic characterization of tense as the perspective time to another time provides an explanation for why cooccurring tenses are not attested, and is the basis for the second criterion. To illustrate this, assume a clause with two tense (different) markers.
2.2. CRITERIA FOR DISTINGUISHING TENSE, ASPECT AND MODALITY

Since the two tense markers specify different relations, it is not possible that they specify their relation for the same two times. Thus, tense markers could only cooccur if they specify a relation for distinct pairs of times. What might these times be? If one of the two tense markers specifies a relation between the perspective time and a time t1 we might assume that the other tense marker specifies a relation between t1 (its perspective time) and a time t2. Typically, however, the perspective time is the utterance time, except in cases where a tense marker is realized in an embedded clause. Thus, in order for t1 to be the perspective time of the second tense, we need to assume that cooccurring tense markers create an embedding context similar to embedded clauses. In other words, one tense marker embeds the other even though they are realized in the same clause. (This assumption stands on shaky ground if tenses are inflectional since inflections do not typically have scope over each other.)

Now, if the outer tense expresses a relation between the perspective/utterance time and a time t1 and the inner tense a relation between t1 and a second time t2, we conclude that t1 is the topic time and t2 the situation time of the eventuality, for lack of other available times. However, the relation between the topic time and the situation time of the eventuality is typically characterized as an ASPECT relation.\(^8\) Therefore, if we are consistent with the assumption that tense markers specify a relation between two times, one of which is the perspective time, we are led to the conclusion that cooccurring tense markers are possible only if cooccurring tenses can embed each other and if one expresses an ASPECT relation. I conclude that the meaning of tense markers is not compatible with them cooccurring with a single eventuality description. This provides an account for the lack of empirical evidence for cooccurring tense markers, and is the basis for this criterion for distinguishing TENSE and ASPECT.

The semantic characterization of ASPECT predicts the cooccurrence of grammatical aspect markers since the output of one marker can be the input of another. That is, grammatical aspect markers can embed one another according to their characterization as eventuality description modifiers.

\(^8\)Comrie (1985) calls the relation between E and R a ‘relative tense’ relation. It has been suggested that many relative tense relations can be reduced to aspectual relations (Klein 1999:131,Bohnemeyer 2000:day3). Some languages, however, seem to have true relative tenses (Japanese, Kikongo-Kituba, Bohnemeyer 2000:day3): according to criterion (ii), such tenses may cooccur with absolute tenses.
(iii) The Entailment of a State Change

A temporality expression encodes a state change when the meaning of the expression entails that the eventuality description is true at one time and false at another. Since TENSE is a relation between two times, it is logically impossible for a tense marker to encode a state change: a tense marker can locate an eventuality description at a time prior or subsequent to the perspective time but it cannot impose conditions on whether the eventuality description is true or false at the perspective time itself. Such conditions would exceed the meaning of TENSE, i.e. the expression of a precedence relation.9

The meaning of ASPECT, on the other hand, is compatible with the encoding of a state change since grammatical aspect markers apply to eventuality descriptions. If the output is a novel eventuality descriptions (e.g. Mourelatos 1981), aspect markers can encode state changes by outputting eventuality descriptions that characterize the pre- or post-state of the input eventuality description. If the output is a temporal relation between the eventuality description and a particular time (e.g. Klein 1994), aspect markers can encode a state change by relating the input eventuality description to a time in its pre- or post-state. Examples of grammatical aspect markers that encode a state change are the prospective, the terminative and the perfect.10

9The use of a tense marker can, however, implicate a state change. For this reason, it is important to check whether a marker entails a state change (in which case it is not a tense marker according to this criterion) or merely implicate it (in which case it could be a tense, aspect or modality marker). Consider the first clause of (i).

(i) On Wednesday Arthur was sick. He is still sick today.

The past tense was locates the state eventuality description ‘Arthur be sick’ at a time on Wednesday in the past of the utterance time. This clause implies that Arthur is not sick anymore at the utterance time, but it does not entail it since it can be followed by He is still sick today.

10It is sometimes claimed that there are tense markers that encode a state change. (I thank Jean-Pierre Koenig for pointing this out to me.) For example, the French passé simple (Ps) is claimed to be a past tense marker that entails a state change (e.g. de Swart 1998). Consider the examples in (i).

(i) French

a. Mercredi Marie fut malade.
   Wednesday Marie wasPs sick
   ‘Marie was sick on Wednesday.’
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(iv) Restriction of the Time of Evaluation

Tenses, but not grammatical aspect markers, restrict the time of evaluation.

A temporality marker restricts the time at which an eventuality description is evaluated if the use of the marker requires the eventuality description to be interpreted at times that stand in a particular relation to the perspective time. Again, this criterion follows from the semantic characterizations of TENSE and ASPECT. Since TENSE is the relation between the perspective time and a second time, tense markers restrict the time of evaluation. A past tense restricts the evaluation times to past times, a non-future tense to non-future times and a non-past tense to present or future times. These times can be absolute (i.e. relative to the utterance time) or relative (i.e. relative to a perspective time).

\[ \text{b. Elle n’\-'a pas encore récupéré.} \]
\[ \text{she NEG-has NEG still recovered} \]
\[ ‘\text{She hasn’t recovered yet.’} \]

In (ia), fut malade ‘was.PS sick’ asserts that the situation time of ‘sick’ is located in the past of the utterance time. This utterance entails that Maria is not sick anymore at the utterance time as evidenced by the fact that (ia) cannot be continued with (ib). Thus, the passé simple encodes a state change for the eventuality description ‘be sick’ at some time between the topic time and the utterance time. If the passé simple is a pure tense marker, as de Swart (1998) claims, it would be counterevidence to my claim that tense markers cannot encode a state change. An alternative proposal is that the passé simple is a past tense marker fused with a grammatical aspect marker such that the past tense component expresses past time reference and the grammatical aspect marker encodes the state change. Under such an analysis, the claim that only aspect markers encode state changes can be maintained.

de Swart (1998:372) dismisses this alternative for the following two reasons. First, she argues that the passé simple, unlike the perfect and progressive aspects, “do not specify one particular aspectual transition”, i.e. the passé simple is not sensitive to the semantic class of the eventuality description it applies to. Thus, according to De Swart, an aspect marker must exhibit cooccurrence restrictions. De Swart does not explain or motivate this criterion. My criterion, on the other hand, according to which aspect markers can and tense markers cannot encode state changes follows from independently motivated semantic characterizations of tense and aspect. I therefore do not accept de Swart’s first argument against a fusional analysis of the French passé simple. De Swart’s second argument is that “it is not possible to separate aspeclual and temporal information in the morphology”. This argument is based on the morphosyntactic realization of temporality markers which varies across languages and is, hence, notoriously difficult to use as a criterion. De Swart’s argument does not persist in the face of crosslinguistic data: in fusional languages, one form can encode both an aspect and a tense meaning (e.g. Latin laudabam ‘I was praising’ is a past tense progressive form). Thus, neither of de Swart’s arguments support the claim that the passé simple is a pure tense rather than a combination of a tense and a grammatical aspect marker, as I argue. I conclude that the claim that only grammatical aspect markers may encode a stage change (criterion (iii)) is valid.
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The semantic category *aspect* is characterized as an operation on eventuality descriptions: crucially, aspect does not impose conditions on the location of the time relative to which an eventuality description is interpreted. Hence, grammatical aspect markers do not restrict the time of evaluation. Rather, they are compatible with past, present and future topic times, as illustrated for the progressive aspect by *I am singing, I was singing* and *I will be singing*.

Thus, if a temporality marker restricts the time of evaluation, it is a tense marker. If, however, it is compatible with past, present and future contexts, it is not a tense marker but an aspect or modality marker.

(v) Anaphoricity

| Tenses, but not grammatical aspect markers, are anaphoric. |

The interpretation of tenses in discourse is anaphoric, as pointed out in e.g. Partee (1973, 1984)). In this respect, tenses resemble pronouns, as illustrated with the examples in (17).

17 a. John likes Sally. He saw her yesterday.

b. John threw a party last Saturday. Sally got drunk.

The pronouns *he* and *her* in the second clause of (17a) are coreferential with the individuals introduced in prior discoures (John and Sally, respectively). Thus, the two pronouns find their antecedents in prior discourse. The past tensed verb *got drunk* of the second clause of (17b) is similarly interpreted with respect to the discourse context: the past time at which it locates the eventuality description ‘Sally get drunk’ is not just any past time, but the one introduced by the first clause of (17b). Thus, (17b) specifies a time ‘last Saturday’ at which John threw a party and at which Sally got drunk. The past time ‘last Saturday’ serves as the antecedent of the past tense *got drunk* much like John serves as the antecedent for the pronoun *he*. The fact that tenses are anaphoric is also the reason why past and future tenses (often) sound odd as first sentences of a discourse, such as (18).

18 Context: I enter my office and tell my office mate:

   #I sang a song.

In this discourse context, the past tense *sang* sounds odd because it does not have a past time antecedent, and, hence, cannot receive an anaphoric interpretation.
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That tenses but not grammatical aspect markers receive an anaphoric interpretation again follows from the semantic characterizations. TENSE is characterized as a relation between the perspective time and a second time. If the interpretation of tense depends on the discourse context, this characterization leads to the assumption that the second time is contextually determined, i.e. anaphoric to the discourse context. The semantic characterization of ASPECT, on the other hand does not include a time but is an operation on eventuality descriptions. Hence, even if the interpretation of grammatical aspect depends on the discourse context, its semantic characterization does not include a time that could be anaphorically resolved in the discourse context. It follows that the interpretation of a grammatical aspect marker is not anaphoric.

Summary

The five language- and theory-independent criteria for distinguishing TENSE and ASPECT are summarized in (19).

(19) Criteria for Distinguishing Tense and Aspect

(i) Grammatical aspect markers, but not tenses, may show restrictions with members of particular semantic classes.

(ii) Grammatical aspect markers, but not tenses, may cooccur.

(iii) Grammatical aspect markers, but not tenses, may encode a state change.

(iv) Tenses, but not grammatical aspect markers, restrict the time of evaluation.

(v) Tenses, but not grammatical aspect markers, are anaphoric.

2.2.2 Future Tense versus Modality

What has happened in the past cannot be changed anymore and is factual, whereas all future eventualities are associated with a certain degree of uncertainty regarding their realization. Utterances with future time reference are “invariably accompanied by a non-factual modal attitude” (Bohnmeyer 2000:day4). How, then, can one distinguish a future tense marker (with inherent modal import) from a modal marker that is future-oriented? I propose the following two criteria.
(20) **Criteria for Distinguishing Future Tense and Future-Oriented Modality**

(i) A future tense marker expresses (relative or absolute) future time reference in all contexts in which it is realized.

(ii) A future tense marker must be able to realize predictions and intentions.

These criteria are too weak to determine for all markers whether they are future tenses or future-oriented modal markers, but they suffice for the purpose of this dissertation. A future tense marker need not occur in all contexts with future time reference. However, as in criterion (i), a marker is a future tense only if it expresses (relative or absolute) future time reference whenever it occurs. In particular, a marker is a future tense only if it realizes future time reference even when it cooccurs with a past time denoting adverb (when this combination is grammatical in a particular language).11

An *ideal* future tense would not only always realize future time reference but also occur in all modal contexts that express future time reference. However, given the heterogeneity of modal meanings, and the fact that particular modal markers can express future-time reference themselves, it is not likely that a single future tense would be used in all modal contexts. Criterion (ii) in (20) is based on insights from the typological literature (e.g. Bybee et al. 1994; Dahl 1985) where it is suggested that the most likely contexts for a future tense marker are intention and prediction. Thus, a prototypical future tense marker should be able to realize intentions and predictions.

### 2.2.3 Modality versus Aspect

The distinction between modality and aspect, especially future-oriented modality and future-oriented aspect, is perhaps the hardest to pin down. I make no attempt to solve it here since, for the purposes of this dissertation, distinguishing between tense and aspect, and between future tense and future-oriented modality is most relevant. Furthermore, many temporality markers include both an aspectual and a modal meaning component (e.g. Dowty 1979; Portner 1998 on the progressive, Portner 2003 on the perfect) such that the question of whether a marker is an aspect or a modal is even the wrong one to ask in some cases. Other temporality markers have received analyses as an aspect marker as well as a modal marker. The prospective, for instance, is a grammatical aspect marker

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11Comrie (1985:46) suggests that an expression has future tense meaning if it is incompatible with expressions that refer to the past. I believe this criterion is too strong if we allow future tenses to express a relative future time reference.
in Bohnemeyer (2002) and a modal marker (with an aspectual meaning component) in Copley (2002, 2003). In this dissertation, I refer to the prospective as an aspect/modality marker, thereby acknowledging both its aspectual and its modal meaning component.

I propose the following two criteria for identifying an aspectual and a modal meaning component of a (non-tense) temporality marker:

(21) **Criteria for Identifying Aspectual and Modal Meaning Components**

(i) If a temporality marker refers to the speaker’s or agent’s mental state or attitude towards the proposition or eventuality, the marker has a modal meaning component.

(ii) If a temporality marker exhibits cooccurrence restrictions, it has a grammatical aspect meaning component.

Criterion (i) is based on the assumption that MODALITY but not ASPECT modifies the worlds in which the eventuality description is evaluated. Only a marker with a modal meaning component can express wishes, requests, obligations and so on. The second criterion is parallel to criterion (ii) in section 2.2.1. Since grammatical aspect markers but not modal markers apply to eventuality descriptions, only markers with a grammatical aspect meaning component exhibit cooccurrence restrictions with particular semantic classes.

### 2.3 Temporal and Modal Adjectives in English

In this section I apply the criteria for distinguishing TENSE, ASPECT and MODALITY to some select English nominal temporality markers and adjectives, including *former* in section 2.3.1, *future* and *would-be* in section 2.3.2, and *then* in section 2.3.3.

#### 2.3.1 Past-Time Oriented Adjectives

Past-time oriented adjectives and markers include *former* and *ex-*. As has been long noted (e.g. Bolinger 1967; Ferris 1991), these expressions are not interpreted intersectively in a noun phrase. Consider the examples in (22).

(22) a. “All my friends in the movie are other *former* child stars,” says David.\(^\text{12}\)

\(^{12}\text{http://et.tv.yahoo.com/celebrities/1599/}\)
b. About 80 per cent of smokers put on weight when they quit. However most ex-smokers only gain a modest amount of weight.\(^{13}\)

These examples, where former and ex— apply to the nouns child star and smoker, respectively, assert that the individuals denoted by the noun phrases are not currently child stars but were child stars in the past (22a) and not currently smokers but were smokers in the past (22b). Thus, former and ex— express a precedence relation between the time of evaluation and the time at which the property is true of the individuals denoted by the noun phrase.

Markers like former and ex— have received surprisingly little attention in the literature. The analysis in Dowty et al. (1981:163f.) is the only one I am aware of. Although both expressions encode a precedence relation, an analysis of former and ex— as nominal (past) tenses has been excluded because of their highly restricted distribution (e.g. Comrie 1976:13, Nordlinger and Sadler 2004:778-9). That the markers in fact behave like grammatical aspect markers and not tenses is also supported by the five semantic criteria, which I now apply in turn, restricting myself to former.

Criterion (i): Grammatical aspect markers, but not tenses, may show restrictions with members of particular semantic classes In order to evaluate former on the basis of this criterion, we need to examine the cooccurrence restrictions of former with different noun classes.\(^{14}\) In naturally occurring data, the vast majority of noun phrases with former are noun phrases headed by professions (e.g. manager, president, secretary, teacher, priest) and stage-level relational nouns (e.g. lover, husband, neighbor). The distribution of former with artifact nouns is more intricate. Former with artifact nouns does not typically indicate that the entity does not have the property anymore but only to convey (what I refer to as) a previous-interpretation. Consider the example in (23).

(23) The home was built by Lamperts’ lumberyard manager Ray L. Budde and his wife, Clara. [...] The lot was owned by several members of the Steele family for many years prior, so there may have been a former house on this lot.\(^{15}\)

\(^{14}\)See Reboul (1993); Borillo (2001) for a discussion of the classification and distributional restrictions of French temporal and modal adjectives like ex-, ancien and futur.
\(^{15}\)http://www.lemarsssentinel.com/story/1152745.html
2.3. TEMPORAL AND MODAL ADJECTIVES IN ENGLISH

In this example, former does not assert that the entity denoted by the noun phrase a former house is not a house anymore. Rather, former conveys that previously there was a house on the lot (and now there is another one), hence, the previous-interpretation. In fact, former is not typically used with artifact nouns to indicate that the property is not true of the entity anymore. Instead, old as in old house is used to convey this meaning (see also DeGraff and Mandelbaum 1993 for discussion). In some examples, former with artifact nouns asserts that the artifact still has the property denoted by the noun but is not used with that function anymore:

(24) What could be more manly than a bracelet made of a former bike chain?16

In (24), the entity denoted by a former bike chain is still a bike chain. It is simply not used anymore as a bike chain but as a bracelet. Here, too, former can be replaced by old. Artifact locations, i.e. locations that are man-made, are also compatible with former as the following examples illustrate.

(25) a. The City Island Museum is located in one of the area’s most picturesque historic buildings, the old Public School 17 built in 1897 on a former Indian burial ground at one of the highest points on the Island.17

b. A scheme of archaeological evaluation and excavation was undertaken in advance and during development on the site of a former golf course at Normanton, West Yorkshire [...].18

In these examples, former asserts that the entity denoted by the noun phrase still exists but currently serves a different function than that denoted by the nominal predicate.

With relational nouns, especially abstract ones, former also is prone to giving rise to the previous-interpretation as the examples in (26) illustrate.

(26) a. Permanent siding was added by a former owner.19

b. Since the bricks were not able to be reproduced [...], contractor Kenneth Plueger cleverly removed the top layers of brick under the rails for use as replacements and then added the cement caps to get back to the former height. 20

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16http://www.wists.com/everyone/chain
17http://www.cityisland.com/history.html
18http://www.archaeologicalplanningconsultancy.co.uk/mga/projects/normant/
19http://www.lemarssentinel.com/story/1152745.html
20http://www.lemarssentinel.com/story/1152745.html
c. And if the vinyl doesn’t regain its former rigidity, what can I do?²¹

(26a) does not assert that the individual referred to by a former owner is not a owner anymore but that this individual was previously the owner (he might well still be an owner of something). Similarly, (26c) states that the vinyl was previously rigid.²²

Former is not productive with nouns denoting animals, humans and individual-level relations (e.g. # former dog, # former woman, # my former grandfather), but there are contexts in which former can occur with such nouns:

(27)  a. Context: A foster child talks about the families she has been placed in over the years.
     My current mother is quite alright but my former mother was a dragon.

b. I have a flat-coated retriever, a dog too active to live in the city, really. My younger dog is a Nova Scotia duck tolling retriever. [...] I very seldom repeat a breed because I don’t like living with the ghost of a former dog.²³

In (27a), the ‘mother’ relation is not the biological mother relation (which typically cannot be modified by former) but the ‘foster mother’ relation. This latter type of relation is inherently stage-level, similar to a profession. In (27b), former cooccurs with dog, which is generally used only in playful speech. Former is optional in this example, and seems to further assert, together with ghost, that the dog is dead.²⁴ With nouns denoting humans, late, not former, is used to indicate that the individual denoted by the noun phrase is dead:

(28) “You have said, Mr. President, some very kind words about my late grandfather, my late father and myself.”²⁵

²²It seems likely that the previous-interpretation of former can be related to its terminative aspect interpretation, an enterprise which I leave to future research.
²³http://www.readersdigest.ca/mag/2001/01/stanley.html
²⁴While ex-, like former, is typically not productive with nouns denoting animals and other natural kinds, ex- combines with a noun denoting an animal in the following famous example:

(i) ‘E’s kicked the bucket, ‘e’s shuffled off ‘is mortal coil, run down the curtain and joined the bleedin’ choir invisible!! THIS IS AN EX-PARROT! (Monty Python “The Dead Parrot Sketch”)
http://bau2.uibk.ac.at/sg/python/Scripts/TheDeadParrotSketch

²⁵http://www.amaana.org/sultweb/gfather.htm
Finally, former, though not very common with spatiotemporal nouns like party or Saturday, may occur with such nouns under the previous-interpretation.

(29) As far as I can see, the view to which we are committed, one which I have stated on a former occasion, is that we ought not to believe, and we ought not to try to cause others to believe, any proposition for which there is no evidence whatever.  

Table 2.1 summarizes these findings. ✓ means that former is productive with the noun class under the not-anymore-interpretation, ✓previous that former occurs with nouns of this class only under the previous-interpretation, and * that it is not productive. (Final-stage relations, listed in the right-most column, are relations that are true of a pair of individuals during the final stage of one of the individual’s time of existence, cf. chapter 3.)

<table>
<thead>
<tr>
<th>professions</th>
<th>location artifacts</th>
<th>entity artifacts</th>
<th>natural kinds</th>
<th>spatiotemporal entity</th>
<th>stage-level relations</th>
<th>abstract relations</th>
<th>individual-level/final-stage relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. teacher, secretary, manager</td>
<td>e.g. burial ground, golf course</td>
<td>e.g. bike chain, house, car</td>
<td>e.g. tree, wind, squash, woman</td>
<td>e.g. Saturday, party, occasion</td>
<td>e.g. neighbor, friend, wife</td>
<td>e.g. rigidity, height</td>
<td>e.g. father, brother, grandmother</td>
</tr>
</tbody>
</table>

| former | ✓ | ✓ | ✓ previous | ✓ | ✓ previous | ✓ | ✓ previous | ✓ |

Table 2.1: The Acceptability of former Across Semantic Noun Classes

In sum, former exhibits cooccurrence restrictions with nouns from several semantic classes. According to the first criterion for distinguishing tense and aspect, this suggests that former is an aspect marker not a tense.

**Criterion (ii): Grammatical aspect markers, but not tenses, may cooccur** Both former and ex- cooccur in with future-time oriented adjectives like future and future-time oriented markers like (soon) to be, as illustrated in the examples in (30).

26http://www.positiveatheism.org/hist/russell7.htm
(30)  a. Someone who could be described as a "former future leader" is the young prime minister of Hesse, Roland Koch, but his chances have been destroyed in the secret funds affair and many people expect him to lose his position in the scandal-hit state soon.\textsuperscript{27}

b. A former spouse annuity or eligibility for a future former spouse annuity terminates on the last day of the month before the month in which the former spouse remarries before attaining age 55.\textsuperscript{28}

The fact that former and future can cooccur suggests that at least one of them is not a tense marker. Tense markers are typically realized farther away from the stem than aspect markers (Cinque 1999). We can conclude from the observation that former and future can cooccur in either order that neither of them is a tense marker.

\textbf{Criterion (iii): Grammatical aspect markers, but not tenses, may encode a state change}

The examples in (31) illustrate that former encodes a state change.

(31)  a. \#All my friends in the movie are other former child stars, and they are still child stars.

b. \#This is my former wife and we are still married.

(22a), repeated in (31a), cannot be continued with ‘and they are still child stars’. This illustrates that somebody is currently a former child star only if s/he is not a child star anymore. Similarly, the ‘former wife’ relation in (31b) is true of two individuals only if the ‘wife’ relation was true at a time in the past and is not true anymore. Again, this is compatible with former being a grammatical aspect marker, not a tense marker.

\textbf{Criterion (iv): Tenses, but not grammatical aspect markers, restrict the time of evaluation}. If former is a past tense marker, we expect it to restrict the time at which a noun phrase can be interpreted to a time in the past of the perspective time. In order to determine the behavior of former, I first examine the interpretation of noun phrases that are not marked with former:

\textsuperscript{27}http://news.bbc.co.uk/1/hi/world/europe/646358.stm

\textsuperscript{28}http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/cfr_2003/5cfr831.644.htm
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(32)  
   a. My baby’s not due for a month, and my mother-in-law is already driving me nuts.\(^\text{29}\)
   
   b. In 1986, my mother-in-law was seriously injured in an automobile accident\(^\text{30}\)

In (32a), the noun phrase my mother-in-law is interpreted at the utterance time, i.e. the relation ‘mother-in-law’ is true of the two individuals at the utterance time. In (32b), the same (unmarked) noun phrase is interpreted at a topic time in the past of the utterance time. Thus, noun phrases that are not marked with former can (at least) be interpreted at or prior to the utterance time. Consider now the examples in (33) with the noun phrase my former mother-in-law.

(33)  
   a. My former Mother-In-Law still grieves more than I do and Michael died 14 years ago on September 3rd.\(^\text{31}\)
   
   b. For instance, my former mother-in-law drove me to all of my o.b. appointments [...].\(^\text{32}\)

In (33a), the ‘mother-in-law’ relation is true at a time prior to the utterance/topic time and in (33b) the ‘mother-in-law’ relation is true at the topic time prior to the utterance time. This suggests that former requires the ‘mother-in-law’ relation to be interpreted at a time prior to some contextually given time: prior to the utterance/topic time in (33a) and the utterance time in (33b). The example in (34), however, illustrates that the ‘mother-in-law’ relation can be interpreted at a time that overlaps with the utterance time:

(34)  
   After his divorce, John will say that his former mother-in-law never treated him right.

In this example, former expresses that the ‘mother-in-law’ relation is true of the individuals at the utterance time in the past of the contextually given topic time (the time of John’s saying). Thus, the perspective time of former is not fixed: it is the utterance/topic time in (33a), the utterance time in (33b), and the topic time in (34). In conclusion, former is like a tense marker in that it expresses a precedence relation but, unlike a tense marker, it does not restrict the time relative to which a noun phrase can be interpreted relative to a fixed perspective time.

\(^\text{29}\)http://www.parenting.com/parenting/mom/article/0,19840,1185041,00.html
\(^\text{30}\)http://everything2.com/index.pl?node.d=1086911
\(^\text{32}\)http://www.secraterri.com/sept2601b.html
Criterion (v): Tenses, but not grammatical aspects, are anaphoric  If former were a past tense, we would expect it to exhibit anaphoric qualities. That is, former should pick up an antecedent time in the past of the perspective time, and locate the nominal description of the noun phrase it modifies at this past time. Examples like (33) are not particularly useful in answering the question of whether former is anaphoric or not because such examples do not provide an explicit time at which former could locate the nominal property. Thus, the relation ‘mother-in-law’ could either by located at a time in the past by an anaphoric former or it could be located at some unspecified time in the past by a non-anaphoric (aspectual) former which simply asserts that the property is not true anymore (and hence must have been true at a time in the past). However, examples like (35) illustrate that former is not anaphoric.

(35) In 1980 my former mother-in-law bought a house.

Out of context, (35) is vague. At the contextually most salient past time denoted by in 1980, the individual denoted by the noun phrase my former mother-in-law could have stood in one of three relations to the speaker: (i) the speaker’s former mother-in-law, (ii) the speaker’s mother-in-law (but current former mother-in-law), or (iii) not yet the speaker’s mother-in-law (and, hence, not yet former mother-in-law either). Out of context, the most salient interpretation is (i), which is a non-anaphoric interpretation since the relation ‘mother-in-law’ is true at a time prior to the contextually given time in 1980. The fact that former in examples like (35) without a discourse context does not give rise to a single determined interpretation, and the fact that the preferred interpretation is a non-anaphoric one, are arguments that the interpretation of former is not anaphoric. Hence, according to this criterion, too, former is not a past tense marker.

Conclusions

The five semantic criteria for distinguishing tense and aspect that I developed in this chapter confirm the pretheoretical intuition that the temporal adjective former is not a tense marker. I proposed in Tonhauser (2005a) that former is a terminative grammatical aspect, i.e. an aspect that asserts that the post-state of the property modified by former is true at a contextually given time. I also argued against the analysis proposed in Dowty et al. (1981:163f.) (which is also assumed in Larson and Cho (1999, 2003)): 
(36) The meaning of former according to Dowty et al. (1981:163f.)

\[ \text{[former]}_{M,g,w,t} = \lambda R \ (s,(e,t)) \ [ R((w,t)) \neq 1 \land \exists t' \text{ sth. } t' < t \ R((w,t')) = 1 \] 

According to this analysis, former \( P \) is true of individuals \( x \) at a time \( t \) and world \( w \) if \( P \) is not true of \( x \) at \( t \) but was true of \( x \) at a time \( t' \) prior to \( t \). This analysis makes reference to two times, \( t \) and \( t' \), which are related in a precedence relation, and at which the property \( P \) is either true \( (t') \) or not \( (t) \). This analysis acknowledges the state change encoded by former, and encodes it directly, together with a precedence relation.\(^{33}\) However, as I pointed out in previous work (Tonhauser 2005a), this analysis does not assign the appropriate meaning to examples like (37):

(37) Peter Hoyle is a former and present Ukiah policeman.\(^{34}\)

According to the analysis in (36), the noun phrase former Ukiah policeman refers to an individual who was a policeman in the past and is not a policeman anymore at the time of utterance. This, of course, contradicts the assertion that Peter Hoyle is a present policeman. Thus, the analysis in (36) incorrectly predicts that (37) is false.

Intuitively, what (37) asserts is that the individual referred to by Peter Hoyle was a policeman in the past, stopped being a policeman for a while, and is now a policeman again.\(^{35}\) This interpretation is supported by the text that follows (37), given in (38).

(38) After the City Manager approved its Police Chief’s recommendation to dismiss Officer Hoyle, the Civil Service Commission reinstated him.

Examples like (37) suggest that former does not explicitly encode that the property it modifies is not true at a particular time \( t \). Instead, according to the terminative aspect analysis I proposed in Tonhauser (2005a), former asserts that Peter Hoyle currently is in a poststate of having been a policeman. This poststate is of course compatible with Peter Hoyle being a policeman again. (Chapter 6 develops a formal analysis of the nominal terminative grammatical aspect.)

\(^{33}\)This is basically a tense analysis with an additionally encoded state change (cf. chapter 6).

\(^{34}\)http://www.greenmac.com/eagle/ISSUES/ISSUE23-9/08PoliceAccountability.html

\(^{35}\)(37), thus, is different from Peter Hoyle is a past and present Ukiah policeman, which does not require him to have stopped being a policeman at some time in the past.
2.3.2 Future-Time Oriented and Modal Adjectives

English has a plethora of future-time oriented adjectives and markers, including *future, prospective, (soon-)to-be, would-be, wanna-be.* Some are illustrated in (39).

(39) a. Shaw’s family circumstances permit him to travel without sacrificing relationships. His children are grown, and his wife has her own job. If Shaw makes the final cut at a tournament, his wife usually flies to the tournament site to offer encouragement. Rojas met his wife-**to-be** just as he began tournament fishing.  

b. His elbows pinioned and knees unsteady, Ned stands at the main gate waiting for the ceremony to begin. Beside him, dressed in rags, are the two thieves condemned to hang with him. [...] The other unfortunate, Ned realizes with about as much surprise as a **prospective** hangee can muster, is a dwarf.

c. But I was sitting around with my neighbor, an undergrad horticulturalist, and a friend who was a **wanna be** PhD horticulturalist.

What these nominal temporality expressions have in common is that they assert that the property denoted by the nominal predicate is not true (yet) of the individual(s) denoted by the noun phrase. The expressions differ in the modal relation they establish between the individuals and the coming true of the property, e.g. whether it is a simple future-oriented temporal relation (39a) or a relation of desire (39c). Again, the semantic category of such markers has not been discussed yet. Applying the semantic criteria I developed above, I propose that *future* and *would-be* are grammatical aspect/modality markers.

The question for *future* is whether it is a tense, aspect or modal marker. I start by applying the five criteria for distinguishing TENSE and ASPECT.

**Criterion (i): Grammatical aspect markers, but not tenses, may show restrictions with members of particular semantic classes**  Just like *former, future* is productive with nouns denoting professions (e.g. *future teacher, future lawyer, future manager*) and stage-level relations (e.g. *future husband, future neighbor, future visitor*). With artifacts, *future* is more

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36 Wanna-be might be better analyzed as a noun than an adjective, given that it can stand on its own.
37 [http://www.bassresource.com/fishing/be_a_pro.html](http://www.bassresource.com/fishing/be_a_pro.html)
productive than former: the examples in (40) illustrate future with bridge, bike and house.

(40)  
   a. A new feature of the future bridge is what is termed “grade separation”; this
        means the railroad tracks will be moved underneath the bridge, so that bridge
        traffic will not need to stop for a train crossing.\footnote{40} 
   b. Don’t buy a special bike, but make sure yours is ready for the ride. You can
        get help on set-up and a future bike from your group.\footnote{41}  
   c. Cleared brush, rubbish, and stumps in preparation for a future house\footnote{42} 

In these three examples, future modifies the nominal predicate and asserts that the entity
denoted by the noun phrase does not (quite) exist yet but might in the future. Future also
has a next-interpretation, parallel to the previous-interpretation of former, which is more
frequent with artifacts than the interpretation illustrated in (40). Some examples with
nouns from different classes are given in (41).

(41)  
   a. All my attention is focused on ”sometime later”, and I pay little attention to
        today. I worry about a future job, a future house, a future relationship, etc.\footnote{43}  
   b. The traditional method of pruning a forsythia is to cut canes (with loppers or
        saw) out at the base. […] Eventually they arch over, put on side branches and
        add flowers, becoming the new replacement canes. Sometimes a cut cane just
        dies, becoming dead wood for some future gardener to remove.\footnote{44} 

In (41a), a future house does not refer to an entity which does not quite exist yet but will be
a house, but to a house that might be the speaker’s next house (hence, next-interpretation.
Similarly, some future gardener in (41) refers to somebody who might already be a gar-
dener but is the next gardener to remove the dead wood. Again, whether the noun
is interpreted as relational or not seems to affect whether future gives rise to the next-
interpretation or not.

Future is acceptable with nouns denoting spatiotemporal entities:

\footnote{40}{www.napaflooddistrict.org/newsletters/ Apri01.pdf}  
\footnote{41}{http://www.ctc.org.uk/DesktopDefault.aspx?TabID=4015}  
\footnote{42}{http://dolphin.upenn.edu/~altbreak/pasttrips/2005/ charleston05.html}  
\footnote{43}{http://fishyvb.something-fishy.org/archive/index.php/ t-36367.html}  
\footnote{44}{http://www.pgw.com/catalog/catalog.asp?DBKey=110&CatalogKey=218041 &Action=View&Index=Page&Book=220079&Order=82}
(42) The lunar spacecraft will target the south pole, too [...] If ice is found, it could be melted and the water used to help make rocket fuel or oxygen. "These resources can make [a] future human return to the moon and future human occupation of the moon much more cost-effective," said Butler Hine [...]\(^45\)

Finally, *future* is not productive with nouns denoting natural kinds (*future tree, future water*) or individual-level or final-stage relations (*future mother, future daughter*), except perhaps in the *next*-interpretation. The results of this study of the distribution of *future* with different noun classes are summarized in Table 2.2. The observed cooccurrence restrictions suggest that *future*, too, is not a tense marker, according to the first criterion.

\[
\begin{array}{|c|c|c|c|c|c|c|c|c|c|}
\hline
& \text{professions} & \text{location artifacts} & \text{entity artifacts} & \text{natural kinds} & \text{spatiotemporal entity} & \text{stage-level relations} & \text{abstract relations} & \text{individual-level/final-stage relations} \\
& \text{e.g. teacher, secretary, manager} & \text{e.g. burial ground, golf course} & \text{e.g. bike chain, house, car} & \text{e.g. tree, wind, squash, woman} & \text{e.g. Tuesday, party, occasion} & \text{e.g. neighbor, friend, wife} & \text{e.g. height, rigidity} & \text{e.g. father, brother, grandmother} \\
\hline
\text{future} & \checkmark & \checkmark_{next} & \checkmark / \checkmark_{next} & \ast & \checkmark & \checkmark & \checkmark_{next} & \ast \\
\hline
\end{array}
\]

Table 2.2: The Acceptability of *future* Across Semantic Noun Classes

**Criterion (ii): Grammatical aspect markers, but not tenses, may cooccur** This criterion was already applied to *future* in the last section: the finding was that *former* and *future* cooccur in either order, making it unlikely that either of them are tenses.

**Criterion (iii): Grammatical aspect markers, but not tenses, may encode a state change** That *future* encodes a state change is illustrated with the naturally occurring example in (43a), which cannot be continued with (43b).

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(43) a. On his 21st birthday, the future doctor received “checks for $100 from his father and from several aunts,” which would have been considered astronomical sums in those days [...] 46

b. He was a doctor already when he turned 21.

*Future* encodes that the property ‘doctor’ is false of the individual denoted by the noun phrase *the future doctor* on his 21st birthday. The encoding of a state change is not compatible with an analysis of *future* as a future tense.

**Criterion (iv): Tenses, but not grammatical aspect markers, restrict the time of evaluation**  Recall from above that the noun phrase *my mother-in-law* can be interpreted at the utterance time and at a topic time prior to the utterance time. If *future* is a future tense marker, we expect it to restrict the time of evaluation for the noun phrase *my future mother-in-law* to a time subsequent to the perspective time. Consider the examples in (44).

(44) a. My future mother-in-law has no idea how to dress.  47

b. In retrospect, I was dressed all wrong the first time I met my future mother-in-law. Of course, I [...] had no inkling I would be marrying her son.  48

In (44a), the ‘mother-in-law’ relation is true of the individuals denoted by the noun phrase at a time in the future of the utterance time. In (44b), the relation is true of the individuals at the utterance time, and the perspective time is the topic time in the past of the utterance time. Thus, while *future* expresses a precedence relation (like a future tense marker), its perspective time is not a fixed time (unlike a tense marker). I conclude that *future* does not restrict the time of interpretation of a noun phrase relative to a fixed perspective time.

**Criterion (v): Tenses, but not grammatical aspect markers, are anaphoric**  Again, if *future* is a future tense marker, we expect its interpretation to exhibit anaphoric properties, i.e. it will locate the property ‘mother-in-law’ at a contextually salient time in the future of the perspective time. Consider the example in (45):

(45) In 2010, my future mother-in-law will buy a house.

46http://www.snopes.com/glurge/milk.asp
48http://blogcritics.org/archives/2005/05/10/170819.php
Out of context, (45) is vague. At the contextually most salient future time denoted by \textit{in 2010}, the individual denoted by the noun phrase \textit{my future mother-in-law} could stand in one of two relations to the speaker: (i) the speaker’s mother-in-law (e.g. current future mother-in-law), or (ii) the speaker’s future mother-in-law. Unlike with \textit{former}, it is not clear what the most salient interpretation of (45) is out of context, i.e. whether the anaphoric (i) or non-anaphoric (ii) interpretation is preferred. However, the fact that \textit{future} in examples like (35) without a discourse context does not give rise to a single determined interpretation, is an argument that the interpretation of \textit{future} is not anaphoric. Hence, this criterion, too, suggests that \textit{future} is not a future tense marker.

In sum, these five criteria suggest that the temporal adjective \textit{future} is not a tense marker but rather a grammatical aspect marker. The next question, then, is whether \textit{future} is an aspect marker or a future-time oriented modal marker. Since \textit{future} exhibits cooccurrence restrictions with members of particular classes, it at least has an aspectual meaning component. As discussed in section 2.2.3, I remain silent on the question of whether such a marker is a modal marker with an aspectual meaning component or an aspectual marker with a modal meaning component. In Tonhauser (2005a), I proposed that \textit{future} is a prospective grammatical aspect, similar to \textit{be going to} in the verbal domain. A formal analysis of the prospective aspect is presented in chapter 6.

The diachronic origin of \textit{would-be} suggests that it is a modal marker but we also know that, diachronically, future tense markers often stem from modal markers (Comrie 1985:45, Bybee et al. 1994:244). Thus, the question is whether, synchronically, \textit{would-be} is a modal marker or a future tense. I apply the two criteria developed for distinguishing future tense and modality, and conclude that \textit{would-be} is a nominal MODAL expression.

**Criterion (i): A future tense marker expresses (relative or absolute) future time reference in all contexts in which it is realized.** To illustrate that \textit{would-be} does not express future time reference, consider the example in (46) where \textit{would-be} cooccurs with \textit{future}.

(46) Your job is, indeed, to make those in the department feel loved and cherished, just as they should be trying to make you feel valued. But despite the fact that this kind of odd questioning from the \textbf{would-be future} employer happens surprisingly often, please bear in mind that it is not appropriate for anyone to ask you if you’d accept something until it is actually offered.\footnote{The Chicago Guide to Your Academic Career, John Goldsmith, John Komlos and Penny Gold, 2001, page 18,}
The advice given here pertains to employers who might or might not become the addressee’s employer in the future. That is, at the time of writing, the relation ‘employer’ is not true of the addressee and the employer, and it is not asserted that the relation will ever become true. The contribution of *would-be* in (46) becomes clear when comparing (46) with (47):

(47) But despite the fact that this kind of odd questioning from the future employer happens surprisingly often, please bear in mind that it is not appropriate for anyone to ask you if you’d accept something until it is actually offered.

(47) conveys that the ‘employer’ relation between the addressee and the employer is not yet true and that it is likely to come true in the future. This suggests that *would-be* in (46) does not necessarily contribute a future-time oriented meaning, but rather the meaning that the property is equally likely not to become true as it is likely to become true. In other worlds, what *would-be* contributes is that the property P (‘future employer’ in (46) might be true or false at some time, here a time in the future. I suggest that *would-be* is a nominal possibility modal, i.e. a modal marker that asserts that both P and not-P are possible. According to this proposal, the difference between (46) and (47) is that the ‘employer’ relation is asserted to be prospective in (47) while it is asserted to be both possibly prospective and possibly not-prospective in (46), thereby resulting in a weaker certainty in (46).

That *would-be* does not have express future time reference is also suggested by the example in (48).

(48) Add to this the fact that Ned always slept fully dressed, with his life savings tied up in a sock round his neck, and it is understandable that he was able to elude his *would-be* captors.  

In this example *would-be* asserts that the individuals denoted by *would-be captors* are not Ned’s captors but would have been his captors if he had not had the foresight to sleep fully dressed and think about an escape route. Thus, *would-be* asserts that the individuals might or might not have become Ned’s captors at some time in the past. Since the situation is reported from the perspective of the time at which Ned has escaped these
individuals, we know which of the two possibilities accords with the actual world. In contexts like (48), *would-be* seems to give rise to a counterfactual interpretation. That this is only a result of the possibility being asserted for a time in the past is apparent from (46) where such a counterfactual interpretation does not arise.

In contexts where *would-be* is interpreted relative to the utterance time (which also functions as the topic time here), the idea that it asserts that both the truth and the falsity of the property are possibilities becomes particularly clear:

(49)  Context: A blogger looking for a title for his blog. (Nerve, April 23, 2006)

“A *would-be* lawyer talks dirty in D.C.” I like the aliteration [sic], but we can do better than that. Come on! I’m not even going to be a lawyer anymore!

In this example, *would-be* asserts that it is possible for the individual to be a lawyer or not be a lawyer: since this possibility is asserted at the utterance time, it follows that he is not yet a lawyer but, if he does become a lawyer, it would have to be in the future. Thus, in this example, the future time reference meaning is not directly encoded by *would-be* but follows from the fact that *would-be* asserts that both the truth and the falsity of ‘lawyer’ are possible for this individual.

I conclusion, I argue that *would-be* does not assert future-time reference and, hence, is not a future tense. I suggest instead that *future* is a nominal modal marker, a possibility marker, but postpone a more detailed discussion of the meaning of this marker to future research.

**Criterion (ii): A future tense marker must be able to realize predictions and intentions.**
The following example illustrates that *would-be* can express prediction and intention. This criterion is therefore not conclusive with respect to whether *would-be* is a future tense or a modality marker.

(50)  I am a **would be** inventor who is very interested in utilizing the power of supercomputing to develop my theories and ideas to a “workable” form.31

In conclusion, the English temporality expressions *future* and *would-be* are nominal ASPECT/MODALITY markers, not future tenses, according to the criteria developed in this chapter for distinguishing TENSE, ASPECT and MODALITY.

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31http://www.it-director.com/comments.php?id=1966
2.3. TEMPORAL AND MODAL ADJECTIVES IN ENGLISH

2.3.3 Nominal then

The last marker I discuss in this section is *then*:

(51) a. Radley Park was re-opened on May 12th, 1991 by the then President of the GAA, Peter Quinn.\(^\text{52}\)

b. In 1992 Gašparovič joined the party Movement for a Democratic Slovakia (HZDS), led by the controversial Vladimír Mečiar. Gašparovič was one of the central figures of the prime minister Mečiar’s administration that was perceived as authoritarian and involved in mismanaged privatization of numerous state-held companies by its opponents. The HZDS was in permanent conflict with the president since 1993, but especially after 1995, because it considered the president one of the initiators of the deposition of Vladimír Mečiar in March 1994 (he was reelected in the autumn elections in the same year). The *then* government/secret service was also accused of having kidnapped the son of the *then* president Michal Kováč [...].\(^\text{53}\)

In these examples *then* locates the property denoted by the nominal predicate it cooccurs with at the topic time (the time relative to which the verb is interpreted). In (51a), for instance, *then* ensures that the reader understands that the person who re-opened the park was the president in 1991, not the current president. In (51b), *then* specifies that the government/secret service of the 1990s, not the current government, is accused of kidnapping, and that the individual who was kidnapped was the son of the president of the 1990s, not the current president.

The fact that *then* locates the property denoted by the expression it occurs with at the topic time means that *then* is anaphoric, a property of tenses, as discussed above. However, one difference between *then* and tense markers is that *then* does not express a particular precedence relation and does not restrict the location of the time relative to which the noun phrase is interpreted. To illustrate this consider the example in (52).

(52) If we get nuked, the US will probably land 2-3 dozen 300kt nukes on various military and industrial targets in Iran within 2-3 days of the incident. Since the Iranians have deliberately put some of their nuclear processing capability in the middle

\(^{52}\)http://en.wikipedia.org/wiki/Leixlip_GAA

of populated areas to discourage this sort of response [sic], there will inevitably be civilian casualties. No, that’s hardly even an interesting question. That’s a forgone conclusion. The real question is what will the then President do if we uncover only the plot to explode a nuclear weapon.\footnote{http://www.windsofchange.net/archives/008289.php}

In this example, the noun phrase the then president is interpreted at a topic time in the future of the utterance time. The same noun phrase is interpreted in (51b) relative to a topic time in the past of the utterance time. Thus, then does not express a precedence relation or restrict the time of evaluation of the noun phrase. I conclude that then is an anaphoric nominal temporality expression, not a tense marker.\footnote{The clausal marker then, as in I was doing the dishes. I found the ring in the water then, has also been analyzed as anaphoric (e.g. Schiffin 1992; Glasbey 1993).}

\section*{2.3.4 Summary}

I have applied the semantic criteria for distinguishing TENSE, ASPECT and MODALITY to the English temporality expressions former, future, would-be and then, and found that they are instantiations of the semantic categories ASPECT and MODALITY. This, I suggest, is initial evidence that the semantic categories ASPECT and MODALITY are relevant for the temporal semantics of noun phrases.\footnote{English has a plethora of nominal temporality markers whose meaning I hope to explore in future research. Other interesting temporal and modal markers of noun phrases are one time, recent, imminent, occasional, possible, hypothetical, likely and presumptive, as in (i):}

\begin{itemize}
\item[(i)] Aisha leads them back toward Kabba, but to a separate compound outside the walls of the town proper. It consists of three huts enclosed within a palisade of sharpened stakes grown over with thorns and flowering vines. There they are introduced to her infirm and astonished parents, a succession of sisters whose ages are difficult to ascertain as a result of wrinkles and toothlessness, a brother and his wife and a pair of sorry-looking watchdogs. Aisha herself is a presumptive widow. Her husband, a relative of the Dooty, had gone north sixteen months ago to track a band of Moors who had kidnapped his youngest sister. She understood that it was his duty to go, but felt deserted nonetheless. He hasn’t been heard from since.\footnote{Aisha leads them back toward Kabba, but to a separate compound outside the walls of the town proper. It consists of three huts enclosed within a palisade of sharpened stakes grown over with thorns and flowering vines. There they are introduced to her infirm and astonished parents, a succession of sisters whose ages are difficult to ascertain as a result of wrinkles and toothlessness, a brother and his wife and a pair of sorry-looking watchdogs. Aisha herself is a presumptive widow. Her husband, a relative of the Dooty, had gone north sixteen months ago to track a band of Moors who had kidnapped his youngest sister. She understood that it was his duty to go, but felt deserted nonetheless. He hasn’t been heard from since.}\
\end{itemize}
or because they were bound but not productive (e.g. *ex*–). I suggest that this exclusion was premature since the semantic criteria developed in this chapter suggest that the English expressions are in fact relevant for the temporal semantics of noun phrases.

2.4 Conclusions

In this chapter I developed criteria for determining the semantic category of (nominal and verbal) temporality expressions. The criteria have three properties: (i) they are semantic, and, hence, independent of language-particular morphosyntactic realizations of temporality expressions, (ii) they are category-independent and, hence, can be applied to nominal and verbal temporality expressions, and (iii) they are theory-neutral since they are based on semantic characterizations of TENSE, ASPECT and MODALITY that are compatible with the major semantic theories of temporality. I demonstrated how the criteria can be applied to English nominal temporality expressions. Contrary to Nordlinger and Sadler (2004), who explicitly excluded such markers from their discussion because of their morphosyntactic status and distributional restrictions, I argue that these markers are on par with nominal temporality markers in languages like Guarani, and hence should not be excluded from the study of nominal temporality.
Chapter 3

The Temporal Semantics of Noun Phrases

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This chapter develops a theory of the temporal semantics of noun phrases. The theory is couched in a dynamic semantic framework (section 3.1) and presented in the context
of a theory of the temporal interpretation of verb phrases (section 3.2), thereby allowing
for a comparison between the temporal interpretation of the two types of phrases. The
temporal interpretation of noun phrases is discussed in section 3.3: I empirically motivate
the claim that the temporal interpretation of noun phrases and verb phrases is not parallel
(contrary to e.g. Lecarme 1999, 2004b) and formally implement the idea that the temporal
interpretation of noun phrases depends on the individuals established in the discourse
context. Crucially, I argue that the temporal interpretation of noun phrases does not
involve a nominal TENSE relation. Section 3.4 summarizes the main points and presents
five hypotheses regarding the crosslinguistic temporal semantics of noun phrases. These
hypotheses are explored in parts II and III of the dissertation. The chapter concludes in
section 3.5 with a comparison to previous theories of the temporal interpretation of noun

3.1 Dynamic Semantics

Temporality and the interpretation of noun phrases are highly context-sensitive semantic
phenomena. Dynamic semantic theories give importance to the effect of discourse
context on the interpretation of natural language utterances, and both temporality and
the interpretation of noun phrases have been successfully treated in dynamic semantic
frameworks (e.g. Heim 1982; Partee 1984; Kamp and Reyle 1993). Since the topic of
this dissertation, the temporal semantics of noun phrases, lies at the intersection of tem-
porality and the interpretation of noun phrases, the theory developed in this chapter is
couched in a dynamic semantic framework.

Montague Grammar aims at analyzing the conditions under which a linguistic ex-
pression is true; reference and truth are key notions of such approaches to natural lan-
guage semantics. In contrast, dynamic semantic theories regard the meaning and inter-
pretation of an expression as its potential to change the context of interpretation. The
discourse context in dynamic semantic theories is conceptualized as the information states
of the participants of the discourse. These information states contain the facts, beliefs
and desires of each discourse participant. The information states of discourse partic-
ipants may change as they engage in discourse, i.e. when they hear, process and believe
the meaning of an utterance (or read a sentence in a text). We say that the discourse
3.1. **DYNAMIC SEMANTICS**

participants’ information state is *updated* to another information state. The idea that natural language utterances update the context by altering the information shared by the discourse participants goes back to Stalnaker (1978) and Lewis (1979):

A conversation is a process taking place in an ever-changing context. Think of a state of a context at any given moment as defined by the presuppositions of the participants as represented by their context sets. [...] Now how does an assertion change the context? [...] My suggestion is a very simple one: To make an assertion is to reduce the context set in a particular way, provided that there are no objections from the other participants in the conversation. The particular way in which the context set is reduced is that all of the possible situations incompatible with what is said are eliminated.

(Stalnaker 1978:152-3)

The earliest formal dynamic semantic theories were independently developed in the 1980s by Hans Kamp (1981) and Irene Heim (1982). Donkey sentences and the interpretation of definite and indefinite noun phrases played a central role in the initial development of these dynamic semantic theories, but such theories have been extended to many areas of semantics in the meantime. The theory developed in this dissertation is couched in Discourse Representation Theory (DRT, Kamp 1981; Kamp and Reyle 1993; Kamp et al. 2006).¹

The empirical domain of DRT, as its name indicates, is discourse. DRT makes use of an intermediate level of semantic representation in which information about the discourse is stored. The semantic representations are called Discourse Representation Structures (DRSs). DRSs are constructed for individual sentences of a discourse, and then embedded in the discourse context. As in other dynamic semantic theories, the meaning of an utterance is characterized as its update potential, i.e. the way in which the utterance changes the input information state of the hearer. The output information state, i.e. the result of updating the input information state with an utterance, therefore encodes the information conveyed by the utterance as well as the discourse context against which the

---

¹I assume familiarity with DRT in this chapter. I use a DRS language similar to that of Kamp and Reyle (1993:ch5), and only introduce what needs to be explicitly mentioned or what is different from standard approaches. I focus here on the DRS language and the interpretation of DRSs. A construction algorithm that explicates how DRSs are built from syntactic trees is given in Appendix A.
utterance was interpreted. Thus, in general, utterances are interpreted against the discourse context provided by the sentences preceding it. (The first utterance of a discourse is interpreted against the start-up context, i.e. the act of somebody speaking in the actual world, following Bittner (In press:9), who attributes this to Stalnaker (1978:323).) More formally, if a discourse $D$ consists of sentences $S_1$ to $S_n$, we arrive at a representation for $D$ by first constructing isolated DRSs $K_1$ to $K_n$ for the sentences $S_1$ to $S_n$. The representation $K_j$ of $S_j$ is embedded in the start-up context, the resulting DRS creates the context into which $K_i$ is embedded, and so forth. Embedding $K_n$ into its context results in a representation for the discourse $D$. Dynamic semantic theories do not formally distinguish between the discourse context and content: the discourse context of $S_i$ is at the same time the content of utterances $S_1...S_j$ (where $j = i - 1$). In this respect, dynamic semantic theories differ from theories which assume a logical form, where context and content are separate entities (cf. van Eijck and Kamp 1997).

I assume standard definitions for the set of discourse referents and Con, the set of conditions (Kamp and Reyle 1993). The DRS of a sentence $S$ is defined as follows (e.g. van der Sandt 1992; Kamp 2001).

**Definition:** *Discourse Representation Structure (DRS)*

A DRS $K$ is a tuple $\langle P(K), A(K) \rangle$ where

- $P(K)$ is a (possibly empty) set of DRSs, and
- $A(K)$ consists of $U(K)$, a finite and possibly empty set of discourse referents, and $Con(K)$, a set of simple or complex definitions.

According to this definition, a DRS is a tuple consisting of the presuppositional structure $P(K)$ and the asserted meaning $A(K)$. The first element of the tuple, the presuppositional structure, contains the presuppositions of the sentence. The second element of the tuple is a DRS which represents the asserted meaning of the sentence. As I explicate in more detail below, the dynamic interpretation of an utterance requires that the presuppositions of a sentence are first resolved in the discourse context, before the discourse context is updated with the asserted meaning of the sentence.

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2I follow van der Sandt (1992) here in assuming that presuppositions are anaphora in the sense that the presuppositions are resolved in the discourse context similar to anaphora.
Discourse referents are introduced by noun phrases and other elements of an utterance. (The term discourse referents goes back to Karttunen (1976).) The discourse referents introduced by noun phrases are pointers to particular individuals in the universe of discourse. As the discourse proceeds, further properties of and relations between these individuals are recorded using the discourse referents. Consider the discourse in (1).

(1) A man built a house. He loved it.

The first sentence of the discourse contains two noun phrases, a man and a house, each of which introduce a discourse referent, for instance x and y. In (2), the discourse referent x is specified to have the property of being a man, and the discourse referent y is specified to be a house. The first sentence of the utterance also asserts that the build-relation holds for x and y. Thus, (2) is the representation given to the first sentence of (1) (ignoring temporality and the novelty presuppositions of indefinite noun phrases for now).

(2) \[ K_1: \langle \{ \}, \begin{array}{l} \text{man}(x) \\ \text{house}(y) \\ \text{build}(x,y) \end{array} \rangle \]

DRSs with empty presuppositional structures P(K) are called proper DRSs: the truth of a DRS can be determined when the DRS that represents the discourse is proper.

**Definition:** Truth of a proper DRS K in model M

A proper DRS K is true in a model M iff there exists a verifying embedding h for K in M with respect to the empty assignment \( \Lambda \).

The meaning of the second sentence of (1), He loved it, is represented by the DRS in (3b).

(3) a. He loved it.

b. \[ K_2: \langle \{ \begin{array}{l} u_{\text{masc}} \\ v_{\text{-anim}} \end{array} \}, \begin{array}{l} \text{love}(u,v) \end{array} \rangle \]

The pronouns he and it are anaphoric: in contrast to indefinite noun phrases, they do not introduce discourse referents but rather refer back to discourse referents introduced in
prior discourse. Intuitively, the pronoun he refers to the discourse referent x introduced by a man and the pronoun it refers to the discourse referent y introduced by a house. In the DRS $K_2$, the anaphoric nature of the pronouns he and it is captured by the presupposition each introduces to the presuppositional structure of $K_2$: he introduces a presupposition which requires the discourse referent $u_{masc}$ to find a (masculine) antecedent in the discourse context and it introduces a presupposition which requires the discourse referent $v_{-anim}$ to find an (inanimate) antecedent. The utterance He loved it also introduces the condition that u loves v to the asserted meaning of $K_2$.

In order to arrive at a representation for the full discourse, the DRS $K_2$ needs to be embedded in its discourse context, i.e. in the DRS $K_I$. This involves (i) resolving the anaphora of the DRS $K_2$, and (ii) merging the (then) proper DRS $K_2$ with $K_I$. The resolution of anaphora basically involves identifying the anaphora with discourse referents that are accessible such that the resulting DRS is not inconsistent. For the purposes of this dissertation, it is sufficient to assume that the discourse referents in the universe of the context DRS are the accessible discourse referents. Thus, the discourse referents x and y are accessible for $u_{masc}$ and $v_{-anim}$. Taking animacy into account, $u_{masc}$ resolves to x, and $v_{-anim}$ resolves to y, as indicated by the identity statements in the following updated context DRS $K_I'$. $K_2'$, the result of $K_2$ after resolving the anaphors, is now proper.

$$
\begin{array}{c}
x y \\
\text{man(x)} \\
\text{house(y)} \\
\text{build(x,y)} \\
x=u_{masc} \\
y=v_{-anim}
\end{array}
\quad
\begin{array}{c}
K_I': \langle \{ \} \rangle \\
K_2': \langle \{ \} \rangle \\
\text{love(u,v)}
\end{array}
$$

Next, the two DRSs $K_I'$ and $K_2'$ are merged, according to the following definition:\footnote{Van der Sandt’s (1992) theory of presupposition resolution is more complex than the one I assume here, which suffices for purpose of this dissertation. As a result of the simplified theory I assume here, the merging of two DRSs only happens when the presuppositions of both are already resolved, i.e. $P(K)$ is empty.}

**Definition: Merging of DRSs**

(van der Sandt 1992:355)

Given two DRSs K and $K'$, the merge of K with $K'$ is defined as follows:

$$K \uplus K' := <P(K) \cup P(K'), U(K) \cup U(K'), \text{Con}(K) \cup \text{Con}(K')>$$
Merging of DRSs $K_1^r$ and $K_2^r$ results in the proper DRS $K_3$ as a representation of the discourse in (5a). (The identified discourse references are replaced.)

(5)  a. A man built a house. He loved it. (= (1))

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>x y</td>
</tr>
<tr>
<td>man(x)</td>
</tr>
<tr>
<td>house(y)</td>
</tr>
<tr>
<td>build(x,y)</td>
</tr>
<tr>
<td>love(x,y)</td>
</tr>
</tbody>
</table>

b. $K_3$: { },

In this section, the fact that the interpretation of natural language utterances depends on a time and world of evaluation was ignored for reasons of simplicity. The next section extends the DRS language and interpretation of DRSs to expressions with temporal and modal meanings.

### 3.2 Temporal and Modal Semantics

Before I turn to the semantics of TENSE, ASPECT and MODALITY in sections 3.2.1-3.2.3, I need to extend the DRS language to capture the sensitivity of interpretation to times and worlds of evaluation. One such extension is that, in addition to discourse referents for individuals, I assume discourse referents for times, events and states. I reserve the letter $t$ for temporal discourse referents (e.g. $t$, $t'$, $t''$), the letter $s$ for state discourse referents, $e$ for event discourse referents, and occasionally make use of $ev$ to denote eventuality discourse referents, i.e. either states or events.

In DRT, verbal predicates denote n-place predicates where the first argument is an eventuality and the remaining n-1 arguments are individuals. A further distinction is made between eventive predicates, whose first argument is an event discourse referent, and stative predicates, whose first argument is a state discourse referent. The relation symbols representing verbal predicates are defined in (i) and (ii) by the following definition (which is partially based on Kamp et al. 2006:108-9).

**Definition:** The set of relation symbols consists of

(i) $(n+1)$-place predicates (with $n \geq 0$) where the first argument is an event and the remaining $n$ arguments are of type individual
(ii) (n+1)-place predicates (with n≥0) where the first argument is a state and the remaining n arguments are of type individual

(iii) 2-place predicate symbols denoting temporal relations between times: ℜ, ⊆, ⊇, ⊃

(iv) (n+1)-place as Aspectual predicates, whose first argument is a property of eventualities and whose second argument is a state and the remaining n arguments are of type individual: PROG, PROSP, TERM, ...

(v) a 1-place functor τ from eventuality or individual discourse referents to times

(vi) a 1-place function res from eventualities to their result state

Definition (iii) defines the standard relations between times: t<−t′ is true if t precedes t′ (i.e. for all times t'' in t there is no time t in t that follows t''), t⊆t′ is true if t is included in t′, t□t′ is true if t and t′ overlap and t□t′ is true if t abuts t′, i.e. if t precedes t′ and there is no time t'' that is after t but before t′. Definition (iv) defines aspectual operators as functions from eventuality descriptions to eventuality descriptions, following Mourelatos (1981); Moens and Steedman (1988); de Swart (1998). In (v) and (vi), the temporal functors τ and res are defined. τ is adapted from Krifka’s (1989) temporal trace function which maps eventuality discourse referents to the time at which the eventuality is true. I assume here that τ can also apply to individual discourse referents, where τ maps an individual to its time of existence (e.g. the lifetime of animate entities, as discussed below). res is a function which maps an eventuality to a time whose left boundary is the right boundary of the eventuality, i.e. res(ev) is a time that starts when ev terminates.

This DRT language allows us to represent the meaning of utterances like John sang:

(6) a. John sang.

    j e now

b. \{ \{ 
    john(j)
    sing(e,j)
    τ(e)<−now \}

Ignoring the context-dependency of the interpretation of the past tense for now, the DRS for (6a) in (6b) specifies that there is an individual j and a singing event e whose situation
time \( \tau(e) \) is located prior to now. Following Kamp et al. (2006:75), ‘now’ is an indexical discourse referent which represents the utterance time of the represented sentence. DRSs like (6b) are interpreted in an intensional model \( M \), which is defined as follows:

**Definition:** Intensional Model \( M \)

(adapted from Kamp et al. (2006:116))

An intensional model for the DRS language \( L \) is a tuple \( \langle \mathcal{W}, \mathcal{U}, \mathcal{E}_V, T, \mathcal{LOC}, Z \rangle \), where

- \( \mathcal{W} \) is a non-empty set of worlds,
- \( \mathcal{U} \) a non-empty set of individuals,
- \( \mathcal{E}_V \) is a set of eventualities,
- \( T \) is a set of times,
- \( \mathcal{LOC} \) is a function which maps eventualities onto times, and
- \( Z \) is a function which assigns to each non-logical constant of the DRS language an appropriate extension at each world \( w \in \mathcal{W} \).

Let me clarify my assumptions about these models (which are simplified in many respects but again suffice for the purposes of this dissertation). I assume that all worlds have the same time structure, as well as the same universe of individuals, eventualities and so on. Furthermore, a proper name denotes the same person across worlds. Certain relations (like \( \prec \) or \( \text{PROG} \)) have the same meaning across worlds, while other relations (in particular those denoted by nominal and verbal predicates) do not. The extension of the latter type of relation is determined by the function \( Z \). The relation \( \prec \) defines a partial order over set of times \( T \), and hence also over the set of situation times of eventualities, i.e. the output of \( \mathcal{LOC} \). Satisfaction of a DRS in a model \( M \) is defined as follows.

**Definition:** Satisfaction

Let \( M \) be an intensional model, \( w \in \mathcal{W} \) and \( g \) an assignment function which maps discourse referents onto an element of the appropriate domain (e.g. \( ev \) to \( \mathcal{E}_V \)). Then

\[
g \models_{M,w} R(ev,x_1,\ldots,x_n) \text{ iff } \langle g(ev),g(x_1),\ldots,g(x_n) \rangle \in Z(R)(w)
g \models_{M,w} x_i=x_j \text{ iff } g(x_i)=g(x_j)
g \models_{M,w} \neg K \text{ iff there does not exist an } h \text{ such that } \langle g, h \rangle \models_{M,w} K
\]
3.2.1 Grammatical Aspect

I assume that verbal predicates together with their arguments and adjuncts denote eventuality descriptions. These eventuality descriptions are aspectually underspecified, but constrained by the lexical aspect of the verb and the contribution of the arguments and adjuncts (Verkuyl 1993; de Swart 1998). For instance, the eventuality description of the utterance *Juan danced* is ‘Juan dance’. In DRS language, the eventuality description is ‘dance(ev,j)’ where ‘j’ refers to Juan and ev denotes a set of eventualities characterized by Juan dancing. In order to account for the empirical observation that grammatical aspect markers are sensitive to the aspectual specification of their input and can cooccur (chapter 2.1.2), I assume that grammatical aspect markers map eventuality descriptions to eventuality descriptions (cf. Mourelatos 1981; Moens and Steedman 1988; Parsons 1990; de Swart 1998; Michaelis 2004). In the schema in (7), the Kleene star indicates that zero or more aspect markers can apply to an eventuality description: the output of one aspect marker (an eventuality description) is the input of the next aspect marker.

(7) \textsc{aspect}^* \ [ \text{eventuality description} ]

I illustrate these assumptions with the following Yucatec Mayan examples. In Yucatec Maya, dynamic predicates like òok’ot ‘dance’ are obligatorily marked with an aspect/modality marker (cf. Bohnemeyer 2002). In the examples in (8), the eventuality description ‘dance(ev,j)’ denotes a set of eventualities, which is modified with the progressive aspect in (8a), the prospective in (8b) and the terminative in (8c).

(8) Yucatec Maya (Mayan)

a. Juan-e’ tāan uy òok’ot-∅.
   Juan-TOP PROG A3 dance-INC
   ‘Juan is/was/will be dancing.’

b. Juan-e’ mukah uy òok’ot-∅.
   Juan-TOP PRSP A3 dance-INC
   ‘Juan is/was/will be going to dance.’

---

4 I distinguish “lexical aspect” and “grammatical aspect”, and assume that both play a role in temporal interpretation (cf. Smith 1991; Bohnemeyer and Swift 2004). Since lexical aspect will not play a major role here, I reserve the term ‘aspect’ for the semantic category grammatical aspect, and will sometimes write \textsc{aspect} to mean grammatical \textsc{aspect}.

5 Since Yucatec Maya is a tenseless language (Bohnemeyer 2002), the English translations of the examples in (8) are not temporally located without a particular discourse context.
3.2. TEMPORAL AND MODAL SEMANTICS

(8) c. Juan-e’ ts’o’ok uy óok’ot-θ.
Juan-TOP TERM A3 dance-INC
‘S/he stopped/will stop dancing.’

Each of the three grammatical aspect markers in (8) produces a different output eventuality description. The progressive aspect in (8a), for example, produces an output eventuality description which denotes a set of states during which the singing is ongoing (the right boundary of the singing eventuality is not asserted). In (8b), the prospective grammatical aspect maps the eventuality description ‘dance(ev,j)’ to the set of states during which Juan is not dancing yet but during which the speaker has evidence of Juan’s intention to dance in the future (Bohnemeyer 2002:293). The terminative grammatical aspect in (8c) outputs eventuality descriptions which denote the poststate of Juan’s dancing event, i.e. states during which Juan’s dancing has terminated.

Formally, the eventuality descriptions that constitute the outputs of the three aspect markers in (8a-c) can be represented as in (9a-c), respectively (where PROG stands for ‘progressive’, PRSP for ‘prospective’ and TERM for ‘terminative’):

(9) a. PROG(dance)(s,j)
b. PRSP(dance)(s,j)
c. TERM(dance)(s,j)

The eventuality discourse referents s of the three eventuality descriptions in (9) are not bound by the eventuality description or grammatical aspect. Following Bittner (To appear), I assume that the highest eventuality description of a sentence is existentially bound by ‘aspect-based temporal location’ (ATL), an operation on eventuality descriptions. The highest eventuality description of a sentence is the output of the last aspect marker or, if there is no aspect marker, the basic eventuality description itself.

Definition: Aspect-Based Temporal Location (ATL)

For the highest eventuality description of a clause, introduce an eventuality discourse referent ev to the current DRS and locate its situation time τ(ev) relative to an anaphoric time t (t≤τ(s) for states, τ(e)≤t for events). The anaphoric time t is resolved in the discourse context to the topic time t_{top}.

ATL introduces an eventuality discourse referent to the current DRS. The situation time of the eventuality is located relative to an anaphoric time, which is resolved to the topic
time \( t_{top} \) as discussed below. To illustrate the function of ATL, consider again the Yucatec Mayan example in (8a), repeated here:

(10) Yucatec Maya

\[
\text{Juan-e’ tāan uy óok’ot-∅. (}= (8a))
\]

Juan-TOP PROG A3 dance-INC

‘Juan is/was/will be dancing.’

The output of applying the progressive aspect to the eventuality description ‘dance(ev,j)’ is the eventuality description of the form ‘PROG(dance)(s,j)’, as in (9a). Since this eventuality description is the highest one in (10), ATL applies to it. The DRS in (11) represents the output of ATL for (10):

(11) Incomplete DRS for (10):

\[
\begin{align*}
\langle \{ & t \} , \\
& \begin{array}{c}
\text{juan(j)} \\
\text{PROG(dance)(s)(j)} \\
\text{t} \subseteq \tau(s)
\end{array}
\end{align*}
\]

In this DRS, the state eventuality discourse referent \( s \) is introduced to the universe of \( A(K) \) and located by the time \( t \), according to ATL. This representation is not yet complete because the anaphoric time \( t \) has not yet been resolved to the contextually given topic time \( t_{top} \). The next section clarifies the nature of the topic time \( t_{top} \).

### 3.2.2 Tense

I assume that the semantic category TENSE is the relation between the utterance time (or, more generally, the perspective time) and the topic time (Kamp and Reyle 1993; Klein 1994).

(T1) TENSE: the temporal relation between the perspective time and the topic time.

#### 3.2.2.1 Two properties of the topic time

Following Klein (1994), I assume that the topic time is the time a particular part of a discourse is about, in the same sense as a discourse is about a particular individual, the
topical individual (cf. Chafe 1976; Givón 1983 for aboutness and topical individuals). And just like the (set of) topical individuals can change as the discourse proceeds, the topic time can change as the discourse proceeds. I illustrate this property of the topic time with an excerpt from a story I collected in Yucatec Maya, a tenseless language, and backtranslated to English. The topic time can be identified in both languages, which is not surprising if we make the (uncontroversial) assumption that every discourse and utterance in any natural language is about a particular time. Hence, the topic time is a universal concept of natural language temporality.

The beginning of the story is given in English in (12), and in Yucatec Maya in (12’). (The complete story is reproduced in Appendix B.1.)

(12) Once upon a time, a little boy went out. He went out to see if he could catch something in the forest. When he arrived at the bank of a cenote, he saw a little frog.

In the English version, the opening sequence of the discourse once upon a time identifies the topic time to be a time interval in the past of the utterance time. As the discourse proceeds, we learn that there is a little boy who went out (at time interval in the past). The next utterance of the discourse contains a temporal adjunct clause which further constrains the topic time: when he arrived at the bank of a cenote restricts the past time interval to a time interval characterized by the result of the boy arriving at the cenote. The following discourse is interpreted relative to this past time interval: the eventuality denoted by he saw a little frog is located in the result state of arriving at the cenote, i.e. at a time after he went out. This short excerpt illustrates how the location of the topic time of a discourse is constrained by the expressions in the discourse.

Yucatec Maya discourse is like English discourse in that it is about a particular time. The Yucatec Maya version of the opening sequence of the story features the marker −ak which restricts the topic time interval denoted by Hun-p’èel k’iin-ak-’e (one-cl day-ak-top) ‘one day’ to a non-future time interval (cf. Bohnemeyer 2002:§7.2.1). Just like in the English version, the following utterances are interpreted relative to the topic time of the preceding discourse:

---

6A ‘cenote’ is a body of water typical for the Yucatan peninsula.
(12’) Yucatec Maya

a. Hun-p’éel k’iin-ak-e’ hun-p’éel cham pàal k-u bin.
   one-CL day-ak-TOP one-CL little boy IMPF-A3 go
   ‘Once upon a time, a little boy was going out.’

b. H hok’ ximbal-∅ káa uy il-∅ wáah hu’ chuk-ik
   PRV leave(B3) walk-INC SR A3 see-SUBJ(B3) ALT ASS:A3 catch-INC(B3)
   hun-p’éel ba’al ich le k’aax-o’.
   one-CL thing in DEF forest-D2
   ‘He left walking to see if he could catch something in the forest.’

c. Kúch-ul t-u mèet-ah hal hun-p’éel ts’o’not-e’ káa t-uy
   arrive-INC PRV-A3 do-CMP(B3) bank one-CL cenote-TOP káa PRV-A3
   il-ah hun-p’éel chàan muuch.
   see-CMP(B3) one-CL little frog
   ‘When he arrived at the bank of a cenote, he saw a little frog.’

In (12’a), we learn that there is an eventuality characterized by the boy going out and the boy walking within this non-future topic time (12’b). The first clause in (12’c) is focused and literally means ‘arrive he did at a cenote’. Its denotation further constrains the topic time to a time interval characterized by the result state of the boy having arrived at the cenote. Again, the following discourse is interpreted relative to this new topic time: the eventuality denoted by he saw a little frog is interpreted relative to the result state of arriving at the cenote, i.e. after the time of walking.

These two excerpts from two typologically diverse languages illustrate the idea that all discourses in all natural languages are about a particular time. In both languages, the topic time is given in the discourse context. The semantic TENSE relation is the relation between the utterance time and the topic time. Since both the utterance time and the topic time are contextually given, it follows that the semantic TENSE relation is contextually given, too, and a universal semantic relation.

The two languages, English and Yucatec Maya, were chosen to illustrate the concept ‘topic time’ because they differ in an interesting way: English is a tensed language, which means that English has grammatical expressions that indicate the relation between the topic time and the utterance time, while Yucatec Maya is a tenseless language, i.e. it lacks such expressions (cf. Bohnemeyer 2002). Given that the semantic TENSE relation is relevant to both languages, it follows that the TENSE relation does not depend on whether a language is tensed or tenseless. TENSE but not tense markers are a linguistic universal.
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The second important property of the topic time is that it moves forward as the discourse proceeds. If a sentence $S_i$ is interpreted relative to a topic time $t_{top}$, then the topic time with respect to which the next sentence $S_{i+1}$ is interpreted depends to a large extent on the lexical and grammatical aspectual properties of the eventuality of $S_i$ (cf. Partee 1984; Dowty 1986; Hinrichs 1986; Smith 1991; Kamp and Reyle 1993). Typically, the topic time moves forward (a metaphor for saying that the topic time is updated to a new time) if $S_i$ asserts an event at its topic time, whereas the topic time is not updated if $S_i$ asserts a state at the topic time.\(^7\) These topic time updates are illustrated here again with examples from English and Yucatec Maya: (13) and (13') are the respective continuations of the story in (12) and (12'). Consider first the English discourse in (13).

(13) Context: When he arrived at the bank of a cenote, he saw a little frog.

He liked the frog and wanted to catch it. He started to run. As he was running, he stumbled over the root of a tree. He fell into the water. He stood up in the water and found himself close to the little frog.

At this point in the discourse, the topic time is the time at which the boy saw the little frog. The stative eventualities denoted by *like* and *want* in first utterance in (13) are understood to overlap with this topic time: when the little boy saw the frog, he liked it and wanted it. In contrast, the event *start to run* updates the topic time to a time that is the result state of the first interval of starting to run (cf. Bittner To appear). The subsequent eventualities are events and they each update the topic time to their result state, resulting in a sequential interpretation of the events of the little boy stumbling, falling and standing up.

The same is true of the Yucatec Mayan version of the story:

(13') Yucatec Maya

Context: When he arrived at the bank of a cenote, he saw a little frog.

a. Uts-láah t-uy ich le muuch-o’ káa t-uy óot-ah u good-all(B3) PREP-A3 eye DEF frog-d2 káa PRV-A3 like-CMP(B3) A3 chuk-eh.
catch-SUBJ(B3)

‘He liked the frog and wanted to catch it.’

---

\(^7\) These topic time updates are only heuristics and other facets of the discourse context and narrative structure play a role in determining the update of the topic time (Asher and Lascarides 1993).
b. Káa h káah-能够在 uy aalkab.
káa PRV start:ACAUS-CMP(B3) A3 run 
‘He started to run.’

c. Túun aalkab-能够在-有 t’ochpa-能够在 t-u mots hun-p’éel 
PROG:A3 run-INC-TOP káa PRV stumble-CMP(B3) PREP-A3 root one-CL 
che’.
tree 
‘As he was running, he stumbled over the root of a tree.’

d. Káa h luub-能够在 ich le ha’-能够在 o.
káa PRV fall-CMP(B3) in DEF water-D2 
‘He fell into the water.’

e. H wá’al-lah ich le ha’-能够在 o káa h p’áat能够在 naats in le chàan 
PRV stand-CMP in DEF water-D2 káa PRV stay-CMP(B3) near ?? DEF little 
uunch-o’.
frog-D2 
‘He stood in the water and was close to the little frog.’

Again, the topic time at this point in the discourse is the time at which the boy saw the little frog. The stative eventualities denoted by uts-láah t-uy ich ‘like’ (literally: good in his eye) and óot ‘want’ in first utterance in (13’a) are understood to overlap with this topic time: when the little boy saw the frog, he liked it and wanted it. In contrast, the event h káah uy aalkab ‘start to run’ updates the topic time to a time that is the result state of the first interval of starting to run. In (13’c), the temporal topic Túun aalkab-能够在-有 ‘he was running’ updates the topic time to a time interval and the falling-event in the main clause is interpreted as occurring within this time interval (and ending the running). The subsequent eventualities in (13’d-e) are events and they each update the topic time to their result state, thus resulting in the topic time moving forward as the little boy stumbles, falls and stands up.

The way in which event and state eventuality descriptions update the topic time, an idea that goes back to e.g. Partee (1984), Dowty (1986) and Hinrichs (1986), is captured in the following definition.

**Definition:** Aspect-Based Update of the Topic Time

An eventuality description ev updates the topic time \( t_{top} \) to \( t_{top}' \) such that 
- \( t_{top}' \) is the time of ev \( \tau(ev) \), if ev is a state, and
- \( t_{top}' \) is the result time of ev \( \text{RES}(ev) \), if ev is an event.
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In conclusion, across natural languages, the topic time is a contextually given time which moves forward as the discourse proceeds. The topic time plays a central role in the temporal interpretation of verb phrases. I point out later in this chapter that the temporal interpretation of noun phrases does not involve a comparable “nominal topic time”.

3.2.2.2 Locating Eventuality Descriptions in Time

Having clarified the properties of the topic time, I illustrate in this section how eventuality descriptions are linked to the topic time, i.e. located in time. I start with the Yucatec Mayan example in (14).

(14) a. Ho’liake’ t-inw il-ah Juan.
yesterday PERF-A1sg see-CMP(B3) Juan
‘Yesterday I saw Juan.’

b. Táan uy óok’ot-∅.
PROG A3 dance-INC
‘He was dancing.’

The utterance in (14b) is interpreted in the context of (14a), which provides a topic time that lies in the past of the utterance time. Thereby, the progressive eventuality denoted by (14b) is temporally located in the past, too.

The DRS representation for (14a), which is the discourse context for (14b), is $K_1$ in (15). $K_2$ is the unresolved DRS for (14b).

The DRS $K_1$ specifies that the speaker saw Juan at some time yesterday. I assume that the condition $t \prec now$, the past TENSE relation, is given by the discourse context, not by a
tense marker. In $K_1$, the topic time $t_{top}$ is updated to the result state of the event of $e$ of the speaker seeing Juan ($t_{top}=\text{RES}(e)$).

The DRS $K_2$ contains two unresolved anaphors: one introduced by the third person pronoun $y$, which is resolved to the topical individual $j$, and one by the time $t'$ at which the highest eventuality description is located and which is resolved to the topic time $t_{top}$. Both anaphors are resolved in the DRS $K_1'$, as indicated by $y=j$ and $t'=t_{top}$.

\[
\begin{align*}
K_1': \langle \{ \}, & \quad \text{sp j e t now} \\
& \quad \text{speaker}(\text{sp}) \\
& \quad \text{juan}(j) \\
& \quad \text{yesterday}(t) \\
& \quad \text{see}(e, \text{sp}, j) \\
& \quad \tau(e) \subseteq t \\
& \quad t<\text{now} \\
& \quad t_{top}=\text{RES}(e) \\
& \quad y_{\text{masc}}=j \\
& \quad t'=t_{top} \\
\rangle \\
K_2: \langle \{ \}, & \quad \text{sp j e t now} \\
& \quad \text{speaker}(\text{sp}) \\
& \quad \text{juan}(j) \\
& \quad \text{yesterday}(t) \\
& \quad \text{see}(e, \text{sp}, j) \\
& \quad \tau(e) \subseteq t \\
& \quad t<\text{now} \\
& \quad t_{top}=\text{RES}(e) \\
& \quad \text{PROG}(\text{dance})(s, j) \\
& \quad t_{top} \subseteq \tau(s) \\
\rangle
\]

After the anaphors of $K_2$ have been resolved, the DRS $K_2$ is merged with $K_1'$, the result of which is given as $K_3$ above. According to $K_3$, (14b) is true if Juan was dancing at a time in the past which is located at the result state of the speaker seeing Juan. Thus, although the Yucatec Mayan utterance in (14b) does not have a past tense morpheme, the situation time of the eventuality of Juan’s dancing is located in the past because it is located at the past topic.

What, then, is the contribution of tense markers of languages like English to temporal interpretation? I assume that tense markers presuppose a particular relation between the topic time and the utterance time.\footnote{The fact that tense markers can cooccur in verum focus constructions might seem like counterevidence to my assumption that tenses presuppose a particular TENSE relation:}

(i) I had checked the Utah directory and failed to find any student by the name "Charles Brown," and had started to think this whole thing might have been a hoax. [...] So, I wrote his department and can now confirm that Charles M. Brown not only WAS but IS a Master’s Student at University of Utah. (emphasis added, JT)

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(17) a. PAST $\leadsto \langle \{ t \prec now \}, \rangle$

b. PRES $\leadsto \langle \{ t \cap now \}, \rangle$

c. FUT $\leadsto \langle \{ now \prec t \}, \rangle$

Each of the three tense marker introduces a presupposition to the main DRS to the effect that the time t at which the highest eventuality description is located precedes the utterance time (17a), overlaps with the utterance time (17b), or follows the utterance time (17c). Thus, the presupposition is satisfied if the semantic TENSE relation between the topic time and the utterance time is of the kind presupposed by the tense marker. Consider the English discourse in (18), which is parallel to the Yucatec Mayan discourse in (14).

(18) Yesterday I saw Juan. He was dancing.

The DRS K₁ in (19), which represent the meaning of ‘Yesterday I saw Juan’, is identical to K₁ in (15). The DRS K₂ represents the meaning of ‘He was dancing.’ This DRS K₂ differs from the DRS K₂ in (15) in that it presupposes not only a time t’ which is resolved to the topic time, but that t’, and hence the topic time, is presupposed to be temporally located prior to now.

If tenses presuppose a TENSE relation, it is not possible in examples like (i) for both presuppositions to be fulfilled. It has been noted, however, that focused presupposition triggers, however, do not necessarily trigger the presupposition, unlike their unfocused counterparts (for discussion see e.g. Hajičová 1984; Partee 1996; Beaver To appear). For instance, the focused stopped in (ii) does not trigger the presupposition that John smoked in the past.

(ii) John hasn’t STOPPED smoking – he has never smoked in his life.

Hence, examples like (i) are not evidence against the claim that tense markers presuppose a TENSE relation.
Again, $y_{\text{masc}}$ and $t'$ are resolved to the topical discourse referents $j$ and $t_{\text{top}}$, respectively. The presupposition introduced by the past tensed verb *danced* is satisfied in the discourse context because the topic time is located prior to the utterance time. I assume that discourses like (20a) and (20b) are not felicitous because the presupposition introduced by the tense marker is not satisfied by the discourse context.

(20)  

a. #Yesterday I saw Juan. He is dancing.

b. #Tomorrow he was dancing.

In conclusion, the contribution of tense markers to temporal interpretation is limited to requiring a particular location of the topic time relative to the utterance time. Crucially, the tense marker itself does not introduce the topic time or locate the eventuality description as is sometimes assumed (e.g. Zagona 1995; Stowell 1996; Matthewson 2002). Tensed and tenseless languages merely differ with respect to whether a language has grammatical elements that presuppose a particular TENSE relation or not.

3.2.3 Modality

Natural language utterances are interpreted relative to a (set of) world(s). I assume that the actual world is the world of evaluation, unless a modal marker changes the world of evaluation. Restricting myself to assertions, the semantic category MODALITY is characterized as the relation between the actual world (the world of the speech act) and the world(s) for which the utterance makes an assertion. Thus, an utterance like (21a) is true in a model $\mathcal{M}$ in the actual world $w_0$ if the DRS in (21b) is satisfied by the empty assignment function $\Lambda$ relative to $\mathcal{M}$ and $w_0$. 
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(21) a. Yesterday Juan danced.

\[
\begin{array}{l}
t \in \text{now} \\
yesterday(t) \\
\text{juan(j)} \\
\text{dance(e,j)} \\
\tau(e) \subseteq t \\
t \prec \text{now}
\end{array}
\]

b. \( K \models \{ \{ \}, \) \\
\text{juan(j)} \\
\text{dance(e,j)} \\
\tau(e) \subseteq t \\
t \prec \text{now}\)

Satisfaction of the DRS \( K \) in (21b) in a model \( \mathcal{M} \) at \( w_\theta \) is defined as in (22):

(22) \( \models_{\mathcal{M}, w_\theta} K \)

iff \( \Lambda \models_{\mathcal{M}, w_\theta} K \)

iff \( \Lambda \models_{\mathcal{M}, w_\theta} \exists t \exists t' \exists e \) (yesterday\( (t) \) \& \text{juan}(j) \& \text{dance}(e,j) \& \tau(e) \subseteq t \& t' = \text{now} \& t \prec \text{now})

iff \( \exists g \) such that \( \text{Dom}(g) = \{ t, t', j, e \} \) and \( g \models_{\mathcal{M}, w_\theta} \) yesterday\( (t) \) \& \text{juan}(j) \& \text{dance}(e,j) \)

\& \tau(e) \subseteq t \& t' = \text{now} \& t \prec \text{now}

Thus, (21b) is true in \( \mathcal{M} \) and the actual world \( w_\theta \) if there is an assignment function \( g \) whose domain contains a time \( t \), an individual \( j \), a time corresponding to the utterance time now and an event \( e \) such that \( t \) denotes the time interval ‘yesterday’, \( j \) denotes Juan and \( e \) denotes a dancing event which has Juan as the agent and which occurs during yesterday. Thus, without modal operators, the verbal predicate \textit{dance} is interpreted in the actual world.

An example of an operator that requires other worlds than the actual world to be considered is the progressive aspect. I follow here the analysis given by Portner (1998), which in turn is based on Dowty (1979). Consider the progressive sentence in (23a), and its DRS in (23b).
(23)  a.  Yesterday Juan was dancing.

\[
\begin{array}{c}
t \in s \text{ now} \\
yesterday(t) \\
\text{juan}(j) \\
\text{PROG(dance)}(s)(j) \\
t \subseteq \tau(s) \\
t < \text{now}
\end{array}
\]

b.  \(K: \langle \{ \} \rangle\)

Again, the DRS in (23b) is true in the actual world if it is satisfied in the empty assignment function \(\Lambda\) and \(w_0\), as given here:

(24)  \([K]_{M,w_0} = 1\)

\[
\text{iff } \Lambda \models_{M,w} K \\
\text{iff } \Lambda \models_{M,w_0} \exists t' \exists s (\text{yesterday}(t) \land \text{juan}(j) \land \text{PROG(dance)}(s)(j) \land t \subseteq \tau(s) \land t' = \text{now} \\
\land t < \text{now})
\]

\[
\text{iff } \exists g \text{ such that } \text{Dom}(g) = \{t, t', j, s\} \land g \models_{M,w_0} \text{yesterday}(t) \land \text{juan}(j) \\
\land \text{PROG(dance)}(s)(j) \land t \subseteq \tau(s) \land t' = \text{now} \land t < \text{now}
\]

All of the conjuncts in the last line of (24) are interpreted relative to the actual world. The truth of the conjunct \(\text{PROG(dance)}(s,j)\) is defined relative to alternative worlds, as in (25):

(25)  The meaning of \(\text{PROG}\), adapted from Portner (1998:774)

\[
\forall P \forall ev \forall x (\text{PROG}(P)(ev)(x) = 1 \text{ at a time } t \text{ and a world } w) \\
\text{iff } \exists e \in w \text{ such that } \tau(e) = t \text{ and } \\
\forall w' \in \text{Best(Circ,NI,e)} \text{ there is a time } t' \text{ which includes } t \text{ as a nonfinal subinterval,} \\
\text{such that } P(ev) = 1 \text{ at } t' \text{ in } w'.
\]

(25) is stated in terms of Kratzer’s (1981) analysis of modality which involves a modal base (here Circ) and an ordering source (here, NI). Roughly speaking, the effect of the modality is that the eventuality is interpreted in the set of worlds given by \(\text{Best(Circ,NI,e)}\). This set contains those worlds in which Juan is currently dancing and continues dancing in the future. Thus, the predicate ‘dance’ is interpreted not (exclusively) in the actual world but in a set of possible worlds. (The details are given in chapter 6.)
3.2.4 Summary

The theory of temporality I have presented here, which draws on many previous analyses, foremost Kamp and Reyle (1993), Klein (1994), Kamp et al. (2006) and Bittner (To appear)), is summarized in the following schema:

(26) Crosslinguistic Temporal Interpretation of Verb Phrases
discourse context: TENSE
encoded meaning: (\(\partial\):tense) (MODALITY)[ATL[ASPECT\(^*\) [eventuality description]]]

According to (26), temporal interpretation across languages depends on the discourse context and the meaning contributed by the elements of the sentence that is interpreted. The discourse context provides the semantic TENSE relation, the relation between the perspective time and the topic time. The tense markers of tensed languages introduce a presupposition regarding the location of the topic time. This presupposition is represented in (26) using Beaver’s (2001) partial operator \(\partial\). The parentheses around ‘\(\partial\):tense’ capture the idea that tenseless languages do not introduce this presupposition. The eventuality description denoted by the verb and its arguments and adjuncts is mapped to the highest eventuality description by zero or more ASPECT expressions. The highest eventuality description (the output of the last ASPECT expression) is located relative to a time \(t\) by aspect-based temporal location ATL. The time \(t\) is resolved in the discourse context to the topic time. Finally, MODALITY expressions can alter the world of evaluation.

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9The schema is similar to that of de Swart (1998). The crucial difference is that I do not assume that it represents the syntactic structure of a sentence, but merely the order in which the semantic categories affect the temporal interpretation of eventuality descriptions.

10According to this proposal, the three semantic categories differ with respect to the degree in which they are context-dependent. ASPECT is the least context-dependent of the three because it maps eventuality descriptions to eventuality descriptions. MODALITY is more context-dependent than ASPECT because it relates the actual world, which is contextually given, to the worlds of evaluation which are not contextually given. MODALITY is still less context-dependent than TENSE, which relates two contextually given times (the utterance time and the topic time). These differences in the degree of context-dependency might provide insight to crosslinguistic variation in the realization of the three semantic categories. All languages have ASPECT markers simply because this semantic category can (for the most part) not be contextually inferred. TENSE, on the other hand, need not be morphologically realized (as witnessed by the existence of tenseless languages) since TENSE can be inferred from the discourse context. The realization of MODALITY is more varied, perhaps because this semantic category is partially determined by the context: some languages encode it only when necessary (e.g. English) while it is part of the inflectional system of other languages (e.g. Kalaallisut, Bittner 2005, Bittner In press, Bittner To appear).
3.3 Temporal Interpretation Without Tense

This section develops a theory of the temporal semantics of noun phrases. One of the central questions for such a theory is to what extent is the temporal semantics of noun phrases and verb phrases parallel? Contrary to previous proposals, I argue that the interpretation of the two types of phrases is not completely parallel, and I present evidence of four differences in section 3.3.1. I propose that the differences arise because the temporal interpretation of noun phrases does not involve a semantic tense relation. I start developing the formal theory of the temporal semantics of noun phrases in section 3.3.2 where I discuss the way in which nominal aspectual and modal operators affect the interpretation of nominal predicates. Section 3.3 then demonstrates how the time relative to which noun phrases are interpreted is determined without assuming a nominal tense relation. Section 3.3.4 extends the theory by discussing the contribution of temporal adjectives like former and future, and verb meaning to the temporal interpretation of noun phrases.

3.3.1 Not All Temporal Interpretation is Alike

I establish four differences between the temporal interpretation of noun phrases and verb phrases.

3.3.1.1 Interpretation Times

One difference between the temporal interpretation of noun phrases and verb phrases is that noun phrases but not verb phrases can be interpreted relative to times distinct from the topic time (cf. Enç 1981, 1986 and Musan 1995, 1999). I briefly present the four times relative to which noun phrases can be interpreted.

The first time relative to which a noun phrase can be interpreted is a time given by a noun phrase-internal temporal modifier, as in the examples in (27) and (28).

(27) Twenty years on from Live Aid our newspapers and television screens are revisiting the shocking images of **starving babies and emaciated mothers of the 1980s famine** in Ethiopia.\(^\text{11}\)

\(^{11}\)http://www.cafod.org.uk/news_and_events/features/live_aid_anniversary/a_true_picture_of_ethiopia
In (27), the denotation of the noun phrase starving babies and emaciated mothers is restricted to a time in the past by the modifier of the 1980s famine.

The example in (28) presents a wealth of temporally locating modifiers, ranging from today’s to from the Baby Boom and Generation X, each of which locates the time relative to which the modified noun phrase at a particular time.  

(28) To gain an understanding of what today’s workers might expect to receive in terms of retirement income, GAO was asked to examine (1) how the personal wealth of Baby Boom (born between 1946 and 1964) and Generation X (born between 1965 and 1976) workers compare with what current retirees had at similar ages, (2) how workers from the Baby Boom and Generation X compare in terms of the pension and Social Security benefits they can expect to receive, and (3) the likely distribution of pension and Social Security benefits across workers within the Baby Boom and Generation X.

A second time relative to which a noun phrase can be interpreted is the topic time. This time, in fact, is the time relative to which most noun phrases in natural discourse are interpreted. I illustrate this with the excerpt from the Stanford Alumni Magazine given in (29) (where John Rick is a professor Anthropology at Stanford, and Chavín is a site in Peru he was excavating and mapping). The times relative to which the (bold-faced) noun phrases in (29) (excluding proper names) are interpreted are given as [t1] to [t11].

(29) Located at 10,500 feet, Chavín de Huántar lies about 250 kilometers north of Lima. Discovered in the late 1800s and mostly buried again by a mudslide [t1] in 1945, it is a temple complex [t2] built by one of the oldest known civilizations in South America [t3], the Chavín. Rick has been coming here since 1995 to uncover its mysteries [t4]. He often brings along Stanford undergraduate and graduate students [t5], including 15 last summer [t6]. They have discovered burial platforms [t7] and ceremonial plazas [t8] and expanded the excavation [t9] of an intriguing maze [t10] of underground galleries [t11].

All of time times are topic times, except for [t3]. For example, [t1], the time relative to

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12I do not further discuss temporally locating modifiers in this dissertation but refer to Musan (1995); Tonhauser (2002).  
which a mudslide is interpreted, is the topic time of buried, which is restricted by in 1945. Similarly, the entities denoted by burial platforms, for example, are burial platforms at the topic time, the time of the discovery (and also have been burial platforms for a long time). The time [t5] is the topic time but it is different from the above because it encompasses several sub-topic times at each of which the property ‘Stanford undergraduate or graduate student’ is true of the entities denoted by the noun phrase. The time [t6], denoted by last summer, is one of the sub-topic times of [t5]. The time [t3] is the utterance time, not the topic time: the property ‘one of the oldest known civilizations in South America’ is true of the Chavín at the utterance time, not at the topic time when the Chavín built the temple complex. In conclusion, 10 of the 11 noun phrases in (29) are interpreted relative to the topic time. The importance of the topic time for the temporal interpretation of noun phrases is further addressed below.

The third time relative to which a noun phrase can be interpreted is the utterance time, as is illustrated for the noun phrase one of the oldest known civilizations in South America in (29). Another example is (1) from chapter 1, repeated here:

(30) Headline on CNN on April 12 2006:\textsuperscript{15}

\textbf{Dead rapper} fired first shot.

As discussed in chapter 1, the noun phrase dead rapper is interpreted at the utterance time, the time at which the property ‘dead rapper’ is true of the rapper Proof.

The fourth time relative to which a noun phrase can be interpreted is a contextually given time that is neither the utterance nor the topic time (both of which, of course, are also contextually given). Several examples which illustrate this possibility are given in (31), with the relevant noun phrases bold-faced.

(31) a. Headline on CNN, April 14, 2006:

\textbf{Fugitive killer} nabbed after 30-year run.\textsuperscript{16}

b. Towards the end of the movie “The Rock”, when all the captors are killed (and, hence, the hostages are free), the two heroes are asked by command central: Are the hostages alive?

\textsuperscript{15}http://www.cnn.com/2006/SHOWBIZ/Music/04/12/rapper.killed.ap/index.html
\textsuperscript{16}http://www.cnn.com/2006/US/04/14/fugitive.captured.ap/index.html
c. Context: Jill Carroll is released by her captors in Baghdad and presents a statement to the press (CNN, April 2, 2006)\textsuperscript{17}

Saying she wants to be regarded as a journalist, and not a hostage, Carroll said she would not engage in polemics against her kidnappers, "but let me be clear: I abhor all who kidnap and murder civilians, and my captors are clearly guilty of both crimes."

In (31a), the time relative to which the noun phrase fugitive killer is interpreted is time prior to the time at which nabbed is interpreted. Similarly, in (31c), the time relative to which hostage is interpreted is a time in the past, since Jill Carroll at the time of the statement is not a hostage anymore. Similarly, the kidnappers are no longer kidnappers and the captors are no longer captors.

In sum, there are four times relative to which a noun phrase can be interpreted, whereas a verb phrase is always interpreted relative to the topic time.

3.3.1.2 No “Nominal Topic Time”

A second observation is that the temporal interpretation of noun phrases does not involve a “nominal topic time” in the same way as the temporal interpretation of verb phrases depends on the topic time. Consider the excerpt in (32), which is the beginning of a Guaraní narrative I backtranslated into English.\textsuperscript{18} The times relative to which the (bold-faced) noun-phrases in (32) are interpreted are labeled \[t1]-[t8].

(32) When my parents \[t1\] started living here, there was nothing, the forest \[t2\] was still dense. They came and started felling a small round place \[t3\] for a house \[t4\]. They raised animals \[t5\]. A bit further down they found a water source \[t6\]. From there, my mother \[t7\] brought water \[t8\].

If the time relative to which noun phrases are interpreted was anything like the topic time, we would expect the times \[t1]-[t8] to have the two properties of the topic time (cf. section 3.2), namely that \[t1]-[t8] are contextually given, and that \[t1]-[t8] proceed as the discourse moves forward. However, the times \[t1]-[t8] have neither of the properties of the topic time. First, the times \[t1\] to \[t8\] are not contextually given but need to be established for each noun phrase individually. For example, the times \[t1\], \[t2\], \[t4\] and

\textsuperscript{17}http://www.cnn.com/2006/WORLD/meast/04/01/carroll.video/index.html

\textsuperscript{18}The Guaraní original does not contain nominal temporal markers, cf. chapter 8.
[t7] could either be the topic time (e.g. if the house existed in the past but not anymore and the parents already had children when they settled in the forest) or the utterance time (e.g. if the house still exists and the parents did not have children when they settled in the forest). Thus, the times [t1]-[t8] are not contextually given like the topic time but need to be determined for each noun phrase occurrence individually. The times [t1]-[t8] also do not proceed as the discourse proceeds: [t1] might be the topic time, [t2] the utterance time, [t3] the topic time, [t4] the utterance time, and so on. There is no connection between the times relative to which the noun phrases of the discourse are interpreted. I conclude that the times relative to which noun phrases are interpreted do not behave like the topic time, i.e. they are not “nominal topic times”. Hence, the temporal interpretation of noun phrases and verb phrases is not completely parallel.

3.3.1.3 Indeterminacy

The third empirical observation regarding the temporal interpretation of noun phrases is that the time relative to which noun phrases in discourse are interpreted is sometimes indeterminate: it cannot be determined from the discourse context alone, as already pointed out above. This is contrary to the topic time, which can always be determined since it is contextually given. An example that illustrates this is given in (33): I have presented the example with a lot of discourse context to illustrate that the time relative to which the (bold-faced) noun phrase Silvia’s husband is interpreted cannot be determined from the discourse context.

(33) From the Stanford Alumni Magazine; John Rick is a professor Anthropology at Stanford, Chavín is a site in Peru he is excavating and mapping.¹⁹

When Rick began working at Chavín 10 years ago, much was unknown about the site. Mapping and dating Chavín’s various structures had proven challenging because later inhabitants had built on top of the original Chavín architecture, often using similar materials. Previous researchers had used tape measures and rulers to determine the size and shape of the buildings and underground galleries, but the results were incomplete and speculative. Silvia Kembel, one of Rick’s archaeology graduate students, had identified “construction seams” within individual galleries points where newer stones had been placed next to older ones. But she

and Rick had no way to relate the seams inside the galleries with evidence from the exterior, which was necessary to comprehend the site’s expansion over time. Were galleries parallel? Were some built above others? Were they built in a sequence that would explain what went on at Chavín? Rick had a good team to answer those questions. He had worked in Peru for years, and Kembel, now a professor at the University of Pittsburgh whose work is funded in part by the National Geographic Society, was writing her doctoral dissertation on Chavín. Silvia’s husband, John Kembel, was a mechanical engineering student at Stanford working toward a master’s degree in product design. The three of them designed a surveying tool small enough and versatile enough to work in the cramped underground spaces at Chavín, some so narrow they had to crawl into them.

Is the possessive noun phrase Silvia’s husband interpreted relative to the topic time (i.e. they were married when they were working together) or relative to the utterance time (in which case they are married now but perhaps not at the topic time)? This cannot be determined from the discourse context (and no further hints are given in subsequent discourse either). However, despite the indeterminacy of the time relative to which the noun phrase is interpreted, the noun phrase succeeds in denoting the desired eventuality participant.

3.3.1.4 The Relation between Denotation and Temporal Interpretation

The fourth difference between the temporal interpretation of noun phrases and verb phrases concerns the relation between temporally interpreting a phrase and determining its denotation.

I already mentioned above that the time relative to which a noun phrase is interpreted can be indeterminate, but the denotation of the noun phrase can nevertheless be determined. This suggests that the successful determination of the denotation of a noun phrase does not depend on whether the time relative to which the noun phrase is interpreted can be successfully determined. (The interpretation of the nominal predicate does, of course, still depend on a time of interpretation.) The situation is different for verb phrases: as discussed in section 3.2, the denotation of a verb phrase is a set of eventuality descriptions until it is temporally located at a particular time. Thus, the temporal interpretation of a verb phrase is essential to determining the particular eventuality denoted by a verb phrase.
I propose here that the situation is exactly the reverse for noun phrases: the time relative to which a noun phrase is interpreted depends on the speaker and hearer’s knowledge about the denotation of the noun phrase. The more we know about the eventuality participant(s) denoted by the noun phrase, the easier it is to determine the time relative to which the noun phrase is interpreted.

In (32), for instance, the story I backtranslated from Guaraní, it was not clear whether the noun phrase my parents is interpreted at the topic time (i.e. the children were already born when their parents settled) or at the utterance time (in which case the parents would not yet have had children at the topic time). If we had more knowledge about the eventuality participants, e.g. the year in which the children were born and at which the parents settled, we would be able to determine the temporal interpretation of the noun phrase. Similarly for the noun phrase Silvia’s husband in (33): further knowledge about the eventuality participants might allow us to resolve whether the noun phrase Silvia’s husband is interpreted relative to the topic time or not. For instance, if the text reported that Silvia and John met while working on the project, we would be able to conclude that the relation ‘husband-of’ was not true of them at the time at which they were graduate students.

In sum, the more knowledge we have about the eventuality participants denoted by the noun phrase, the easier it is to determine the time relative to which the noun phrase is interpreted. That is, the successful determination of the denotation of a noun phrase in many discourse contexts does not depend on the relative to which the noun phrase is interpreted. An eventuality description, on the other hand, needs to be temporally located to denote a particular eventuality rather than a set of eventualities.

3.3.1.5 Summary

I have identified four empirical differences between the temporal interpretation of noun phrases and verb phrases:

1. While verb phrases are always interpreted relative to the topic time, noun phrases can be interpreted relative to three times besides the topic time.

2. There is no “nominal topic time”, i.e. the time relative to which noun phrases in discourse are interpreted is not contextually given and it does not move forward as the discourse proceeds.
The time relative to which a noun phrase is interpreted cannot always be completely determined from the context, in contrast to the topic time.

Contrary to the interpretation of verb phrases, the successful determination of the denotation of a noun phrase in many contexts does not depend on the time relative to which the phrase is interpreted.

What follows from these observations is that we cannot simply assume that the way in which verb phrases are temporally interpreted carries over to the way in which noun phrases are temporally interpreted, contrary to e.g. Lecarme (1999, 2004b). In particular, we cannot assume that just because verb phrases are interpreted relative to a TENSE relation, that the same is true for noun phrases.

A more adequate way to proceed is to develop a theory on the basis of the semantic categories for which there exists empirical evidence, e.g. on the basis of nominal temporality expressions of English and languages with nominal temporality markers. The theory I develop in the remainder of this section maintains that ASPECT and MODALITY, but not TENSE, are relevant for the temporal semantics of noun phrases. Initial empirical evidence for nominal ASPECT and MODALITY was presented on the basis of English in chapter 2. Parts II and III of the dissertation present further empirical evidence for these semantic categories, and challenge the assumption that there are nominal TENSE markers.

### 3.3.2 Nominal Aspect and Modality

The goal of this section is to clarify the role nominal ASPECT and nominal MODALITY play in the temporal interpretation of noun phrases. I assume that both operate on the denotation of nominal predicates, which I refer to as ‘nominal descriptions’, in parallel to the way in which verbal ASPECT and MODALITY operate on ‘eventuality descriptions’. In particular, I assume, according to the DRS language introduced in section 3.2, that nominal predicates denote n-place relations between a state eventuality referent and n-1 individual referents. Examples of intransitive and transitive nominal predicates in this language are given in (34).

\[(34)\] Nominal predicates

a. Intransitive nominal predicates (e.g. horse, priest): P(ev)(x)
b. Transitive nominal predicates (e.g. *father, friend*): \( P(\text{ev})(x)(y) \)

As stated in (34), intransitive nominal predicates denote relations between an eventual-
ity and an individual (like intransitive verbs) and transitive nominal predicates denote
relations between an eventuality and two individuals (like transitive verbs).

The assumption that the denotation of nominal predicates involves an eventuality
discourse referent is motivated by the goal of making the denotation of nominal pred-
icates sensitive to a time of evaluation. Of course, this goal could also be achieved in
other ways: one could, for instance, include a time discourse referent in the denotation
of nominal predicates such that ‘priest(t,x)’ is a relation between an individual x and a
time t during which x is a priest (cf. Musan 1997 for this approach). A second alternative
is for the denotation of nouns not to involve a temporal argument (i.e. *priest* would sim-
ply denote ‘priest(x)’), and have the time at which the property is true of the individual
be determined by a time of evaluation (cf. Prior 1967; Montague 1976). While the main
claims of this dissertation can be captured equally well in each of the three options, I de-
cided to follow earlier work in DRT (e.g. Kamp 2001) which captures the time-sensitivity
of nominal predicates with eventuality discourse referents. This decision is motivated
by the following considerations.\(^{20}\) First, if we assume that states are part of our ontol-
ogy, and that some sentence interpretations involve states (e.g. *Juan is a priest* or *She was
smiling*), the question is which time dependent predications should be analyzed as in-
volving states, and which should involve a temporal argument t? If *priest* in *Juan is a
priest* denotes a state, why not *priest* in *The priest is Juan*? The question of where to draw
a line between expressions that denote state descriptions versus time-dependent pred-
ications cannot be addressed here, but it is simpler to assume that all time dependent
predications are treated in the same way, i.e. as state descriptions (see Maienborn 2004
and the papers in the same volume for a discussion). Second, nominal predicates in some
languages can realize the main syntactic predicate of a clause (e.g. Yucatec Maya (Bohne-
meyer 2002; Tonhauser 2005b), Salish (Beck 1997)). For instance, *Juan is a priest* would be
expressed in Yucatec Maya with a clause in which *priest* is the main syntactic predicate,
and the state discourse referent of the clause is contributed by the nominal predicate.
An account where nominal predications are conceptualized as relations between eventual-
ities and individuals that participate in the eventuality, straightforwardly captures the

\(^{20}\)I thank Hans Kamp for a discussion of this point.
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...temporal semantics of nominally-headed clauses.\[^{21}\]

Thus, I assume that nominal and verbal predicates are parallel at the lexical level since both denote relations between eventualities and eventuality participants. Nominal predicates are individual-denoting when realized within a noun phrase, i.e. as nominal descriptions, which denote sets of individuals for whom the property of the nominal predicate is true during the eventuality ev.\[^{22}\] I also assume that the state discourse referents of nominal predicates are maximal in the following sense:

\[(35) \text{Maximality of states} \]
\[\forall P \forall s \forall x \ (s \text{ is maximal in } P(s, x) \text{ if } \neg \exists s' \text{ such that } s \subseteq s' \text{ and } P(s', x))\]

According to (35), a state s is maximal for a property P and an individual x if there is no state s' that subsumes s, during which P is also true of x.\[^{23}\] Thus, if an individual is a teacher during some time of his or her life, then s is the maximal state during which the property ‘teacher’ is true of this individual. A property ceases to be true of an individual if there is an event that marks the end of the state. Thus, a teacher who takes a break for two years to take care of a child does not cease to be a teacher, and the state s continues to be true. An individual who gets suspended from teaching, on the other hand, ceases to be a teacher (i.e. is a former teacher): the act of suspension terminates the state of being a teacher for this individual. Such an individual can, of course, start training to become a teacher again, in which case she could be a former teacher while being a future teacher.

I distinguish several types of nominal and verbal predicates, the first three of which are familiar from, for instance, Carlson (1977) and Kratzer (1995).\[^{24}\]

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\[^{21}\]Cf. also Larson (1998) who presents arguments for eventualities in nominal predicates on the basis of modification expressions like beautiful dancer.

\[^{22}\]This view of the mapping from lexical category (noun or verb) to syntactic category (noun phrase or verb phrase) is motivated by the finding that nouns in some languages, like Guarani (chapter 4) and Yucatec Maya (Bohne 2002; Tonhauser 2005b), can realize noun phrases and verb phrases, i.e. the main syntactic predicate. In such languages, I assume, the mapping from lexical to syntactic category is more flexible than in English, where nouns can realize the main syntactic predicate only in combination with ‘be’ (as in He is a priest).

\[^{23}\]In this dissertation, I only make use of the temporal extension of the states, i.e. as the time intervals during which the property is true of the individual(s) denoted by the noun phrase. See Kratzer (1989) for a discussion of the (non-temporal) dimensions of eventualities.

\[^{24}\]To be correct, the differences do not pertain to predicates but to relations between predicates and particular eventuality participants: resemble, for instance, is stage-level for its A-argument and existence independent for its O-argument.
Definition: Predicate Types

- **Stage-level predicates** require their situation time \( \tau(s) \) to be included in the lifetime of the individual \( \tau(x) \): \( \tau(s) \subseteq \tau(x) \)  
  (e.g. priest, happy, crew member, jump)

- **Individual-level predicates** require their situation time \( \tau(s) \) to be identical to the lifetime of the individual \( \tau(x) \): \( \tau(s) = \tau(x) \)  
  (e.g. woman, blue-eyed, from Germany)

- **Existence independent predicates** do not impose restrictions on the relation between their situation time and the lifetime of the individual.  
  (e.g. famous, be talked about)

- **Final-stage predicates** require their situation time \( \tau(s) \) to be true for a final interval of the lifetime of the individual \( \tau(x) \): \( \text{FINAL}(\tau(x)) \subseteq \tau(s) \)  
  (e.g. father, survivor)

- **Initial-stage predicates** require their situation time \( \tau(s) \) to be true for the initial interval of the lifetime of the individual \( \tau(x) \): \( \tau(s) \in \text{INIT}(\tau(x)) \)  
  (e.g. virgin)

The last two types of predicates could be regarded as subtypes of the stage-level predicates since they are true of an individual \( x \) only during part of its lifetime \( \tau(x) \). At the same time, final-stage predicates share properties also with individual-level predicates: the properties denoted by nominal predicates like father, survivor and criminal are true of an individual during part of its life, but once they are true, they remain true of the individual for the remaining lifetime.\(^\text{27}\) It follows that they cannot be terminated without the lifetime of the individual terminating. Thus, one can be a former crew member or a former virgin but not a *former father or a *former woman.

We are now ready to look at the contribution of nominal ASPECT and MODALITY markers to the interpretation of noun phrases. (36) gives the representation of the nominal description ‘priest’.

\(^{25}\text{FINAL} \text{ returns the set of intervals that share a right boundary with } \tau(x).\)
\(^{26}\text{INIT} \text{ returns the set of intervals that share a left boundary with } \tau(x).\)
\(^{27}\text{Presidents can continue to be called } \text{president} \text{ after the termination of their term. This is less so for presidents of e.g. companies. For the purpose of this dissertation, I consider } \text{president} \text{ a stage-level predicate because the property can be asserted to be terminated (former president) during the individuals lifetime. The fact that } \text{president} \text{ is used for ex-presidents of countries, then, might be due idiosyncratic facts about this lexical item in the context of presidents of countries.}\)
(36) priest $\sim\langle\{\}, \text{priest}(s,x)\rangle$

(36) denotes the set of individuals who are a priest during a state s. Nominal aspect markers are nominal description modifiers, i.e. they apply to a nominal description and return a new one. I have proposed that the English adjectives former and future are a terminative grammatical aspect TERM and a prospective aspect/modality marker PROSP:

(37) a. former $\sim$ TERM
    b. future $\sim$ PROSP

These aspect/modality expressions can apply to nominal descriptions like ‘priest’, in which case they return novel nominal descriptions as in (38a) and (38b).

(38) a. former priest $\sim\langle\{\}, \text{TERM(priest)}(s,x)\rangle$
    b. former future priest $\sim\langle\{\}, \text{TERM(PROSP(priest))}(s,x)\rangle$

The nominal description in (37a) denotes individuals who at some time in their life were former priests and, hence, were priests at an earlier time. Roughly speaking, TERM maps nominal descriptions to nominal descriptions characterized by the termination of the input nominal description. I present a formalization of TERM in chapter 6. (37b), where TERM and PROSP cooccur, denotes individuals who were prospective priests at some time (PROSP(priest)) but for whom the property ‘prospective priest’ is terminated.

The state discourse referent of the nominal descriptions in (36) and (38) is not existentially bound yet. I assume, again, that the highest nominal description of a noun phrase forms the input to Aspect-Based Temporal Location ATL, which binds the eventuality discourse referent and links it to a time $t_n$ (where ‘n’ stands for ‘nominal’).

**Definition: Aspect-Based Temporal Location for Nominal Predicates (ATL$_n$)**

For the highest eventuality description of a noun phrase, introduce the appropriate eventuality discourse referent ev to the current DRS and locate its situation time $\tau$(ev) relative to an anaphoric time $t_n$ ($t_n \subseteq \tau(s)$ for states, $\tau(e) \subseteq t_n$ for events).
The highest nominal description of a noun phrase is the output of the last aspectual marker, if there is one, and the nominal description denoted by the nominal predicate otherwise. For instance, the highest nominal description of (36) is ‘priest’, of (38a) ‘former priest’ and of (38b) ‘former future priest’.

The DRS in (39) is the output of applying $\text{ATL}_n$ to $\text{priest}$ as given in (36):

\[
\begin{aligned}
& (39) \quad < \{ t_n \} \}, \quad \text{priest}(s,x) \>
\end{aligned}
\]

\[ t_n \subseteq \tau(s) \]

In (39), the eventuality discourse referent $s$ of $\text{TERM(priest)}(s,x)$ is bound. Its situation time $\tau(s)$ is located by the nominal time $t_n$ which is anaphoric and needs to be resolved in the discourse context (cf. section 3.3.3). In contrast to $\text{ATL}$ for eventuality descriptions, which specifies that the anaphoric time $t$ is resolved to the topic time, the nominal time $t_n$ is not always resolved to the topic time since, as discussed above, not all noun phrases are interpreted relative to the topic time. The resolution of the nominal time $t_n$ is discussed in the next section. (Recall that I argue that the nominal time $t_n$ is not a “nominal topic time” and is not located by a nominal $\text{TENSE}$ relation.)

The interpretation of noun phrases depends on a world of evaluation. I assume the same mechanism as for verb phrases. That is, a noun phrase is interpreted relative to the world in which the verbal predicate is interpreted unless a nominal $\text{MODALITY}$ marker indicates otherwise.\(^{28}\) Consider the examples in (40):

\[
\begin{aligned}
& (40) \quad \text{a. I saw a unicorn.} \\
& \hspace{1cm} \text{b. If unicorns exist, I want one as a pet.} \\
& \hspace{1cm} \text{c. My horse is a wanna-be unicorn.}
\end{aligned}
\]

In (40a), the noun phrase $a$ unicorn is interpreted in the actual world since neither the verbal predicate nor a nominal $\text{MODALITY}$ marker indicates otherwise. In (40b,c), the noun phrases are not interpreted at the actual world $w_0$. In (40b), the conditional context $\text{if...exist}$ shifts the world of evaluation away from the actual world. In (40c), the nominal modality $\text{wanna-be}$ indicates that the property ‘unicorn’ is not true of the entity in the actual world but in worlds compatible with the “desires” of the horse.

\(^{28}\)Some verbal predicates create oblique contexts for their arguments, like $\text{looking for}$ as in $I$ am looking for a unicorn, which does not assert that unicorns exist in the real world. I do not consider such verbs here.
Two Examples

Before I turn to a discussion of the way in which the nominal time $t_n$ is resolved, I present two examples. In the first example, I am concerned with the noun phrase *a dog*:

(41)  Yesterday I saw John. He was petting *a dog*.

The DRS $K_1$ in (42) is the representation of the first sentence of (41), which is the discourse context against which the second sentence is interpreted. The DRS $K_2$ in (42) is the unresolved DRS of the second sentence of (41).

$$
K_1: \begin{cases}
\text{e sp } t \text{ now} \\
\text{speaker}(sp) \\
\text{john}(j) \\
\text{yesterday}(t) \\
\text{see}(e, sp, j) \\
\tau(e) \subseteq t \\
t \prec \text{now} \\
t_{top} = \text{RES}(e)
\end{cases}
$$

$$
K_2: \{ \begin{array}{c}
t \\
\text{t} \prec \text{now} \\
x_{\text{masc}} \\
t_n \\
\end{array} \}.
$$

The DRS $K_2$ has three presuppositions that need to be satisfied in the discourse context. The first, introduced by the past tense verb *was petting* requires the time $t$ to be resolved to the topic time, which is constrained to precede now ($t \prec \text{now}$). The anaphoric discourse referent $x_{\text{masc}}$, introduced by the pronoun *he*, is resolved to the discourse referent $j$, which refers to John. The third one is the nominal time $t_n$, the time relative to which the situation time $\tau(s)$ is located.

In this example, the location of the nominal time $t_n$ is already determined by the constraints imposed by the lexical predicates. First, since ‘dog’ is an individual-level predicate, $\tau(s)$ is identical to the time of existence $\tau(d)$ of the dog $d$. It follows from $t_n \subseteq \tau(s)$ that $t_n$ must be within the time of existence $\tau(d)$. Second, assuming one pets only living animals, $t_n$ is included in $\tau(s')$ because ‘pet’ is a stage-level predicate ($\tau(s') \subseteq \tau(d)$). Thus, $t_n$ is located within $\tau(s')$ and, hence, the entity is a dog while it is being petted.

Whereas the resolution of $t_n$ for individual-level predicates like *dog* is rather arbitrary (as long as the conditions imposed by the predicates are fulfilled), the resolution of $t_n$ for stage-level predicates is not. Consider the interpretation of the possessive noun phrase *his dog* in (43).
(43) Yesterday I saw John. His dog was howling.

The representation for the first sentence of (43) is \( K_f \) in (44). The unresolved DRS of the second sentence is \( K_2 \) (ignoring past tense).

\[
\begin{align*}
\text{(44) } K_f: & \quad \text{e sp j t now} \\
& \quad \text{speaker(sp)} \\
& \quad \text{john(j)} \\
& \quad \text{yesterday(t)} \\
& \quad \text{see(e,sp,j)} \\
& \quad \tau(e) \subseteq t \\
& \quad t < \text{now} \\
& \quad t_{\text{top}} = \text{RES(e)} \\
\end{align*}
\]

\[
\begin{align*}
\text{(44) } K_f: & \quad \text{y}_{\text{masc}} \\
& \quad \text{pos}(s1,y,x) \\
& \quad t_n \subseteq \tau(s1) \\
& \quad t < \text{now} \\
\end{align*}
\]

The presuppositional structure of the DRS \( K_d \) contains three presuppositions, which are all introduced by the noun phrase his dog. The discourse referent \( y_{\text{masc}} \) is introduced by the possessive pronoun his, and is resolved to \( j \). The possessive noun phrase itself presupposes that the possessive relation between John and the dog is established in the discourse context. (This presupposition is accommodated.) The third presupposition is the nominal time \( t_n \), which locates the situation time \( \tau(s1) \) during which the possessive relation between John and the dog is true. In this example, the time to which \( t_n \) is resolved is not arbitrary: while it has to be resolved to a time during the lifetimes of John and the dog, it could be resolved to the topic time (in which case the dog was howling while it was owned by John), to the utterance time (in which case the dog was howling possibly before it became John’s dog) or a contextually given time (in which case the dog might not have been John’s dog anymore at the time of the howling).

How is the nominal time \( t_n \) resolved?

### 3.3.3 The Temporal Interpretation of Noun Phrases

Unlike the topic time \( t_{\text{top}} \), the time \( t_n \) is not given by the discourse context and needs to be determined for each noun phrase occurrence individually. I propose that the nominal time \( t_n \) is resolved according to the following constraint:
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(45) **Constraint on the Resolution of** \( t_n \)

The nominal time \( t_n \) is the topic time \( t_{top} \) unless the discourse context supports an alternative resolution of \( t_n \).

The constraint specifies a default resolution that is overridden under conditions that I discuss below. (See Asher and Lascarides (1993); Kameyama et al. (1993); Beaver (2002) for the use of defaults in anaphora resolution and temporal interpretation.) The privileged status of the topic time as the default time is empirically motivated by the fact that in natural discourse most noun phrases are interpreted relative to the topic time (cf. section 3.3.1). Further motivation for conceptualizing the temporal interpretation of noun phrases as a default resolution to the topic time is that the contexts in which the default resolution is overridden can be characterized. There are two such contexts. They have in common that the denotation of the noun phrase (whose temporal interpretation is under discussion) is determined relative to an entity that is already established in the discourse context, and this link to a contextually established entity overrides the default interpretation of the nominal time \( t_n \) to the topic time \( t_{top} \). The two contexts and their effect on the temporal interpretation of noun phrases are discussed in the next two sections.\(^{29}\)

3.3.3.1 **Noun Phrase Denotation Established in Discourse Context**

Noun phrases can denote eventuality participants that are already established in the discourse context, i.e. the denoted entities are discourse old (Chafe 1976; Lambrecht 1994). When speakers use a noun phrase to denote such eventuality participants, and the communication is successful, the hearer is able to establish a link between the noun phrase denotation and the already established eventuality participants, namely that they are identical. I propose here that the information that is conveyed by this (identity) link may override the default resolution of \( t_n \) to the topic time.

There are several means by which speakers can indicate to the hearer that the eventuality participants denoted by the noun phrase are discourse old: for instance, the use of

\(^{29}\)In examples like (i), an excerpt of (28), a temporally locating adjective binds \( t_n \):

(i) \(...\) what **today’s workers** might expect to receive in terms of retirement income...\)

In this example the nominal temporal modifier **today** locates the nominal time \( t_n \) of **workers** at a time that overlaps with the denotation of **today**. See Musan (1995) and Tonhauser (2000, 2002) for a detailed discussion of such examples.
a pronoun, the definite determiner, or a nominal predicate that denotes a property that is contextually salient for these discourse participants. Consider the discourse in (46).

(46) Typing rambling screeds in an anonymous blog he called ”Fast Times at Regnaf High,” a Fenger High School teacher unleashed his frustration over the chaos he saw around him. He labeled his Chicago students ”criminals,” saying they stole from teachers, dealt drugs in the hallways, had sex in the stairwells, flaunted their pregnant bellies and tossed books out windows. He dismissed their parents as unemployed ”project” dwellers who subsist on food stamps, refuse to support their ”baby mommas” and bad-mouth teachers because their no-show teens are flunking. [...] In his blog, the teacher did not identify himself or his students, the exact name of his school or even the city where he taught.30

In this discourse, the discourse participant introduced in the first sentence with the indefinite noun phrase a Fenger High School teacher, is referred to in subsequent discourse with the pronouns he and him, and the definite noun phrase the teacher. The use of the definite noun phrase is possible because there is a topical discourse participant who is the only individual in the discourse context for whom the property ‘teacher’ is true. How does the fact that the individual referred to by the teacher is discourse-old affect the temporal interpretation of the noun phrase? Consider the DRSs K2 in (48), which represents the meaning of ‘The teacher did not identify himself’. This DRS is interpreted in the (simplified) discourse context represented by the DRS K1 in (47).

(47) Partial discourse context:

\[
K_1: \langle \{ \}, \text{teacher}(s_2, y), t_{\text{top}} \subseteq \tau(s_2), t_{\text{top}} \prec \text{now} \rangle
\]

The discourse context in K1 (minimally) specifies that there is an individual y who is a teacher at a time that overlaps with the topic time (which is located in the past of the utterance time).

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(48) “The teacher did not identify himself”

\[ K_2: \langle \{ \text{disc-old}(x), t_n \} \rangle, \quad s': \]

\[ \text{identify-self}(e,x), \quad \text{teacher}(s,x), \quad t_n \subseteq \tau(s) \]

The DRS \( K_2 \) for ‘The teacher did not identify himself’ contains an assertion part, which specifies that there is a state \( s' \) during which there is no event \( e \) of \( x \) self-identifying himself. (I ignore the temporal interpretation of the verb phrase here.) The state \( s \) during which \( x \) is a teacher is located by the nominal time \( t_n \), which is introduced in \( K_2 \) as a presuppositional element. The representation of the teacher furthermore requires that the individual \( x \) who is a teacher is discourse-old.

In the discourse context \( K_1 \), the discourse referent \( x \) is identified with \( y \), the discourse referent of the teacher. Since the time during which \( y \) is a teacher is already contextually established (\( t_{top} \subseteq \tau(s) \)), resolution of \( x \) to \( y \) requires that the nominal time \( t_n \) be identified with the topic time to maintain consistency. Thus, since the teacher is already established in the discourse context, the interpretation of the definite noun phrase ‘the teacher’ in the discourse context also resolves its temporal interpretation. Thus, the noun phrase the teacher is interpreted at the topic time but not because of the default interpretation but because the noun phrase denotes an already established individual.

A second example which illustrates the effect of the link between the denotation of the noun phrase and the individuals established in the discourse context on temporal interpretation is (31a), repeated in (49).

(49) Towards the end of the movie “The Rock”, when all the captors have been killed (and, hence, the hostages are free), the two heroes are asked by Command Central:

\[ \text{Are the hostages alive? (} = (31a) \)]

It is established in the discourse context of this example that there is a set of individuals who were held hostage during the most part of the movie. The DRS \( K_1 \) in (50) specifies the relevant information: there is a set of individuals \( \xi \) who are hostages during \( s_2 \). (I use Greek letters for plural discourse referents.) The state \( s_2 \) has come to a termination at the
point where the hostages are freed, which is represented by \( \tau(s2) \supset \tau(s3) \). The meaning of ‘Are the hostages alive?’ is represented by the DRS \( K_2 \). (The ? before the box indicates that it is not an assertion but a question.)

\[ 50 \quad K_1: \{ \} \quad \text{K}_2: \{ \{ \eta \text{ disc-old(\eta)} \}, \{ t_n \}, \{ s4 \text{ alive(s4,\eta)} \}, \{ \text{now} \subseteq \tau(s4) \}, \{ \text{hostages(s,\eta)} \}, \{ \tau(s2) \supset \tau(s3) \} \] 

The DRS \( K_2 \) questions whether a set of individuals \( \eta \) are alive at the utterance time. The definite noun phrase introduces the presupposition that the individuals \( \eta \) are discourse-old, and requires the nominal time \( t_n \) to be resolved. The discourse referent \( \eta \) is resolved to \( \xi \), the only individuals in the discourse context that are discourse old and for whom the property ‘hostage’ is true at some time. Once \( \eta \) is resolved to \( \xi \), the discourse referent \( s \) is identified with \( s2 \), and, hence, the nominal time \( t_n \) is resolved to the time \( t \). Thus, the interpretation of a noun phrase whose denotation is a (set of) contextually established individual(s) resolves the nominal time \( t_n \), here to a time distinct from the topic time.

The temporal interpretation of many of the constructed examples that have been discussed in the literature on the temporal interpretation of noun phrases also fall into this category. One such example is Enç’s classic example in (51) with the noun phrase *every fugitive*. (Enç only gives the example; the context is mine.)

\[ 51 \quad \text{Context: Some prisoners escaped from a prison last week. The media followed} \]  
\[ \text{the escaped prisoners throughout the week, reporting daily on their sightings in} \]  
\[ \text{various cities. Finally, a news reporter comes on and says:} \]  
\[ \textbf{Every fugitive} \text{ is now in jail.} \quad \text{(Enç 1981:38)} \]

In the given discourse context, the property ‘fugitive’ is salient for a particular set of discourse participants. The speaker exploits this salience by using the noun phrase *every fugitive*: this noun phrase denotes a particular set of discourse participants despite the fact that the property ‘fugitive’ is not true of them anymore at the topic/utterance time. Again, the default interpretation of the noun phrase at the topic time is overridden by
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the fact that the noun phrase denotes individuals who are already established in the discourse context with particular properties being true at particular times.\textsuperscript{31}

Presuppositions can be accommodated if the discourse context does not contain the appropriate information. The following type of example suggests that the nominal time $t_n$ can be accommodated, too. Consider these two (naturally occurring) headlines:

(52) a. Headline on CNN, April 14, 2006\textsuperscript{32}

\textbf{Fugitive killer} nabbed after 30-year run.

b. Headline on CNN on April 12 2006:\textsuperscript{33} (= (30))

\textbf{Dead rapper} fired first shot.

The discourse context in which a headline is interpreted is generally not very elaborate, if not empty. How, then, is it possible that the nominal times of \textit{fugitive killer} and \textit{dead rapper} are interpreted at times distinct from the topic time? I suggest that in these types of examples, world knowledge supports interpretation of the properties \textit{fugitive killer} and \textit{dead rapper} in (52) at times distinct from the topic time: one typically ceases to be a fugitive once captured (52a), and it is not possible to shoot as a dead person (52b).\textsuperscript{34} Thus, in such examples, the nominal time $t_n$ is not resolved to a time distinct from the utterance

\textsuperscript{31}In Enç (1981, 1986), examples like (51) are presented without any context. This might give the impression that the temporal interpretation of the noun phrase relative to a time distinct from the topic time is due to the lexical semantics of the predicates involved and world knowledge. For instance, one might assume that since being a fugitive is not compatible with being in jail, the noun phrase \textit{every fugitive} in (51) is not interpreted at the topic time but at a time in the past of the topic time. While the lexical semantics of the predicates and general world knowledge certainly play a role in temporal interpretation, the discourse context cannot be ignored: for instance, imagine a discourse context where the fugitives are fugitives not from jail but from a country. In this discourse context, the noun phrase \textit{every fugitive} in (51) is most likely interpreted at the topic/utterance time. Thus, the conclusions drawn on the basis of lexical semantic and world knowledge are overridden by the discourse context.

\textsuperscript{32}http://www.cnn.com/2006/US/04/14/fugitive.captured.ap/index.html

\textsuperscript{33}http://www.cnn.com/2006/SHOWBIZ/Music/04/12/rapper.killed.ap/index.html

\textsuperscript{34}My discussion of this example has so far been restricted to the complex property ‘dead rapper’, which is true of the individual at the utterance time. An additional complication is that the property ‘dead’ and the property ‘rapper’ are true of the individual at distinct times: the individual was a rapper during his lifetime while ‘dead’ is true of the individual after his lifetime. Thus, when \textit{dead} modifies a stage-level predicate like \textit{rapper}, the resulting property is not stage-level anymore but true of the individual after his lifetime. \textit{Dead rapper} is similar to \textit{former rapper} in that both require the property ‘rapper’ to be true at a time in the past. \textit{Dead} and \textit{former} differ, however, in that the property ‘former rapper’ is true during the individual’s lifetime.
time, but accommodated on the basis of world knowledge. I propose that this accommodation can be later changed if the discourse context (i.e. the rest of the story) supports the resolution of the nominal time at a different time.

In sum, noun phrases that denote eventuality participants that are already contextually established are temporally interpreted at a time that is consistent with what is already known about the eventuality participants. This time need not be identical to the topic time. The (identity) link between the denotation of the noun phrase and the contextually established individuals may override the default resolution of $t_n$.

### 3.3.3.2 Noun Phrase Denotes Relative to Contextually Established Entity

The second type of context in which the default resolution of the nominal time can be overridden are contexts in which the denotation of the noun phrase is determined relative to already established entities that are not identical to the denotation of the noun phrase.

A particularly clear case of a noun phrase whose denotation depends on a second (set of) individual(s) are noun phrases headed by relational nouns. Consider (53), a variant of a constructed example I discussed in Tonhauser (2002).

(53) **Context:** At the reunion of the survivors of the Titanic disaster.

**Some crew members** are here, too.

The denotation of the ‘crew member’ relation depends on the second argument (the vessel), which is not overtly given in (53) but specified in the discourse context. Thus, the denotation of ‘crew member’ is determined relative to a contextually given entity, here, the Titanic. The fact that the Titanic does not exist anymore at the utterance time, affects the temporal interpretation of ‘crew member’: the individuals denoted by the noun phrase are crew members (of the Titanic) at a time in the past, not at the utterance time.

The DRS representation for the discourse context is $K_I$ in (54): it specifies that there is a ship called Titanic which existed until 1912 (where ‘$\text{END}$’ maps times to their endpoint).

\[
(54) \quad K_I: \{ \{ \}, \text{Titanic(x)} \} \quad K_Z: \{ \{ \text{vessel(z)} \}, t_n \}
\]
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The indefinite noun phrase some crew members introduces to the DRS K₂ a discourse referent ξ that refers to the crew members who are asserted to be at the reunion at the utterance time. The second argument of crew member introduces an anaphoric discourse referent z which needs to be resolved to a discourse referent that refers to a vessel. In this discourse context, z is resolved to x, the discourse referent of the Titanic. Since one can only be a crew member of a ship while it exists, the situation time s₃ of being a crew member must terminate in 1912. Accordingly, tₙ must be resolved to a time t that is included in the lifetime τ(x) of the Titanic, not the topic time. In sum, the denotation of the noun phrase some crew members is determined in relation to the contextually established Titanic.

Naturally occurring examples similar to (53) are given in (55).

(55)  
   a. All surviving crewmembers would find that being associated with the Titanic was a black mark from which they could not hope to escape.\(^{35}\)
   
   b. Context: About the disaster that struck the luxury liner Viking Princess:

   The 13 survivors picked up by the Chunking Victory, all crew members, were later transferred to the US Navy Base at Guantanamo Cuba.\(^{36}\)

These examples also illustrate that the temporal adjective former is not used in such discourse contexts to indicate that the ‘crew member’ relation was true in the past.

Possessive noun phrases are another type of noun phrase that denotes an eventuality participant in relation to another discourse participant. The nature of the eventuality and discourse participant and the relation between them can determine the time relative to which the relation is interpreted. First examples are my parents and my mother in (32), repeated in (56):

(56)  
   When my parents [t₁] started living here, there was nothing, the forest [t₂] was still dense. They came and started felling a small round place [t₃] for their house [t₄]. They raised animals [t₅]. A bit further down they found a water source [t₆]. From there, my mother [t₇] brought water [t₈].

I argue that the temporal interpretation of the possessive noun phrases my parents and my mother is affected by the fact that the possessor is that speaker and that parent and mother are final-stage predicates. Assume that the DRS K₁ presents the (minimal) discourse context, and K₂ represents My parents started living here.

\(^{35}\)http://en.wikipedia.org/wiki/Charles_Lightoller

\(^{36}\)http://www.laesser.org/joomla/index.php?option=com_content&task=view&id=559&Itemid=29
The discourse context $K_1$ specifies the speaker and the utterance time “now”. The discourse referent $y_{\text{sp}}$ introduced by *my mother* in $K_2$ is resolved to the speaker, thereby identifying the possessor as the speaker. The nominal time $t_n$ locates the time during which the individuals denoted by the noun phrase *my parents* are the speaker’s parents. As discussed above, if $t_n$ is the topic time, the parents must have already had children when they settled in the forest, whereas if $t_n$ is resolved to the utterance time (the “now” of the speaker), the parents could have not have children yet when they settled in the forest. I propose that in this discourse context, the default resolution of $t_n$ to the topic time is overridden because the ‘parent’ relation is minimally true at the utterance time of the speaker.

Relational nouns like *parents* and *father* are particularly suitable to identifying eventuality participants since the denoted relation uniquely identifies the eventuality participant in relation to the possessor. This is the case even when it is not clear whether the nominal predicate is true at the topic time in addition to the utterance time, or not. In many cases, we conclude on the basis of world knowledge that the noun phrase is interpreted only at the utterance time in relation to an individual that exists at the utterance time. Consider the following examples.

(58)  
  a. From a web page about Tiger Woods:

    *Woods’ father* served in Vietnam and nicknamed his son ‘Tiger’ after a South Vietnamese army officer.\(^\text{37}\)

    b. *My father’s father*, Jacob, came to the United States from Prussia in the waning years of the 19th century.\(^\text{38}\)

In (58a), the noun phrase *Woods’ father* is interpreted relative to the utterance time since *father* is a final-stage predicate. We also know that the noun phrase is not true at the topic

\(^{37}\text{http://www.who2.com/tigerwoods.html}\)

\(^{38}\text{http://jef.raskincenter.org/unpublished/jacobs_stone.html}\)
time since Tiger was not born yet at the time of the Vietnam war. Similarly, we know, on the basis of world knowledge, that my father’s father in (58b) is not true at the topic time but only at the utterance time (to which the nominal time $t_n$ is consequently resolved).\textsuperscript{39}

The situation is slightly different for relational nouns like husband that are not final-stage but stage-level predicates. The ‘husband’ relation is uniquely identifying but can differ from one time to the next. This affects the temporal interpretation of noun phrases headed by relational nouns, as illustrated in (59), an excerpt from (33).

(59) Excerpt from (33):

Silvia’s husband, John Kembel, was a mechanical engineering student at Stanford working toward a master’s degree in product design.

Since husband is not a final-stage predicate and the discourse context does not provide evidence to the contrary, the nominal time $t_n$ of Silvia’s husband is resolved, according to (45), to the topic time.

A third type of noun phrase that exploits a link between the denoted eventuality participant and a contextually established entity is presented in (60).

(60) Excerpt from (29):

Located at 10,500 feet, Chavín de Huántar lies about 250 kilometers north of Lima. Discovered in the late 1800s and mostly buried again by a mudslide in 1945, it is a temple complex built by one of the oldest known civilizations in South America, the Chavín.

The noun phrase one of the oldest known civilizations in South America contains the participle known, which has as its implicit argument the knowing entity. In this discourse context, the knowing entity is current humankind, i.e. humankind at the time of utterance. The nominal time $t_n$ of this noun phrase is resolved to the utterance time because of this implicit relation to a present day entity.

In sum, contexts in which the denotation of a noun phrase is determined in relation to an already established (set of) individual(s) can override the default resolution of the nominal time $t_n$ to the topic time. In such contexts, the nominal time is resolved to a time that is provided by the link between the individual(s) denoted by the noun phrase and the individuals in the discourse context.

\textsuperscript{39}Reboul (1993) discusses differences in French in the use of relational nouns like father and parent versus professions like soccer player.
3.3.3 Summary

I have proposed in this section that the nominal time $t_n$ relative to which the highest nominal description of a noun phrase is interpreted is resolved according to (45):

(45) **Constraint on the Resolution of $t_n$**

The nominal time $t_n$ is the topic time $t_{top}$, unless the discourse context supports a alternative resolution of $t_n$.

There are two contexts in which the default resolution of $t_n$ of a noun phrase to the topic time can be overridden: (i) contexts in which the noun phrase denotes contextually established discourse participants, and (ii) contexts in which the noun phrase denotes eventuality participants in relation to contextually established discourse participants. We can conclude more generally that the nature of the link between the denotation of a noun phrase and the contextually established individuals determines the resolution of $t_n$ (and, hence, the temporal interpretation of a noun phrase): if the denotation of the noun phrase is already contextually established (section 3.3.1) or its denotation is established via other contextually established entities (section 3.3.2), this link determines the resolution of $t_n$; if no such link is available (non-existing link), $t_n$ is resolved by default to the topic time. The way in which noun phrases are temporally interpreted is summarized in (61).

(61) **The Temporal Interpretation of Noun Phrases**

The nominal time $t_n$ is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

The temporal interpretation of noun phrases lies at the intersection of two phenomena that are both highly context-dependent: the interpretation of noun phrases and temporality. In this theory, the contribution of both the noun phrase interpretation and temporality are captured by (61) since the resolution of $t_n$ to a time in the discourse context (temporality) depends on the contextually established individuals (noun phrase interpretation).

3.3.4 Extending the Theory

In this section I discuss three extensions of the theory proposed above. The first two concern the effects of noun phrase type and verb meaning on the temporal interpretation of noun phrases (sections 3.3.4.1-2). The third examines the use of temporal adjectives like *former* and *future* (section 3.3.4.3).
3.3. TEMPORAL INTERPRETATION WITHOUT TENSE

3.3.4.1 The Effect of Noun Phrase Type

There is a relation, albeit imperfect, between the type of noun phrase (e.g. definite, indefinite, quantificational) and the temporal interpretation of the noun phrase (Musan 1995, 1999; Tonhauser 2002). This relation is predicted by the theory I developed.

Indefinite noun phrases, for example, are generally used to introduce new entities into the discourse context (Heim 1982). Since such noun phrases denote eventuality participants that are not identical to already established discourse participants, the resolution of the nominal time $t_n$ of such noun phrases cannot be determined by the (identity) link between the denotation of the noun phrase and contextually established discourse participants. The context in which indefinite noun phrases interpreted at a time distinct from the topic time (i.e. the only way in which the default resolution of $t_n$ to the topic time $t_{top}$ is overridden) is when the denotation of the indefinite noun phrase depends on other entities that are already established in the discourse context (e.g. *some crew members* in (53)). Thus, indefinite noun phrases are for the most part, but by no means obligatorily, interpreted at the topic time. Definite and quantificational noun phrases, by comparison, may denote eventuality participants that are already established in the discourse context, and, hence, the resolution of the nominal time $t_n$ of such noun phrases can be overridden by properties that are contextually established for the denotation of the noun phrase. (See Tonhauser 2002 and section 3.5 for further discussion.)

3.3.4.2 The Effect of Verb Meaning

The examples in the last section uniformly employ verbs that are not existence independent, i.e. they require the eventuality participants to exist during the situation time of the eventuality. In this section, I examine verbs that do not share this requirement, namely verbs of creation and coming to existence, and verbs of destruction.

Verbs of Creation and Coming into Existence

Verbs of creation and coming into existence, like *build, draw, paint (a picture), write, bake, create, come into existence, assert* that a particular eventuality participant is created in the course of the eventuality denoted by the verb. This eventuality participant, which I refer to here as the *effect* individual, is realized as the object of verbs of creation and as the subject of verbs of coming into existence. The semantic literature has taken interest in
these verbs because, when realized with particular temporal features, they do not support the inference that the effected entity exists (e.g. Krifka 1992; McCready 2003; Parsons 1990). Compare the examples in (62) and (63).

(62) a. I built a house.
    b. A sun came into existence.

(63) a. I was building a house (but I never finished it).
    b. A sun was coming into existence (when suddenly the universe ended).

Whereas the simple past tense examples in (62) support the inference that the house (62a) and the sun (62b) exist as a result of the eventuality denoted in the respective examples, this is not the case in (63), as demonstrated by the continuations in parentheses. Thus, verbs of creation and coming into existence do not presuppose the existence of the relevant eventuality participant, but assert its existence when realized with particular temporal features (e.g. simple past tense).

These verbs are of interest to the temporal interpretation of noun phrases because the property with which the effected entity is described is true of the entity only when the eventuality denoted by the verb is successfully completed, regardless of whether the eventuality is in fact completed (62) or not (63). In (63a), for instance, the entity is identified with the property ‘house’, but this property is never true of it in the actual world. Thus, with verbs of creation and coming into existence, the noun phrase that denotes the effected eventuality participant is temporally interpreted relative to a time that marks the completion of the eventuality, irrespective of whether the eventuality is completed in the actual world or not.

Although the property is not true of the entity if the entity does not exist yet, temporal or modal adjectives or markers are not typically used in such contexts, as illustrated in (64).

(64) a. #I was building a future/prospective house/a house-to-be.
    b. #A future/prospective sun/a sun-to-be was coming into existence.

If examples like (64) were acceptable, the noun phrase would describe the effected entity with a property that is true of it at the topic time. For instance, ‘future house’ is true of whatever entity exists during the construction of the house. It seems, however, that examples like (64) are dispreferred (in most contexts). I hypothesize that such temporal
markers are not used because the temporal features of the verb together with the nominal description (without a temporal adjective/marker) already allow the hearer to figure out the state the effected entity is in, i.e. whether the entity is complete (62) or not (63). Thus, with verbs of creation and coming into existence that are realized with particular temporal features noun phrases are systematically interpreted at a time distinct from the topic time.

**Verbs of Destruction**

Verbs of destruction, like *destroy, kill, demolish*, are similar to verbs of creation and coming into existence. Verbs of destruction have a *affected* eventuality participant, which exists at the beginning of the eventuality denoted by the verb and that undergoes a transformation in the course of the eventuality:

(65) a. John destroyed **the wall**.

      b. John killed **the chicken**.

In (65a), an entity with the property ‘wall’ exists at the beginning of John’s destroying the wall, but not at the time the eventuality is completed. Similarly, in (65b), a living entity with the property ‘chicken’ exists at the beginning of the killing eventuality, whereas at the end of it the chicken still exists but is dead. Again, whether the eventuality is actually carried out to completion depends on the temporal features of the verb. Nevertheless the same noun phrases identify the affected eventuality participants:

(66) a. John was destroying **the wall** (but he didn’t succeed).

      b. John was going to kill **the chicken** (but he spared it at the very last moment).

A temporal adjective is not typically used to indicate that the destruction of the affected entity was successful:

(67) a. #John destroyed the **former/ex**-wall.

      b. #John killed the **former/late** chicken.

Again, if the examples in (67) were acceptable, the noun phrases would be interpreted at the topic time, the time when the property ‘former wall’ or ‘former chicken’ are true of the affected entities. Instead, the noun phrases are interpreted at a contextually given time, the onset of the eventuality. This can be attributed, again, to the fact that the meaning of
the verb together with the property denoted by the nominal predicate suffices to allow
the hearer to identify the state the affected entity is in.\textsuperscript{40}

In sum, noun phrases with verbs of creation, coming into existence and destruction
that are realized in, for instance, the prospective or progressive aspect, are systematically
not interpreted at the topic time but at a contextually given time.

3.3.4.3 The Use of Temporal Adjectives

It was established above that noun phrases can be interpreted relative to four different
times. The consequences of the interpretative freedom for the use of temporal adjectives
(e.g. future, former) and temporal markers (e.g. ex--, -to-be) are examined in this section. I
suggest that since noun phrases can be interpreted from different temporal perspectives,
the use of temporal adjectives and markers depends on the temporal perspective taken
in a particular discourse context.

Nominal grammatical aspect and modality markers like former, future and ex-- create
novel nominal descriptions and identify the worlds relative to which the nominal
description is evaluated. Depending on the perspective taken, different nominal
descriptions are suitable. To illustrate this, consider the pairs in (68) and (69).

(68) When did you first meet George W. Bush? (asked in 2006)
   a. I met the president on a Safari in 1995.
   b. I met the future president on a Safari in 1995.

In the given discourse context, George W. Bush can be described either from the perspec-
tive of 2006 as the president (68a), although he was not president during the Safari in
1995, or from the perspective of 1995 as the future president (68b) although he is cur-
rently president, not a future president. Thus, in (68a) the noun phrase the president is
interpreted relative to the utterance time and, in (68b), the noun phrase the future presi-
dent is interpreted relative to the topic time. If the perspective from which the eventuality
description ‘I met George W. Bush on a Safari in 1995’ is not considered, it seems as if both

\textsuperscript{40}Despite these similarities, verbs of destruction are not the mirror image of verbs of creation and coming
into existence. The act of destruction creates a novel entity: although the wall does not exist anymore at the
end of the destruction in (65a), a pile of rubble does. In (65b), the chicken, at the end of the killing, is not
alive anymore, but there now is a dead chicken entity. The two entities, i.e. the one that existed at the outset
of the destruction process, and the one that comes into existence through the destruction process, stand in a
spatiotemporal relation to each other, and a particular property is true of each.
3.3. **TEMPORAL INTERPRETATION WITHOUT TENSE**

descriptions, ‘president’ and ‘future president’, are equally suitable and the use of *future* is optional. I argue here that this is not the case. Rather, a nominal description is chosen such that it is suitable to denote the eventuality participant from the temporal perspective taken. In some discourse contexts, like (68), several perspectives are possible.

The pair in (69) illustrates the same point. (In the glosses, **PART** stands for participle.)

(69) a. Als ich 1986 zum Kinderfest in Bonn eingeladen war, habe ich
when I 1986 to.the children.part in Bonn invite.**PART** was, have I
Bundeskanzler Kohl die Hand geschüttelt.
 chancellor **PART** Kohl the hand shake.**PART**
‘When I was invited to the children’s party in Bonn in 1986, I shook Chancellor Kohl’s hand.’

b. Als ich 1986 zum Kinderfest in Bonn eingeladen war, habe ich dem
when I 1986 to.the children.part in Bonn invite.**PART** was, have I the
**ehemaligen/damaligen** Bundeskanzler Kohl die Hand geschüttelt.
**PART** former/then- chancellor **PART** Kohl the hand shake.**PART**
‘When I was invited to the children’s party in Bonn in 1986, I shook former/then-Chancellor Kohl’s hand.’

Helmut Kohl is referred to in (69a) with the noun phrase *Bundeskanzler Kohl*, which is interpreted relative to the topic time 1986. In (69b), he is referred to with the noun phrase *dem ehemaligen/damaligen Bundeskanzler Kohl* ‘the former chancellor’, which is interpreted relative to the utterance time. Again, both descriptions are possible since two perspectives can be taken.

In particular discourse contexts, where only one particular perspective can be taken, the use of temporal adjectives and markers like *former, future* and *ex*– is obligatory. Consider the examples in (70).

(70) a. The two fought on Easter Sunday and Torres strangled his **former lover** to
death, according to the statement Villicana read. (CNN, April 20, 2006)\(^{41}\)

b. My first day on the 19F Express, I saw my **future husband** whom I referred to
for months as the “BUS MAN”.\(^{42}\)

The strangled individual in (70a) was not Torres’ lover anymore at the time of the strangling. Therefore, whereas the property ‘lover’ was true of this individual at a time prior


\(^{42}\)http://www.commute.org/commute_story_results.htm
to the strangling, former lover is the nominal description that appropriately describes the individual at the time of the strangling. The use of lover in this discourse context would suggest that the two were still lovers at the time of the strangling. A temporal perspective that is prior to the strangling (and at which ‘lover’ is true) cannot be taken. Similarly, in (70b), the nominal description future husband allows the speaker to appropriately describe the individual at a time that is prior to their wedding. Referring to the individual as my husband would sound like she called the man she is already married to ‘BUS MAN’. Since each of the three clauses in (70b) are interpreted relative to a topic time in the past, a non-past perspective cannot be adopted to denote the eventuality participant and, hence, future is used. Thus, in contexts where an individual can be described only from the perspective of a particular time, the use of temporal adjectives and markers can be obligatory.

The fact that different perspectives can be taken in describing eventuality participants, and the challenges this can pose for both speakers and hearers is particularly clear in examples that contain corrections, such as (71).

(71) Also, you don’t have a clear sense of what medical condition may be triggering your ex-husband’s (or soon-to-be-ex) mental instability.\(^{43}\)

The speaker first attempts to identify the eventuality participant using the nominal description ex-husband. This description does not result in an appropriate description of the eventuality participant because the two individuals are merely estranged at the utterance time, not divorced. Hence, the speaker corrects him/herself to soon-to-be-ex, which is compatible with the utterance time perspective.

In sum, English temporal adjectives and other temporal markers encode aspect and modality meanings. Hence, they do not affect the resolution of the nominal time, but create novel nominal descriptions which allow speakers to identify eventuality participants from the perspective time that is most suitable in the particular discourse context.

### 3.4 Conclusions

In this chapter, I developed a theory of the temporal semantics of noun phrases with the following main characteristics:

3.4. CONCLUSIONS

- Nominal predicates denote nominal descriptions, which are modified by nominal ASPECT markers and whose world(s) of evaluation are shifted by nominal MODALITY markers.

- Nominal descriptions are temporally located not by a nominal TENSE relation but according to the link between the denotation of the noun phrase and the contextually established discourse participants:

  **The Temporal Interpretation of Noun Phrases** (= \(61\))
  The nominal time \(t_n\) is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

The way in which noun phrases are temporally interpreted according to this theory is summarized in the schema in (72).

(72) **Crosslinguistic Temporal Interpretation of Noun Phrases**
  discourse context: discourse participants with temporally located properties
  encoded meaning: \(\text{resolve}(t_n) \ (\text{MODALITY})[\text{ATL}[\text{ASPECT}^* \text{nominal description}]]\)

The discourse context plays a role in the temporal interpretation of noun phrases insofar as it provides a record of the discourse participants and their properties and relations, which are located at particular times. The nominal description encoded by the nominal predicate is modified by zero or more nominal ASPECT markers. The eventuality discourse referent is existentially bound and located at the nominal time \(t_n\) by ATL, and MODALITY markers shift the world of evaluation of the nominal description. This encoded meaning is interpreted in the discourse context, and the nominal time \(t_n\) is resolved according to the link between the denotation of the noun phrase and the contextually established individuals. This schema, when compared to that of verb phrases repeated below, brings out the similarities and differences between the temporal interpretation of the two types of phrases:

(26) **Crosslinguistic temporal interpretation of verb phrases**
  discourse context: TENSE
  encoded meaning: \(\text{resolve}^{(\text{t}}) \ (\text{MODALITY})[\text{ATL}[\text{ASPECT}^* \text{eventuality description}]]\)

According to the theory I have developed in this chapter, the temporal interpretation of noun phrases and verb phrases both involve the semantic categories ASPECT and
MODALITY, and the eventuality discourse referents of the nominal and eventuality descriptions, respectively, are temporally located at a time t by Aspect-Based Temporal Location ATL. The way in which the location of the time t is determined for the two types of phrases is where their temporal interpretation differs. For verb phrases, the time t is resolved to the topic time $t_{top}$, which is a contextually given time that is related to the utterance time by the TENSE relation. For noun phrases, the time t is the nominal time $t_n$, which is resolved in the discourse context according to the link between the denotation of the noun phrase and the contextually given discourse participants. Thus, although the temporal interpretation of both types of phrases depends on the discourse context, they depend on different facets of the discourse context: the topic time for verb phrases, and the contextually established individuals for noun phrases.

### 3.4.1 The Nominal Tense Argument

It has been proposed that the temporal interpretation of noun phrases involves a nominal TENSE relation. The existence of a this relation is based on the following argument, which is perhaps most explicit in Lecarme 1999:334:

<table>
<thead>
<tr>
<th>Fact 1: Noun phrases are temporally interpreted (e.g. Enç 1981; Musan 1995).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact 2: The temporal interpretation of verb phrases involves a semantic TENSE (and grammatical ASPECT) relation (cf. e.g. section 3.2).</td>
</tr>
<tr>
<td>Fact 3: (Verbal) TENSE does not affect the temporal interpretation of noun phrases (e.g. Enç 1981; Musan 1995).</td>
</tr>
<tr>
<td>Assumption: The temporal interpretation of noun phrases and verb phrases is parallel.</td>
</tr>
<tr>
<td><strong>Conclusion:</strong> The temporal interpretation of noun and verb phrases involves a semantic TENSE relation. Since verbal TENSE does not affect noun phrases, there must be a nominal TENSE relation.</td>
</tr>
</tbody>
</table>

Figure 3.1: The Argument for Nominal TENSE

The argument rests on the assumption that the temporal interpretation of noun phrases

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44From this it also follows that nominal predicates that realize the main syntactic predicate (in languages where this is possible) must be interpreted relative to the topic time (i.e. according to (26)). Only nominal and verbal predicates that are realized in noun phrases can be interpreted at a time distinct from the topic time.
and verb phrases is parallel. From Facts 1-3 it follows that separate TENSE relations are involved in the temporal interpretation of noun phrases and verb phrases. I have presented several pieces of evidence against this assumption in section 3.3.1, and proposed a theory according to which the nominal time \( t_n \) is not located by a TENSE relation but resolved in the discourse context.\(^{45} \) I conclude at this point that there is no conceptual motivation for the existence of nominal TENSE.

Empirical support for the nominal TENSE proposal is presented in form of nominal temporality markers that are analyzed as tense markers (cf. e.g. Burton 1997; Lecarme 1999; Sadler and Nordlinger 2001; Aikhenvald 2003; Haude 2004; Lecarme 2004b; Nordhoff 2004; Nordlinger and Sadler 2004). In parts II and III of the dissertation I discuss the purported empirical evidence and conclude that it does not stand up to scrutiny.

### 3.4.2 Crosslinguistic Hypotheses About Noun Phrase Temporality

The theory I developed in this chapter makes several predictions regarding the crosslinguistic temporal interpretation of noun phrases. In this section, I formulate these predictions as hypotheses, which are examined on the basis of Guaraní and other languages in parts II and III of the dissertation.

The first set of hypotheses concerns the semantic categories that are relevant to the temporal semantics of noun phrases:

(H1) **Hypothesis 1**: The semantic category MODALITY is relevant for the temporal semantics of noun phrases and is instantiated by nominal expressions across languages.

(H2) **Hypothesis 2**: The semantic category ASPECT is relevant for the temporal semantics of noun phrases and is instantiated by nominal expressions across languages.

(H3) **Hypothesis 3**: There is no semantic category comparable to TENSE that is relevant for the temporal semantics of noun phrases. Consequently, there are no nominal expressions that instantiate such a semantic category.

The semantic characterizations of ASPECT and MODALITY predict that the two semantic categories are apply to nominal and eventuality descriptions alike. Hypotheses 1 and 2 are further motivated by the existence of expressions like *former, future* and *would-be,*

\(^{45}\)It would be misleading to assume that the relation between the nominal time \( t_n \) and the utterance time is a nominal TENSE relation since the nominal time does not exhibit any of the properties of the topic time.
which I have argued in chapter 2.3 to instantiate ASPECT and MODALITY. According to hypotheses 1 and 2, we expect other languages to also encode these semantic categories. Hypothesis 3 is based on the finding that the temporal interpretation of noun phrases does not involve a “nominal topic time” (section 3.3.1) and, hence, is not located by a TENSE relation. If no such semantic relation exists, we do not expect nominal markers to instantiate it.

The second set of hypotheses concerns the way in which noun phrases are temporally interpreted:

(H4) **Hypothesis 4:** The temporal interpretation of noun phrases crosslinguistically is governed by the following constraint:

The Temporal Interpretation of Noun Phrases (= (61))

The nominal time \( t_n \) is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

(H5) **Hypothesis 5:** There is crosslinguistic variation in the temporal semantics of noun phrases with respect to (i) the morphosyntactic realization of nominal semantic categories and (ii) the times relative to which a noun phrase in a particular discourse context is interpreted.

Hypothesis 4 maintains that the temporal interpretation of noun phrases in all languages is determined by the link between the denotation of the noun phrase and entities established in the discourse context. That is, I propose that the temporal interpretation of noun phrases in all languages depends on the interpretation of the noun phrase, not some other mechanism (e.g. a tense-like mechanism). This is motivated by the assumption that the temporal interpretation of noun phrases is affected by their denotation, i.e. individuals, rather than exclusively by the temporal parameters of the discourse context.

Part (i) of Hypothesis 5 is motivated by the fact that verbal aspect and modality markers vary in their crosslinguistic morphosyntactic realization. The second part of the hypothesis is based on the observation that there are discourse contexts in which noun phrases can be interpreted at more than one time (cf. examples (68) and (69)). I hypothesize that languages differ in the time relative to which a noun phrase in such a discourse context is interpreted.

Hypotheses 1-3 are addressed in part II of the dissertation for Guaraní and in part III for other languages. Hypotheses 4 and 5 are addressed in part III. I now discuss previous
approaches to the temporal interpretation of noun phrases. Readers not interested in alternative approaches should skip ahead to chapter 4.

3.5 Comparison with Previous Approaches

Among the earliest discussants of the temporal interpretation of noun phrases are Bach (1968) and Comrie (1985), both of whom observe that noun phrases are not interpreted at the time of the verb and that there are nominal tenses. Bach (1968:100f.) proposes that nouns derive from relative clauses, with the underlying tense form deleted: on this analysis, Bach’s (73a) would be derived from (73b).

(73)  a. Before I met my wife, she worked in a library.  
      b. Before I met the one who is my wife, she worked in a library.  

To the best of my knowledge, Bach (1968) is also the first to suggest the ‘nominal tense’ category. He argues (p.101) “that my analysis makes English seem much more like a number of ‘exotic’ languages, like Potawatomi, in which words corresponding to our nouns have tense /nčímanpčen/ ‘my former canoe’ (Hockett, 1958, p.238)” (my emphasis). Bach’s analysis and comment hence point to one of the earliest proposals that tense is relevant for both nouns and verbs. Comrie (1985:13) points out that “the noun phrase arguments of a verb are very often outside the scope of tense, whereas the verb is necessarily within the scope of tense”. On the same page, he suggests that tense in languages other than English can be expressed on non-verbal elements, in particular, on nouns, pointing to Sapir’s (1921:133-4) discussion of Nootka.

The first formal analysis of the temporal interpretation of noun phrases is found in Montague’s PTQ (Montague 1976). In Montague Grammar, following Prior (1967), tense is a sentence operator: the interpretation of a tensed sentence involves evaluating the untensed (or, rather, present tense) sentence at a past or future moment. (74) presents the tense operators P (for past tense) and F (for future tense). C, w, t and t’ are indices for the context, the world and times of evaluation.

(74)  a.  P(ϕ)_{C,w,t}=1 \iff \phi_{C,w,t'}=1 \text{ for some } t'<t. 
      b.  F(ϕ)_{C,w,t}=1 \iff \phi_{C,w,t'}=1 \text{ for some } t<t'. 

46 I use ε to represent ‘schwa’.
For example, *Susan sang* is true iff there is a past moment when *Susan sings* is true:

$$P\text{(sing(susan))}_{C,w,t} = 1 \text{ iff } P\text{(sing(susan))}_{C,w,t'} = 1 \text{ for some } t' < t.$$  

The tense operator also affects the temporal interpretation of noun phrases that are within its scope, unless the noun phrase is quantified in. In this case, the noun phrase is assumed to be interpreted at the utterance time. This predicts that a sentence like (76a) has two readings, represented in (76b) and (76c)

$$\begin{align*}
(76) & \quad \text{a. A student sang.} \\
& \quad \text{b. } P\text{(a student sings)} \\
& \quad \text{c. a student } P\text{(sings)}
\end{align*}$$

(76b), where the noun phrase *a student* is within the scope of past tense, asserts that at a time $t'$ in the past of the utterance time $t$ there is an individual who is a student at $t'$ and who sings at $t$. (76c), where the noun phrase is quantified in, asserts that there is an individual who is a student at the utterance time $t$ and there is a time $t'$ in the past of $t$ at which this individual sings. Thus, this analysis assumes that a sentence like (76a) is semantically ambiguous: it is the relative scope of quantifiers and tense which determine the possible interpretations of such utterances. In contrast, an utterance like (76a) is not ambiguous in the analysis I developed in this chapter but underspecified (without further discourse context) because the nominal time $t_n$ of *a student* has not been resolved yet.

The classical Montague analysis of the interpretation of tense is empirically challenged in Enç (1981:ch2) on the basis of the temporal interpretation of noun phrases. Two of Enç’s arguments are presented here (see Enç (1981, 1986) and Tonhauser (2000) for a more detailed discussion). Both arguments are based on the fact that Montague’s analysis predicts that for every noun phrase in an utterance there are only two possible times at which the noun phrase can be interpreted: within the scope of tense or, when quantified in, at the utterance time. One problem Enç points to is that there are noun phrases whose temporal interpretation involves several times, including past and present times. Consider the example in (77).

$$\text{(77) Every member of our investment club will buy a house} \quad \text{(Enç 1981:35)}$$

This example asserts that everybody who is a member of the investment club at some time (in the past, present or future) will buy a house in the future. The utterance says
nothing about whether a particular member will be a member at the time at which she buys a house. Thus, we would like the noun phrase every member of our investment club to range of past, present and future members. This is not possible in Montague’s analysis where we can either quantify over present members (noun phrase quantified in) or future members (noun phrase in the scope of F).

A second problem with the classical analysis of tense and noun phrase interpretation is presented by the example in (78).

(78) Every fugitive is now in jail.  
(Enç 1981:38)

Enç presents this example without any context, but suppose that we are talking about individuals who escaped from jail last week and were chased around the country for some days by the police. Then, a sheriff announces that the fugitives have been caught earlier today and that every fugitive is now in jail (78). In this discourse context, the phrase every fugitive is true of the individuals at a time in the past, but not anymore at the utterance time. As Enç points out, the only way for the noun phrase to receive such an interpretation in the classical Montague analysis is if it is interpreted within the scope of a past tense operator P. However, no such operator is provided by (78).

The problem with the PTQ-based analysis of the temporal interpretation of noun phrases is that it does not take into account the discourse context in which noun phrases are interpreted. In the analysis Enç offers, nouns are indexicals (like he and this) and therefore receive their interpretation from the discourse context (Enç 1981, 1986). The interpretation of nouns is then determined, just like that of other indexicals, by ind, a function from indices to denotations. For example, fugitive in (78) receives a subscript, e.g. fugitive₂, and ind assigns to fugitive₂ the set of individuals who escaped from jail last week.⁴⁷

In Enç’s proposal, the temporal interpretation of noun phrases is not affected by tense, and she promotes the idea that “when we use a noun, we seem to be able to talk about ANY set of individuals we please” (Enç 1981:45, emphasis in original). Thus, Enç’s proposal does not constrain the temporal interpretation of noun phrases by syntactic or semantic conditions. Instead, Enç points to contextual criteria and pragmatic principles

⁴⁷In the course of her proposal, Enç also abandons the scope analysis of tense. Ogihara (2003) suggests that the scope analysis of tense can be maintained despite Enç’s arguments by requiring the temporal variable of the noun to be a free variable, unaffected by the scope of tense.
which determine the selection of noun phrases and the times at which they can be interpreted:

In general, NP’s [sic] are used to pick out objects and VP’s [sic] are used to predicate something of these objects. The property a speaker chooses to pick out the objects is important in that it must enable the other participants in the discourse to access the objects easily. Therefore, these properties tend to be permanent properties or salient temporary properties. The salience of some properties may change from discourse to discourse (such as the property of being my secretary), or may remain fairly constant (such as the property of being a president). (Enç 1981:51)

Enç alludes to notions like ‘salience’ and ‘immediacy’ to account for the fact that not any description at any time is suitable to denote eventuality participants. In this context, she discusses the oddness of examples like (79).

(79)  a. All the little boys are eighty years old.
     b. I chopped down an acorn in my backyard because it was blocking the sun.
     c. The tadpoles croaked all night long. (Enç 1981:51)

All of the examples in (79) are odd (without further discourse context) because the eventuality participants are denoted with properties that are less salient than some other property. (79c), for example, is odd because the property of being a frog is more salient than the property of being a tadpole: being a frog is a more ‘immediate’ property of the objects under discussion since the objects were frogs when they croaked. But the immediacy of the property becomes important only when choosing between properties where there is a natural progression from one property to another. And with these properties, the immediacy requirement may be overridden in an appropriate discourse:

(80)  Context: A story of an ugly duckling that turns into a beautiful swan. Somebody points to a swan and says:
      Look, that’s him! The ugly duckling is swimming towards us. (Enç 1981:51)

Given that Enç’s analysis was developed at the same time as dynamic semantic theories started evolving (cf. Kamp 1981; Heim 1982), her analysis is surprisingly dynamic in the sense that the temporal interpretation of noun phrase is determined by the discourse
context. Enç also suggests principles which determine which properties (and, hence, which temporal interpretations) are suitable in particular discourse contexts.

There are also some differences between Enç’s and my analysis. Enç’s analysis is less restrictive: the fact that most noun phrases are interpreted at the topic time is not predicted. Enç’s analysis also does not identify the contextual factors under which noun phrases need not be interpreted at the topic time, or the semantic categories that play a role in the temporal semantics of noun phrases.

Enç (1981,1986) is often cited as providing motivation for the existence of a semantic category nominal TENSE since she observes that verbal TENSE does not affect the temporal interpretation of noun phrases (cf. the nominal tense argument in section 3.4.1). The nominal TENSE proposal is discussed by Enç (1981:41-44): on this proposal (which she eventually dismisses), Enç assumes that, for instance, the noun phrase every fugitive in (78), repeated in (81a) would be translated with a past tense P operator to ensure its interpretation at a time in the past, as illustrated in (81b).

\begin{align*}
(81) & \quad \text{a. Every fugitive is now in jail. (= (78))} \\
& \quad \text{b. } \forall x[P \text{ fugitive}(x) \rightarrow \text{in-jail}(x)] \\
& \quad \text{(Enç 1981:38)} \\
& \quad \text{(Enç 1981:42)}
\end{align*}

Enç finds that “[s]uch analyses have the further disadvantage that the semantic system we set up is not in close correspondence with the surface forms of natural languages. They involve operators that do not correspond to tense morphemes, and allow these operators to apply to formulae which are part of NP translations when the NP’s show no tense morphology. Linguists, perhaps unlike tense logicians, are interested in analyses which somehow correlate with natural language syntax and morphology” (Enç 1981:44). Thus, Enç does not assume nominal tenses because of lack of empirical evidence.

Enç’s proposal is challenged in chapter 3 of Musan’s (1995) Ph.D. dissertation, published as Musan (1997) (cf. also Musan 1999). Musan’s claim is that there are noun phrase occurrences, characterized by particular syntactic and semantic features, that cannot be interpreted at a time distinct from the time at which the verb is interpreted. In other words, Musan argues that the temporal interpretation of noun phrase is not determined solely by the discourse context, as claimed by Enç (1981, 1986) and myself.

Musan distinguishes between ‘temporally dependent’ and ‘temporally independent’ noun phrase occurrences and interpretations. Consider the noun phrases many fugitives in (82).
(82) a. Many fugitives are now in jail.

   b. There are now many fugitives in jail. (Musan 1995:11)

In (82a), the noun phrase receives a ‘temporally independent’ interpretation: it can be temporally interpreted at the utterance time, the time at which the verb is interpreted (in which case the individuals are fugitives not of the jail but of something else), or at a time in the past (in which case the individuals could be fugitives of the jail). In (82b), on the other hand, the noun phrase receives a ‘temporally dependent’ interpretation: it can only be interpreted at the utterance time, the time at which the verb is interpreted.

Musan’s claim is that there is a set of noun phrases which must receive a ‘temporally dependent’ interpretation on the basis of their formal features and the syntactic context they are realized in. The set of ‘temporally dependent’ noun phrases is defined on the basis of Milsark’s (1974) division of determiners into ‘strong’ and ‘weak’: strong determiners are determiners like all, every, each, most, weak determiners are many, some, few,....

Musan (1995/1997) proposes a division of noun phrases into presuppositional and cardinal noun phrases based on these two determiner types: strong determiners form presuppositional noun phrases whereas weak determiners form presuppositional or cardinal noun phrases. Musan’s claim is that cardinal noun phrases can only receive ‘temporally dependent’ interpretations, whereas presuppositional noun phrases receive ‘temporally independent’ interpretations (cf. Musan 1995:166, Musan 1997:143):

(83) a. Presuppositional noun phrases are (i) partitive DPs, (ii) DPs with strong determiners, (iii) DPs with weak determiners that are stressed on the determiner, (iv) and generic bare plural noun phrases.

   b. Cardinal noun phrases are (i) DPs with weak determiners in certain syntactic positions, (ii) existential bare plurals and (iii) DPs with weak determiners that are stressed on the noun.

For presuppositional noun phrases, Musan follows Enç in alluding to pragmatic factors like salience to account for their temporal interpretation. Since presuppositional noun

---

48In Milsark (1974), this division of determiners is based on their occurrence in there-constructions (e.g. There are five/some/all/most dogs in the garden). See Lumsden (1988) for problems with Milsark’s analysis.

49Presuppositional noun phrases presuppose the existence of individuals that have the property denoted by their noun, whereas cardinal noun phrases do not.
phrases account for the majority of all noun phrase occurrences, Musan’s theory determines the temporal interpretation of a small set of noun phrases only, namely cardinal noun phrases.\(^{50}\)

I have empirically challenged Musan’s claim that cardinal noun phrases (83) must be interpreted at the time of the verb in Tonhauser (2002). I briefly recap these empirical arguments. First, regarding the noun phrases in (i) in (83b), Musan (1995/1997) specifies two syntactic positions which give rise to cardinal interpretations of weak noun phrases, i.e. cardinal noun phrases: inside the VP (in German) and in the context of existential there-constructions. Since Musan (1995:58) notes that the interpretation of weak noun phrases in the former environment only preferably gives rise to cardinal, i.e. ‘temporally dependent’ interpretations, I do not accept such noun phrases as counterevidence to Enç’s claim that only context plays a role in the temporal interpretation of noun phrases. Regarding the other environment, existential there-constructions, examples like (84) are counterexamples to the claim that such noun phrases must be interpreted at the topic time.

(84) Context: At a reunion of the survivors of the Titanic disaster.

Look, there are even some crew members. (Tonhauser 2002:294)

Contrary to Musan’s prediction, the noun phrase some crew members in the existential there-construction is not interpreted at the utterance time, the time at which the verb is interpreted. Rather, the property ‘crew member’ is true of the individuals denoted by the noun phrase at a time around 1912 (cf. the discussion of this example in section 3.3). Noun phrases in existential constructions typically introduce new discourse participants, and are often but not always interpreted at the topic time (cf. section 3.3.4).\(^{51}\)

\(^{50}\)In Musan (1995), the distinction between ‘temporally dependent’ and ‘temporally independent’ noun phrases is formally implemented by quantifying over stages of individuals (i.e. time slices of individuals, following Carlson 1977) such that the nominal predicate is either realized in the scope of the quantifier (temporally dependent interpretation) or in the restrictor of the quantifier (temporally independent or dependent interpretation). In Musan (1999), a temporally independent interpretation is achieved by quantifying over full individuals. See Denis and Muller (2004) for a similar proposal where noun phrases denote stages of individuals.

\(^{51}\)Denis and Muller (2004:48) challenge the effectiveness of (84) as counterevidence to Musan’s theory: “We do not think that this sort of example constitutes a valid rebuttal of Musan’s claim, for the NP in [(84)] does not qualify as a cardinal NP. This, we argue, because [sic] the head noun member has an implicit argument, which if not overtly realized has not be contextually ‘bridged’. The most salient candidate for bridging is the definite NP the Titanic; this in effect means that the NP some crew members has an [sic] hidden definite (i.e., it
A similar example illustrates that existential bare plurals, the second type of cardinal noun phrase in (83), are also not necessarily interpreted as ‘temporally dependent’. In (85), the existential bare plural *crew members* is temporally interpreted at a time in the past, not at the utterance time at which the verb is interpreted.

(85) **Context:** A friend and I are attending a reunion of the survivors of the Titanic disaster. I say:

Look, crew members are here, too! * (Tonhauser 2002:295)

The third type of cardinal noun phrase in (83) are ‘DPs with weak determiners that are stressed on the noun’. This type is refined in Musan (1996) and Musan (1999) to include only DPs with weak determiners that have a rising accent on the noun because “this effect [temporally dependent interpretation, JT], however, only comes about reliably when the accent on the noun is a rising accent and not a falling accent. If there is a falling accent positioned on the noun, this leads to a narrow focus reading” (Musan 1999:629), in which the noun phrase may receive an interpretation at a time distinct from the verb phrase. However, the example in (86) illustrates that even DPs with weak determiners that are stressed on the noun need not necessarily be interpreted at the time of the verb:

(86) **Context:** At a mass wedding, after the priest has joined the 500 couples. I say:

I bet 10 years ago most of the grooms weren’t even thinking of getting married while some BRIdes were already getting measured for the dress. * (Tonhauser 2002:302)

The noun phrase *some brides* is interpreted at the utterance time, whereas the verb is interpreted at a time in the past. A rising accent on a noun can indicate contrastive focus, and does not, contrary to Musan’s claim, force the noun phrase to be interpreted at the time of the verb.

Means ‘some crew members of the Titanic’), hence cannot be a cardinal NP.”

I agree with Denis and Muller’s claim that the noun phrase *some crew members* may be temporally interpreted at a time distinct from the topic time because it is relational and is, hence, interpreted relative to contextually established discourse participants (cf. section 3.3). However, their claim that the example is not a counterexample to Musan’s theory, is not valid since the noun phrase is a cardinal noun phrase according to Musan’s criteria (i.e. it is headed by a weak determiner and is realized in an existential construction). Ironically, Musan states that partitive noun phrases (like *crew member of the Titanic*) in existential constructions must receive a temporally dependent interpretation, rendering Denis and Muller’s attempted defense of Musan hopeless: “Hence, TCs [existential there-constructions, JT] somehow force noun phrases in their postcopular position to be temporally dependent” (Musan 1999:640). (See also Musan (1996).)
3.5. **COMPARISON WITH PREVIOUS APPROACHES**

In sum, each of the three noun phrase types that Musan (1995/1997) claims must be interpreted at the time of the verb (‘temporally dependent’) can in fact be interpreted at other times. Musan’s claim that there are noun phrases whose temporal interpretation at the topic time is predetermined by their form and the syntactic context cannot be maintained.

The same arguments that I have presented here and in Tonhauser (2002) apply to Musan (1999), a variant of her earlier proposal. However, what is interesting about Musan (1999) is that it acknowledges to a much larger extent than Musan (1995/1997) the importance of the discourse context on the temporal interpretation of noun phrase. Thus, although the formal analysis of Musan (1999) is based on the same (and empirically inadequate) assumptions about temporally dependent and independent noun phrase occurrences, the factors that determine the temporal interpretation of noun phrases is remarkably similar to what I propose in this dissertation (Musan 1999:643):

(87) Temporal (in)dependence of a noun phrase depends on three factors:

a. The presuppositional properties of the noun phrase [...].

b. Thematic properties of the noun phrase: does it realize an existence-independent argument [...]?

c. The information-status of the noun phrase: is it hearer-old [...] or discourse-old [...]?

Musan’s unifies these factors into a prediction regarding the temporal interpretation of noun phrases, and she presents the following correlation.

(88) Correlation of temporal independence and hearer-establishedness:

A noun phrase occurrence that does not realize an existence-independent argument of the main predicate is temporally independent if and only if it is treated as if it were established in the discourse model of the hearer.    (Musan 1999:644)

(88) expresses that noun phrases can be temporally interpreted at a time distinct from the topic time only if “it”, i.e. the denotation of the noun phrase, is established in the hearer’s discourse context. This is one half of the constraint on the temporal interpretation of noun phrases I formulated above (cf. section 3.3). Musan, however, retracts (88) to some extent because it contradicts what she assumes about the interpretation of particular kind of noun phrases, namely that “presuppositional noun phrases in TCs [existential there-constructions, JT] and to a weaker extent, presuppositional noun phrases
that are not scrambled” (Musan 1999:644) must be temporally dependent (even though they can be hearer established). Given the counterexamples to each of the three noun phrases types that Musan claims must receive a temporally dependent interpretation, it seems that Musan’s correlation in (88) is essentially on the right track.52

52For the sake of completeness, I to mention De Cuyper’s (2005) discussion of the temporal interpretation of noun phrases. De Cuyper assumes that “NPs possess tense” because noun phrases need to be temporally interpreted (p.33), an assumption which is not tenable, as discussed in this dissertation. An empirically invalid claim made by De Cuyper (2005) is that all noun phrases must be interpreted either at the utterance time, the reference time or the situation time of the verb (p.39). Finally, De Cuyper sometimes misrepresents Musan’s claims and assumptions. For instance, on page 35, De Cuyper (2005) wrongly claims that Musan’s Logical Form of Few students were sick under the cardinal interpretation of few does not prevent an interpretation where the noun phrase is temporally interpreted at a time distinct from the time at which the verb is interpreted.
Part II

Guaraní: A Language With Nominal Temporality Markers
Chapter 4

Introduction to Guaraní

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4.4 Summary ................................................................................................. 145

This part of the dissertation (consisting of chapters 4-8) is a detailed discussion of the temporal semantics of noun phrases in Guaraní. This chapter introduces the sociolinguistic context and fieldwork background of Paraguayan Guaraní (section 4.1), and establishes the main linguistic features of the language (sections 4.2-4.3).

4.1 Sociolinguistic and Fieldwork Background

In this section, I present Paraguayan Guaraní in the context of Paraguayan society, characterize the fieldwork communities I worked in and identify how I collected the data.
4.1.1 Paraguayan Guaraní and Its Speakers

Paraguayan Guaraní is a Tupí-Guaraní language mainly spoken in Paraguay. The Tupí-Guaraní language family is one of the nine branches of the Tupí family (see Rodrigues (1999) for an overview), one of the largest linguistic groups in South America. Tupí-Guaraní, which has most of its languages in Amazonia, is comparatively well-described (see Jensen (1999) and references therein) and consists of about 40 languages or dialects. Table 4.1 presents an overview of the 8 subgroups of Tupí-Guaraní languages. As indicated, most languages are located in Brazil, with the exception of the Guaraní languages (subgroup 1) which are spoken in Argentina, Bolivia, Brazil and Paraguay, and subgroup 8.

Paraguay is a landlocked country in the heart of South America. It is 15% larger than Germany, but has only about 6 million inhabitants,\(^1\) 1.5 million of whom live in the capital Asunción. About 95% of the Paraguayan population are mestizos. The Rio Paraguay divides Paraguay into a northern part, a semi-desert thornbush jungle called the Chaco (about 60% of the country), and a southern part, (sub-)tropical with grassy plains and forests, in which over 90% of the Paraguayan population lives.

Since 1992, Paraguayan Guaraní has been an official language of Paraguay. The constitution of Paraguay has been published in Guaraní (and Spanish), and Guaraní is a required subject in Paraguayan schools. In the sociolinguistic literature, Paraguay is often cited as a picture-book example of a diglossic society (e.g. Roett and Sacks 1991, Romaine 1995), a unique case among South American countries. Whether the current linguistic situation of Paraguay indeed warrants being called diglossic has been challenged: Fasoli-Wörmann (2002), for instance, argues that the majority of the population is not bilingual but a speaker of Spanish or Guaraní, who has (sometimes only limited) knowledge of the other language. According to Fasoli-Wörmann (2002:302), Paraguay as a bilingual society is a myth, which is upheld by elevating Guaraní to a national symbol. She maintains that Paraguay is bilingual on the level of the country because both languages are widely spoken in Paraguay but that there is a geographical separation of the languages to the effect that Guaraní is mainly spoken in the countryside and Spanish in the cities.\(^2\) Spanish has the linguistic monopoly in all areas of power, i.e. in the media, in

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\(^2\)In this sense, Paraguay is a multilingual country since there are approximately 50,000 speakers of around 17 other indigenous languages, not counting Paraguayan Guaraní (according to the Ethnologue report for
### 4.1. Sociolinguistic and Fieldwork Background

<table>
<thead>
<tr>
<th>Subgroup 1 – Guaraní (Argentina, Bolivia, Brazil, Paraguay)</th>
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<tbody>
<tr>
<td><strong>Chiriguano cluster</strong></td>
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<tr>
<td>Kaiwá (Pái-Taveterá)</td>
</tr>
<tr>
<td>Mbyá</td>
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<tr>
<td>Old Guaraní (extinct)</td>
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<tr>
<td>Chiripá</td>
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<tr>
<td>Guaraní</td>
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<tr>
<td>Nhandéva (Chiripá)</td>
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<tr>
<td>Guayakí (Aché)</td>
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<tr>
<td>Xetá (nearly extinct)</td>
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<tr>
<td><strong>– Avá</strong></td>
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<td><strong>– Izacoño</strong></td>
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<th>Subgroup 2 – Bolivia</th>
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<tbody>
<tr>
<td><strong>Guarayu</strong></td>
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<tr>
<td>Jorá (Hora) (extinct)</td>
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<td>Sirionó</td>
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<tr>
<th>Subgroup 3 – Brazil</th>
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<tbody>
<tr>
<td><strong>Tupí (extinct)</strong></td>
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<tr>
<td>Nheengatú</td>
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<tr>
<td>Tupinambá (extinct)</td>
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<tr>
<td><strong>Tupí Austral (extinct)</strong></td>
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<td>Kokáma/Omáwa</td>
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<th>Subgroup 4 – Brazil</th>
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<tr>
<td><strong>Avá (Canoeiro)</strong></td>
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<tr>
<td>Akwáwa cluster</td>
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<tr>
<td>Tenetehára cluster</td>
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<tr>
<td><strong>Tapirápé</strong></td>
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<tr>
<td>– Asurini of Tocantins/Trocará</td>
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<tr>
<td>– Guajajá</td>
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<tr>
<td>– Suruí of Tocantins/Pará</td>
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<td>– Tembé</td>
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<td>– Parakaná</td>
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<th>Subgroup 5 – Brazil</th>
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<tbody>
<tr>
<td><strong>Araweté</strong></td>
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<tr>
<td>Asurini of Xingu</td>
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<td>Kayabí</td>
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<th>Subgroup 6 – Brazil</th>
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<tbody>
<tr>
<td><strong>Apiaká</strong></td>
</tr>
<tr>
<td>Kawahíb cluster</td>
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<tr>
<td>– Amondawa</td>
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<tr>
<td>– Parintintin</td>
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<tr>
<td>– Karipuna</td>
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<tr>
<td>– Tenarím</td>
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<tr>
<td>– Juma</td>
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<tr>
<td>– Úru-e-wau-wau-wau</td>
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<tr>
<th>Subgroup 7 – Brazil</th>
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<tbody>
<tr>
<td><strong>Kamayurá</strong></td>
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<tr>
<th>Subgroup 8 – Brazil and French Guiana</th>
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<tbody>
<tr>
<td><strong>North of the Amazon</strong></td>
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<tr>
<td>Emerillon</td>
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<tr>
<td>Anambé (nearly extinct)</td>
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<tr>
<td>Takunyapé (extinct)</td>
</tr>
<tr>
<td>Wayampi</td>
</tr>
<tr>
<td>Guajá</td>
</tr>
<tr>
<td>Turiwára (prob. extinct)</td>
</tr>
<tr>
<td>Zo’é</td>
</tr>
<tr>
<td>Urubú-Kaapor</td>
</tr>
<tr>
<td>Amanayé (prob. extinct)</td>
</tr>
</tbody>
</table>

Table 4.1: Tupí-Guaraní Language Family (Adapted from Jensen 1999:130-132)
the educational system, in politics and administration. Spanish is the main written language of the country, while Guaraní is hardly used to that effect. Roughly speaking, the larger a city is and the closer it is to Asunción, the more Spanish dominates. This results in an association of Guaraní speakers with “uneducated farmers” and Spanish speakers with “educated employees”. Many parents in urban areas choose not to speak Guaraní to their children, hoping thereby to give them an advantage in Spanish.

Paraguayan Spanish and Paraguayan Guaraní exert a considerable mutual influence on each other (Dietrich 1993, 1995), and Paraguayan Guaraní incorporates many hispanisms, up to 50% according to Giménez Caballero (1966:125). Two forms of Paraguayan Guaraní are typically distinguished (Krivoshein de Canese and Corvalán 1992:18): guaraní paraguayo colloquial, the Guaraní spoken by people in rural areas, and guaraní paraguayo estandar, the “pure” Guaraní taught in schools. This latter Guaraní, which is supposed to counter the hispanicization, uses many neologisms but it has not established itself in every day speech. Since most people in Paraguay are considered monolinguals of either Paraguayan Spanish or Paraguayan Guaraní, with (varying) knowledge of the other language, one often happens upon situations in urban areas where speakers communicate by mixing the two languages. This code-switching form of communication is called Jopará, which has been described both as hispanicized Guaraní (Krivoshein de Canese 1993:15) and as Guaraní-ized Spanish (Granda 1982). Jopará is not a creole or pidgin because its manifestations are speaker-dependent, i.e. dependent on the level of knowledge a speaker has in Spanish and Guaraní. Working under the assumption that there are many different mixed forms on a continuum between Paraguayan Spanish and Paraguayan Guaraní, other researchers regard Jopará as the form of Paraguayan Guaraní that is most mixed with Spanish (Melià 1974:160, Dietrich 1998:483). In the eyes of the speakers, Jopará is based on Guaraní, and is characterized by violations of the norms of Guaraní (cf. von Gleich 1993:26 and Fasoli-Wörmann 2002:59); a negative connotation is associated with Jopará (Gregores and Suárez 1967:20).

4.1.2 Fieldwork Communities and Consultants

The data presented in this dissertation were collected during three trips to Paraguay in 2004-05, totaling 19 weeks in the field. My Guaraní language consultants live in two Paraguay). These include languages from the Zamucoan family (e.g. Ayoreo, Chamacoco), from the Mataco family (e.g. Chiripá, Chorote, Maca, Nivaclé) and from the Mascoi family (e.g Lengua, Sanapaná).
4.1. SOCIOLINGUISTIC AND FIELDWORK BACKGROUND

communities in the southern part of Paraguay. The first community is Barcequillo, a part of the Municipalidad de San Lorenzo with around 210,000 inhabitants, which is located about 25 kilometers east of Asunción. It is an urban city with department stores, internet cafes, telephone shops, and restaurants. People work in factories, schools, or little shops. It is common to hear Spanish or Jopará in the streets, on the bus, and in stores. Guaraní is mainly spoken at home or with friends who speak it. Many children here do not grow up speaking Guaraní, either because their parents do not speak Guaraní themselves or because their parents decided to raise their children monolingually in Spanish. My second fieldwork community is San Isidro (departamento Guairá), a rural subsistence farming community of about 700 people. There is no running water or telephone, and the main contact with the outside world is a bus, which comes through the community twice a day. Everybody in the community lives and works on their land, growing crops mainly for consumption and raising animals. There is a little store where items are sold that do not grow on the land. Guaraní is spoken everywhere and all children grow up speaking it – in most cases, Spanish is only learned upon entering the school system.

Of the three fieldwork trips, the first was mainly spent in Barcequillo, the second mainly in San Isidro, and the third involved about equal time in both communities. This allowed me to crosscheck the data between consultants and communities. I did not notice major dialectal variation that would affect my study of temporality in Guaraní. My consultants received monetary compensation on an hourly basis for working with me. In Barcequillo, I mainly worked with one consultant, who was an excellent teacher. I double-checked data with two other consultants, and elicited and transcribed stories with them. In San Isidro, I worked with three consultants about equal amounts of time, and elicited stories from one other person.

All of my consultants grew up in the countryside, speaking Guaraní either monolingually or dominantly for a large part of their childhood. Now, as adults, they consider themselves bilingual, having learned Spanish between the ages of 0 and 5 years, but most assert that they feel more comfortable and confident in Guaraní than Spanish. The age range of my consultants was 19-55 at the time of the study, 2 are female, 4 are male. All of them have at least a basic school education (grades 1-6), one of them studied at the university and now works as a teacher. All of my consultants can read in Spanish and Guaraní, and write in Spanish.
4.1.3 Data Collection and Sources

Whenever possible, the examples presented in this dissertation are naturally occurring data: oral narratives from my consultants, short stories I found in school books and children’s books,³ and utterances I overheard in Paraguay. I created a corpus which contains the oral narratives and the short stories (about 2089 words in Guaraní, roughly 4000 in English).⁴ The corpus contains the following narratives (Table 4.2): michi ‘small’ is an oral narrative by a consultant telling me about her childhood; in ñepyru ‘beginning’, a consultant recounts her family’s life and current community practices. The corpus also contains two narrations of the pictorial description of a boy’s hunt for a frog (A boy, a dog and a frog, Mayer 1967) and four short stories. Examples in the dissertation that stem from one of these texts are marked with [C]. Two of the narrations are given in Appendix B.

<table>
<thead>
<tr>
<th>text</th>
<th>description</th>
<th>words</th>
</tr>
</thead>
<tbody>
<tr>
<td>michi ‘small’</td>
<td>narrative about childhood</td>
<td>283</td>
</tr>
<tr>
<td>ñepyru ‘beginning’</td>
<td>narrative about parents’ life</td>
<td>351</td>
</tr>
<tr>
<td>A boy, a dog and a frog</td>
<td>narrated by SC</td>
<td>412</td>
</tr>
<tr>
<td>A boy, a dog and a frog</td>
<td>narrated by NC</td>
<td>247</td>
</tr>
</tbody>
</table>
| jakare ‘crocodile’          | story about the life of crocodiles (au-
|                            | thor unknown)                          | 143   |
| kirikiri ‘cricket’          | story about a cricket’s adventure (au-
|                            | thor unknown)                          | 196   |
| ka’i ‘monkey’               | story about a monkey’s adventure (au-
|                            | thor unknown)                          | 375   |
| ypei ‘duck’                 | a story about a frog and a duck (au-
|                            | thor unknown)                          | 82    |
| total                       |                                       | 2089  |

Table 4.2: Overview of the Texts in the Corpus

The corpus does not include the utterances I overheard; such utterances are identified in the dissertation with [overheard], and presented with the relevant part of the discourse

³I asked my consultants to translate these texts to me to determine whether they contain neologisms.
⁴I assume that a Guaraní word consists of the stem and affixes or clitics that semantically associate with the stem. I present the word unit as an orthographic unit. See Drude (2004) for the difficulties of determining wordhood in Guaraní. The corpus now also contains a theater play of an additional 5000 (Guaraní) words, which unfortunately was not available to me as I was doing my research.
context in which the utterance occurred. The third type of naturally occurring data presented in the dissertation is taken from Aguilerá (1998), a book with little folkloric texts and jokes, and Acosta and de Canese (2003), a book of Paraguayan myths, tales and legends. The data in the dissertation that originates in these books is marked with [P] and [AdC], respectively. Reading these books proved useful for my study because the corpus and overheard utterances did not illustrate all of the possible uses of the Guaraní nominal temporality markers, and other markers or constructions. By reading these books, sometimes with my consultants, I was able to identify many more tokens of the markers or constructions I was interested in.

While naturally occurring data are a great source of positive evidence, there are certain aspects of the meaning of natural language utterances that cannot be accessed using naturally occurring data alone (Bittner 1987; Matthewson 2004). One cannot, for example, distinguish between entailed and implicated meanings based on naturally occurring data alone, or the contribution of an expression to the meaning of a complex construction. I therefore complemented the naturally occurring data with data collected during elicitation. All elicitation sessions were held in Spanish and the data from elicitation sessions were crosschecked with at least two more speakers, by eliciting the same material or by asking for backtranslations. I used two elicitation techniques, translation and judgements. The former consists of presenting my consultants with small discourses in Spanish and asking them to translate these discourses into Guaraní. The discourses contain a target utterance, i.e. an utterance whose meaning I was interested in seeing realized in Guaraní, but which was not represented in my corpus. A subset of the translated discourses stems from Östen Dahl’s tense/ aspect/mood questionnaire (cf. Dahl 1985). This questionnaire, which contains almost 400 contextualized sentences and small discourses, was designed as part of a crosslinguistic semantic project and allows a fieldworker to elicit the forms of a language that express the major tense, aspect and modal categories. I completed the questionnaire with one speaker, and elicited about half of the questionnaire with another speaker. Examples in the dissertation that are based on this questionnaire are marked with [D]; all other data that stems from elicitation sessions are marked with [E].

The textual data, whether naturally occurring or elicited, provided an excellent starting point for the elicitation of judgements. Following a technique described in Bittner (1987), I presented my consultants with modified versions of discourses, and asked whe-
ther the discourse was grammatical and felicitous. Another technique I used was to present alternative versions of the same discourse and asked for preferences. Some consultants offered their intuitions on why a discourse was not grammatical or felicitous, or suggested meaning differences between two alternative versions. Further discussions of such suggestions led to interesting discoveries in some cases, but sometimes also to the dismissal of the offered explanation.

Table 4.3 summarizes the sources of the data presented in this dissertation, and the identifiers used for the sources.

<table>
<thead>
<tr>
<th>data source</th>
<th>identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>corpus</td>
<td>[C]</td>
</tr>
<tr>
<td>Dahl questionnaire</td>
<td>[D]</td>
</tr>
<tr>
<td>other elicitation</td>
<td>[E]</td>
</tr>
<tr>
<td>textual examples</td>
<td>[P], [AdC]</td>
</tr>
<tr>
<td>spontaneous discourse</td>
<td>[overheard]</td>
</tr>
</tbody>
</table>

Table 4.3: Overview of Data Sources and Their Identifiers

4.2 Phonetics and Phonology

The Guaraní examples presented in this dissertation are transcribed following the orthographic conventions adopted by the Paraguayan Ministry of Education. Table 4.4 gives the consonant and vowel inventory of Guaraní: ch stands for an alveopalatal fricative similar to the first consonant sound in English shine, g is a velar fricative as g in Spanish lago and the apostrophe ‘ stands for a glottal stop. Following Velázquez-Castillo (1996:7), j, a voiced affricate like its English equivalent, is included among the prenasalized stops because it patterns with them with respect to nasal harmony (see below). l occurs almost exclusively in Spanish loans.

The structure of the syllable is basically CV, with only few exceptions: the suffix –nte ‘just, only’ and the interjection ningo ‘indeed’. Since words are predominantly stressed on the last syllable, accent marks are used only to indicate a deviation from this pattern (e.g. ðga ‘house’). The most distinctive phonological feature of Guaraní words and phrases is their tendency to create nasal harmony (e.g. Lunt 1973, Rivas 1974, van der Hulst and Smith 1982, Kiparsky 1985). Nasality tends to spread from stressed nasal

---

5The name of the language, Guaraní, is an exception to this convention.
4.2. PHONETICS AND PHONOLOGY

Consonants

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>stops</td>
<td>p</td>
<td>t</td>
<td>k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>prenasalized stops</td>
<td>mb</td>
<td>nd</td>
<td>j</td>
<td>ng</td>
<td></td>
</tr>
<tr>
<td>nasals</td>
<td>m</td>
<td>n</td>
<td>ñ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fricatives</td>
<td>v</td>
<td>s</td>
<td>ch</td>
<td>g</td>
<td>h</td>
</tr>
<tr>
<td>laterals/taps</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vowels

<table>
<thead>
<tr>
<th></th>
<th>front</th>
<th>central</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>i</td>
<td>y</td>
<td>u</td>
</tr>
<tr>
<td></td>
<td>e</td>
<td>a</td>
<td>o</td>
</tr>
<tr>
<td>nasal</td>
<td>í</td>
<td>ý</td>
<td>ù</td>
</tr>
<tr>
<td></td>
<td>ë</td>
<td>ã</td>
<td>ô</td>
</tr>
</tbody>
</table>

Table 4.4: Consonant and Vowel Inventory (Adapted from Velázquez-Castillo 1996:7)

vowels (i.e. from root-final position typically) to other sounds of the basic root, creating some predictable consonant alternations. In (1a,b), the stem-final nasal vowels result in a nasalization of the other vowels in the stem.

(1)  a. /porâ/ → pôrâ ‘pretty’
    b. /tekotevè/ → têkôtevè ‘necessary’

Voiced stops are inherently nasal. As illustrated in (2), they are realized as prenasalized when stressed nonnasal vowels occurs to their right (2a) (with no nasals or stressed vowels intervening) and as full nasals otherwise (2b).

(2)  a. /mba’è/ → mba’e ‘thing’
    b. /kujà/ → kûñà ‘woman’

Nasal suffixes and clitics do not affect the nasality of the root they attaches to (3a), but their nasal feature can affect the realization of oral suffixes and clitics to their right (cf. also Adelaar (1994)). This is illustrated with the suffixes and clitics –pe ‘-PE’ and –pa ‘completely, all’ in (3b,c), respectively. Other oral suffixes and clitics, like –ma ‘-MA’ and –pa ‘-QU’ are not affected by nasality (3d,e).\(^6\)

\(^6\)Whether the syntactic status of –pa ‘completely, all’ versus –pa ‘-QU’ determines its potential to be affected by nasal spread is subject to future research.
(3) a. /kure-râ/ \( \rightarrow \) kure-râ, not: ngûrê-râ
b. /kure-râ-pe/ \( \rightarrow \) kure-râi-me
c. /œi-pa/ \( \rightarrow \) oî-amba ‘that’s all’
d. /œi-ma/ \( \rightarrow \) oî-ma ‘that’s it already’
e. /œi-pa/ \( \rightarrow \) oî-pa ‘is s/he (here)?’

Loan words are transcribed with the Guaraní forms (e.g. bisikleta for Spanish bicicleta ‘bike’).

4.3 Morphosyntax and Syntax

Guraní morphosyntax is agglutinative and mildly polysynthetic, with suffixes predominating over prefixes, and postpositions rather than prepositions. The language is a head-marking language (Nichols 1986) and features a complex crossreferencing system through which the two major lexical categories are defined in section 4.3.1. In section 4.3.2, I briefly present the semantic parameters that underlie the split-S system of argument marking. Voice and valency alternations are introduced in section 4.3.3, and word order, argument realization and the major syntactic constructions are discussed in section 4.3.4.

4.3.1 Crossreference Markers and Lexical Categories

Guraní has two lexical predicate classes, which I refer to as static and dynamic predicates, respectively. Dynamic predicates are mainly concepts that are lexicalized as verbs in English, like (o)ho ‘go’ and (o)purahe ‘sing’. Static predicates, on the other hand, are concepts that are lexicalized in English as verbs (e.g. (i)psyrjy ‘to slip’), adjectives (e.g. kane’d ‘tired’) or nouns (e.g. kyse ‘knife’). In Guaraní, all predicates, whether dynamic or static, can be realized as the main syntactic predicate of the clause. (To compare, in English only verbs can be realized as the main syntactic predicate of the clause.)

The morphosyntactic property that distinguishes the two lexical predicate classes is cooccurrence with the set A and set B crossreference markers: static predicates co-occur only with the set B crossreference markers whereas dynamic predicates co-occur with both set A and set B crossreference markers. Table 4.5 presents an overview of the two sets of crossreference markers.
4.3. **Morphosyntax and Syntax**

<table>
<thead>
<tr>
<th></th>
<th>set A</th>
<th>set B + prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>a(i)–</td>
<td>che– r–</td>
</tr>
<tr>
<td>1incl</td>
<td>ja(i)–</td>
<td>ŋande– r–</td>
</tr>
<tr>
<td>1excl</td>
<td>ro(i)–</td>
<td>ore– r–</td>
</tr>
<tr>
<td>2sg</td>
<td>e(i)–</td>
<td>nde– r–</td>
</tr>
<tr>
<td>2pl</td>
<td>pe(i)–</td>
<td>pende– r–</td>
</tr>
<tr>
<td>3</td>
<td>o(i)–</td>
<td></td>
</tr>
</tbody>
</table>

| portmanteau | ro(i)– ‘12sg’ |
| prefixes | po(i)– ‘12pl’ |

**Table 4.5: Crossreference Markers in Guaraní**

Except in the third person, the set A and set B markers distinguish person and number, including a division between first person plural inclusive and exclusive. The set B markers are followed by a prefix r– in conditions that are discussed below. There are two portmanteau crossreference markers for contexts that feature a first person singular proto-agent and a second person proto-patient: ro(i)– ‘12sg’ is used when the second person is singular and po(i)– ‘12pl’ when the second person is plural. Third persons are crossreferenced either by the set A marker o(i)– or by a set of relational prefixes, which are further discussed below.

**Dynamic Predicates**

Dynamic predicates can be transitive or intransitive. Transitive dynamic predicates have two arguments, which I refer to as the A-argument and the O-argument (cf. Dixon 1994). The A-argument is crossreferenced with a set A marker and the O-argument is crossreferenced with a set B marker. Only one argument is crossreferenced on a transitive predicate, namely the one that is highest according to the two hierarchies in (4).

(4) a. Person hierarchy: \(1 > 2 > 3\)

   b. Grammatical function hierarchy: \(A > O\)

The hierarchy in (4a) states that a first person outranks a second person which in turn outranks a third person. The grammatical function hierarchy in (4b) is outranked by the person hierarchy: when both the A- and the O-argument are third person, the A-argument is crossreferenced on the predicate.
The following examples illustrate this crossreferencing system with the transitive predicate *hecha* ‘see’. Assume that in a particular discourse context the speaker (hence first person) is the A-argument and Juan (third person) is the O-argument. According to the person hierarchy (4a) the A-argument is higher than the O-argument and hence the A-argument is crossreferenced on the dynamic predicate with the set A marker *a-* ‘A1sg’, as illustrated in (5). The O-argument is marked with –*pe*, which indicates the non-A-argument status of the referent.7

(5) **A**-hecha Juan-*pe*.
   A1sg-see Juan-*PE*
   ‘I see/saw Juan.’8  

If the O-argument is first person (speaker), and the A-argument is third person (Juan), then, as in (6), the O-argument is crossreferenced on the predicate with the set B marker *che-* ‘B1sg’.

(6) **Che**-hecha Juan.
    B1sg-see Juan
    ‘Juan sees/saw me.’

When both arguments are third person, the grammatical function hierarchy comes into play: the A-argument is crossreferenced with the set A marker *o-* ‘A3’, as illustrated in (7). *Juan*, the O-argument, is marked with –*pe* to indicate that it is a non-A-argument.

(7) **O**-hecha Juan-*pe*.
    A3-see Juan-*PE*
    ‘He/she/it sees/saw Juan.’

In this system, a third person O-argument is never crossreferenced on a transitive predicate, and no 3rd person set B marker exists, as indicated in Table 4.5.

---

7 The suffix –*pe* is used to mark O-arguments of transitive predicates and spatiotemporal locations (with both transitive and intransitive predicates). Marking of the O-argument is optional if the A-argument is local and/or higher on the animacy hierarchy than the O-argument.

8 Since Guaraní is a tenseless language (chapter 7), the time relative to which the main syntactic predicate, here *hecha* ‘see’, is interpreted is not determined, as indicated in the English translation. In the examples in this dissertation, I present elicited examples without discourse context as temporally underspecified; examples with a discourse context are presented as temporally located.
The two portmanteau forms ro(i)–‘12sg’ and po(i)–‘12pl’ are used when the transitive predication involves a first person singular A-argument and a second person (singular or plural) O-argument. Consider the examples in (8).

(8)  a. **Ro-i-su’ú-ta.**
    12sg-bite-TA
    ‘I will bite you (sg).’

    b. **Po-i-su’ú-ta.**
    12pl-bite-TA
    ‘I will bite you (pl).’

    c. **Ch-e-su’u-ta.**
    B1sg-bite-TA
    ‘You will bite me.’ or ‘She/he/it will bite me.’

In (8a), the marker ro(i)–‘12sg’ indicates that the A-argument is the speaker and the O-argument is the hearer. Similarly, po(i)–‘12pl’ in (8b) marks that the A-argument is the speaker and the O-argument a plurality of hearers. If the transitive predication involves a second person A-argument and a first person O-argument, the marker che ‘B1sg’ crossreferences the O-argument (8c), as expected from the hierarchies in (4). The example in (8c) is also compatible with contexts in which the A-argument is a third person, as indicated by the translation.9

Intransitive dynamic predicates have one argument, which I refer to here as the S-d-argument. (The d- subscript distinguishes the S-argument of intransitive dynamic predicates from the S-s-argument of intransitive stative predicates, a distinction that is discussed in section 4.3.2.) The S-d-argument is crossreferenced on the intransitive dynamic predicate with a set A marker: (9a) illustrates the first person singular marker a–‘A1sg’, and (9b) illustrates the third person (singular or plural) marker o–‘A3’.

(9)  a. **A-ha-ta** Paraguay-pe.
    A1sg-go-TA Asunción-PE
    ‘I will go to Asunción.’

    b. **O-guata hikuái.**
    A3-walk 3.PL
    ‘They walk.’

---

9Guaraní also has some irregular predicates, like o-ho ‘go’ and ha’e ‘say’. With such predicates either the predicate stem changes throughout the inflection paradigm (a-ha ‘A1sg-go’ versus o-ho ‘A3-go’) or the forms for the individual persons are suppletive (e.g. ha’e ‘A1sg.say’ versus ere ‘A2sg.say’ versus he’i ‘A3.say’).
(9) also features the third person plural marker hikuái ‘3.PL’. hikuái is only used to indicate the plurality of a crossreferenced argument, not the plurality of a noun phrase. The plural marker –kuéra ‘PL’ occurs with nouns and marks their denotation as plural, as in aranduka-kuéra (book-PL) ‘books’.

Stative Predicates

Stative predicates crossreference their single Sₐ-argument (where the subscript stands for ‘stative’) with a set B marker:

(10)  a. **Che-kanē’o.**

B1sg-tired

‘I am/was tired.’

b. **Nde-kanē’o.**

B2sg-tired

‘You are/were tired.’

A third person argument is not crossreferenced with a set B marker, but with a member of the set of prefixes that are called ‘relational’ or ‘linking’ in Tupí-Guaraní linguistics. The relational prefix in (11) is i– ‘3’:

(11)  **I-kanē’o.**

3-tired

‘S/he is/was tired.’

A second relational prefix besides i– ‘3’ is h– ‘3’. The relational prefixes i– and h– are used with non-alternating and alternating lexemes, respectively: kane’ō ‘tired’ in (11) is a non-alternating lexeme, and, hence, the third person is marked with i–. An example of an alternating lexeme is asē ‘cry’:

(12)  **H-asē.**

3-cry

‘She/he cries.’

In (12), the third person Sₐ-argument of the alternating lexeme is marked with the relational prefix h–. Compare this to (13), where the alternating lexeme crossreferences a first person:
4.3. MORPHOSYNTAX AND SYNTAX

(13) **Che-r-asē.**  
    B1sg-REL-cry  
    ‘I cry.’

Here, the first person S₃-argument crossreferenced with the set B marker *che*–. Since *asē* ‘cry’ is an alternating lexeme, *che*– is followed by the *r*– prefix (cf. Table 4.5). (The set of dynamic predicates also contains alternating lexemes.)

The prefix *r*– is in complementary distribution with the relational prefixes *i*– ‘3’ and *h*– ‘3’, it is considered part of the paradigm of relational prefixes, as indicated by the gloss in (13). In non-predicative function, alternating lexemes are realized with the prefix *t*–, as illustrated in (14). Non-alternating lexemes do not change their form.

(14) **T-asē ha pyahē-me o-gerure.**  
    REL-cry and sigh-PE A3-ask.for  
    ‘He asked for it crying and sighing.’  

Guasch and Ortiz 2001:759

Following Seki (1990), I assume that the prefixes *i*–, *h*–, *r*– and *t*– form a paradigm. In the remainder of the dissertation I do not gloss the relational prefixes but simply assume that alternating stems have different realizations.

Stative predicates in Guaraní realize concepts that are expressed as nouns, adjectives, and verbs in English. I show in the remainder of this section that all stative predicates are compatible with a realization as a main syntactic predicate (a ‘verb’ in English). A stative predicate that is expressed by an adjective in English is *kane* ‘tired’ in (10), and *rasē* ‘cry’ in (12) is a stative predicate that is expressed by a verb in English. The examples in (15) and (16) illustrate the stative predicates *rape* ‘path’ and *sy* ‘mother’.

(15) a. **Che-r-ape**  
    B1sg-path  
    ‘my path’ or ‘I have a path’

b. **H-ape**  
    3-path  
    ‘his path’

(16) a. **Che-sy**  
    B1sg-mother  
    ‘my mother’ or ‘I am a mother’

b. **I-sy**  
    3-mother  
    ‘her/his mother’
Rape ‘path’ is an alternating lexeme, and hence crossreferences a third person argument with \( h \)- in (15). Stative predicates can be semantically transitive, like sy ‘mother’ in (16), but they nevertheless only crossreference one argument. With stative predicates that express properties or relations that are realized as nouns in English, like rape ‘path’ and sy ‘mother’, a non-third person crossreferenced argument can be interpreted as a possessor or as an eventuality participant with the appropriate semantic relation supplied by context. With stative predicates that correspond to inanimate nouns in English, the relation is ‘have’ and with those that correspond to animate nouns in English, the relation is ‘be’. This is illustrated with the examples in (17).\(^\text{10}\)

(17)  
a. Che-pa’i  
   B1sg-priest  
   ‘my priest’ or ‘I am a priest.’  
b. Che-kyse  
   B1sg-knife  
   ‘my knife’ or ‘I have a knife.’  

Thus, stative predicates in Guaraní that are translated as nouns in English can realize either a syntactic predicate (“verb”) or a syntactic argument. I assume that the syntactic context uniquely identifies whether the phrase that contains such a predicate realizes a syntactic argument or a syntactic predicate.

Further evidence that “nouny” stative predicates behave like “verby” (dynamic and stative) predicates is that they can be realized with clausal negation, clausal temporality expressions and causativizing morphology. Consider the examples in (18) where the stative predicates kyse ‘knife’ and pa’i ‘priest’ are realized with clausal negation, which is expressed by the circumfix \( nd(a)\)-...-i.

(18)  
a. Nda-che-kyse-i.  
   NEG-B1sg-knife-NEG  
   ‘I don’t have a knife.’ (not: I am not a knife.)  
b. Nda-che-pa’i-ri.  
   NEG-B1sg-priest-NEG  
   ‘I don’t have a priest’. (not: I am not a priest.)

\(^\text{10}\)Consultants agree that a meaning of (17a) as ‘I have a priest’ and of (17b) as ‘I am a knife’ is possible but odd because of world knowledge.
4.3. **Morphosyntax and Syntax**

(c) Nda-i-pa’i-ri.

\[
\begin{align*}
\text{NEG-3-priest-NEG} \\
\text{‘It (e.g. a community) does not have a priest.’ (not: He is not a priest.)}\end{align*}
\]

The examples in (18) illustrate that “nouny” stative predicates can be realized with clausal negation. Such stative predicates can also be realized with clausal aspect and modality expressions like \(-ma\), \(-ta\) and \(kuri\), as illustrated in (19).

\[(19)\]

(a) I-kyse-ma / -ta / kuri.

\[
\begin{align*}
\text{3-knife-MA / -TA / KURI} \\
\text{‘He already has a knife./He will have a knife./He had a knife.’}\end{align*}
\]

(b) H-asè-ma / -ta / kuri.

\[
\begin{align*}
\text{3-cry-MA / -TA / KURI} \\
\text{‘He already cries./He will cry./He cried.’}\end{align*}
\]

(c) I-kane’ô-ma / -ta / kuri.

\[
\begin{align*}
\text{3-tired-MA / -TA / KURI} \\
\text{‘He is already tired./He will be tired./He was tired.’}\end{align*}
\]

Roughly speaking, \(-ma\) is a perfect marker (which is translated as *already* in most examples), \(-ta\) is an irrealis modality marker (and is hence mostly translated as a future tense in English) and \(kuri\) is a past time temporal adverb (see chapter 7 for details).

A last context which obligatorily brings out a clausal interpretation of stative predicates is the causative morpheme \(mbo-\) ‘CAUS1-’, which applies only to intransitive predicates (cf. Velázquez-Castillo 2002b). Consider the examples in (20).

\[(20)\]

(a) Che-my-asè Juan.

\[
\begin{align*}
\text{B1sg-CAUS1-cry Juan} \\
\text{‘Juan makes me cry.’}\end{align*}
\]

(b) Che-mo-kane’ô Juan.

\[
\begin{align*}
\text{B1sg-CAUS1-tired Juan} \\
\text{‘Juan makes me tired.’}\end{align*}
\]

(c) Che-mbo-kyse Juan.

\[
\begin{align*}
\text{B1sg-CAUS1-knife Juan} \\
\text{‘Juan makes me have/#be a knife.’}\end{align*}
\]

In (20a,b), the causative \(mbo-\) adds a causer to the denotation of \(hasè\) ‘cry’ and \(kane’ô\) ‘tired’, respectively. (20c) illustrates that the causative prefix is compatible with the stative predicate \(kyse\) ‘knife’, too.
In sum, the crossreferencing system of Guaraní distinguishes two major lexical classes, dynamic and stative predicates. Members of both classes can realize the main syntactic predicate of a clause, and appear with clausal negation, clausal aspect and modality expressions and causative morphology, as summarized in Table 4.6. Although a noun-verb distinction is not supported by the morphosyntactic properties of the language, I propose in chapter 5 that syntactic factors motivate such a distinction for Guaraní.

<table>
<thead>
<tr>
<th>dynamic predicates</th>
<th>stative predicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossreference argument(s) with set A and B markers</td>
<td>Crossreference argument with B markers</td>
</tr>
<tr>
<td>Members mainly express English verbs</td>
<td>Members express English verbs, adjectives and nouns</td>
</tr>
<tr>
<td>Both cooccur with clausal negation <em>nda</em>–<em>–i</em>, the causative prefix <em>mo</em>– and with aspect/mood markers like <em>–ta</em>, <em>–ma</em> and <em>kuri</em></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6: The Two Major Lexical Categories of Guaraní

### 4.3.2 Crossreferencing of Intransitive Predicates

The marking of the single argument of intransitive predicates in Guaraní exhibits a split: the _S_d_-argument of dynamic predicates is crossreferenced with a set A marker and the _S_s_-argument of stative predicates is crossreferenced with a set B marker. Since the set A and B markers are also used to mark the A- and O-arguments of transitive predicates, respectively, Guaraní has been called a split-S or active/stative language (cf. Mithun 1991 and Velázquez-Castillo 1991, 1996, 2002a). However, Guaraní is a split-S language only for its local person marking since third person O-arguments are never crossreferenced on a transitive predicate and third person arguments of stative predicates are crossreferenced with a relational prefix, as summarized in Table 4.7.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th><em>S_d</em></th>
<th>O</th>
<th><em>S_s</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>local</td>
<td>set A</td>
<td>set A</td>
<td>set B</td>
<td>set B</td>
</tr>
<tr>
<td>3rd</td>
<td>set A</td>
<td>set A</td>
<td><em>–</em></td>
<td><em>i–h–</em></td>
</tr>
</tbody>
</table>

Table 4.7: Encoding of Grammatical Functions in Guaraní
4.3. MORPHOSYNTAX AND SYNTAX

Thus, Guaraní exhibits a three-way split in the encoding of third person arguments, and a two-way split in the encoding of local persons.

Mithun (1991) proposes that Aktionsart determines whether an intransitive predicate belongs to the dynamic or stative class. As illustrated in (21), her claim is that eventive predicates belong to the $S_d$-class, whereas stative predicates belong to the $S_s$-class.

(21) ( Adapted from Mithun 1991:513)

a. **Eventive predicates of the $S_d$-class**: (a)pu’ā ‘get up’, (o)guata ‘walk’, (o)u ‘come’, (o)ñani ‘run’, (o)güahe ‘arrive’, (o)hasa ‘pass’, (o)veve ‘fly’, (o)ñemongeta ‘chat’, (o)jere ‘turn’, (o)mba.apo ‘work’, (o)ky ‘rain’, (o)vy’a ‘happy’, (o)mano ‘die’, (?a ‘fall’, (oi)ke ‘sleep’, (o)ke ‘enter’.

b. **Stative predicates of the $S_s$-class**: rasy ‘sick’, (i)kane’ö ‘tired’, akỳ ‘wet’, (iì)ñañköi ‘worried’, haimbe ‘sharp’, (i)pochy ‘be angry’, aju ‘be ripe’

The proposal that Aktionsart determines the class of an intransitive predicate is further supported by a small, non-productive set of predicates which can mark their S-argument with either a set A or a set B marker.

(22) a. a-karu ‘I’m eating’; che-karu ‘I’m a glutton’

b. a-ka’u ‘I get drunk’; che-ka’u ‘I’m a drunkard, drunk’

c. o-mimi ‘it shines’; i-mimi ‘it’s brilliant’ (Mithun 1991:513)

As predicted by Mithun’s analysis, the three predicates in (22) receive an eventive interpretation when the S-argument is crossreferenced with a set A marker, and a stative interpretation when the S-argument is crossreferenced with a set B marker.

Velázquez-Castillo (2002a) partially objects to Mithun’s analysis by pointing out a set of predicates which seem to go against the claim that Aktionsart is the semantic feature determining the split. She proposes that a second semantic feature ‘participant control’ is needed to fully account for the split. I present further evidence against Mithun’s analysis in chapter 7 where I demonstrate that durativity and telicity crosscut the two predicate classes. A more detailed discussion is reserved for another venue and I continue calling the two classes “dynamic” and “stative”.

4.3.3 Voice and Valency Alternations

Guaraní only has a few voice and valency alternations. There are two causative morphemes (cf. Velázquez-Castillo 2002b): the prefix mbo- ‘CAUS1’, which transitivizes intransitive predicates, was illustrated in (20) and the suffix –uka ‘-CAUS2’, which is realized as –ka after vowel-final predicates. –(u)ka ‘-CAUS2’ applies to transitive predicates and results in ditransitive predications as illustrated in (23a,b).

(23) a. E-hecha-ka-ró che-ve pe tape a-me’ê-ta nde-ve pirapire.
    A2sg-see-CAUS2-COND B1sg-VE that path A1sg-give-TA B2sg-VE money
    ‘If you show me the path, I’ll give you money.’ [D]

   b. A-guyje avei Karai Shalo ha Feliciano-pe yva-kuéra
    A1sg-thank also Don Salvador and Feliciano-PE fruit-PL
    o-ho-pytý-ka-rehe che-ve.
    A3-go-choke-CAUS2-REHE B1sg-VE
    ‘I thank Don Salvador and Feliciano for bringing me many fruits.’ (lit: for
    choking me with fruit) [E]

In (23a), the causative morpheme –(u)ka occurs on the transitive verb hecha ‘see’. The resulting predicate is ditransitive, with the causer crossreferenced on the predicate as the highest direct argument (second person). The path is realized as a direct argument: it is not marked with –pe here because non-A arguments are only obligatorily marked with –pe when the A-argument is equally high on the hierarchy in (4), i.e. when both arguments are third person. The first person pronoun che, which refers to the recipient, is marked with the dative marker –ve. (23b) illustrates that animacy also plays a role in argument marking: the noun phrase referring to Don Salvador and Feliciano, the O-argument of guyje ‘thank’, is marked with –pe since these are animate individuals and could well be the A-argument of guyje ‘thank’. The noun phrase yva-kuéra ‘fruit’, the O-argument of o-ho-pytý-ka (A3-go-choke-CAUS2) ‘go choke/bring’, is not marked with –pe because fruits are inanimate and hence lower on the animacy hierarchy than Don Salvador and Feliciano, the referents of the set A crossreference marker o– ‘A3’.

Another valency affecting marker is the prefix je–, with its nasal allomorph ñe–. It applies to intransitive, transitive and ditransitive predicates:

    sunday-KUE A3-JE-go god-house-PE
    ‘On Sunday(s) one goes to church.’ [E]
4.3. MORPHOSYNTAX AND SYNTAX

b. A-je-su’u.
   A1sg-JE-bite
   ‘I was bitten.’ or ‘I bit myself.’  

   [E]

   ‘Through them I felt (lit. found myself) like being at home every day.’  

   [C]

With intransitive predicates, as in (24a), je– expresses an impersonal construction. With transitive and ditransitive predicates, the interpretation of je– depends on the discourse context: it either suppresses the highest argument, resulting in a passive-like interpretation (24a,b), or it can express a reflexive (24b,c).

   Under the passive interpretation of je–, the suppressed argument cannot be overtly realized as an oblique phrase, as illustrated in (25).

   (25) Juan o-je-hayhu *Maria-pe.
       Juan A3-je-love Maria-PE
       ‘Juan is loved *by Maria.’  

   [E]

That predicates with je– have an ambivalent status with respect to transitivity is illustrated also by the fact that both the transitivizing causative marker (26a) and the ditransitivizing causative marker (26b) can be added to such predicates.

       A1sg-CAUS1-JE-love
       ‘I make him/her/them be loved.’  

       [E]

   b. O-ñe-moi-je chu-pe tatakuá-pe ka’a, petý, eíra ha guaripóla
       A3-JE-put-SAY 3-PE oven-PE yerba.mate honey tabacoo and sugar.cane
       ja-je-hayhu-ka-ha-guá hese.
       A1pl.incl-JE-love-CAUS2-NOM-PURP to.him
       ‘It is said that one puts yerba mate, honey, tabacco and sugar cane into the
       oven to make him love us.’  

       [AdC.19]

Reciprocity is expressed with the prefix jo– ‘RECIP’–:

       A3-RECIP-know-COMPL 3.PL
       ‘They all know each other.’  

       [C]
A1sg-hope A1pl.incl-RECIP-see again soon-very
‘I hope we will see each other again soon.’ [C]

4.3.4 Clausal Syntax

At the clausal level, too, Guaraní morphosyntax has predominantly suffixes and clitics. The examples in (28) give a flavor of the suffixes and clitics indicating interclausal relationships. Yes/no questions are marked with the clitic –pa, which attaches to what is typically the clause-initial element, as in (28a). The complement clause marker –ha occurs on the head of the dependent clause (28b). Causal and temporal relations between clauses are indicated with –gui (28c) and –rire (28d), respectively, and –vove (28e) and –rō, the shortened version of –ramo, (28f), mark conditionality.

(28) a. Ei-pe’a-pa ra’e pe ovetå?
A2sg-open-QU RAE this window
‘Did you open this window?’ [D]

b. Che ryyv he’i o-ho-ta-ha ko’éro Paraguay-pe.
my brother A3.say A3-go-TA-NOM tomorrow Asunción-PE
‘My brother says that he will go to Asunción tomorrow.’ [D]

A1sg-take my umbrella A3-rain-soon-ABL
‘I took my umbrella because it will rain soon.’ [D]

d. O-vende-pa-rire la kamby o-japo va’erå rambosa i-personal-kuëra
A3-sell-COMPL-after the milk A3-make VAERA breakfast 3-personal-PE
o-amba.apo-va kokue-pe-guá-rå ha ore-ve-guá-rå avei.
A3-work-RC chacra-PE-PURP-RA and B1pl.excl-VE-GUA-RA also
‘And then, after she had sold the milk, she had to make breakfast for her personal who was working in the chacra and for us, too.’[C]

e. O-güahe-vove che-po-pe pirapire ja-karu-ta.
A3-arrive-when B1sg-hand-PE money A1pl.incl-eat-TA
‘When I get paid we will eat together.’ [D]

f. O-ky-rō ko’héro ja-pyta oga-pe.
A3-rain-COND tomorrow A1pl.incl-stay house-PE
‘If it rains tomorrow, we’ll stay home.’ [D]

11The ‘chacra’ is the Paraguayan field.
4.3. MORPHOSYNTAX AND SYNTAX

Clausal negation is expressed with the circumfix *nd(a)-i* as illustrated for a stative predicate in (29a) and a dynamic predicate in (29b).

(29) a. Hákatu nd-i-katú-i  
oi-purahei-pa.  
but NEG-3-possible-NEG A3-sing-COMPL  
‘But he couldn’t finish his singing.’  
[b]c

b. Nd-o-heja-sé-i  
i-kuára ha’e-ño.  
NEG-A3-leave-DES-NEG 3-cave 3.pron-alone  
‘He didn’t want to leave his cave alone.’  
[b]c

The two examples in (29) illustrate that, as discussed above, stative and dynamic predicates alike can head a clause in Guaraní. Two more examples are given in (30): (30a) presents a clause headed by the dynamic predicate ’u ‘drink’ (which is also used to express ‘eat’), and (30b) presents a clause headed by the stative predicate réra ‘name’.

(30) a. Ha kirikiri ho’u  
kuri hína peteíi togue kyrýi, i-karu-pyhare.  
and cricket A3.eat KURI PROG one leaf hard, 3-food-night  
‘And the cricket was eating a hard leaf, it was his dinner.’  
[b]c

b. Ha’e h-éra Huan-chi ha o-guereko peteí jagua h-éra-va Piruli.  
3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli  
‘His name was Juanito and he had a dog called Piruli.’  
[b]c

A third type of clause are identification/specificational clauses, which are characterized by the non-occurrence of a stative or dynamic predicate that heads the clause. As illustrated in (31), such clauses do not realize a copula in Guaraní, and can combine a diverse set of phrases.

(31) a. Jakare peteíi mymba oikó-va y ha yvý-pe.  
crocodile one animal A3-live-RC water and earth-PE  
‘The crocodile is an animal that lives in the water and on earth.’  
[b]c

b. If on a small dark path you meet somebody dressed completely in white...  
upéa hína Póra.  
that PROG Póra  
‘that’s Póra.’  
[b]AdC:23

c. Ani,  
Kururu-’i, nde niko peteíi mymba ne-porã-iteréi-va.  
NEG.IMP frog-DIM B2sg EMPH one animal B2sg-pretty-very-RC  
‘No, froggy, you are a very pretty animal.’  
[c]
d. Context: The boy sees a frog and wants to catch him

“Pea che-mba’e-ma” he’i i-pyap-pe.
this B1sg-thing-MA A3.say his-stomach-PE
’ “This is going to be mine” he said to himself.’ [C]

The two phrases joined in (31a) are the bare noun *jakare* ‘crocodile’ and the property *peteĩ mymba oi-kō-va y ha ywū-pe* ‘one animal that lives in the water and the land’, thus specifying a property of crocodiles. The marker –pe here specifies a location. In (31b), the referent of a demonstrative *upēa* ‘that’ is identified with the referent of a proper name Pōra, and in (31c) the focused referent of the pronoun *nde* ‘you’ is identified with the property *peteĩ mymba ne-porā-itereī-va* ‘an animal that (you) is very pretty’. Finally, the identificational clause in (31d) consists of a demonstrative and a possessive noun phrase.12

Identificational/specificational clauses, too, are negated with the circumfix *nda*–...–*i*:

(32) Context: Somebody tries to fold a paper boat but the result doesn’t look like a boat.

Nda-upē-icha-i.
NEG-this-like-NEG

’It wasn’t like this.’ [E]

Word order is generally free and determined by the discourse context (cf. also Dooley (1982) for Mbyá Guarani). Of the 181 clauses in the two Guarani stories reproduced in Appendix B, 11 are identificational/specificational clauses, 100 are headed by an intransitive predicate and 70 are headed by a transitive predicate. Eventuality participants need not be overtly realized: of the 170 clauses headed by a predicate, 79 contain only the predicate with a crossreference marker (72 intransitive/7 transitive), 84 contain one argument (28 intransitive/56 transitive), and 20 of the 70 transitive clauses are realized with both arguments. 65 of the 104 clauses with one or two arguments realized are predicate-initial, but all word orders are possible. (Compare this to Dooley (1982) who finds that the most frequent word order in Mbyá Guarani is SVO.) Generally, new eventuality participants are introduced with noun phrases in post-predicate position, as illustrated for *peteĩ jagua*

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12As illustrated in (31), identificational/specificational clauses can contain aspectual markers (e.g. *hīna ‘PROG’ in (31b) and –ma ‘‘PERF’ in (31d)). I assume that these modify the identificational/specificational semantic relation and that there is no silent copula.
4.4. SUMMARY

‘one dog’ (33), whereas noun phrases denoting eventuality participants that are the new discourse topic are realized in pre-predicate position, like ju’i ‘frog’ in (34).

(33) From the beginning of the story in Appendix B.2:

Ha’e h-éra Huan-chi ha o-guereko peteí jagua h-éra-va Piruli.
3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli

‘His name was Juanito and he had a dog whose name was Piruli.’ [C]

(34) From the story in Appendix B.2, after the boy and the frog found the frog and tried to catch him for the first time:

Ju’i tuicha o-ñe-mondýi.
frog big A3-JE-scare

‘the frog was very scared.’ [C]

4.4 Summary

In sum, Guaraní is a mildly polysynthetic language, with two major lexical categories, dynamic and stative predicates, definable through the crossreferencing system. This chapter provided the background on Guaraní against which I explore the grammar of noun phrases (chapter 5), the verbal temporality system (chapter 7), and the meaning and use of the nominal temporality markers in discourse (chapters 6 and 8).
Chapter 5

Noun Phrases in Guaraní

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This chapter introduces the grammar of noun phrases in Guaraní. I argue in section 5.1 that Guaraní has nouns and, hence, noun phrases, despite the fact that the morphosyntax of the language only distinguishes stative and dynamic predicates (chapter 4.3). Section 5.2 goes on to examine the morphosyntactic status of the two nominal temporality markers: I propose that these markers are derivational suffixes, contrary to Nordlinger and Sadler’s (2004:780) implicit assumption that they are of inflectional nature. Section 5.3 explores the interpretation of noun phrases in discourse. The main claim of this section is that Guaraní noun phrases that are not marked with –kue or –rā are temporally interpreted in the same way as English noun phrases (chapter 3), thereby setting the stage for the analysis of the meaning and use of the nominal temporality markers in chapters 6 and 8.
5.1 Guaraní Nouns and Noun Phrases

In this section, I present five phenomena that distinguish a particular set of stative predicates, namely those that can denote individuals (cf. also Nordhoff 2004). I propose that these predicates are nouns, and, hence, that Guaraní has noun phrases and *nominal* temporality markers, contrary to Nordhoff (2004) who argues that a noun-verb distinction is not motivated for Guaraní.

I Demonstratives and Numerals The examples in (1) illustrate the distribution of stative predicates with demonstratives like *ko* ‘this’ and the numeral *peteĩ* ‘one’, which also serves as an indefinite determiner.

(1) a. *peteĩ* kyse / *ko* kyse
   one / this knife
   ‘A knife / this knife’

   b. *peteĩ* kane’o / *ko* kane’o / *peteĩ* hasẽ / *ko* hasẽ
   one / this tired / one cry / this cry
   (Intended: a tired one / that tired one / one crier / that crier)

   c. *peteĩ* kane’o-va / *ko* kane’o-va / *peteĩ* hasẽ-va / *ko* hasẽ-va
   one / this tired-RC / one / this cry-RC / this cry-RC
   ‘a tired one / this tired one / a crying one / this crying one’

Stative predicates that can denote individuals, like *kyse* ‘knife’ or *pa’i* ‘priest’, may cooccur with demonstratives and numerals, as in (1a). Property- and eventuality-denoting stative predicates, like *kane’o* ‘tired’ and *hasẽ* ‘crying’, are ungrammatical with demonstratives and numerals (1b), unless derived with the relative clause marker –va (1c).

II Syntactic Arguments Only individual-denoting stative predicates can realize syntactic arguments without derivational morphology, as illustrated in (2a).

(2) a. A-nupa ju’i / *peteĩ* ju’i / che-ju’i.
   A1sg-hit frog / one frog / B1sg-frog
   ‘Hit a/the frog / a frog / my frog.’

   b. *A-nupa i-kane’o / h-asẽ / o-nupa Juan-pe.
   A1sg-hit 3-tired / 3-cry / A3-hit Juan-PE
   (Intended: I hit the tired one / the crying one / the one who hit Juan)
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c. A-nupa i-kane’ō-va / h-asē-va / o-nupa-va Juan-pe.
   A1sg-hit 3-tired-RC / 3-cry-RC / A3-hit-RC Juan-PE
   ‘I hit the one who is tired / who cries / who is hitting Juan.’ [E]

Property- and eventuality-denoting stative and dynamic predicates cannot by themselves realize syntactic arguments (2b), but need to be derived with the relative clause marker –va (2c).

III Incorporation Guaraní allows only individual-denoting stative predicates to be incorporated (Velázquez-Castillo 1996; Nordhoff 2004). An example is given in (3), where the noun óga ‘house’ is incorporated to the transitive predicate (j)apo ‘do/make’.

(3) Ha’e-kuéra ou o-ñepyrū oi-ty peteĩ apu’a mîchi-mî
   3.pron-PL A3.come A3-begin A3-fell one round small-DIM
   o-jóga-apos-qua gua hikuáí.
   A3-j-house-make-NOM-PURP 3.PL
   ‘They came and began to fell one small round (area) to build their house.’ [C]

IV Plural Marker –kuéra The plural marker –kuéra asserts the plurality of individuals. It is therefore compatible with individual-denoting stative predicates like i-kysé ‘3-knife’ (4a), but not with eventuality-denoting stative predicates like h-asē ‘3-cry’ (4b).

(4) a. I-kysé-kuéra
   3-knife-PL
   ‘His knives’ or ‘Their knife’

b. *H-asē-nguéra
   3-cry-PL
   (not: his cryings)

c. H-asē hikuáí.
   3-cry 3.PL
   ‘They cry.’ [E]

The plurality of an eventuality participant is marked with hikuái ‘3.PL’, as in (4c).¹

¹Property-denoting predicates like kane’ō ‘tired’ can occur with both –kuéra and with hikuái:

(i) a. I-kane’ō-nguéra
   3-tired-PL
   ‘His tirednesses’
V Possession Only individual-denoting stative predicates can realize the head of a possessive construction, as illustrated in (5).

(5)  a. Juan kyse
     Juan knife
     ‘Juan’s knife’

     b. *Juan pysryi
     Juan slip
     (Intended: Juan’s slipping) [E]

In (5a), the individual-denoting predicate kyse ‘knife’ cooccurs with the possessor Juan; the eventuality-denoting stative predicate pysryi ‘slip’ in (5b) cannot be realized in this position.²

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² Many stative predicates are individual- and eventuality-denoting, as illustrated by purahei ‘sing’ (i) and atiš ‘sneeze’ (ii).

(i)  a. Juan purahei
     Juan sing
     ‘Juan’s song’

     b. Juan o-purahei.
     Juan As-sing
     ‘Juan sings/sang.’ [E]

(ii) a. Juan atiš
     Juan sneeze
     ‘Juan’s sneeze’

     b. Juan in-atiš.
     Juan 3-sneeze
     ‘Juan is/was sneezing.’ [E]
In sum, there are (at least) five criteria by which Guaraní individual-denoting stative predicates differ from other stative predicates of the language. This distributional pattern can be attributed to the fact that the individual-denoting predicates denote properties of individuals, rather than properties of eventualities (cf. also Nordhoff 2004:footnote 86). In the remainder of this dissertation, I assume that Guaraní has nouns (contrary to Nordhoff (2004)) and I refer to this class of stative predicates as nouns or nominal predicates. Thus, in Guaraní, nouns are a type of stative predicate, as illustrated in Figure 5.1, and nominal predicates can realize both clauses and noun phrases (also Rose (2003) for Emerillon (Tupí-Guarani) and Dietrich (1977) for Tupí-Guarani in general).

**Figure 5.1: Stative Predicates and Nouns**

### 5.2 Morphosyntactic Status and Distribution of –kue and –rā

After briefly introducing the structure of noun phrases in section 5.2.1, this section discusses the morphosyntactic status (section 5.2.2) and syntactic distribution (section 5.2.3) of the Guaraní nominal temporality markers –kue and –rā.

#### 5.2.1 Noun Phrases Structure

Guaraní noun phrases are head-final, meaning that the possessor in a possessive noun phrase is either a fully realized noun phrase which is realized before the head (6a), or is realized with a crossreference marker on the head (6b,c).

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3Whether semantic criteria and their (morpho-)syntactic reflexes should be taken into account when determining the lexical categories of a language is a matter of debate (cf. Baker 2003; Beck 2002; Croft 1991, 2001 for a general discussion; and Nordhoff (2004) for Guaraní).

4Strictly speaking, nominal predicates denote relations between eventualities and individuals, according to the analysis presented in chapter 3. Nominal descriptions, i.e. nominal predicates that are realized in noun phrases, are individual-denoting.
(6) a. Juan cabaju
   Juan horse
   ‘Juan’s horse’

b. i-cabaju Juan-pe
   3-horse Juan-PE
   ‘The horse of Juan’

c. i-cabaju
   3-horse
   ‘his/her horse’ [E]

Plural marking is not grammatically obligatory in Guaraní but determined by the discourse context. (7), an excerpt from one of the stories in my corpus, illustrates the effect of the discourse context:

(7) From a story about the procreation of crocodiles:

a. Upé-icha o-heja moköi pa térä mbohapy pa tupí’a umi
   that-like A3-leave two ten or three ten egg those
   yvy-ku’i-guý-re, kuarahy o-jope-ha-guá-icha o-ja-peve.
   earth-particle-under-RE sun A3-heat-NOM-PURP-like A3-hatch-until
   ‘Like that she leaves 20 to 30 eggs in the sand, until they hatch because of the heat of the sun.’ [C]

b. Jakare kuña o-ñangareko h-upí’a-kuéra-rehe mombyry-mi-gui-ve,
   crocodile female A3-take.care 3-egg-PL-REHE far-DIM-GUI-VE
   o-ñeno’-ý-re hi-ári.
   A3-sit-NG-RE 3-on
   ‘The female crocodile takes care of her eggs from far away without sitting on them’ [C]

In (7a), the noun tupí’a ‘egg’ (an alternating lexeme) is realized without the plural marker because it is clear from the immediate context that there is more than one egg (20 to 30). In (7b), in contrast, the noun h-upí’a ‘3-egg’ is marked with –kuéra to indicate that the crocodile takes care of more than one egg.

5.2.1.1 (In)Definiteness

Guañaní does not have a definite or indefinite determiner. In natural discourse, context determines whether a noun phrase is interpreted as definite or indefinite, unless the noun
phrase is realized with a demonstrative or the numeral peteĩ ‘one’. Consider the following excerpt from the story in Appendix B.2.

(8) Excerpt from The boy, the dog and the frog (Appendix B.2)

\begin{itemize}
\item[(a)] O-hasá-vo upéi o-hecha ju’i-pe o-guapy mbyté-pe peteĩ yrupê-ari.
\text{A3-pass-AT then A3-see frog-PE A3-sit water middle-PE one sieve-on}
\text{‘In passing he sees a frog sitting in the middle of the water on a water lily leaf.’}
\item[(b)] Vy’a-po-pe sarambi-pe o-guejy hikuái Pirulo ij-yke-re.
\text{happy-very-PE disorder-PE A3-descend 3.PL Pirulo 3-side-RE}
\text{‘Happily, they stumbled down, Pirulo at his side.’}
\item[(c)] Upe-icha-ha-gui-nte i-pysyry peteĩ yyra o-ñeno-rehe.
\text{that-like-NOM-GUI-only 3-slip one wood A3-lie.down-REHE}
\text{‘Just like that, they stumbled over tree trunk.’}
\item[(d)] I-poi-pa-ite pe i-po-pe-gua-gui ha ho’a otivo
\text{3-let.go-COMPL-very that 3-hand-PE-GUA-GUI and A3.fall embarrassingly}
\text{y-pe. water-PE}
\text{‘He let go all that he was holding in his hands and fell embarrassingly into the water.’}
\item[(e)] Ju’i tuicha o-ñe-mondyi.
\text{frog big A3-JE-scare}
\text{‘the frog was very scared.’ [C]}
\end{itemize}

In (8a), a new discourse participant is introduced with the bare noun ju’i ‘frog’, which is translated in the English version with the indefinite noun phrase a frog. In (8e), where the frog, now a known discourse participant, is again referred to with the bare noun ju’i ‘frog’, the English translation is the frog.

The numeral peteĩ ‘one’ can be employed as an indefinite determiner, as illustrated in (9) with the noun phrase peteĩ mitõ tyre’y ‘an orphan’.

(9) O-i-ndaje raka’e peteĩ mitõ tyre’y o-hayhu-va mymba-kuéra-pe.
\text{A3-be-they.say RAKA’E one child orphan A3-love-RC wild.animal-PL-PE}
\text{‘There once was an orphan who loved all animals.’ [C]}

The numeral peteĩ ‘one’ is not restricted to the pre-nominal position. In (10a), the numeral occurs in post-nominal position.
(10) a. Oi-kon-daje   Ka’i rasa-ité-ma  o-mbo-py’a-rasy
   A3-pass-it.is.said Ka’i pass-very-MA A3-CAUS1-stomach-sick
   kuña-karai-mi   peteí-me.
   woman-gentleman-DIM one-PE
   ‘It is said that Ka’i, very obnoxious, was bothering a lady.’  [C]

b. O-guereko avei peteí jagua, piru-í   peteí.
   A3-have also one dog skinny-DIM one
   ‘He also had a dog, a skinny one.’  [C]

According to my consultants, the post-nominal realization is equivalent in meaning to
the one in which peteí ‘one’ is realized pre-nominally (in which case the non-A argument
marker -pe occurs on kuña-karai-mi ‘lady’). (10b) illustrates peteí ‘one’ in both pre- and
post-nominal position.

The post-nominal use of numerals is particularly common in combination with a pos-
sessive noun phrase, as illustrated in (11) for peteí ‘one’ and mokoí ‘two’.

(11) a. I-tajýra   peteí.
     his-daughter one
     ‘He had a daughter.’ (lit: his daughter was one)  [C]

b. Ha oí-ko  che memby mokoí-me.
   and A3-pass B1sg child two-PE
   ‘And my two children live here.’  [C]

The Spanish algún ‘some’ is borrowed into Guaraní to express indefiniteness:

(12) “I-porá  va’erá-ngo a-ha a-je-po-reka   algún mymba ka’a-guy-rehe.”
   3-pretty VAERA-EMPH A1sg-go A1-JE-hand-have some animal forest-REHE
   ‘It must be nice if I go and find myself some animal from the forest.’  [C]

To express definiteness, speakers of Guaraní borrow the Spanish (feminine) definite
determiner la to varying degrees. The meaning and use of la in Guaraní does not neces-
sarily correspond to how la is used in Spanish. For one, la is always optional in Guaraní.
Second, it can cooccur with possessive noun phrases, as in (13a). Finally, la in Guaraní
does not necessarily have a definiteness meaning: in (13b), where la cooccurs with the
numeral peteí ‘one’, the noun phrase receives an indefinite interpretation.

   A1sg-NE-house-do the 3-parcel-PE
   ‘I built myself a house on his parcel.’  [C]
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b. Ha a-reko avei petei la vaca-mi. and A1sg-have also one the cow-DIM ‘And I also have a cow.’

La can also be used to mark clefts, as in (14), but is again optional here.

(14) Nd-oi-kuua-i mba’-pa la oi-ko-va. NEG-A3-know-NEG thing-QU LA A3-pass-RC ‘He didn’t know what was going on.’

5.2.1.2 Quantification

Quantificational expressions in Guaraní include determiner quantifiers, like heta ‘much/many’, mayma ‘every/all’ and enterove ‘every/all’, and the verbal marker -pa ‘-COMPL’ (for ‘completive’). The quantifier heta ‘much/many’ is illustrated in (15).

(15) a. Heta año o-gueroja la y iñ-aka ari. much year A3-bring LA water 3-head on ‘Many years she brought the water on her head.’

b. Heta o-guereko-va’e-kue ha’e la vaca. many A3-have-RC-KUE 3.pron LA cow ‘She had many cows.’ (lit: Many was what she had the cow.)

c. Te-kotevê heta hi’u-py-râ a-japo. IMP-necessary much 3-eat-PY-RA A1sg-do ‘It’s necessary that I cook much food.’

In (15a), heta ‘much/many’ is realized as a determiner, and in (15b) as the head of a relative clause. The ‘much’-meaning of heta is illustrated in (15c).

Universal quantification is expressed with the determiner quantifier mayma ‘all/every’ in (16a,b). In colloquial speech, enterove(a) ‘all/every’ is more common, as in (16c).

(16) a. Mayma dictadura tiémpo-pe ha’e va’ekue privilegiado. all dictatorships time-PE 3.pron VAEKUE privileged ‘All of the dictatorships in time were privileged.’ (Ñemonteatrâ, 11/05, p.13)

b. Nd-o-heja-sé-i i-kuára ha’e-ñô, o-ñongatu-hâ-pe mayma NEG-A3-leave-DES-NEG 3-cave 3.pron-alone A3-keep-NOM-PE all i-mba’-e-kuéra. 3-thing-PL ‘He didn’t want to leave alone his cave where he kept all his things.’
c. Context: M tells me that when somebody from the town needs help, the people from the town get together and think about a project that would help the person.

**Enterovea i-volundad ha o-kolabora joa-ite.**

All 3-voluntary and A3-collaborate together-very

‘All (help in the project) is voluntary and we collaborate together.’ [C]

A second strategy to express universal quantification is the verbal marker –pa (with its nasal variant –mba). In (17a), the A- (and O-)argument of *pytyvô* ‘help’ is universally quantified as a result of the marker –pa.

(17) a. Ha o-ño-pytyvô-*mba*-ite hikuái.

and A3-RECIP-help-COMPL-very 3.PL

‘And everybody helps each other.’ [C]

b. I-ky’a-*pa*-ite.

3-dirty-COMPL-very

‘He is completely dirty.’ [C]

–pa is not a universal quantifier over individuals but only gives rise to this interpretation with particular participant-verb constellations, such as (17a). As illustrated in (17b), –pa is a marker of complete affectedness or event completion (cf. chapter 7).

Negative quantification is expressed with **avave** ‘no(body)’ (18a) or **ndaipori** ‘not.exist’ (18b).

(18) a. **Avave** nd-o-hecha-i chu-pe.

nobody NEG-A3-see-NEG 3-PE

‘Nobody saw him.’ [E]

b. Ha upé-icha avei **ndaipóri** o-ñemboja-va’e-rà umi jakare rupi’a

and that-like also not.exist A3-get.close-RC-RA those crocodile egg

rendá-pe.

place-PE

‘And like that nobody will get close to the place of the crocodile eggs.’ [C]

### 5.2.1.3 Pronouns and Demonstratives

According to Gregores and Suárez (1967:141), Guaraní has the following set of demonstratives:
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\[ko\]  ‘near the speaker’

\[pe\]  ‘near the addressee’

\[upé, amō\]  ‘away from both speaker and addressee’

\[umí, ko’a\]  plural demonstratives (no distance indicated)

Table 5.1: Demonstratives in Guaraní

Contrary to what is reported by Gregores and Suárez (1967), my consultants use \(pe\) to indicate that the entity referred to is not near the speaker. (I cannot say whether this is a regional variant or a change in the language.) The examples in (19) illustrate the demonstratives \(ko\) and \(ko’a\).

(19)  

a. Context: M tells me about her community.

\[O-japo\ dosē añō oǐ-ke ṣpy-ha-gue ko’ape ko comunidad-pe la A3-make 12 year A3-enter origin-NOM-KUE here this community-PE LA energia electrica.

energy electric

‘For 12 years this community has had electricity.’  

b. Context: The conclusion of a story about a duck and a frog.

\[Hā upé-icha, ko’ā\ mokōi mymba-mi o-po ṣvy’ā-pe y-no’ō-me.

and this-like these two animal-DIM A3-jump happy-PE water-united-PE

‘And this is how these two animals jump happily together in the pond.’  

Each of the forms in Table 5.1 has a variant with the relative clause marker -\(va\) that is used non-attributively. (20) illustrates the demonstrative \(pe\) in this use, meaning ‘that’.

(20)  

Context: Suddenly the boy spots a frog in the water.

\[“Pe-va\ che-mba’e-ma” he’i i-pyapy-pe.

that-RC B1sg-think-MA A3.say 3-stomach-PE

‘“That’s going to be mine” he said to himself.’  

Overt pronouns are used in Guaraní to refer to arguments and adjuncts that are not crossreferenced on a predicate, as in (21).

(21)  

a. “Che-rasē he’ĩ-gui ché-ve hikuáí che-vai-eterei-ha.”

B1sg-cry A3.say-GUI B1sg-VE they B1sg-ugly-very-NOM

‘“I am crying because they say (of me) that I am very ugly.”’

[C]
b. “Ani, kururu-‘i, **nde** niko peteĩ myamba ne-porã-iterẽ-va.”
   NEG.IMP frog-DIM B2sg EMPH one animal B2sg-prety-very-RC
   ‘ “No, froggy, you are a very pretty animal.” ’

In (21a), the first person singular pronoun *che*, marked with –ve, refers to the dative argument of the saying eventuality. In (21b), the second person singular pronoun *nde* ‘you’ refers to the subject of the identificational clause.

Overt pronouns are also used to realize focused discourse participants. Consider the example in (22).

(22) **Context:** The fox asks the monkey why he’s unhappy. The monkey says:

   Lechãi niko che-mo-menda-se katu-ete i-memby kuñá-re, ha
   old EMPH B1sg-CAUS1-marry-DES indeed-very 3-child woman-RE and
   *che* niko, i-porã-ramo jepe i-memby kuña,
   B1sg EMPH 3-prety-COND although 3-child woman
   n-a-menda-sé-i gueteri.
   NEG-A2sg-marry-DES-NEG still

   ‘The old one wants to marry me to her daughter at all cost, and I, although she’s very pretty, I still don’t want to get married.’

In (22), the (bold-faced) *che* is coreferential with the A-argument of *n-a-menda-sé-i gueteri* ‘I still don’t want to get married’. In this context, *che* expresses emphatic focus for the referent of the A-argument.

### 5.2.2 Syntactic Distribution

This section examines the syntactic distribution of –*kue* and –*râ* with different types of noun phrases. The first set of examples in (23) and (24) illustrate that the nominal temporality markers occur on non-possessive and possessive noun phrases, respectively

(23) a. Jagua-ndadjê o-kuaru o-ñakamby-pe’a-há-pe, yma
dog-SAY A3-urinate A3-spread.legs-open-NOM-PE long.time.ago
ho’a-gui-ve hi’-ári pare-*kue*, peteĩ fárra-há-pe.
A3.fall-GUI-VE 3-on wall-KUE, one party-NOM-PE
   ‘It is said that dogs urinate with their legs spread open (one up) because a long time ago an (old) wall fell onto a dog at a party.’

   [P:106]
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b. O-jei-te pé-icha tujü-pe yyyra po’i-mi-mi puente-rā.
   A3-throw that-like mud-PE wood thin-DIM-DIM bridge-RA
   ‘He threw the thin wood into the mud as a bridge.’
   [P:20]

In (23a), repeated from chapter 1, the marker –kue occurs on the noun phrase pare ‘wall’, and in (23b), the noun puente ‘bridge’ is marked with –rā, which here indicates that the thin wood thrown into the mud is (for) a future bridge. With possessive noun phrases, the two markers can affect the temporal interpretation of the possessive relation:

    B1sg A1sg-have one book of medicine, B1sg-grandfather thing-kue
    ‘I have a medicine book, it was my grandfather’s.’
    [P:165]

b. Ágā o-já-vo nde-yké-pe, ere chu-pe re-menda-ta-ha;
    now A3-stick-AT B2sg-side-PE A2.say 3-PE A2sg-marry-TA-NOM
    kuña-ité ko ne-rembireko-rā.
    woman-very this B2sg-wife-RA
    ‘When she’s close, tell her that you want to marry her; your future wife is a
    real woman.’
    [C]

–kue in (24a) asserts that the possessive relation between the grandfather and the book held at a time in the past, but no longer holds at the time of utterance; i.e. the book is the grandfather’s former book. In (24b), –rā asserts that the ‘wife’ relation is not yet true for the woman and the hearer, and implies that it might become true at a time in the future.

Possessive noun phrases with –kue and –rā are ambiguous, like their English counterparts with former and future. Consider the examples in (25).

(25) a. che-róga-kue
    B1sg-house-KUE
    ‘my former house’
    [E]

b. che-róga-rā
    B1sg-house-RA
    ‘my future house’
    [E]

The possessive noun phrase in (25a) either refers to an entity that is an old house but still in the speakers possession (–kue applies to the property ‘house’) or to an entity that is still a house but not in the speaker’s possession anymore (–kue applies to the possessive relation). (25b) with –rā is similarly ambiguous.
The nominal temporality markers –kue and –ră are not restricted to a particular type of noun phrase, as illustrated with the examples in (26).

(26) a. Kuehe a-hecha pa’i-kue-pe.
    yesterday A1sg-see priest-KUE-PE
    ‘Yesterday I saw the former priest.’ [E]

b. Ko mbo’e-ha-ra-ră o-mba.apo heta.
    this teach-NOM-AG-RA A3-work much
    ‘This future teacher works a lot.’ [E]

c. Enterove pa’i-kue o-ho va’eră reunión-há-pe.
    all priest-KUE A3-go VAERA meeting-NOM-PE
    ‘All of the former priests have to go to the meeting.’ [E]

d. Avave doytor-ră n-oï-pityvo-i pe h-asý-vá-pe.
    no doctor-RA NEG-A3-help-NEG that 3-sick-RC-PE
    ‘No future doctor helped the sick person.’ [E]

e. “T-a-japi amo guyra ha i-kyra-kué-pe ro-mo-ataindý-ne!”
    IMP-A1sg-aim.at that bird and 3-fat-KUE-PE 12sg-CAUS1-candle-MIGHT
    ‘I’ll focus on that bird and of its fat I’ll make you light.’ [P:68]

As illustrated in these examples, –kue and –ră may occur with bare nouns (26a), demonstrative (26b), quantificational (26c,d) and possessive (26e) noun phrases.5

The Guarani nominal temporality markers are not restricted to noun phrases with particular grammatical functions or grammatical roles: in (26), for instance, they occur with direct arguments and prepositional phrases, noun phrases denoting subjects, objects, agents, and themes. In (27), the two nominal temporality markers are realized on noun phrases in identificational clauses.

(27) a. Ko-va (ha’e) peteí apyka.
    this-RC 3.pron one chair
    ‘This is a chair.’ [E]

b. Ko-va (ha’e) peteí apyka-kue.
    this-RC 3.pron one chair-KUE
    ‘This is an old chair.’ [E]

5Nordhoff (2004), who does not assume a class of nouns for Guarani, calls the nominal temporality markers “referential tenses” to contrast them with markers that are realized on (stative or dynamic) predicates in (syntactic) predicative function. However, the term “referential” is not ideal (irrespective of whether they are tenses or aspects) because not all noun phrases with –kue and –ră are referential.
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In (27b) and (27c), the entity referred to by the demonstrative kova ‘this’ is asserted to have been a chair in the past or possibly be a chair in the future, respectively. Examples like (27b) and (27c) are often translated by my consultants into Spanish examples with past or future forms of the copula, i.e. Eso era una silla ‘This was a chair’ for (27b) and Eso va a ser silla ‘This will be a chair’ for (27c). In these Spanish/English versions, it is the copula, i.e. the identificational relation itself that is temporally modified, whereas it is the nominal predicate that is temporally modified in the Guaraní examples in (27). Guaraní also allows for the identificational relation to be temporally modified. This is illustrated in (28) with the clausal temporality expressions kuri ‘then, in the past’ and the irrealis modal –la.

(28)  a. Ko-va (ha’e) kuri peteį apyka.
this-RC 3.pron KURI one chair
‘This was a chair.’

b. Ko-va ha’e-ta peteį apyka.
this-RC 3.pron-TA one chair
‘This will be a chair.’

Thus, in Guaraní, the temporal contour of an identificational clause can be indicated either with a nominal temporality marker on one of the arguments (27b,c), or with a clausal temporality marker (28). (The two types of realizations are not semantically equivalent, as discussed in chapter 6.)

5.2.3 Morphosyntactic Status

I propose that both nominal temporality markers are derivational suffixes, based on the criteria proposed in Zwicky and Pullum (1983), Stump (2001) and Haspelmath (2002).⁶

That the two markers are suffixes rather than clitics is strongly suggested by their morphosyntactic distribution. First, both markers precede the suffix –pe (which is realized as –me after the nasal suffix –rā):

⁶None of the claims of this dissertation depends on this analysis. This includes the claim that –kue and –rā are grammatical aspect/modalitity markers rather than tenses, since I do not use morphosyntactic properties to determine the semantic category of a marker.
(29) a. Tymba kangué ku’i-kué-pe o-ñe-mo-potí asuka.
    animal bone grounded-kue-pe A3-JE-CAUS1-clean sugar
    ‘With animal bone powder one cleans sugar.’ (Guasch 1996:53)

    A1sg-know B1sg-wife-RA-PE 1986-PE
    ‘I met my future wife in 1986.’ [E]

Since suffixes occur closer to the root than clitics, the position of –kue and –râ in relation to the suffix –pe supports their analysis as suffixes (criterion F in Zwichy and Pullum (1983)). Further support for the affixal analysis is provided by the data in (30) where –kue and –râ occur on the predicate marked with the (nominalizing) complementizer –ha and the (nominalizing) relative clause marker –va’e, respectively.

(30) a. He’i o-hai-ha-gue peteï aranduka.
    A3.say A3-write-NOM-KUE one book
    ‘He said that he had written a book.’ [E]

b. Pe karai o-hai-va’e-râ peteï aranduka o-ho.
    this man A3-write-RC-RA one book A3-go
    ‘The man who will write a book left.’ [E]

The fact that –kue and –râ occur on the head of the complement clause in (30a) and the relative clause in (30b), not on the right edge of the clauses, also supports the suffix analysis of the two markers. Further evidence is that –kue and –râ cannot be coordinated (31a), and that –kue in (31b) has scope only over mbo’e’chara ‘teacher’, not over the whole phrase pa’i ha mbo’e’chara ‘priest and teacher’.

(31) a. *Umi pa’i-kue ha -râ
    these priest-kue and -RA
    (Intended: these former and future priests) [E]

b. Umi pa’i ha mbo’e-ha-ra-kue o-ho Paraguay-pe.
    these priest and teach-NOM-AG-KUE A3-go Asunción-PE
    ‘These (current) priests and former teachers went to Asunción.’ [E]

I conclude that –kue and –râ are suffixes.

Whether the two suffixes are inflectional or derivational is less clear. –râ does not change the category of its host and only occurs with nouns, behavior which is compatible with inflectional suffixes as well as derivational suffixes. The plural marker –kuéra
5.2. Morphosyntactic Status and Distribution of –kue and –rā

‘PL’ appears after the nominal temporality markers as in óga-kue-kuéra (house-KUE-PL) ‘former houses’ and óga-rā-kuéra (house-RA-PL) ‘future houses’. As discussed in section 5.2.1, plural marking is not obligatory in Guaraní but context-dependent. If –kuéra ‘PL’ were derivational, this would suggest that –kue and –rā are derivational, too, but unfortunately no evidence regarding the status of –kuéra is available to me at this point. I am not aware of markers that intervene between the stem and the nominal temporality markers.

Unlike –rā, –kue cannot as easily be claimed to be restricted to nouns. There are examples where –kue appears with dynamic predicates (32a) or stative predicates that are not individual-denoting (32b).

   A3-pass-KUE-AT here A3-see B1sg-VE
   ‘When she passed by here she saw me.’ [E]

      quiet-KUE-very-PE A1sg-pressed 3.PL LA wall-RE
      ‘Quietly, the two are pressed against the wall.’ [P:80]

While examples like (32) illustrate that –kue can occur on non-nouns, its function in such examples is not clear. –kue is optional in both examples and leaving out –kue in either of (32a-b) does not result in discernible meaning changes. This suggests that, in these examples, –kue is not category-changing.

In the following examples, however, –kue might have a nominalizing function suggestive of it being a derivational suffix.

(33) a. O-macha che-viaje.
   A3-regular B1sg-trip
   ‘My trip was OK.’ [E]

   b. O-macha a-vy’a-kue.
      A3-regular A1sg-happy-KUE
      ‘My happiness was OK.’ [E]

   c. O-macha a-vy’a.
      A3-regular A1sg-happy
      (Intended: My happiness was OK.) [E]

(33a) illustrates that the predicate macha ‘regular’ can take a noun phrase argument. The translation of (33b) indicates that a-vya-kue ‘A1sg-happy-KUE’ is such a noun phrase argument, namely one that denotes my happiness. The unavailability of (33c) suggests that
–kue in (33b) nominalizes the dynamic predication a-vy’a (A1sg-happy) ‘I am happy’, i.e. that –kue is category-changing. At the same time, (34) suggests that the predicate vy’a ‘happy’ can be individual-denoting (hence, nominal) without being derived:

(34) Context: After eating all her sweets, M comments:

O-pa la vy’a.
A3-end I.A happiness
‘The happiness is over.’ [overheard]

Thus, whether –kue is category-changing is not clear from examples like (32) and (33), but we can conclude that –kue, unlike –rã, is not restricted to nominal predicates.

Ultimately, it is examples like (35), where –kue and –rã cooccur, that lead me to assume that both –kue and –rã are derivational suffixes.

(35) Kuehe a-hecha pa’i-rã-ngue-pe.
    yesterday A1sg-see priest-RA-KUE-PE
‘Yesterday, I saw the former future priest.’ [E]

In (35), both –kue and –rã are realized on the noun pa’i ‘priest’. The entity denoted by the noun phrase was going to become a priest at some time in the past but did not become a priest. (The meaning of such examples and their compositional analysis is discussed in chapter 6.) –kue and –rã can only cooccur in this order: the combination –kue-rã is not attested and not accepted by my consultants, although its meaning is compositionally possible (e.g. ‘future former priest’). This presents three possibilities (A)-(C) for the status of -kue and –rã.  

(A) –rã is derivational, –kue is inflectional

7A fourth possibility, which is suggested in e.g. Zarratea (2002:139) and Nordhoff (2004:35f.), is to analyze –rãngue as a simple form, a ‘frustrative’ aspect. I do not follow this analysis here because a compositional analysis of –rãngue is possible, as illustrated in chapter 6. However, an analysis of –rãngue as a simple form might be appropriate for cases where –rãngue occurs with a verbal predicate, like (i):

(i) O-mba.apo-rãngue kokue-pe o-hecha tele.
    A3-work-instead field-PE A3-see television
‘Instead of working in the field, he was watching television.’ [E]

Such examples suggest that –rãngue has been partially grammaticalized since –rã is typically not acceptable with dynamic predicates.
5.3. NOUN PHRASES IN DISCOURSE

(B) Both markers are inflectional.

(C) Both markers are derivational.

Assuming that derivational items must be realized closer to the stem than inflectional ones, (A) would account for the order in which the two markers can be realized, namely as –rā-ngue (but *–kue-rā). However, (A) is suboptimal because the distribution of –kue with non-nouns and its potential nominalizing function suggests that it is more likely to be derivational than –rā. Both (B) and (C) need to stipulate the position of the two affixes in order to account for their ordering restrictions. If we assume that –rā occupies the affix slot AFF1 and –kue the slot AFF2 (and PL is the plural marker –kuēra), the following analysis captures the cooccurrence restrictions:

(36) stem-AFF1-AFF2-PL

Option (B), like (A), is suboptimal because it makes –kue an inflectional suffix despite its distribution with non-nouns and potential to change the category of its host. I therefore propose here that both –kue and –rā are derivational suffixes, i.e. option (C). This also accounts for the fact that –kue outscopes –rā in examples like (35), since inflectional affixes do not typically take scope over each other.

5.3 Noun Phrases in Discourse

In order to identify the contribution of the nominal temporality markers to the temporal interpretation of Guaraní noun phrases, we first need to determine the way in which noun phrases that are not marked with –kue or –rā are interpreted. In this section, I establish that the interpretation of noun phrases in Guaraní depends on the individuals established in the discourse context (section 5.3.1), and that noun phrases in Guaraní that are not marked with –kue or –rā can be interpreted relative to the same four times as English noun phrases (section 5.3.2).

5.3.1 Denoting Eventuality Participants

In Guaraní, just like in English, noun phrases denote eventuality participants. The nominal predicate of the noun phrase denotes a property that is contextually relevant or salient for the eventuality participants. New discourse participants, for instance, are introduced
with properties that are contextually relevant. The first sentence of the discourse in (37a) is an example: here, an entity is introduced with the property tyre’ ŭ ‘orphan’, which is contextually relevant because it explains why he is free to roam the woods rather than being supervised by a parent.

(37) a. O-i-ndaje raka’e peteĩ mita’ tyre’ ŭ o-hayhu-va myamba-kuera-pe.
    A3-be-say RAKAE one child orphan A3-love-RC animal-PL-PE
    ‘There once was an orphan who loved animals.’ [C]

  b. Ha’e h-éra Huan-chi ha o-guereko peteĩ jagua h-éra-va Piruli.
    3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli
    ‘His name was Juanito and he had a dog whose name was Piruli.’ [C]

  c. Peteĩ jey he’i h-yamba jagua-pe:
    one time A3.say 3-pet.animal dog-PE
    ‘One time, he said to his dog:’ [C]

Non-human discourse participants are introduced with individual-level properties, as illustrated in (37b) for the orphan’s dog, which is introduced with the property jagua ‘dog’. Finally, in Guaraní, just like in English, already established discourse participants are referred to with pronouns and noun phrases headed by predicates that denote already established properties. In (37c), the boy is referred to with a third person pronoun fused with the verb he’i ‘A3.say’ and the possessive marker h-. The dog, on the other hand, is referred to with the phrase h-yamba jagua ‘his pet dog’.

The discourse in (38) illustrates how a property that has not been previously used but is contextually salient can be used to refer to an already established discourse participant.

(38) Excerpt from the story in Appendix B.3:

  a. Ha ro-gueru la ore-ñaŋyrã.
     and A1-pl.excl-bring LA B1-pl.excl-cigarra
     ‘and we brought our cricket.’

  b. Ha ro-mosã ha ro-mbo-veve la ilo-re
     and A1-pl.excl-tie and A3-CAUS1-fly LA thread-RE
     ‘and we tied thread to it and made it fly with the thread.’

  c. Ro-mosã mbyky-mi ilo po’i-pe
     A1-pl.excl-tie short-DIM thread thin-PE
     ‘We tied the thread short and thin.’
5.3. NOUN PHRASES IN DISCOURSE

5.3.2 Temporal Interpretation

I show in this section that Guarani noun phrases that are not marked with –kue or –râ can be interpreted at the same four times as English noun phrases and that there is no “nominal topic time” in Guarani either (chapter 3). This provides the background against which the meaning and use of the nominal markers is discussed in chapters 6 and 8.

In many of the Guarani examples presented so far, the noun phrase was interpreted at the topic time. The following examples illustrate that Guarani noun phrases can be interpreted at the utterance time:

    A1sg-find B1sg-wife-PE Villarica-PE
    ‘I met my wife in Villarica.’
    (Next utterance: When I met her she was married to an Argentinean.) [E]

    B1sg-father 3-live origin 1950-PE.
    ‘My father was born in 1950.’ [E]
c. Ambue ary-pe che-vesino oi-ko-ta Argentina-pe.  
   other year-PE B1sg-neighbor A3-pass-TA Argentina-PE  
   ‘Next year, my neighbor will live in Argentina.’ [E]

In (39a), the possessive noun phrase che-rembereko ‘my wife’ is interpreted relative to the utterance time, the time at which the ‘wife’ relation is true for the individual denoted by the noun phrase and the speaker. At the topic time in the past of the utterance time, the ‘wife’ relation is not yet true, as evidenced by the continuation When I met her she was married to an Argentinean. Similarly, the noun phrase che-ru ‘my father’ in (39c) is interpreted at the utterance time, in the (relative) future of the topic time. Whether the ‘father’ relation is true at the topic time is not specified. In (39c), the possessive noun phrase che-vesino ‘my neighbor’ is interpreted relative to the utterance time since the ‘neighbor’ relation is true of the two individuals at the utterance time, not at the topic time in the future of the utterance time when the individual denoted by the noun phrase will be living in Argentina.

Although the noun phrases in (39) are interpreted at the utterance time in the (relative) future (39a,b) and the past (39b) of the topic time, no nominal temporality marker appears on the noun phrases. From this, we can conclude that Guaraní nominal temporality markers do not mark a noun phrase that is interpreted at a time distinct from the topic time, as one might expect if they were nominal tenses.

The third time relative to which a noun phrase in Guaraní can be interpreted is a time supplied by the discourse context. This is illustrated in (40), a Guaraní version of Enç’s (1981) classic example:

(40) Context: Somebody escaped from prison, and was hunted across the countryside for several days before the police caught him.

   Pe fugitivo o-ime jey carcel-PE.  
   that fugitive A3-be again prison-PE  
   ‘The fugitive is in prison again.’ [E]

Just like in the English version, the noun phrase pe fugitivo ‘that fugitive’ in (40) is interpreted at a time prior to the utterance/topic time: this is the time which is established in the discourse context as the time during which the individuals were fugitives. Since the property ‘fugitive’ is salient for this particular set of individuals, it is used in (40) to denote these individuals, even if the property ‘fugitive’ is not true of them anymore at
5.3. NOUN PHRASES IN DISCOURSE

the utterance/topic time. Here, the nominal time \( t_n \) of the noun phrase is resolved to a contextually given time, just like in English.

Again, no nominal temporality markers are realized on the noun phrase in (40). We can conclude that Guaraní nominal temporality marker do not mark noun phrases that are interpreted at the topic time, the utterance time or a contextually given time.

The noun phrase \( i\text{-}mburuvicha\text{-}ku\u0161\text{era} \) ‘their supervisors’ in (41) is interpreted relative to a contextually given time that is neither the utterance nor the topic time:

(41) O-kai-pa-rire pe Ycuá Bolaños umi o-mba.apo-vá’e-kue upé\u0161e A3-burn-COMPLETE-after that Ycuá Bolaños those A3-work-RC-KUE there ha i-\textit{mburuvicha-k\text{u}\text{era}} nd-oi-kuaa-i mba’e-icha-pa o-mongaru-vé-ta and 3-supervisor-PL NEG-A3-know-NEG thing-like-QUE A3-feed-more-TA i-familia-kuéra-pe. 3-family-PL-PE

‘After the Ycuá Bolaños\(^8\) had burnt down, the employees and their supervisors did not know anymore how to feed their families.’

The Ycuá Bolaños shopping center ceased to exist on August 1, 2004. The noun phrase \( i\text{-}mburuvicha\text{-}ku\u0161\text{era} \) ‘their supervisors’ is interpreted relative to a time \( t \) at which the shopping center still existed, i.e. prior to the utterance time, prior to the topic time, and prior to the time at which it burnt down. At this time \( t \), the property ‘supervisor’ was true of the individuals denoted by the noun phrase. \(^9\) (Compare this to the Titanic example in chapter 3.)

Finally, in Guaraní, too, the time at which a noun phrase is temporally interpreted can be given by a temporal modifier:

(42) Umi mbo’e-ha-ra agá-gua o-gana-vé umi mbo’e-ha-ra those teach-NOM-AG now-of A3-earn-more those teach-NOM-AG ochenta-gua-gui. eighty-of-GUI

‘Today’s teachers earn more than the teachers of the eighties.’

In (42), the two occurrences of \textit{umi mbo‘ehara} ‘those teachers’ are temporally interpreted

\(^8\)The Ycuá Bolaños is a shopping center in Asunción that completely burned down on August 1, 2004, causing the deaths of hundreds of customers and employees.

\(^9\)The noun ‘employee’ is translated in Guaraní with the nominalization \textit{umi o-mba.apo-vá’e-kue upépe} ‘those that worked there’, which, in contrast to \( i\text{-}mburuvicha\text{-}ku\u0161\text{era} \) ‘their supervisors’, is marked with –kue to indicate that they worked there at a time in the past and not anymore.
at the times denoted by the temporal modifiers agã-gua ‘of now’ and ochenta-gua ‘of the eighties’.

I conclude that noun phrases in Guaraní not marked with a nominal temporality marker can be interpreted at the same four times as noun phrases in English. None of the noun phrases presented above are marked with a nominal temporality marker. This suggests that these markers do not function like verbal tenses, which mark precedence relations between the time relative to which an eventuality is interpreted and a perspective time.

The text in (43) is the Guaraní original of the text I discussed in chapter 3.3.1. Just like the English translation, the Guaraní original does not provide evidence that noun phrases are interpreted relative to a “nominal topic time”.

(43) a. Papa umia [t1] oi-ke ypy-ramo-gua-re ndaipori va’ekue
father those A3-enter origin-RAMO-of-RE not.exist VAEKUE
mba’e-ve-te gueteri h-enyhê-te ka’aguy [t2].
thing-more-very still 3-full-very forest
‘When my parents started living (here), there was still nothing, the forest was still full.’

b. Ha’e-kuéra ou o-nêpyrû oi-ty petei apu’a michi-mi [t3]
3.pron-PL A3.come A3-begin A3-fell one round small-DIM
o-þoga [t4]-apo-ha-guã hikuái.
A3-J-house-do-NOM-PURP 3.PL
‘They came and began to fell one small round (place) to build a house.’

c. Ha upéi o-kria hikuái la animal-kuéra [t5].
and then A3-raise 3.PL LA animal-PL
‘And then they raised animals.’

d. Ha amo bajo gotyo-ve o-ho o-topa peteí y nasiente [t6].
and there down towards-more A3-go A3-find one water source
‘And a bit further down they found a water source.’

e. Ha upe-gui o-gueroja va’ekue che-sy [t7] la y [t8].
and there-GUI A3-bring VA’EKUE B1sg-mother LA water
‘And from there my mother brought the water.’

I bold-faced the noun phrases and indicated the time at which each noun phrase is interpreted with [t1] to [t8]. None of the noun phrases in (43) are marked with a nominal temporality marker. Furthermore, just like in the English version, the times [t1] to [t8] are
not “nominal topic times” since they are not contextually given and do not proceed as the
discourse proceeds. As was discussed in chapter 3 for the English version, the times [t1],
[t2], [t4] and [t7] could either be the topic time (e.g. if the house existed in the past but
not anymore and the parents already had children when they settled in the forest) or the
utterance time (e.g. if the house still exists and the parents did not have children when
they settled in the forest). Thus, the times [t1]-[t8] are not contextually given like the
topic time but need to be determined for each noun phrase occurrence individually. The
times [t1]-[t8] also do not proceed as the discourse proceeds: [t1] might be the topic time,
[t2] the utterance time, [t3] the topic time, [t4] the utterance time, and so on. Thus, the
temporal interpretation of noun phrases in Guaraní, too, does not depend on a “nominal
topic time”.

5.4 Conclusions

In this chapter, I defended the position that Guaraní has nominal predicates and, hence,
nominal temporality markers. The chapter established the morphosyntactic and syntac-
tic properties of the nominal temporality markers, paving the way to a discussion of their
meaning and use. I also demonstrated that Guaraní noun phrases that are not marked
with –kue and –rã are temporally interpreted much in the same way as English noun
phrases, which facilitates the crosslinguistic comparison of the temporal interpretation
of noun phrases in English and Guaraní. The data presented so far is consistent with
Hypothesis H4, which states that the temporal interpretation of noun phrases in all lan-
guages is determined by the constraint in (44), repeated from chapter 3:

(44) The Temporal Interpretation of Noun Phrases

  The nominal time \( t_n \) is determined by the nature of the link between the denota-
tion of the noun phrase and entities established in the discourse context.

The evidence presented in this chapter already indicates that the temporal interpreta-
tion of noun phrases in a language with nominal temporality markers is not necessarily
radically different from the temporal interpretation of noun phrases in a language like
English.
Chapter 6

Basic Meanings of the Nominal Temporality Markers

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This chapter is the first part of a two-part exploration of the meaning and use of the nominal temporality markers –kue and –rā. In this chapter, I focus on the basic meaning properties of the two markers and their cooccurrence restrictions with members of different semantic classes. In the second part (chapter 8), I focus on the meaning and use of the nominal temporality markers in discourse.

The chapter sets out in section 6.1 by introducing the cooccurrence restrictions of the two markers with different noun classes. I then examine the meaning of the two nominal temporality markers and present formal analyses of –kue and –rā as a terminative grammatical aspect and a prospective grammatical aspect, respectively (sections 6.2 and 6.3). The section 6.4 I address the question of whether a tense or an aspect analysis is more suitable. I apply a first set of criteria for distinguishing tense and aspect to the two markers, providing initial evidence that they are aspect/modality markers rather than tenses.¹

6.1 Distributional Restrictions

Part of the enterprise of exploring the meaning of a temporality marker is to examine the types of expressions it can cooccur with. Since my corpus is not large enough for this task (there are only 26 occurrences of –kue and –rā, 17 and 9, respectively), I supplemented the corpus data with naturally occurring data from published texts and consultant judgements. In this study, I asked 3 of my consultants to judge the acceptability of a combination of a noun plus –kue or –rā, and, if the combination was deemed acceptable, I asked them to create an utterance that contains the combination. In order to guarantee that it was the property denoted by the noun that was tested for compatibility with the nominal temporal marker, it was important that the noun did not occur in a possessive construction. The 72 nouns I tested are listed in (1a-h), grouped by semantic class.


¹This chapter refines and extends the analysis of Guaraní –kue and –rā presented in Tonhauser (To appear).
6.1. DISTRIBUTIONAL RESTRICTIONS


- h. Individual-level and final-stage relations: tuva ‘father’, abuelo ‘grandfather’, memby ‘daughter/son’

The eight classes into which I divided the nouns are motivated to some extent by general lexical semantic considerations: for instance, the division between natural kinds and artifacts (cf. Rosch and Mervis 1975; Keil 1989) or the division between stage- and individual-level relations (Carlson 1977; Kratzer 1995, chapter 3). Other divisions, for example that between non-food artifacts and food artifacts, are based on the cooccurrence restrictions exhibited by –kue. The results of the consultant study are presented in Table 6.1, where a ✓ indicates acceptability of the combination, and a ✗ indicates unacceptability. Since relational nouns (whether stage- or individual-level) were deemed odd by my consultants in non-possessive constructions, the acceptability of –kue and –rá with such nouns was only tested in possessive noun phrases: ✓poss indicates the acceptability of a nominal temporal marker with a possessive noun phrase headed by a relational noun.

One result of the study is that the marker –kue shows a more restricted distribution than –rá, which is basically acceptable with members from all eight classes. The Guarani marker –kue exhibits cooccurrence restrictions much like the English adjective former,

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2In Paraguay, sopa refers to a corn bread baked in the oven, not a soup.
which is productive with nouns denoting professions (former president) or stage-level relations (former husband). Guaraní –kue additionally occurs with artifacts where English typically uses the adjective old or broken rather than former, as in ñga-kue ‘old house’ or bisikleta-kue ‘old, broken bicycle’. This result contradicts Nordlinger and Sadler’s (2004:780) assumption that nominal temporality markers like those of Guaraní are “fully productive, inflectional affixes that attach to all (regular) members of the nominal word class”. Furthermore, –rã is more productive than any of its English counterparts (e.g. future, prospective or to be), a first indicator of crosslinguistic variation in the use of nominal temporality expressions.

6.2 The Nominal Temporality Marker –kue

–kue is productive with nouns denoting professions, non-food artifacts, stage-level relations, and event and temporal period nouns (Table 6.1). Since the last two exhibit a somewhat different meaning with –kue than the first three, I postpone their discussion to section 6.2.3.

<table>
<thead>
<tr>
<th>Noun Class</th>
<th>Professions</th>
<th>non-food artifacts</th>
<th>food artifacts</th>
<th>natural kinds</th>
<th>temporal period</th>
<th>event noun</th>
<th>stage-level relations</th>
<th>individual-level/final-stage relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>–kue</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓ (✓)</td>
<td>✓ poss</td>
<td>✓ poss</td>
<td>✓ poss</td>
</tr>
<tr>
<td>–rã</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓ poss</td>
<td>✓ poss</td>
<td>✓ poss</td>
</tr>
</tbody>
</table>

Table 6.1: The Acceptability of –kue and –rã Across Semantic Noun Classes
6.2. THE NOMINAL TEMPORALITY MARKER –kue

6.2.1 –kue as a Terminative Grammatical Aspect

One of the most salient meaning properties of –kue is its past-time oriented precedence relation: –kue conveys that the property denoted by the nominal predicate was true at a time in the past. This meaning property, which I refer to as the PRECEDENCE property, is illustrated with the example in (2), repeated from chapter 1.

(2) Jaugua-ndadje o-kuaru o-ñakamby-pe’a-há-pe, yma
dog-SAY A3-urinate A3-spread.legs-open-NOM-PE long.time.ago
ho’a-gui-ve hi’-ári pare-kue, peteí fárра-há-pe.
A3.fall-GUI-VE 3-on wall-KUE, one party-HA-PE

‘It is said that dogs urinate with their legs spread open (one up) because a long time ago an (old) wall fell onto a dog at a party.’ [P:106]

In this example, –kue asserts that the wall that fell onto the dog was something that was a (proper) wall at a time in the past.

The salience of the precedence relation is also apparent in the characterizations –kue received in the literature as a marker that means ‘former’ or ‘past’ (e.g. Gregores and Suárez 1967). The precedence relation is perhaps the reason why this marker has been analyzed as a nominal past tense in modern linguistic studies, like Liuzzi (1987), Liuzzi and Kirtchuk (1989), Nordhoff (2004) and Nordlinger and Sadler (2004), since, in the widely studied Indo-European languages, tenses are prominent and encode a precedence relation. The Guaraní nominal temporality markers, however, have other meaning properties besides the PRECEDENCE property that make a tense analysis less likely. A second meaning property is (what I call) the CHANGE meaning property: relative to a contextually given perspective time, the nominal markers convey that the property denoted by the nominal predicate is not true of the individual(s) denoted by the noun phrase.

6.2.1.1 The CHANGE Meaning Property

Consider the examples in (3).

Juan one priest-KUE / teach-NOM-AG-KUE

‘Juan is a former priest/former teacher.’ [E]

b. #... ha pa’i / mbo’e-ha-ra gueteri.
and priest / teach-NOM-AG still

‘...and he’s still a priest/teacher.’ [E]
The utterance in (3a), which cannot be continued with (3b), asserts that Juan was a priest or a teacher at a time in the past of the utterance time (PRECEDENCE property of \textit{–kue}) and also asserts that Juan is currently not a priest or a teacher (the CHANGE property). That (3b) is not a felicitous continuation of (3a) is attributed to the fact that (3b) asserts that Juan is currently a priest or teacher, and hence explicitly contradicts the CHANGE meaning property of \textit{–kue} in (3a).

(4) illustrates that not all past-time oriented temporality markers have the CHANGE meaning property.

(4) a. Juan pa’i / mbo’e-ha-ra kuri.  
Juan priest / teach-NOM-AG KURI  
‘Juan was a priest/teacher.’  

b. ... ha pa’i / mbo’e-ha-ra gueteri. (= (3b))  
and priest / teach-NOM-AG still  
‘...and he’s still a priest/teacher.’

(4a) differs from the specificational clause in (3a) in that the time of Juan being a priest or teacher is located in the past by the past time denoting adverb \textit{kuri} meaning ‘then, in the past’. This temporal adverb has the PRECEDENCE meaning property since it expresses a (past-time oriented) precedence relation. In contrast to \textit{–kue}, however, \textit{kuri} does not have the CHANGE meaning property, i.e. (4a) does not assert that Juan is not a priest or teacher anymore (but may implicate it). Thus, (4b), which is identical to (3b), is a felicitous continuation of (4a).

The CHANGE meaning property also accounts for the judgements in (5).

(5) a. #Juan abogado-\textit{kue} ha ko’agā abogado.  
Juan lawyer-KUE and now lawyer  
(Intended: Juan is a former lawyer and he’s a lawyer.)  

b. Juan abogado-\textit{kue} ha ko’agā abogado gueteri.  
Juan lawyer-KUE and now lawyer still  
‘Juan is a former lawyer and a lawyer still.’  
Consultants’ comments: Juan must have stopped being a lawyer at some point.

c. Juan abogado-\textit{kue} ha ko’agā abogado jey.  
Juan lawyer-KUE and now lawyer again  
‘Juan is a former lawyer and now he’s a lawyer again.’
(5a) is infelicitous because the second conjunct explicitly contradicts the CHANGE meaning property. As the consultants’ comments indicate, (5b) is felicitous only if Juan was a lawyer in the past, stopped being a lawyer for a while, and was then reinstated as a lawyer. This meaning is expressed more explicitly in (5c). An important point to take away from these examples is that –kue does not entail that the property denoted by the nominal predicate is false at the contextually given perspective time (here the utterance time). If this were the case, (5b,c) would be contradictory and, hence, infelicitous in any context. Rather, I propose that –kue asserts that the state of Juan’s being a lawyer was true in the past (PRECEDENCE property) and that it terminated at a time prior to the contextually given time. From this, it follows that Juan is in the post-state of being a lawyer (CHANGE property). This allows Juan to be a lawyer again, i.e. a novel state of being a lawyer is true of Juan at the utterance time in (5b,c).

I assume that the CHANGE property is part of the asserted meaning of –kue, not a presupposition. To illustrate this, consider the examples in (6) where abogado-kue ‘lawyer-kue’ occurs in contexts that filter presuppositions: the protasis of a conditional (6a), in a yes/no question (6b) and in the scope of a possibility modal (6c).

(6) a. Juan abogado-kue-ramo ha’u-ta chu-pe.
   Juan lawyer-kue-COND A1sg.eat-TA 3-PE
   ‘If Juan is a former lawyer, I will feed him.’  [E]

   b. Juan-pa abogado-kue?
   Juan-QU lawyer-kue
   ‘Is Juan a former lawyer?’  [E]

   c. I-katu Juan abogado-kue.
   3-possible Juan lawyer-kue
   ‘It is possible that Juan is a former lawyer.’  [E]

If the CHANGE meaning property were presupposed, the three utterances in (6) should be felicitous only in contexts that specify that Juan is not a lawyer anymore. This is not the case: just like their English translations, (6a-c) are felicitous in contexts in which all we know about Juan is that he exists.3

In naturally occurring data, –kue is highly frequent with nouns denoting artifacts. Some examples of –kue with artifact nouns are given in (7).

---

3I avoid examining the status of the CHANGE property with examples where abogado-kue ‘lawyer-kue’ is realized in a noun phrase because the interpretation of the noun phrase itself depends on the discourse context:
(7)  a. Context: (Joking) advice given to a person with hair loss.

   E-mo-na porâ hese diario-kue.
   A2sg-CAUS1-stick good to.3 newspaper-KUE
   ‘Put an (old) newspaper on it [your head].’

   [P:143]

b. Context: M tells me how she made it a bit more comfortable outside for her puppy dog.

   A-moî peteî ao-kue che-rymba jagua-pe.
   A1s-g-put one clothing-KUE B1sg-animal dog-PE
   ‘I put an (old) piece of clothing for my pet dog.’

   [overheard]

c. Context: A’s friend arrives on an old bike. A jokes:

   O-u bisikleta-kue ari.
   A3-come bike-KUE on
   ‘He came on the (old) bike.’

   [overheard]

With artifact nouns, –kue generally asserts that the entity denoted by the noun phrase has undergone some change such that the entity does not have the function anymore that it used to have. Accordingly, with artifact nouns –kue is often translated by the English adjective old, rather than former. For instance, in (7a), –kue asserts that the entity that the hearer is supposed to put on his or her head is not a (current) newspaper, but an old one, e.g. one that has been read. Similarly, in (7b), the clothing that M put outside for her pet dog is not in use anymore and, hence, old clothing, and speaker of (7c) jokes that his friend’s bike is bisikleta-kue ‘bike-KUE’, i.e. an old bike that does not function anymore.

The vast majority of noun phrases in natural discourse that contain an artifact noun marked with –kue denote an entity for which the property denoted by the noun is still true (e.g. the entity in (7a) is still a newspaper) but which does not have the function associated with the entity anymore. Thus, a pare-kue ‘wall-KUE’ denotes an old wall that does not perform the function of walls anymore because it is crumbling and brittle and

(i)  Ou-ramo abogado-kue ha’u-ta chu-pe.
   A3-come-COND lawyer-KUE A1sg.eat-TA 3-PE
   ‘If a/the former lawyer comes (here), I will give him to eat.’

   [E]

Whether the noun phrase in (i) is interpreted as ‘a former lawyer’ or ‘the former lawyer’ depends on the discourse context, thereby confounding the question of what –kue requires to be established in the discourse context about the denoted individuals.
6.2. **THE NOMINAL TEMPORALITY MARKER–KUE**

a *bisikleta-kue* ‘bike-KUE’ denotes a bike that is not properly functioning anymore. Consultants confirm, however, that it is possible for the entity denoted by such noun phrases to not have the property denoted by the nominal predicate anymore: thus, a *pare-kue* ‘wall-KUE’ may denote a pile of rubble that results from destroying a wall and a *bisikleta-kue* ‘bike-KUE’ may denote a bunch of metal that was a bike before it was bent out of shape. The following discourse also illustrates that –*kue* can encode the termination of the function of an entity without the entity ceasing to exist.

(8) a. Ambue ary-pe a-japo peteś òga.
   other year-PE A1sg-do one house
   ‘Last year I built a house.’

b. Ambue semana-pe, a-vende va’erā che-rōga peteś pa’i-pe.
   other week-PE A1sg-sell VAERA B1sg-house one priest-PE
   ‘Last week I had to sell my house to a priest.’

c. Ha’e o-japo che-rōga-gui peteś tupa’-o.
   B3 A3-do B1sg-house-GUI one god-house
   ‘He turned my house into a church.’

d. To the people who come see my house I say:

e. Pe-va pe tupa’-o ha’e peteś òga-kue.
   that-RC this god-house 3.pron one house-KUE
   ‘This church is a former house.’

The building denoted by the noun phrase *peteś òga-kue* ‘one house-KUE’ was a house of the utterance time (and is arguably still a house), but is asserted to be a *òga-kue* ‘house-KUE’ because it is not used as a house anymore but as a church.4

With nouns denoting stage-level relations (excluding final-stage relations), –*kue* asserts that the relation denoted by the noun is not true of the possessor and possessee anymore.

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4–*kue* is acquired early by Guaraní-speaking children. (i) was uttered by a 2.5-year old.

(i) Context: A little boy (2.5 years) is asked what he is playing with. He points to a boot that is not used anymore because it has holes.

la vota-kue
the boot-KUE

‘the (old, ex-) boot’

[overheard]
   B1sg-neighbor-KUE B1sg-visit PROG now A3-pass Buenos Aires-PE
   ‘My former neighbor is visiting me. He now lives in Buenos Aires.’ [E]

b. Che-angiru-kue o-ñe’ë vai che-ve.
   B1sg-friend-KUE A3-speak bad B1sg-VE
   ‘My former friend spoke badly to me.’ [E]

c. Ku i-menà-kue i-japu va’ekue.
   EXPL 3-husband-KUE 3-lie VAEKUE
   ‘Her ex-husband was a big liar.’ [E]

In (9a), −kue asserts that the individual denoted by the noun phrase che-vesino-kue ‘my-
neighbor-KUE’ is not the speaker’s neighbor anymore at the utterance time (but was at a
time in the past). Similarly, the ‘friend’ and ‘husband’ relations are not true anymore of
the speaker and the individual denoted by the possessive noun phrase in (9b) and (9c),
respectively.5

In sum, the interpretation of −kue with nouns denoting professions, stage-level rela-
tion and artifacts has in common that the entity denoted by the noun phrase is asserted
to have lost some property that was true of it in the past. Thus, the spatiotemporal path
of the entity denoted by the noun phrase contains a perspective time t2 at prior to which
the property became false for the individual, and a time t1 prior to t2 during which the
property denoted by the nominal predicate was true.

5Guarani has a third nominal temporality marker, −re, which can be used with the nouns rembireko ‘wife’
and mena ‘husband’ to assert that the individual denoted by the noun phrase is deceased, as in (i.a). With
these nouns, hence, −re has a meaning similar to English late. With other nouns, e.g. ru ‘father’ (ib), my
consultants comment that they understand what the combination of −re with the noun is supposed to mean,
but they nevertheless reject such examples as not being part of their language.

(i) a. Ku i-mena-re i-japu va’ekue.
   EXPL 3-husband-RE 3-lie VAEKUE
   ‘Her late husband was a big liar.’ [E]

b. *Che-ru-re i-japu va’ekue.
   B1sg-father-RE 3-lie VAEKUE
   (Intended: My late father was a big liar.) [E]
6.2. THE NOMINAL TEMPORALITY MARKER –KUE

6.2.1.2 The **EXISTENCE** Meaning Property

A third meaning property of –kue is that the entity denoted by the noun phrase has to exist at both times t1 (at which the property is true) and t2 (prior to which the property became false). A first illustration of the effect of this property, which I refer to as the **EXISTENCE** meaning property, is given in (10).

(10) Context: San Isidro once had a priest called Jose. This man died as a priest, i.e. was never a former priest during his lifetime.

a. #Pe pa’i-kue Jose
   that priest-KUE Jose
   ‘that ex-priest Jose’ [E]

b. Pe pa’i Jose
   that priest Jose
   ‘that priest Jose’ [E]

In the given discourse context, (10a) cannot be used to refer to Jose (even after he is dead) because there is no time t2 during Jose’s lifetime at which he was not a priest anymore. (10b) can, of course, refer to Jose after his death because it uses a property that was true of Jose during his lifetime.

The examples in (11) present the **EXISTENCE** property from a different perspective:

    that queen-KUE A3-CAUS1-speak book much-very
    ‘This former queen reads/read many books.’ [E]

b. Maria peteĩ princesa-kue.
   Maria one princess-KUE
   ‘Maria is a former princess.’ (not: Maria was a princess.) [E]

c. Maria ha’e kuri peteĩ princesa.
   Maria 3.pron KURI one princess
   ‘Maria was a princess.’ [E]

(11a) can be used to refer to either (i) an individual who is still alive but not a queen anymore or (ii) an individual who is dead and stopped being queen during her lifetime. In other words, (11a) asserts that the individual stopped being a queen during her lifetime and leaves unspecified whether the individual is currently alive or dead. The same is true for the specificational clause in (11b), which asserts that Maria stopped being a princess.
during her lifetime but leaves unspecified whether she is alive or dead at the utterance time. In contrast, (11c) with the temporal adverb *kuri* ‘(back) then’ asserts that at some time in the past Maria was a princess but does not constrain whether she is still alive or not, or whether she is still a princess or not.

With stage-level relational nouns, the *existence* property requires the lifetime of either the possessor or the possessee to include a time during which the relation holds of the individuals and a time during which the relation does not hold of them anymore. Thus, it is felicitous to refer to an entity with a possessive noun phrase marked with –*kue* if the possessive relation terminated because of the death of the possessor or possessee. Two examples that illustrate this for the latter case are given in (12).

(12)  

a. Context: San Isidro once had a priest called Jose. This man died as a priest, i.e. was never a former priest during his lifetime. (= context of (10))

*Ore pa’*i-*kue* Jose  
*B1pl.excl-priest-*KUE* Jose  
‘our ex-priest Jose’  

b. Context: A country’s queen died as a queen.

*Ore*  
*reina-*kue*  
*B1pl.excl*  
*queen-*KUE*  
*A3-CAUS1-speak book*  
*much-very*  
*aranduka heta-eterei.*  
*‘Our former queen read many books.’*

The noun phrase in (12a) can be used to refer to Jose in the given discourse context, despite the fact that Jose never was a former priest. The reason is that –*kue* modifies the possessive relation, and that certain professional relationships can be said to terminate when the possessee dies. Another example of this type is (12b) which can be used refer to an individual who was a queen at the time of her death because –*kue* asserts that it is the possessive relation that has terminated (and the “possessors” of the queen are still alive).

Artifacts do not have a lifetime in the sense of animate individuals but they have a time of existence, too. The time of existence of artifacts is conceptualized here as the spatiotemporal path of the artifact, a notion on which I elaborate below. (13) defines the time of existence of animate and inanimate entities using the function τ which maps entities from the domain Dₜ to a time t. ⁶

⁶As mentioned in chapter 3, the function τ is adapted from Krifka’s trace function and applies to eventuality descriptions, nominal descriptions and individuals alike.
(13) **The Time of Existence of Entities**

The time of existence \( \tau(x) \) of an entity \( x \) is

- the lifetime of \( x \) if \( x \) is animate, and
- the spatiotemporal path of \( x \) if \( x \) is inanimate.

The notion of the spatiotemporal path of an entity is discussed in the cognitive and developmental psychology literature in the context of the question of what determines the identity of objects (e.g. Keil 1989; Spelke et al. 1995; Sternberg 1982). According to this literature, two entities are judged to be identical if we know that these entities fall on the same unbroken spatial and temporal path (Spelke et al. 1995). An important property of artifacts is that they are (in part) characterized by the function their creator intends them to have (Bloom 1996:2). Thus, for the purpose of determining the sameness of an artifact entity, an artifact entity that changes its physical appearance or is used with a different function is still the same entity, i.e. the entity has not ceased to exist. From the fact that artifact entities can lose the property denoted by the artifact noun without ceasing to exist, it follows that artifact nouns denote stage-level properties according to the definitions in chapter 3. For instance, a bike that is bent out of shape and cannot be used to ride on anymore has lost its function (and is described in Guaraní as a *bisikleta-kue* 'bicycle-KUE') but still exists. Similarly, *pare-kue* ‘wall-KUE’ can denote a pile of rubble, i.e. the entity still exists but does not have the function of walls anymore.

With artifacts, then, the **existence** meaning property of –*kue* requires that the spatiotemporal path of an entity (its time of existence) includes two times, \( t_1 \) and \( t_2 \). –*kue* requires that the property denoted by the nominal predicate is true of the entity denoted by the noun phrase at the time \( t_1 \) and that the property ceased to be true prior to the perspective time \( t_2 \) (which follows \( t_1 \)).

### 6.2.1.3 The Meaning of –*kue*

The meaning of –*kue* is summarized in (14).

(14) **The Meaning of –*kue* (informal version)**

For an entity that is denoted by a noun phrase marked with –*kue*,

- the property/relation denoted by the nominal predicate is true at a time \( t_1 \) prior to the perspective time \( t_2 \) (**precedence** meaning property),
the property/relation denoted by the nominal predicate became false at a
time prior to \( t_2 \) (\textit{change} meaning property), and

- the entity must exist during \( t_1 \) and \( t_2 \) (\textit{existence} meaning property).

In the remainder of this section I develop a formal analysis of \(-kue\) as a terminative grammatical aspect marker. Following the discussion in chapter 5, I assume that Guaraní noun phrases are interpreted relative to the nominal time \( t_n \), which is resolved in the discourse context according to the constraint in (15).

(15) \textbf{The Temporal Interpretation of Noun Phrases}

The nominal time \( t_n \) is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

I propose that \(-kue\) is a nominal terminative grammatical aspect marker: that is, \(-kue\) maps the nominal description to which it applies to a novel nominal description, but does not affect the resolution of the nominal time \( t_n \).

(16) \textit{\(-kue\) as a (Nominal) Terminative Grammatical Aspect}

\[
\forall P \forall X \forall s (\text{TERM}(P)(s)(x) = 1 \text{ in } w \iff \exists s' (P(s')(x) = 1 \text{ in } w \land \tau(s') \supset \tau(s)))
\]

According to (16), \(-kue\) applies to a nominal description \( P \) and returns a novel nominal description \( \text{TERM}(P) \) that is true of an individual \( x \) during a state \( s \) in a world \( w \) if and only if there is another state \( s' \) during which \( P \) was true of \( x \) in \( w \), and the situation time of \( s' \) abuts the situation time of \( s \). (Recall that \( t_1 \) abuts \( t_2 \) iff \( t_1 \) precedes \( t_2 \) and there is no time \( t_3 \) that is after \( t_1 \) but before \( t_2 \).) If \( \text{TERM}(P) \) is the highest nominal description of a noun phrase, its situation time \( \tau(s) \) is located by ATL at the nominal time \( t_n \). Before I discuss how the three meaning properties of \(-kue\) are captured by this analysis, I illustrate the analysis with some examples, starting with (7b), repeated here:

(17) Context: M tells me how she made it a bit more comfortable outside for her puppy dog.

\[
\begin{array}{llllll}
\text{A-moi} & \text{peteɪ ao-kue} & \text{che-r-yamba} & \text{jagua-pe.} & (= \text{7b}) \\
\text{A1sg-put one} & \text{clothing-KUE} & \text{B1sg-animal dog-PE} \\
\end{array}
\]

'I put a former piece of clothing for my pet dog.’ [overheard]

The unresolved DRS assigned to (17) is \( K_1 \) given in (18); the resolved one is \( K_2 \).
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(18) \( K_1: \langle \{ t_n \}, \) 

\begin{align*}
\text{sp e s a now} \\
\text{speaker(sp)} \\
\text{put-for-puppy(e,sp,a)} \\
\tau(e) \subseteq t_{\text{top}} \\
t_{\text{top}} \prec \text{now} \\
\text{TERM(clothing)(s,a)} \\
t_n \subseteq \tau(s)
\end{align*}

(18) \( K_2: \langle \{ \}, \) 

\begin{align*}
\text{sp e s a now} \\
\text{speaker(sp)} \\
\text{put-for-puppy(e,sp,a)} \\
\tau(e) \subseteq t_{\text{top}} \\
t_{\text{top}} \prec \text{now} \\
\text{TERM(clothing)(s,a)} \\
t_{\text{top}} \subseteq \tau(s)
\end{align*}

The DRS \( K_1 \) specifies that the speaker sp put outside an entity a for which the property \( \text{TERM(clothing)} \) is true at the nominal time \( t_n \). This nominal time \( t_n \) is resolved in the discourse context according to the constraint in (15). In this discourse context, there is no link between the denoted entity and a contextually established entity and, hence, the nominal time \( t_n \) is by default resolved to the topic time \( t_{\text{top}} \). Thus, the resolved DRS \( K_2 \) for (17) specifies that what the speaker put outside was an old piece of clothing, i.e. something that was used as clothing in the past but not anymore at the topic time.

An example with a noun denoting a stage-level relation is given in (19), repeated from (9b) above.

(19) Che-angiru-\textit{kue} o-\textit{ñe’e} vai che-ve.  
B1sg-friend-\textit{KUE} A3-speak bad B1sg-VE  
‘My former friend spoke badly to me.’

The following DRS represents the meaning of (19):

\begin{align*}
\text{sp f s e t}_{\text{top}} \text{ now} \\
\text{speaker(sp)} \\
\text{speak-badly-of}(e,f,sp) \\
\tau(e) \subseteq t_{\text{top}} \\
t_{\text{top}} \prec \text{now} \\
\text{TERM(friend-of)(s,f,sp)} \\
t_{\text{top}} \subseteq \tau(s)
\end{align*}

(20) \( \langle \{ \}, \) 

\begin{align*}
\text{sp f s e t}_{\text{top}} \text{ now} \\
\text{speaker(sp)} \\
\text{speak-badly-of}(e,f,sp) \\
\tau(e) \subseteq t_{\text{top}} \\
t_{\text{top}} \prec \text{now} \\
\text{TERM(friend-of)(s,f,sp)} \\
t_{\text{top}} \subseteq \tau(s)
\end{align*}

In the DRS in (20), I assume that the nominal time \( t_n \) is resolved to the topic time \( t_{\text{top}} \). The DRS specifies that the individual \( f \) who at the topic time stands in the \( \text{‘TERM(friend)’} \)
relation to the speaker sp spoke badly to the speaker at the topic time in the past of the utterance time. An alternative interpretation of (19) is one in which the nominal time of che-angiru-kue ‘my former friend’ is resolved to the utterance time. In this case the ‘TERM(friend)’ relation might have been true of the two individuals at the topic time, i.e. they were still friends at the time at which f spoke badly to the speaker.

According to the analysis of –kue as a terminative grammatical aspect, the property TERM(P) is true of the entity denoted by a noun phrase if the situation time \( \tau(s') \) of the property P abuts the situation time \( \tau(s) \) of TERM(P). Hence, the precedence meaning property of –kue is captured by this analysis. The change meaning property similarly follows: since s is the maximal state during which P is true of x,\(^7\) when \( \tau(s) \) abuts \( \tau(s') \), it follows that the property P is not true of x anymore at the nominal time \( t_n \).\(^8\) The existence meaning property follows from the terminative grammatical aspect meaning in (14) under the assumption that TERM(P) is a stage-level property: that is, TERM(P) imposes the constraint that its situation time falls within the time of existence of the individual denoted by the noun phrase. If both P and TERM(P) are required by –kue to be true of the individual denoted by the noun phrase, this predicts that only stage-level properties are acceptable with –kue. I discuss the cooccurrence restrictions of –kue in the next section.

6.2.2 Explaining the Cooccurrence Restrictions

The analysis of –kue as a nominal temporality marker correctly predicts that –kue is not acceptable with individual-level and final-stage relational nouns and nominal predicates denoting natural kinds (Table 6.1). In this section I discuss for each of these semantic classes the kinds of contexts I examined to check whether –kue is acceptable or not, and explain the unacceptability of –kue with food artifact nouns, which are stage-level.

\(^7\)Recall from chapter 3 that a state s is maximal for a property P and an individual x if there is no state s' that subsumes s, during which P is also true of x.

\(^8\)Another grammatical aspect that asserts that the result state of the property is true is the perfect (Kiparsky 2002, Michaelis 2004:42ff). I assume that –kue is a terminative grammatical aspect rather than a perfect because the latter realizes a variety of meanings, including existential, resultative, and continuative interpretations, which are not available with –kue, as far as I know.
6.2. THE NOMINAL TEMPORALITY MARKER – KUE

6.2.2.1 Nouns Denoting Natural Kinds

I start with nouns denoting natural kinds. –kue is unacceptable with such nouns (even) when the entity denoted by the natural kind does not exist anymore (e.g. an extinguished fire) or has passed (e.g. wind). Consider the examples in (21).

(21)  
a. *Yvytu-kue hata kuri.
wind-KUE strong KURI
(Intended: The (former/past) wind was very strong.) [E]

b. *A- mbogue pe tata-kue angete a-viapi-ha-guā
A1sg-extinguish that fire-KUE short.while A1sg-travel-NOM-PURP
Villarica-pe.
Villarica-PE
(Intended: I extinguished the (former/ex-) fire shortly ago so that I could travel to Villarica.) [E]

this water-KUE dirty
(Intended: This (former/old) water is dirty.) [E]

d. Context: I had a forest which I mostly chopped down, now I want to sell the ground with the remaining trees.

A1sg-sell-TA this forest-KUE
(Intended: I will sell this (former/ex-) forest.) [E]

As illustrated here, –kue cannot be used to indicate that the wind that was very strong is a past wind (21a). Similarly, an extinguished fire is not a tata-kue ‘fire-KUE’ (21b), and water that cannot be used anymore because it is dirty is not y-kue ‘water-KUE’ (21c). Finally, –kue cannot be used to convey that the forest does not exist anymore (21d). (All of the examples in (21) are fine without –kue.)

–kue can occur on nouns denoting natural kinds when they are realized in a possessive relation (whenever that makes sense). In (22), –kue indicates that the possessive relation was true in the past but is terminated at the utterance time.

(22) Context: Somebody sees a squash lying in front of the house.

A: Máva andai-kue-pa ko-va?
who squash-KUE-QU this-RC
‘Whose squash was this?’
B: Tia Julia andai-kue.
aunt Julia squash-KUE
‘It was Aunt Julia’s squash.’ [overheard]

The unavailability of –kue with natural kinds is true for all subtypes of natural kinds, e.g. nouns denoting animals, humans and natural food kinds (these are edible entities that are not manufactured, e.g. squash or apple, but not cheese or soup). The following examples illustrate some contexts I created to examine the cooccurrence of –kue with nouns denoting animals.

(23) a. Context: I went fishing and afterwards somebody asks me whether I was successful.
   *A-atrapa-nte peteï kururu-kue.
   A1sg-catch-only one frog-KUE
   (Intended: I only caught an ex-/dead frog.)

b. A-atrapa-nte peteï kururu re’ongue.
   A1sg-catch-only one frog dead
   ‘I only caught a dead frog.’

(23a) with kururu-kue ‘frog-KUE’ is unacceptable to express that the frog was dead when the speaker caught it. Instead, (23b) with the predicate re’ongue ‘dead’ is used. –kue is similarly unacceptable with nouns denoting animals (and other animate natural kinds) in discourse contexts in which the fact that the animal is dead is already contextually established.

(24) Context: A frog died in the patio. Juan’s mother is bothered by it and asks Juan to clean it. Juan says:

*A-mombo-ta pe kururu-kue.
A1sg-throw.out-TA that frog-KUE

(Intended: I’ll throw out this ex-frog/dead frog.) [E]

In (24), both the speaker and his mother know that the frog is dead but the frog can not be referred to with kururu-kue ‘frog-KUE’. Instead, only kururu ‘frog’ or kururu re’ongue ‘dead frog’ is used.

Finally, –kue cannot be realized with nouns denoting animals when the animal itself does not exist anymore and only parts of it are left, as illustrated in (25).
(25)  

a. Context: We’re walking outdoors and find some bones. We’re examining the bones to see which animal they are from.

*Ko-va  kabaju-kue ha  ko-va  tapiti-kue.
this-RC horse-KUE and this-RC rabbit-KUE
(Intended: This is a former horse and this is a former rabbit.) [E]

this-RC horse  bone-KUE
‘These are former horse bones.’ [E]

c. Ko-va  kabaju va’ekue.
this-RC horse  VAEKUE
‘This was a horse.’ [E]

As illustrated in (25a), –kue is unacceptable with nouns denoting animals to refer to the bones that once belonged to the animal. Instead, one consultant here suggested (25b) where –kue asserts that the possessive relation between the animal and its bones was true in the past and is terminated at the utterance time. Another suggested (25c) where the identificational relation is located in the past with va’ekue, a past time locating adverb similar to kuri (cf. chapter 7).

There is one particular kind of context in which –kue is acceptable with nouns denoting animals:

(26)  

Context: A princess angers a witch, who turns the princess into a frog and says that she’ll only become a princess again if a prince comes and kisses her (as a frog). A prince indeed comes and kisses the frog and hence turns the frog back into a princess. They lived happily ever after.

Ko’āga.pe  prinsipe o-hayhu kururu-kue-pe.
now  that prince  A3-love  frog-KUE-PE

‘Now that prince loves the ex-frog.’ [E]

In this kind of context, the property denoted by the noun kururu ‘frog’ patterns like an artifact or profession: it is construed as a stage-level property since the individual can cease being a frog without ceasing to be alive. Since such contexts do not reflect the

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7. –kue on kangué ‘bones’ indicates that the bones were previously “possessed” by the horse, as discussed in chapter 8.
typical use of these natural kind nouns, I have nevertheless marked the cooccurrence of \(-kue\) with such nouns with an * in Table 6.1.

Natural kind nouns differ from artifact nouns in that the property (or substance) of a natural kind is of high relevance to its identity and existence (Keil 1989:47ff). In contrast to artifact nouns, the property denoted by a natural kind noun is intimately connected to the existence of entity denoted by a natural kind noun. Thus, water is water, for example, because the property ‘water’ is true of it during its time of existence. Natural kinds are construed such that once the property is not true of the entity anymore, the entity has ceased to exist. For instance, the steam that results from boiling water is not the same entity anymore, but a different natural kind. It follows that natural kind nouns denote individual-level properties, which explains their unavailability with \(-kue\): as individual-level properties, the situation time of the state \(s\) during which the property is true of the individual is identical to the time of existence of the individual, i.e. \(\tau(x)=\tau(s')\). Once \(x\)’s time of existence terminates, \(\tau(s')\) terminates as well. Hence, the property \textsc{term}(P)\ cannot be true of the individual \(x\) during its time of existence, in violation of the \textsc{existence} property of \(-kue\). Thus, natural kind nouns cannot cooccur with \(-kue\) because they are individual-level.

6.2.2.2 Mitā’i ‘Child’: A Special Natural Kind Denoting Noun

The noun mitā’i ‘child’ denotes a natural kind but is arguably not individual-level but stage-level. Why, then, is it nevertheless considered unacceptable with \(-kue\) by my consultants? Consider, for instance, the constructed example in (27), which my consultants can interpret but nevertheless reject as “very artificial”.

(27) a. Ko ara-pe Juan o-mboty 15 ary. Ha’e nda-ha’e-ve-i-ma peteī this day-PE Juan A3-close 15 year 3.pron NEG-3.pron-more-NEG-MA one mita-’i.
   child-DIM
   ‘Today, Juan turns 15. He’s not a child anymore.’

b. *Ko’aga ha’e peteī mita-’i-kue.
   now 3.pron one child-DIM-KUE
   (Intended: Now he’s a former child.) [E]

(27) attempts to assert that Juan is a former child on grounds that he is an adult now. If mitā’i ‘child’ is a stage-level predicate, why is it unacceptable with \(-kue\)?
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I propose that –kue is not ungrammatical with mitā’i ‘child’ (as it is with individual-level nouns) but, rather, that –kue is not supported to cooccur with mitā’i ‘child’ in most discourse contexts. As noted by Keil (1989:47ff), each natural kind has a pattern of change that is typical of that kind and unique to it. Puppies turn into dogs, children turn into adults, and so on. The property ‘child’ is a portion of the spatiotemporal path of a human being. –kue is unavailable with stage-level nouns like mitā’i ‘child’ nouns because there exist lexical expressions that describe the state of a ‘former child’ or ‘former puppy’, namely adult and dog, respectively. Thus, I propose the combination of –kue with mitā’i ‘child’ is not acceptable in most discourse contexts because of lexical blocking, i.e. the availability of karia’y ‘(adult) man’. Further support for this analysis comes from the fact that, in English, former child is equally odd out of context but is attested in naturally occurring examples in particular discourse contexts:

(28) To insist on the legitimacy of the child’s point of view is not to point a finger at the parents but rather to observe something else – that the tragedy of a divided family is no zero-sum game. Of course critics will resist Marquardt’s work the same way many did Wallerstein’s – by complaining about the sample size and other methodological points, by arguing that correlation does not prove causality, and by continuing with the same kind of happy talk (“You’re lucky – you have two homes!”) that has helped to make an inner emotional hash of so many current and former children who know otherwise.10

In the given context, it is the property ‘former child’ that is relevant: denoting the individuals with the noun adult would not have achieved the same effect. The lexical blocking analysis predicts that such exceptions should be possible in contexts where former child cannot be replaced with adult. In Guaraní, my investigations are restricted to a much smaller corpus and consultant elicitation, but the analysis I propose here predicts that mitā’i-kue ‘child-kue’ should be possible in contexts similar to the one given in (28).

6.2.2.3 Nouns Denoting Individual-Level and Final-Stage Relations

Since –kue is unacceptable with nouns denoting natural kinds because these denote individual-level properties, the unavailability of –kue with individual-level and final-stage relations is also expected. In this section, I illustrate the contexts which I examined in order

to determine the (un)availability of –kué with individual-level and final-stage relations.

Again, –kué cannot be used to assert that an individual denoted by such a noun is dead, as illustrated in (29a). The fact that the individual is dead has to be overtly indicated with a predicate like amyryí ‘dead’ or finado ‘dead’, as in (29b).

    A3-leave B1sg-VE this house B1sg-father-kué
    (Intended: My (late) father left me this house.)
    [E]
    A3-leave B1sg-VE this house B1sg-father-dead / dead
    ‘My dead father left me this house.’
    [E]

–kué is also unavailable with individual-level relational nouns if it is established in the discourse context that the individual denoted by the noun phrase is dead. For example, (30a) is not acceptable in the following context: “A friend and I witnessed a car accident in which a man was killed. I happen to know that the man has a wife and children, and comment to my friend that the dead man was a father.” Instead, (30b) is used.

    that man one father-kué
    (Intended: That man was a father.)
    [E]
    b. Pe karai ha’e kuri peeti ru.
    that man 3.pron KURI one father
    ‘That man was a father.’
    [E]

Similarly, (30a) is not acceptable in a context in which –kué asserts the metaphorical termination of the fatherhood, as in the following context: “Me and a friend are living in New York. A mutual friend of ours is from Paraguay and he has been living in New York for 20 years. He has never returned to Paraguay although he has a wife and children there.” In this context, the individual denoted by the noun phrase with –kué is not dead. Rather, he has rather stopped fulfilling his father-function. Nevertheless, (30a) cannot be used to express that the individual is a “former father”, i.e. somebody who has given up on his father-function; (30b) is used. Finally, (30a) is also unacceptable in a context in which the father-relation is terminated not because of the death of the father but because of the death of the only child, as in the following context: “The only child of a man died, leaving the man childless.” Here, too, (30a) cannot be used to express that the man
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is now a ru-kue ‘former father’; (30b) is used. I conclude that –kue cannot cooccur with nouns denoting individual-level relations.

My consultants reject the cooccurrence of –kue with nouns denoting individual-level relations even in examples, where the relation is contextually constructed to be a stage-level one (compare to (26) above):

(31)  Context: We are watching some children playing “house”: one plays the father, one the mother and one the child, acting out typical household activities. Afterwards somebody comments:
  a. *Pe sy-**kue** o-ñe-comporta i-sy-cha.
     that mother-kue A3-JE-act 3-mother-like
     (Intended: The ex-mother/one who played mother acted like her mother.)
     that A3-live-RC-kue mother-COND A3-JE-act 3-mother-like
     ‘The one who was as-if-mother acted like her mother.’

My consultants reject (31a), suggesting instead examples like (31b) which make explicit that the relation was true only temporarily of the individual.

In conclusion, –kue is unacceptable with nouns denoting individual-level and final-stage relations, regardless of what is (not) established in the discourse context.

6.2.2.4 Nouns Denoting Food Artifacts

The fact that –kue is unacceptable with food artifacts is surprising in light of the fact that –kue is acceptable with non-food artifacts. Just like a chair or a bicycle are created by intentional agents, consist of parts and can loose their functionality, cheese and soup are created by intentional agents, consist of different parts and can lose their functionality, i.e. their edibility. Nevertheless, I did not find any naturally occurring examples of –kue with nouns denoting food items, and my speakers consistently rejected such combinations. (32) presents some constructed examples.

(32)  a.  Context: After dinner, I want to give the remains of the chicken to the dog.

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11In this example, –kue occurs on the relative clause marker –va’e and temporally affects the interpretation of the relative clause: the child is described to have acted like her mother at a time in the past. See chapter 8.3.3 and Tonhauser (2006a) for a discussion of nominal temporality markers with relative and complement clauses.
*A-moi-ta ko pollo-kue jagua-pe.
A1sg-give-TA this chicken-kUE dog-PE

(Intended: I will give the ex-chicken/chicken remains to the dog.) [E]

b. *O-i peteî kesu-kue heladera-pe.
A3-exist one cheese-KUE fridge-PE

(Intended: There’s an ex-/rotten cheese in the fridge.) [E]

c. Context: Somebody had eaten soup and then vomited.

*Ko-va sop-a-kue.
this-RC soup-KUE

(Intended: This is ex-soup.) [E]

It is not possible to use –kue to assert that what is given to the dog is the remains of a chicken dinner (32a) and –kue is not used to assert that a cheese is rotten (32b). Something that had been a soup cannot be referred to by sop-a-kue ‘soup-KUE’ (32c). My consultants contend that examples like (32a-c) are understandable, but nevertheless reject them as highly unnatural and not part of their language. Instead, they suggest examples like (33a), where the rotten status of the cheese is overtly stated, and (33b), where the pastness of the soup is indicated with the past time adverb kuri ‘then, in the past’.

(33) a. O-i peteî kesu o-ñe-mbyai-ma-va heladera-pe.
A3-exist one cheese A3-JE-fall.apart-MA-RC fridge-PE

‘There’s a rotten cheese in the fridge.’ (lit: cheese that fell apart already) [E]

b. Ko-va sop-a kuri.
this-RC soup KURI

‘This was soup.’ [E]

Assuming that food artifacts are stage-level predicates like other artifact nouns, the stage-versus individual-level distinction cannot account for the unavailability of –kue with food artifacts. Instead, I propose an explanation on the basis of the meaning –kue gives rise to with artifacts: recall that what –kue asserts with artifacts is that the entity denoted by the noun phrase has lost its function and/or structural integrity, i.e. is old or broken. More abstractly, –kue with artifact nouns asserts that the structure of the artifact is not intact anymore. This meaning can only be asserted with structurally non-homogeneous artifacts, where ‘structurally homogenous’ is based on Krifka’s (1992) notion of divisiveness12 and defined as in (34):

12P is divisive iff ∀x(P(x) ∧ ¬atom(x) → ∃y(y ⊂ x ∧ P(y)))
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(34) Structural Homogeneity:

If P is the property denoted by an artifact noun, and P(x) is true at a time t, then x is structurally homogeneous iff, for all proper parts y of x, P(y) is true at t.

Artifacts that are structurally non-homogenous are such that a subpart of the artifact does not have the property denoted by the artifact noun. Thus, according to (34), a wall or a bike are not structurally homogenous because there are parts of the wall or bike that are not a wall or a bike. With such artifacts, –kue asserts that the entity is old or broken.

The reason, then, that –kue is not acceptable with food artifacts is that they are structurally homogenous (at least the ones I tested). Cheese, for instance, is structurally homogenous because any part of a cheese is still cheese and any part of a soup (to a certain level of granularity) is still soup. If food artifacts are structurally homogenous, –kue cannot assert that the structure of the artifact is not intact anymore. In other words, food artifacts cannot be broken or old (in the sense of not functioning anymore). The testing cases, then, are non-food artifacts that are structurally homogenous (hence, cannot be broken) and food artifacts that are not (and can be broken, such as a cake with five levels). This must await future research.

6.2.2.5 A Puzzle

The noun ka’aguy ‘forest’ presents a puzzle: despite being a natural kind noun, it can be realized with –kue in identificational clauses (but not in clauses headed by predicates, cf. (21d)), as in (35).

(35) Ko kancha peteï ka’aguy-kue.
this soccer.field one forest-KUE

‘This soccer field is a former forest.’

The noun ka’aguy ‘forest’ in (35) seems to behave more like a stage-level property of a spatial location than an individual-level property of a natural kind. (35) asserts that the spatial location which is now a soccer field, an artifact, used to have the property ‘forest’ at a previous time. Thus, it seems that the property ‘forest’ can be construed as the property of an artifact, in which case –kue can assert the termination of the function of the artifact, here, the spatial location. At other times, the spatial location might have the property ‘meadow’ instead of ‘soccer field’ or ‘forest’.

The noun ka’aguy ‘forest’ is the only one judged acceptable with –kue in specificational clauses. Tata ‘fire’ and andai ‘squash’ cannot be realized with –kue in such clauses:
(36)  a. Context: Pointing to some ashes on the ground.

*Ko-va peteï tata-kue.
this-RC one fire-KUE
(Intended: This is an ex-fire.) [E]

b. Context: Our field burnt down and we’re looking at the burnt plants.

*Ko-va andai-kue.
this-RC squash-KUE
(Intended: This is former squash/this was squash.) [E]

The fact that –kue cannot occur with andai ‘squash’ and tata ‘fire’ in identificational clauses is perhaps an indication that these two entities cannot be construed as artifacts. English provides a hint that a forest is a different type of entity than a squash or a fire since English has old forest but not *old squash and *old fire. What remains an open question, however, is why ka’aguy-kue ‘forest-KUE’ is acceptable in identificational clauses but not in clauses headed by a predicate.

6.2.3 Spatiotemporal Nouns

Nouns denoting spatiotemporal entities, i.e. event nouns and temporal period nouns, present some interesting puzzles for the analysis of –kue. I have marked the co-occurrence of –kue with event nouns with a checkmark in parentheses (√) in Table 6.1 to indicate that –kue is not unacceptable with such nouns, but is not productive or common either. My consultants are willing to construct examples in which –kue is realized on an event noun, but at the same time maintain that –kue is not necessary to interpret such nouns, and that such combinations are not commonly used. An example that illustrates this point is (37).

(37)   Context: I organized a party. Two days later I’m wrapping things up by paying the people who worked for me at the party. Somebody asks me what I’m doing:

   1sg-pay people-PL-PE that party-KUE
   ‘I am paying the people of the (past) party.’ [E]

   1sg-pay PROG waiter party-NOM-PE-of-RE
   ‘I’m paying the waiters of the party.’[E]

13–hà ‘-NOM’ in fiesta-há-pe-gua-re ‘party-NOM-PE-of-RE’ does not function as a nominalizer but identifies the party as a location, the (prior) location of the waiters.
Both (37a), where –kue occurs on farra ‘party’, and (37b), where it does not, are acceptable to my consultants, but the latter is judged more natural.

There are two reasons why I hesitate to declare –kue unavailable with event nouns and instead represent them with (√) in Table 6.1. The first is that –kue was not rejected with any of the 24 spatiotemporal nouns by my consultants, in contrast to combinations of –kue with natural kind or food nouns, which were strongly rejected. The second reason is that I encountered a naturally occurring example of –kue with a spatiotemporal noun:

(38) Context: Mario is the head of San Isidro’s town committee, and he had been sent to Brazil by the town committee. When he returns from Brazil, the radio announcer calls people to a meeting where Mario will be present:

Mario o-gureko heta o-mombe’u va’erä pe viaje-kue Brasil-pe.
Mario A3-have much A3-tell VAERA that trip-KUE Brasil-PE

‘Mario must have lots to tell about the ex-trip to Brazil.’ [Syry radio, 6/3/05]

In (38), –kue is realized on the noun viaje ‘trip’, where it asserts that Mario’s trip is over at the utterance time. When I later studied this example with the radio announcer, he conceded to having said it, but then favored the version without –kue. Given this evidence, I propose at this point that –kue is acceptable with event nouns but that future research with a larger corpus is necessary to illuminate the conditions under which –kue is realized with such nouns.

The combination of –kue with nouns denoting temporal periods presents a puzzle of a different sort. As illustrated in the examples in (39), –kue with such nouns gives rise to a temporal duration or habitual interpretation.

(39) a. Ha po-no-ve ro-kañy chu-gui, ha’e o-rombe’u va’erä
and para-no-more A1pl.excl-escape 3-GUI 3.pron A3-tell VAERA
ore-ve pe nu-re oi-ko-ha la jasy jatere ara haku-kue
B1pl.excl-VE that woods-RE A3-pass-NOM LA jasy jatere time hot-KUE
ro-kykyje-ha-guā
A2pl.excl-scare-NOM-PURP

‘And so that we wouldn’t escape her, she had to tell us that the jasy jatere lives in the woods during the summer, in order to scare us.’ [C]

b. Ha upej ha’e o-jepokuaa ha’e o-ñeno asaje-kue o-pytu’u.
and then 3.pron A3-be.used.to 3.pron A3-lie.down siesta-KUE A3-rest

‘And then she used to lie down during the siesta to rest.’ [C]
In (39a), –kue occurs on the noun phrase ara haku ‘summer’, and the resulting noun phrase receives a temporal extendedness interpretation meaning during the summer. Similarly, the noun asaje ‘siesta’ in (39b) receives the interpretation during the siesta. Both of these contexts are habitual: in (39a), the Jasy Jatere’s living in the woods is a habit, as is the woman’s lying down during the siesta in (39b). –kue with temporal period nouns can give rise to an exclusively habitual interpretation: in (39c), where –kue occurs on the noun domingo ‘Sunday’, the resulting interpretation is on Sundays.14

What is particularly interesting about the meaning of –kue with temporal period nouns is the effect on the topic time. Typically, temporal period nouns like ‘Sunday’ restrict the topic time of the utterance to the time denoted by the temporal period noun. –kue does not affect this relation between the temporal period noun and the topic time: in (39c), for example, the church-going event is constrained to the time denoted by the temporal period noun, despite the presence of –kue. Instead, I propose that –kue with such nouns introduces a quantification over times. Consider the DRS in (40), which represents the meaning of (39c).

14Of the 24 spatiotemporal nouns that I tested, the following nouns gave rise to this temporal extendedness interpretation with –kue: ka’aru ‘evening’, pyhareve ‘morning’, asaje ‘siesta’, ara ‘day’, pyhare ‘night’, arete ‘party’, the seasons ((ara) haku/verano ‘summer’, (ara) ro’y ‘winter’, primavera ‘spring’ and otoño ‘fall’) and the days of the week.
temporally located by the temporal adverb domingo ‘Sunday’. Evidently, (39c) does not mean that one event e of going to church is located at a time denoted by \text{TERM(sunday)}, e.g. on Monday. Rather, –kue here evokes a habitual state during which Sundays at which people go to church are located. How can this habitual interpretation of –kue be linked to the terminative grammatical aspect meaning? A habitual is felicitous in a discourse context in which several events of the same type have been observed and it is likely that such events would also occur in the (relative) future. In the current case, several Sundays during which people go to church must have already occurred. Thus, at the utterance time, the post-state of several such Sundays is true. With temporal period nouns, –kue does not assert that the post-state of one such temporal period is true but that the post-state of several such temporal periods is true, thereby giving rise to a habitual interpretation.

This suggests that it might be possible to account for the interpretation of –kue with temporal period nouns on the basis of the terminative grammatical aspect analysis I have presented above. Further support for the connection between the terminative aspect meaning and the temporal duration meaning comes from English old. As noted above, old has a meaning similar to –kue with artifacts, e.g. an old boot is a boot that has lost some of its functionality. At the same time, an old friend could denote a young person who has been somebody’s friend for a (relatively) long time (cf. also DeGraff and Mandelbaum 1993). Thus, old, just like –kue, can receive a temporal duration interpretation in addition to expressing a terminative aspect meaning.

While this suggests that there is only one marker –kue, the following example might be evidence in favor for a polysemous analysis of -kue. In (41), –kue gives rise to a spatial extendedness interpretation with the predicate puku ‘long/length’.

\begin{verbatim}
(41) Ambue tetā-re oī-va o-guerekvo potei ra’ā-rupi
other country-RE A3-exist-RC A3-have easily 6 meter-through
i-puku-kue, iŋ-akā-gui-ve h-uguái apýra-peve.
3-long-KUE 3-head-GUI-VE 3-tail tip-until
‘In other countries, there are some (crocodiles) that reach approximately 6 meters in length, from head to tail tip.’
\end{verbatim}

In (41), puku-kue ‘long/length-KUE’ refers to the length of the crocodiles. It is not immediately clear how to reconcile the spatial extendedness interpretation with the terminative grammatical aspect meaning. However, –kue may also give rise to a temporal extendedness interpretation with puku ‘long/length’:
(42) Sapy’a-ite ha sapy’a-mí-nте avei o-heja hupi’a-kuéra
one.moment-very and one.moment-DIM-only also A3-leave 3-egg-pl
o-kuru puku-kue-aja.
A3-brood long-KUE-while
‘One moment, and only one moment, does she leave her eggs while she is brooding.’ [C]

In this example puku-kue ‘long/length-KUE’ refers to the length of the crocodile’s brooding. A more detailed discussion of the meaning of –kue and temporal period nouns, and the relation between the temporal extendedness/habitual, the spatial extendedness and the terminative aspect interpretation has to await future research.

6.2.4 Summary and Discussion

In this section, I presented a formal analysis of –kue as a terminative grammatical aspect on the basis of the three meaning properties identified for the nominal temporality marker:

(43) –kue as a (Nominal) Terminative Grammatical Aspect (= (16))
\[ \forall P \forall x \forall s (\text{TERM}(P)(s)(x) = 1 \text{ in } w \leftrightarrow \exists s' (P(s')(x) = 1 \text{ in } w \land \tau(s') \supset \tau(s))) \]

I illustrated how this analysis accounts for the cooccurrence restrictions of –kue with different semantic noun classes.

English former, which I have proposed is also a terminative grammatical aspect marker (Tonhauser 2005a, chapter 2), occurs less frequently in naturally occurring data than –kue. I attribute this here to the fact that –kue is highly productive with artifact nouns, while English old blocks the realization of former with such nouns. Based on the cooccurrence restrictions of English former and Guaraní –kue, I suggest the following (preliminary) implicational hierarchy:

(44) Implicational Hierarchy for Past-Time Oriented Nominal Temporality Expressions (preliminary version)

C1: professions, stage-level relations
   < C2: non-food artifacts
      < C3: food items, inanimate natural kinds, animate natural kinds, individual-level relations
The idea behind this hierarchy is that if a past-time oriented nominal temporality expression is acceptable with nouns from a class C₁, then it should also be acceptable with nouns from lower classes. The division between C₁ and C₂ is motivated by the differences between Guaraní –kue and English former. Former is acceptable only with nouns from C₁, while –kue is acceptable with nouns from classes C₂ and C₁. Neither are productive with nouns from class C₃. A further division in the nouns in class C₃ is motivated on the basis of nominal temporality markers from other languages in chapter 9.

6.3 The Nominal Temporality Marker –rā

The nominal temporality marker –rā, in contrast to -kue, does not exhibit cooccurrence restrictions with semantic noun classes (Table 6.1). In this section, I identify the basic meaning properties of –rā (section 6.3.1) and propose an analysis of –rā as a prospective aspect marker with a modal meaning component (section 6.3.2). The meaning of –rā with event and temporal period nouns is discussed in section 6.3.3.

6.3.1 Basic Meaning Properties

Just like –kue, –rā conveys a precedence relation, in this case a future-time oriented one. Thus, (45a) conveys that the individual who the speaker saw yesterday might become a lawyer in the (relative) future of the perspective time. Again, I refer to this as the PRECEDENCE meaning property.

(45)  a. Kuehe a-hecha peteí abogado-rā-me.
      yesterday A1sg-see one lawyer-RA-PE
      ‘Yesterday I saw a future lawyer.’

b. #A-hecha-ramo-gua-re ha’e abogado-ma.
      A1sg-see-COND-of-RE 3.pron lawyer-MA
      ‘When I saw him he was a lawyer already.’

The fact that (45a) cannot be felicitously continued with (45b) indicates that –rā also has the CHANGE meaning property: (45a) not only conveys that the individual might become a lawyer in the future of the perspective time, but also that the perspective time. (45b) is infelicitous as a continuation of (45a) because it asserts that the individual was a lawyer at the perspective time and thereby contradicts the CHANGE meaning property of –rā.
The examples in (46) illustrate –rā with other types of professions: tendota ‘president’ in (46a), ōgaapo ha ‘builder’ in (46b), and chokokue ‘farmer’ in (46c).

(46) a. Umi tendota-rā o-ñe’e pueblo-pe.  
   those president-RA A3-speak people-PE  
   ‘The presidential candidates spoke to the people.’ [E]

b. A-mbo’e-ta pe ōga-apos-ha-rā-me.  
   A1sg-teach-TA that house-do-NOM-RA-PE  
   ‘I will teach this future builder.’ [E]

c. Che-memby, pete chokokue-rā, o-ho gueteri eskuela-pe.  
   B1sg-child one farmer-RA A3-go still school-PE  
   ‘My child, a future farmer, still goes to school.’ [E]

Like (45a), these examples convey that the individual denoted by the noun phrase marked with –rā does not yet have the property denoted by the nominal predicate (CHANGE meaning property) but might have the property at a time in the future (PRECEDENCE property). Such utterances do not require that the property will be true of the entity at a time in the future. As the example in (47) illustrates, it is possible for the property to never be true for the individuals denoted by the noun phrase.

(47) Context: During a presidential election campaign where Pedro, Juan and Mario are presidential candidates.

Pedro, Juan ha Mario tendota-rā.  
Pedro Juan and Mario president-RA  
‘Pedro, Juan and Mario are presidential candidates.’ [E]

(47) asserts of Pedro, Juan and Mario that the property ‘president’ is not true of them at the utterance time (CHANGE property), but might be true of them at a time in the future (PRECEDENCE property). Since only one of the three can win in the election, and hence become president, this example illustrates that –rā does not assert that the property, here ‘president’, will be true of the entity denoted by the noun phrase at a time in the future in all possible worlds. Rather, –rā asserts that the property will be true in a particular set of worlds that is constrained by the discourse context (e.g. in worlds where all goes according to plan for Pedro, Juan and Mario, respectively). The example also shows that –rā is not a translational equivalent of the English adjective future, since Pedro, Juan and
Mario are future presidents is infelicitous if the three individuals are running for the same presidency.

Again, I assume that the CHANGE meaning property is asserted, not presupposed. Consider the example in (48).

(48) Juan abogado-rä-ramo ha’u-ta chu-pe.
     Juan lawyer-RA-COND A1sg.eat-TA 3-PE
     ‘If Juan is a future lawyer, I will give him to eat.’ [E]

(48) is felicitous in a discourse context in which it is not established that Juan is a lawyer or that Juan is a future lawyer. This suggests that the CHANGE meaning property of –rä is entailed, not presupposed.

### 6.3.1.1 The Existence Meaning Property

I established for –kue in section 6.2 that -kue is acceptable only with stage-level predicates because it requires the entity denoted by the noun phrase to exist both at the time t1 at which the property P denoted by the nominal predicate is true of the entity and at a time t2 prior to which the property ceased to be true. This meaning property, the existence meaning property, is shared by –rä, albeit in a less strict version for some types of entities. For humans, –rä requires both times t1 and t2 to be true of the same individual during its time of existence. For instance, Juan is a pa’i-rä ‘priest-RA’ only if it is possible for Juan to be a priest in his lifetime. It would not be possible to ascribe the property pa’i-rä ‘priest-RA’ to me since the Catholic church requires priests to be male.

With non-human entities, however, –rä does not require the time t1 and the time t2 to fall in the time of existence of the same individual. Consider the following examples with nouns denoting animals.

(49) a. Ko toro guei-rä.
    this bull ox-RA
    ‘This bull is for ox.’ [E]

b. Umì yso panambi-rä.
    these caterpillar butterfly-RA
    ‘These caterpillars are future butterflies.’ [E]

(49a) asserts that the bull near the speaker is in training to be used as an ox (a working bull, often castrated). This certainly does not require any more physical transformation
of the bull than it requires a human to become a priest or builder. Hence, here both the
times t2 (the time at which the individual is a bull) and the time t2 (at which the individual
is an ox) fall into the time of existence of the same entity. In (49b), on the other hand,
the property ‘caterpillar’ is true of a different entity than the property ‘butterfly’. The ex-
istence property of –rā is nevertheless fulfilled because the butterfly is a spatiotemporal
continuation of the caterpillar in the normal course of events.  

Thus, while –kue requires both t1 and t2 to fall within the time of existence of an
individual, –rā only requires this to be the same individual in the case of humans. With
non-human entities, it is sufficient for the two entities to be spatiotemporal continuations
of each other. I capture this requirement with the ‘cont’ relation:

(50) The Spatiotemporal Continuation Relation ‘cont’
cont(x,y) = 1 iff x = y (for humans), and
y is the spatiotemporal continuation of x (for non-humans).

(50) states that x and y stand in the ‘cont’ relation if a human x is identical to y or if
y is a spatiotemporal continuation of x, for non-humans. In (49b), the entities x and
y denoted by the noun phrases yso ‘caterpillar’ and panambi ‘butterfly’ fulfill the ‘cont’
relation because caterpillars turn into butterflies.

The following examples illustrate the meaning of –rā with nouns denoting natural
kinds (51) and food artifacts (52).

(51) a. Ko ara i ama-rā.
this cloud rain-RA
‘This cloud is for rain.’  [E]
b. A-heka-ta jepe’a tata-rā.
A1sg-search-TA firewood fire-RA
‘I will search firewood for fire.’  [E]

15The example in (i), which forms a minimal pair with (49b), is ungrammatical because, as discussed
above, –kue cannot be realized with nouns denoting individual-level properties such as yso ‘caterpillar’.

(i) *Umi panambi yso-kue.
these butterfly-KUE caterpillar

(Intended: These butterflies are former caterpillars.)  [E]

–kue but not –rā requires the property denoted by the nominal predicate to be true and false of the same
entities.
c. Ko taьi andai-ra.
   this seed squash-ra
   ‘This seed is for squash.’

In (51a) the speaker asserts that the cloud pointed to is future rain: given the facts of the world, the cloud will turn into rain in the normal course of events. Similarly, the firewood in (51b) is asserted to be future fire. –ra is felicitous here because firewood can turn into fire, i.e. the two entities are on a spatiotemporal path. This gloss given for this example brings out the purposive interpretation that –ra can evoke: the firewood serves the purpose of making fire. These interpretations, and the conditions under which they arise, are further discussed in chapter 8.

The examples in (52a) and (52b) bridge the natural kind and food domain, and illustrate that the food artifact that is created from killing an animal is considered a spatiotemporal continuation of the animal itself.

(52)  
   a. Ko kamby kesu-ra.
      this milk cheese-ra
      ‘This milk is for cheese/to make cheese.’
      [E]

   b. Context: A man is selling his cow.
      A-vende so’o-ra.
      A1sg-sell meat-ra
      ‘I am selling future meat/(the cow) for meat.’
      [E]

   c. O-henoi chu-pe peteи karnisero o-me’e-ha-guа chu-pe peteи i-jatua-kue
      A3-call 3-PE one butcher A3-give-NOM-PURP 3-PE one 3-neck-KUE
      pehёngue guasu, i-karu-ra.
      piece big, 3-food-ra
      ‘A butcher called him to give him a big piece of neck, for his food.’
      [P:87]

(52b), for instance, asserts that the cow that the man is selling is currently so’o-ra ‘meat-ra’, meaning that the cow might become meat in the future. Again, the cow and the cow meat are not the same entities but –ra merely requires the meat to be a spatiotemporal continuation of the cow. Similarly, the big piece of neck in (52c) is asserted to be the man’s karu-ra ‘food-ra’, i.e. it might become his food in the future. The examples in (53) illustrate the use of –ra with artifact nouns.
(53)  a. Context: Looking at a site where a house is being built; the walls are up, but the roof is not covered yet.

A-jogua-se ko óga-rā.
A1sg-buy-DES this house-RA
‘I want to buy this future house.’

b. O-jeity pé-icha tujú-pe yyra po’i-mi-mi puente-rā.
A3-throw that-like mud-PE wood thin-DIM-DIM bridge-RA
‘He threw the thin wood into the mud as a bridge.’\(^{16}\)  

In (53a), the entity denoted by ko óga-rā ‘this house-RA’ is asserted to not be a house at the utterance time but possibly a house in the future. In this discourse context, the entity currently is a partial house. In (53b), the thin wood is asserted to be a future bridge, which is possible because of the facts of the world and the individual’s intention to act on the wood and turn it into a bridge. Compare this to (51b) where the individual intends to act such that wood turns into fire: two distinct types of entities can be construed as spatiotemporal continuations of wood. It is, however, not possible construe two distinct entities to be spatiotemporal continuations of a single concrete entity:

(54) Context: Pointing to a piece of wood.

#Ko tata-rā puente-rā.
this fire-RA bridge-RA

(Intended: This future fire is a future bridge.)

This example would be felicitous only if the fire would result in the existence of a bridge.

In (55), the discourse context specifies that what the speaker gives to the friend is a block of wood. The two examples form a minimal pair:

(55)  a. Context: I have a block of wood and give it to a friend who makes chairs out of wood.

A-moī chu-pe peteī apyka-rā.
A1sg-give 3-PE one chair-RA
‘I gave him a future chair.’

b. A-moī chu-pe yyra peteī apyka-rā.
A1sg-give 3-PE wood one chair-RA
‘I gave him wood for a chair.’

\(^{16}\)I assume that the noun phrase puente-rā ‘bridge-RA’ is an adjunct, cf. chapter 8.
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The utterance in (55a) asserts that what is given to the speaker is a future chair, based on the knowledge that the speaker’s friend will turn the block of wood into a chair. In (55b), both the wood and the block of chair are referred to, thus explicating the spatiotemporal relationship between the two entities.

The requirement that the two entities must stand in the spatiotemporal continuation relation accounts for the unavailability of the following examples.

(56)  a. #Ko kava miel-rå.
     this bee  honey-RÅ
     (Intended: This bee is for honey.) [E]

b. #Ko valde y-rå.
     this bucket water-RÅ
     (Intended: This bucket is for water.) [E]

c. #Ko yyy andai-rå.
     this ground/earth squash-RÅ
     (intended: This earth is for squash.) [E]

d. #Ko coja jagua-rå.
     this collar dog-RÅ
     (Intended: This collar is for dogs.) [E]

Despite their formal similarity with examples like (49), the examples in (56) are infelicitous because the two entities involved are not on the same spatiotemporal path. Bees, for example, do not transform into honey (56a), and earth does not turn into squash (56c).

6.3.1.2 –rā with Possessive Noun Phrases

Utterances containing a possessive noun phrase marked with –rā exhibit similar restrictions. Such utterances assert the possessor and the possessee do not stand in the relation denoted by the noun at the perspective time t2, and implicate that the relation might be true of them at a time t1 in the future of t2. In the simple case, both the possessor and the possessee exist at the time t2, as is the case in the examples in (57)
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(57)  a. Context: A woman is approaching. The monkey gives the fox advice:

\[
\text{Ágă o-já-vo nde-yké-pe, ere chu-pe re-menda-ta-ha;}
\]

now A3-stick-AT B2sg-side-PE A2.say 3-PE A2sg-marry-TA-NOM

\[
\text{kuña-ité ko ne-remibreko-rā.}
\]

woman-very this B2sg-wife-RA

‘When she’s close, tell her that you want to marry her; your future wife is a
real woman.’ [C]

b. Context: The little boy has just given up on catching the frog and decides to
go home with his dog.

\[
\text{Tenonde-rā oi-pota ichu-pe i-mymba-rā.}
\]

front-RA A3-want 3-PE 3-domestic.animal-RA

‘Before, he (the boy) wanted him (the frog) as his (pet) animal.’ [C]

The examples in (58) illustrate that it is not always the case that both the possessor and
the possessee already exist at the perspective time.

(58)  a. Context: The little boy wants to go on an adventure and tells his dog:

\[
\text{Petejey he’i h-yamba jagua-pe: “Ja-ha ja-heka}
\]

one time A3.say 3-animal dog-PE A1pl.incl-go A1pl.incl-search

\[
\text{ňane-iru-rā.”}
\]

B1pl.incl-friend-RA

‘One time he said to his pet dog: “Come on, let’s go look for a friend for us.’
(lit: our future friend) [C]


\[
\text{Ai-pota che-memby-rā-me.}
\]

A1sg-want B1sg-child-RA-PE

‘I want a child (for me).’ [E]

In (58a), for example, the little boy asserts that he and the dog stand in the \textit{angiru-rā}
‘friend-RA’ relation to an unknown entity (which might as well not exist). The result
of searching for this entity, and finding it, makes the friend relation true of the three
individuals involved. Similarly in (58b): the speaker expresses that s/he stands in the
\textit{che-memby-rā} ‘my future child’ relation to some unknown entity and that she desires the
\textit{che-memby} ‘my child’ relation to be true of them. Such utterances are often translated
by benefactive constructions in English and Spanish. The conditions under which such
interpretations arise with \textit{–rā}, and crosslinguistic connections, are discussed in chapter 8.
6.3.1.3 The Meaning of \( -r\text{ā} \)

The meaning of \( -r\text{ā} \) is summarized in (59).

(59) The Meaning of \( -r\text{ā} \) (informal version)

For an entity that is denoted by a noun phrase marked with \( -r\text{ā} \),

- the property/relation denoted by the nominal predicate might become true at a time \( t_1 \) subsequent to the perspective time \( t_2 \) (PRECEDENCE meaning property),
- the property/relation denoted by the nominal predicate is not true at the perspective time \( t_2 \) (CHANGE meaning property), and
- if human, the same entity must exist at \( t_1 \) and \( t_2 \), or, if not human, the entity must exist at \( t_2 \) and an entity that is its spatiotemporal continuation must exist at \( t_1 \) (EXISTENCE meaning property).

6.3.2 \( -r\text{ā} \) as a Prospective Grammatical Aspect

In this section, I propose a formal semantic analysis of \( -r\text{ā} \) as a prospective grammatical aspect/modality marker. In this context, I also explore the conditions on the discourse context under which the use of \( -r\text{ā} \) is felicitous. My analysis is inspired by Dowty’s (1979) and Portner’s (1998) analyses of the progressive aspect.\(^{17} \) In a nutshell, the analysis maintains that \( -r\text{ā} \) is felicitous when the situation at the perspective time \( t_2 \) is such that it supports the assumption that, all things staying the way they are and proceeding as normal, the individual denoted by the noun phrase (or a spatiotemporal continuation of it) will have the property \( P \) at a time \( t_1 \) in the future of \( t_2 \).

The analysis of \( -r\text{ā} \) is couched in the possible world semantics of modals developed in Kratzer (1981, 1991). The general idea behind Kratzer’s analysis of modals is that modals quantify over possible worlds, where the meaning of the modal marker and the discourse context determine the set of worlds quantified over. The modal base represents the set of worlds that are accessible from the perspective of the world within which the modal is uttered. In Kratzer’s analysis, the meaning of the modal marker does not depend only on the modal base, i.e. the set of accessible worlds, but also on an ordering of the

\(^{17} \)I assume, following Dowty and Portner, that the progressive aspect has a modal meaning component and, hence, sometimes write ‘progressive aspect/modality’.
accessible worlds. The ordering source is again a set of worlds, namely those worlds which accord with particular contextual specifications. The semantics of modal markers is thus dependent on two contextual parameters: the modal base and the ordering source. Since the analysis of the prospective aspect/modality\(^{18}\) that I present here is inspired by Portner’s (1998) analysis of the progressive aspect, I illustrate Kratzer’s analysis of modality in more detail based on Portner’s analysis of the progressive aspect.

Intuitively, a progressive sentence like (60) is true at a time \(t\) if something is going on at \(t\) which, if continued normally, results in the squirrel having climbed the tree at a time in the future of \(t\).

\[\text{(60) The squirrel is climbing the tree. (adapted from Portner 1998:761)}\]

Dowty (1977, 1979) presents an analysis of the progressive which combines a temporal and a modal meaning component. Under his analysis, (60) is true at a time \(t\) and a world \(w\) (e.g., at the utterance time and the actual world) if there is a time \(t'\) which includes \(t\) as a nonfinal interval such that in all inertia worlds \(w'\) that are accessible from \(w\) the squirrel climbs the tree at \(t'\) in \(w'\). The term ‘inertia world’ refers to those worlds which, from the perspective of \(t\) and \(w\), develop “in ways most compatible with the past course of events” (Dowty 1979:148). Portner (1998) presents an analysis of the progressive in Kratzer’s modal semantics which is based on Dowty’s insights to the progressive and the concept of inertia worlds. Ultimately, what Portner’s analysis accomplishes is a refinement of Dowty’s inertia worlds which avoids some problems pointed out (by Portner and others) for Dowty’s analysis that I will not review here. At the center of Portner’s modal analysis of the progressive are the specifications of the nature of the modal base and the ordering source. The modal base is circumstantial, i.e. it contains relevant facts of the world at the time \(t\) at which the progressive eventuality is asserted. For (60), for instance, the modal base contains those worlds in which the currently relevant facts about the squirrel are true:

\[\text{(61) Circ(e) = \{ ‘The squirrel is heading up the tree’, ‘The squirrel is in good health’, ‘The squirrel has reached the middle of the tree’, ‘The squirrel is motivated to go up the tree’, ... \}}\]

\(^{18}\)The prospective has received analyses as a grammatical aspect (Bohnemeyer 2002) and as a modality (Copley 2002, 2003). I do not take a stand on this matter and hence call the prospective a grammatical aspect/modality.
(60) is not true in all worlds that are compatible with this modal base. A lot of things might happen that would impede the squirrel’s climbing the tree. This is where the ordering source becomes important. The ordering source for the progressive contains those worlds in which the propositions which assert the normalcy of the squirrel’s climbing the tree are true, i.e. those outside factors that need to go right for the squirrel in order for ‘The squirrel climbed the tree’ to be true. This ordering source contains the propositions in which the climbing event is not interrupted (NI):

(62) \( \text{NI}(e) = \{ \text{‘The squirrel doesn’t get tired’}, \text{‘The squirrel doesn’t get chased away by a cat’}, \text{‘The squirrel doesn’t fall of the tree’}, \text{‘The tree doesn’t get felled’}, \ldots \} \)

The worlds compatible with all of the propositions in the modal base Circ (61) and all of those in the ordering source NI (62) comprise the best worlds relative to Circ and NI, i.e. Best(Circ,NI,e). ‘e’, the third argument of Best, refers to the event in which the squirrel is currently engaged and on the basis of which the progressive in (60) is asserted. Portner’s formal analysis of the progressive is given in (63), where T(e) is the time of the event e.

(63) Portner’s (1998:774) analysis of the progressive

\[ \text{PROG}(\phi) \text{ is true at a pair of an interval and a world } \langle i, w \rangle \text{ iff there is an event } e \text{ in } w \text{ such that } T(e) = i \text{ and for all worlds } w' \text{ in } \text{Best}(\text{Circ,NI,e}), \text{there is an interval } i' \text{ which includes } i \text{ as a nonfinal subinterval, such that } \phi \text{ is true at } \langle i', w' \rangle. \]

Roughly speaking, (60) is true according to (63) because all the worlds in Best(Circ,NI,e) are ones in which the squirrel climbs the tree.

Under which conditions is an utterance containing a progressive false? Consider (64), uttered in the context of seeing a squirrel swimming in the Pacific Ocean.

(64) The squirrel is swimming to Japan.

Unless the squirrel in question is supernatural, the modal base is restricted to those worlds in which the squirrel can swim no more than, say, one hour. In the actual world, for instance, (64) would be judged false according to Portner’s analysis because there is no time interval that subsumes i at which the proposition ‘The squirrel swims to Japan’ is true.
6.3.2.1 The Prospective Grammatical Aspect

The prospective grammatical aspect is related to the progressive in some respects, which makes it amenable to a similar analysis. Compare the two sentences in (65).

(65)   a. The squirrel is climbing the tree. (= (60))

b. The squirrel is going to climb the tree.

The prospective aspect *be going to* in (65b) is similar to the progressive aspect in (65a) in that both can be felicitously asserted only in a context where the speaker has some evidence that the event denoted by ‘The squirrel climbed the tree’ could be true in the future of the time at which the utterance is evaluated, i.e. in the future of the utterance time in (65). Intuitively, one major difference between the progressive and the prospective aspect is the amount and kind of evidence available at the time at which the sentence is evaluated. For instance, in contrast to the progressive, the prospective does not require the squirrel to already have started any climbing activity. The evidence on the basis of which (65b) is uttered could merely be the speaker’s knowledge of the behavior of squirrels and the particular squirrel’s activities on the ground near the trunk of the tree. Thus, the use of a prospective aspect/modality marker is felicitous in a discourse context in which there is no direct evidence of the eventuality embedded by the marker. Nevertheless, the prospective aspect/modality requires the speaker to have evidence (based, for instance, on world knowledge or empirical observation) that it is likely for the eventuality to occur, all things staying equal.

I propose an analysis of the prospective aspect which includes a modal meaning component. The modal meaning of the prospective assumes a modal base and ordering source very similar to that of the progressive. The modal base is circumstantial (Circ), and the ordering source is one which includes the worlds in which events that would impede the (prospective) eventuality from occurring do not occur (NOcc). The following are a sample circumstantial modal base and ordering source for (65b), where *ev* is the eventuality description ‘The squirrel climb the tree’.19

---

19My analysis of the prospective differs from Portner’s analysis of the progressive in that I use eventuality descriptions rather than events to anchor the modal base and the ordering source. This is motivated by the observation that the prospective aspect/modality, in contrast to the progressive, does not require a particular event to be ongoing at the topic time. What the prospective aspect requires is that a particular eventuality description (a type, rather than a token) occurs in the future, all things proceeding as expected.
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(66) \[ \text{Circ}(ev) = \{ \text{‘The squirrel is healthy’}, \text{‘The squirrel is not tired’}, \text{‘The squirrel behaves normally’}, \text{‘The squirrel is near the tree’}, \text{‘The tree can be climbed’}, \ldots \} \]

(67) \[ \text{NOcc}(ev) = \{ \text{‘The squirrel will not be chased away by a cat’}, \text{‘The squirrel will not become tired’}, \text{‘The tree will not be felled’}, \ldots \} \]

The worlds compatible with the propositions in the modal base Circ (66) and the ordering source NOcc (67) comprise the best worlds for the eventuality description ev relative to Circ and NOcc, i.e. \( \text{Best}(\text{Circ,NOcc,} ev) \). The meaning of the verbal prospective aspect markers is given in (68):

(68) **The (Verbal) Prospective Grammatical Aspect** \( \text{PROSP}_v \)

\[
\forall P \forall x \forall y \forall s \left( \text{PROSP}(P)(s)(x) = 1 \text{ in } w \right) \iff \\
\forall w' \in \text{Best}(\text{Circ,NOcc,P}) \exists ev \left( (P(ev)(x) = 1 \text{ in } w' \land \tau(s) \prec \tau(ev)) \right)
\]

(68) states that a prospective eventuality \( \text{PROSP}(P)(s) \) is true in world \( w \) if and only if for all worlds \( w' \) that are best with respect to the modal base Circ and the ordering source NOcc there is an eventuality \( ev \) of type \( P \) that is located in the future of the situation time of the eventuality \( s \). Consider the DRS in (69) for (65b).

(69) The squirrel is going to climb the tree. (= (65b))

\[
\begin{array}{c}
\text{now} \ b \\
\text{squirrel}(s,a) \\
\text{tree}(s',b) \\
\text{PROSP(climb)}(s'',a,t) \\
\text{now} \subseteq \tau(s'')
\end{array}
\]

According to (68), (69) is true at the utterance time in the actual world if in all worlds \( w' \) that are best with respect to the modal base in (66) and the ordering source in (67), there is an event \( ev \) of the squirrel’s climbing the tree in \( w' \) such that this event follows the current prospective state, i.e. lies in the future of the utterance time.

6.3.2.2 Nominal Prospective Grammatical Aspect/Modality

(68) has to be slightly amended to capture the meaning of \( -rā \) as a nominal prospective grammatical aspect/modality marker. In particular, the ‘cont’ relation has to be integrated:
(70)  \( -rā \) as a Prospective Grammatical Aspect
\[
\forall P \forall x \forall s (\text{PROSP}(P)(s)(x) = 1 \text{ in } w \iff \\
\forall w' \in \text{Best}(\text{Circ}, \text{NOcc}, P) \exists s' \exists x' (P(s')(x') = 1 \text{ in } w' \land \tau(s) < \tau(s') \land \text{cont}(x,x'))) \\
\]

According to (70), a prospective property PROSP(P) is true of an individual \( x \) during \( s \) in \( w \) if in all worlds \( w' \) in the set of worlds that are best with respect to the modal base Circ and the ordering source NOcc, there is a state \( s' \) and an individual \( x' \) such that \( P \) is true of \( x' \) at \( s' \) in \( w' \), the situation time of \( s \) precedes that of \( s' \) and \( x' \) is a spatiotemporal continuation of \( x \). Thus, in order to capture the constraints \( -rā \) imposes on the individual denoted by the noun phrase marked with \( -rā \), (70) includes the condition that the individuals \( x \) and \( x' \) stand in the ‘cont’ relation to each other. Also, whereas the meaning of \( -kue \) required that the situation times of \( \tau(s) \) and \( \tau(s') \) to abut, \( -rā \) merely requires \( \tau(s') \) to precede \( \tau(s) \).

The reason for this difference is that the property \( P \) does not need to immediately follow PROSP(P), but there can be intermediate stages: for instance, the path from a cow to meat can contain intermediate stages during which neither ‘cow’ nor ‘meat’ is true. Similarly, flour can be asserted to be \( \text{pastel-rā} \) ‘cake-RA’, but there are intermediate stages of the cake-making process at which neither ‘flour’ nor ‘cake’ are true of the entity.\textsuperscript{20}

6.3.2.3  Examples

The first class of example I discuss contain nominal predicates denoting natural kinds. Consider (71) and the unresolved DRS \( K_f \) in (72).

(71)  Context: The speaker points to some caterpillars on a tree.

\[
\text{Umi yso panambi-rā.} \\
\text{these caterpillar butterfly-RA} \\
\]

‘These caterpillars are future butterflies.’ [E]

\textsuperscript{20}I assume that PROSP(P) is a stage-level property, just like TERM(P), such that it must be true of an entity during its time of existence.
The unresolved DRS $K_1$ specifies that the property ‘caterpillar’ is true of the individuals $\xi$ during $s$ and the property ‘PROSP(butterfly)’ during $s'$. The nominal times $t_n$ and $t_{n2}$ need to be resolved in the discourse context. I assume that they are both resolved to the utterance time, as indicated in the resolved DRS $K_2$.

This DRS asserts that the individuals $\xi$ are currently caterpillars and prospective butterflies.

I assume that in the discourse context of (71), the modal base Circ contains those worlds which accord with the actual world on the relevant facts about the caterpillars in question, and the current state of the caterpillars, e.g. (74a). The ordering source NOcc in (74b) renders those worlds in the modal base as best worlds in which nothing happens to the caterpillars that would impede their turning into butterflies.

(74) a. Circ(butterfly) = \{ ‘The caterpillars look healthy’, ‘These kinds of caterpillars turn into butterflies’, ‘The caterpillars look normal in their development’, ... \}

b. NOcc(butterfly) = \{ ‘The caterpillars don’t get eaten’, ‘The caterpillars don’t get stepped on’, ‘The caterpillars don’t starve to death’, ... \}

The truth of DRS $K_2$ thus depends (in part) on (75):

(75) $\exists s' \exists \xi' (\text{PROSP(butterfly)}(s',\xi') \land \text{now} \subseteq \tau(s')) = 1$ in the actual world $w_0$

iff $\exists s'^{w'} \forall \xi' (\forall w' \text{ in Best(Circ,NOcc,butterfly)} \exists s'' \exists \xi'' \text{butterfly}(s'',\xi'') \land \tau(s') \prec \tau(s'') \land \text{cont}(\xi,\xi'')) \land \text{now} \subseteq \tau(s') = 1$ in the actual world $w_0$
According to (75), (71) is true if in all worlds in Best(Circ,NOcc,butterfly) there is a state
$s''$ and individuals $\xi'$ such that butterfly($s''$, $\xi'$) is true in $w'$, and the situation time of $s''$
follows that of $s'$ and the individuals $\xi'$ are spatiotemporal continuations of the caterpillars. What is relevant for the truth of this example, then, are the facts of the actual world
and the ways in which it might continue.

With other examples, the intentions of an agent play a role, as for example in (76).

(76) Ko toro guei-rā.
    this bull ox-RA
    ‘This bull is for ox.’

(76) is felicitous in a context only if there is an agent who intends to act on the bull and
turn him into an ox. Thus, the relevant facts about the actual world that are true of the
worlds in the modal base also include an agent’s intent to act on the bull. The ordering
source needs to specify that the agent does not loose this intent.

The following example is illustrative of the way in which certain facts about the world
are ignored in determining the modal base for $\neg rā$. (77) is a variant of (71). Here, the
discourse context specifies that 99% of the caterpillars are eaten before they turn into butter-
flies. The speaker’s assertion that these caterpillars are future butterflies is nevertheless
felicitous.

(77) Context: The speaker is pointing to caterpillars, 99% of which are eaten before
they turn into butterflies.

   Umi yso panambi-rā.
   these caterpillar butterfly-RA

   ‘These caterpillars are future butterflies.’

This example illustrates that the modal base is circumstantial, and does not include all
facts about the world, but only those that are relevant. Thus, the modal base for (77) does
not contain the knowledge that the vast majority of the caterpillars do not actually turn
into butterflies.

With artifacts, including food and non-food items, the modal base must generally
specify an agent’s intention to act on the entity in order for $\neg rā$ to be felicitous. This
relates to the idea (present in the cognitive and developmental psychology literature on
artifacts) that membership of an entity in an artifact kind involves the intentions of an
individual that acts on the entity (e.g. Bloom 1996:17). For example, the worlds in the modal base for (78a) must be such that the milk is suitable for turning it into cheese, and must also include an agent’s intention of turning the milk into cheese. The ordering source, in turn, needs to specify that the agent is not prevented from carrying out this plan.

(78) a. Ko kamby kesu-râ. (= (52a))
    this milk cheese-RA
    ‘This milk is for cheese/to make cheese.’

    b. O-jeity pé-icha tujû-pe yvyra po’i-mi-mi puente-râ. (= (53a))
    A3-throw that-like mud-PE wood thin-DIM-DIM bridge-RA
    ‘He threw the thin wood into the mud as a bridge.’

Similarly, (78b), the agent must have an intention when throwing the wood into the mud, or otherwise the wood cannot be called a future bridge.

Under which conditions can one assert of an individual that s/he is a prospective P where P is a profession? My consultants agree on situations in which the individual fulfills certain formal requirements associated with the profession: somebody in law school is an abogado-râ ‘lawyer-RA’, somebody in a seminary is a pû’i-râ ‘priest-RA’ and somebody in training to become a builder is a òga, apo, ha-râ ‘house.builder-RA’. When presented with the following scenario, however, my consultants are divided: imagine you are standing in front of an elementary school class and ask the kids what they want to be when they grow up. In such a situation, only half of my consultants consider an utterance like (79) felicitous.

(79) Che-abogado-râ.
    B1sg-lawyer-RA
    ‘I’m a future lawyer.’

Thus, for half of my consultants an agent’s intentions are sufficient evidence for an assertion of being a prospective P where P is a profession. The other half requires the modal base to contain worlds in which the individual has actually taken the relevant formal steps towards being a P. Thus, if uttered by an elementary school child, the latter group of consultants rejects (79) because the worlds in the modal base do not provide sufficient evidence that the individual will become a priest (regardless of the worlds in the ordering source).
In a different scenario, I asked my consultants whether it would be felicitous to call somebody a pa‘i-rā ‘priest-ra’ given the following knowledge: the individuals is in a seminary, the individual intends to become a priest, and I have knowledge about the individual which, when I present it to the head of the individual’s seminary, will result in the individual’s expulsion from the seminary (and, hence, not allow him to become a priest). My consultants agree that in such a situation it is still possible to call the person a pa‘i-rā ‘priest-ra’. This indicates that the modal base is restricted to the relevant facts about the world that are in the common ground, to the exclusion of an individual’s epistemic knowledge.

In conclusion, I have proposed that –rā is a nominal grammatical aspect/modality with a circumstantial modal base. The next section examines the meaning of –rā with spatiotemporal nouns.

### 6.3.3 Spatiotemporal Nouns

As specified in Table 6.1, –rā is compatible with event and temporal period nouns. I propose that its meaning with these nouns is accounted for under the analysis of –rā as a prospective grammatical aspect marker. The example in (80) illustrates the meaning of –rā with the temporal period noun ara ro’y sa ‘winter’.

(80) Nd-o-heja-sé-i i-kuára ha’e-ño, o-ñongatu-há-pe mayma
NEG-A3-leave-DES-NEG 3-cave 3.pron-alone A3-gather-NOM-PE all
i-amba’e-kuéra, o-ñongatu-va’e-kue, ára ro’y sá-me-guä-rā.
3-thing-PL A3-keep-RC-KUE time cold fresh-PE-PURP-RA

‘He didn’t want to leave his cave alone where he kept all his things, what he had gathered for the winter.’

In this example, the meaning –rā contributes is that the gathering of the things happened at a time prior to the winter, not during the winter. The purposive marker –guā adds the meaning that the gathered entities are to be used during the winter. My consultants find (80) without –rā odd. They comment that without –rā the utterance asserts that the gathering happened for the (purpose of the entities being consumed) winter, but not necessarily during a time prior to the winter.

The minimal pair in (81) illustrates the same point with the event noun fiesta ‘party’, which is marked with –rā in (81a) and with –pe in (81b). (Recall that –pe is a marker of spatiotemporal location and non-A arguments.)
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(81)  a. Fiesta-rā a-ke-ta.
    party-RA A1sg-sleep-TA
    ‘For the party, I will sleep.’ [E]

    b. Fiesta-pe a-ke-ta.
    party-PE A1sg-sleep-TA
    ‘At the party, I will sleep.’ [E]

The speaker of (81a) asserts that she will sleep at a time before the party: as indicated by the translation, the use of –rā here evokes a purposive interpretation in the sense that the sleeping is construed as being (preparation) for the party. With (81b), on the other hand, the speaker asserts that she will sleep at or during the party. In other words, the temporal adjuncts fiesta-rā ‘party-RA’ in (81a) and fiesta-pe ‘party-PE’ in (81b) both constrain the topic time relative to which a-ke-ta ‘I will sleep’ is interpreted. The crucial difference is that the topic time in (81b) is the time t denoted by fiesta ‘party’ whereas it is a time t’ that is prior to the time t in (81a).

Thus, what I propose is that the prospective aspect marker -rā, when applied to an event or temporal period noun, outputs a time t’ which serves to constrain the topic time of the clause. In this respect, the combination of a spatiotemporal noun with -rā functions just like a regular temporal adverb. The examples in (82) provide further support for this proposal.

(82)  Context: There’s a party tonight.

    A: Mba’e re-japo ko pyhareve?
        thing A2sg-do this morning
        ‘What did you do this morning.’

    B:  A-ke fiesta-rā.
        A1sg-sleep party-RA
        ‘I slept for the party.’

    C: #A-ke fiesta-pe.
        A1sg-sleep party-PE
        ‘I slept at/during the party.’

The discourse context of (82) specifies that the time of the party is in the future of the utterance time, and (82A) inquires about the hearer’s activities during the (past) morning. B’s answer is acceptable in this discourse context: the topic time relative to which the verb a-ke ‘I sleep’ is interpreted, is restricted to a time that precedes the party, here, the
morning. It also establishes the party as being the purpose of the sleeping. C’s utterance, however, is not felicitous in this discourse context because the time denoted by \textit{fiesta} ‘party’, a future time, is incompatible with the (past) topic time. (82A) also illustrates that the time denoted by a spatiotemporal noun marked with –\textit{rā} need not follow the utterance time.

As specified in (83), I assume that temporal period nouns denote a time t and event nouns denote a relation between a state and an individual discourse referent, such that the state is the temporal extension of the individual discourse referent.

\begin{itemize}
  \item \textit{sábado} ‘saturday’: sat\text{tu}(t)
  \item \textit{fiesta} ‘party’: party(s,x)
\end{itemize}

For example, the nominal predicate \textit{fiesta} ‘party’ denotes a relation between a state discourse referent (the temporal extension of the party) and an individual discourse referent, which refers to the party as an (abstract) individual. (I ignore the spatial extension of the party here.) The output of applying the prospective aspect marker –\textit{rā} to a spatiotemporal noun has the same category as the input. For instance, \textsc{prosp}(party) is a relation between a state discourse referent s (during which the party takes place) and an individual referent x that denotes the party.

The DRS in (84) represents the meaning of B’s utterance in (82).

\begin{center}
\begin{tikzpicture}
  \begin{scope}[local bounding box=br]
    \node (sp) at (0,0) {sp\ p\ e\ now\ t'};
    \node (speaker) at (sp.east) {\text{speaker}(sp)};
    \node (sleep) at (speaker.east) {\text{sleep}(e,sp)};
    \node (t) at (sleep.east) {\tau(e) \subseteq t'};
    \node (prosp) at (t.east) {\text{prosp}(\text{party})(s,p)};
    \node (t2) at (prosp.east) {\tau(s) = t'};
  \end{scope}
\end{tikzpicture}
\end{center}

According to (84), the speaker’s sleeping happened during \(\tau(e)\), which is temporally constrained by the temporal extension \(t'\) of \textsc{prosp}(\text{party})(s,p). Since event nouns have the same syntactic makeup as the intransitive nouns discussed above, the meaning of –\textit{rā} as defined above applies.

\begin{itemize}
  \item \textbf{The Meaning of –\textit{rā} (= (70))}
    \begin{align*}
      \forall P \forall s \forall x \ (\text{prosp}(P)(s)(x) = 1 \text{ in } w) \text{ iff } \\
      \forall w' \in \text{Best(Circ,NOcc,P)} \ \exists s' \exists x' \ (P(s')(x') = 1 \text{ in } w' \wedge \tau(s) \prec \tau(s') \wedge \text{cont}(x,x'))
    \end{align*}
\end{itemize}
Applying –rā to an event noun thus results in an expression which denotes a spatiotemporal entity, whose temporal extension precedes that of the input noun. The resulting expression thus constrains the topic time to a time that precedes the denotation of the input event noun. (With event nouns, the worlds in Best(Circ,NOcc,P) simply are those worlds in which time proceeds as usual.)

In order to account for temporal period nouns, the meaning of –rā has to be slightly modified so as to account for the fact that temporal period nouns denote a time t.

(86) The Meaning of –rā with Temporal Period Nouns
\[ \forall P \forall t \ (\text{PROSP}(P)(t) = 1 \text{ in } w \iff \forall w' \in \text{Best}(\text{Circ},\text{NOcc},P) \ \exists t' \ (P(t') = 1 \text{ in } w' \land t \prec t')) \]

The application of –rā to a temporal period noun outputs a time that precedes the denotation of the temporal period noun. The modal base and ordering source again simply require the time line to proceed as usual. For instance, \text{PROSP(saturday)}(t), the result of applying –rā to the temporal period noun \textit{sabado} ‘saturday’, denotes a time t such that in all worlds in which time proceeds as usual there is a time \(t'\) such that ‘saturday’ is true at \(t'\) and \(t\) precedes \(t'\). I assume that the discourse context constrains the temporal distance between \(t\) and \(t'\).

6.3.4 Summary

I examined the meaning of the nominal temporality marker –rā and proposed an analysis of –rā as a prospective grammatical aspect/modality marker:

(87) The Meaning of –rā (= (70))
\[ \forall P \forall s \forall x \ (\text{PROSP}(P)(s)(x) = 1 \text{ in } w \iff \forall w' \in \text{Best}(\text{Circ},\text{NOcc},P) \ \exists s' \exists x' \ (P(s')(x') = 1 \text{ in } w' \land t(s) \prec t(s') \land \text{cont}(x,x')) \]

In contrast to –kue, the marker –rā does not exhibit cooccurrence restrictions with particular semantic noun classes. I attributed this to the fact that –rā does not require the properties \text{PROSP}(P) and \(P\) to be true of the same individual, except in the case of humans.
6.4 Tense or Aspect? Applying the First Set of Criteria

In the last two sections I presented analyses of the meanings of the Guaraní nominal temporality markers as grammatical aspect/modality markers. These appropriateness of these analyses are supported by the fact that they provide adequate meanings to utterances in which –kue or –ră are realized. Nevertheless, the question of which semantic category the nominal temporality markers instantiate remains to be explicitly addressed. In this section, I apply three of the five criteria I developed in chapter 2 for distinguishing tense and aspect, and provide a piece of Guaraní-internal evidence.

In order to compare the tense and grammatical aspect analyses of the nominal temporality markers, I first need to develop a tense analysis. None of the papers in which nominal temporality markers (of any language) are analyzed as nominal tenses develops such a formal semantic analysis. The encoding of a precedence relation seems to be a (if not the) main reason behind the nominal tense analysis of markers like Guaraní –kue and –ră. Nordlinger and Sadler (2004:778), for example, assume that nominal temporality markers encode “a distinction in one or more of the categories of tense, aspect, and mood, where these categories are standardly defined as they would be for verbs (e.g., Crystal 1997)”.

Turning to Crystal (1997:384f), we find that he characterizes tense as marking “the time at which the action denoted by the verb took place”. From this and similar characterizations I conclude that an analysis of –kue and –ră as nominal tenses must minimally encode a precedence relation between the time relative to which the nominal predicate is interpreted and a contextually given time. Consider the (preliminary) meanings of –kue and –ră as nominal past and future tenses:

\[(88) \text{Meanings of Nominal Past and Future Tenses (first version)}\]

\[\text{a. N}_{\text{PAST}} \sim \langle \{ t \} \rangle, \quad t_n < t \]
\[\text{b. N}_{\text{FUT}} \sim \langle \{ t \} \rangle, \quad t < t_n \]

According to (88), a nominal past tense N\text{PAST} locates the nominal time \(t_n\) relative to which the noun phrase is interpreted, prior to a contextually given time \(t\), and the nominal future tense N\text{FUT} locates the nominal time \(t_n\) subsequent to such a time \(t\). Thus, the
time \( t \) corresponds to the perspective time in the verbal domain, and the nominal time \( t_n \) corresponds to the topic time (in the nominal tense analysis). I further assume that if no nominal grammatical aspect marker is present, the nominal time \( t_n \) is identical to or overlaps the situation time of the nominal description. It is the encoding of a precedence relation between the nominal time \( t_n \) and the time \( t \) that makes this a tense analysis along the lines hinted at in the nominal tense literature.

The analysis of \(-kue\) and \(-rā\) as \( NPAST \) and \( NFUT \) in (88) is not yet sufficient, of course, since \(-kue\) and \(-rā\) not only encode a precedence relation but also have the CHANGE meaning property. Accordingly, \( NPAST \) and \( NFUT \) need to additionally specify that the time during which the property denoted by the nominal predicate is true is terminated prior to \( t \) (\( NPAST \)) or starts after \( t \) (\( NFUT \)). One possible way of encoding the CHANGE meaning property in the analysis of \(-kue\) and \(-rā\) as nominal tenses is given in (89).

(89) Meanings of Nominal Past and Future Tenses (final version)

\[
\begin{align*}
\text{a. } NPAST & \sim \langle \{ \begin{array}{c} t \\ t_n < t \\ \tau(s) < t \\
\end{array} \} \rangle \\
\text{b. } NFUT & \sim \langle \{ \begin{array}{c} t \\ t < t_n \\ t < \tau(s) \\
\end{array} \} \rangle
\end{align*}
\]

\( NPAST \) in (89a) now not only specifies that the nominal time \( t_n \) is prior to a contextually given time \( t \), but also that the situation time of the nominal predicate \( \tau(s) \) is prior to \( t \). Similarly, \( NFUT \) specifies that the nominal time \( t_n \) follows the contextually given time \( t \) and, additionally, that the situation time of the nominal predicate also follows \( t \). From these specifications, and the assumption that \( s \) is maximal, the CHANGE meaning property of \(-kue\) and \(-rā\) follows from \( NPAST \) and \( NFUT \).

To illustrate this analysis, consider (90a) and the unresolved DRS \( K_f \) in (90b).

(90) a. Kuehe a-hecha petei mbo’e-ra-\textbf{kue}-pe.
yesterday A1sg-see one teach-NOM-AG-KUE-PY
‘Yesterday I saw a former teacher.’
The DRS $K_I$ in (90b) specifies that the event of the speaker $sp$ seeing the individual ‘a’ is located within the time $t'$ denoted by $kuehe$ ‘yesterday’. The time $t_n$ relative to which the noun phrase $pete$ $mbo$’ehara-kue ‘a former teacher’ is interpreted is located in the past of the (perspective) time $t$. Additionally, the DRS $K_I$ specifies that the situation time $\tau(s)$ during which ‘a’ is a teacher is located in the past of $t$, i.e. has terminated at $t$. Both $t$ and $t_n$ need to be contextually resolved.

Given the meaning of (90a), we know that the perspective time $t$ here needs to be resolved to the topic time $t'$, thereby resulting in an interpretation according to which the individual ‘a’ was not a teacher anymore when the speaker saw him but was a teacher at some time $t_n$ prior to $t$, as in $K_2$. The tense analysis leaves the following questions open: Why is the nominal time $t_n$ not resolved to a particular time? What are the constraints according to which $t$ and $t_n$ are resolved? I do not attempt to answer these questions here.

In the next three sections, I discuss the results of applying three of the five criteria for distinguishing tense and aspect to the nominal temporality markers.

6.4.1 Cooccurrence Restrictions

Grammatical aspect markers, but not tenses, may show restrictions with members of particular semantic classes.
According to this criterion, the fact that \textit{kue} exhibits cooccurrence restrictions with several semantic noun classes, suggests that \textit{kue} is an aspect marker rather than a tense marker. Since \textit{rā} does not exhibit cooccurrence restrictions, this criterion does not provide support for either the tense or the aspect analysis of \textit{rā}.

Under the terminative aspect analysis, the cooccurrence restrictions of \textit{kue} with several semantic noun classes were accounted for by restricting \textit{kue} to stage-level predicates and predicates denoting structurally non-homogenous artifacts. This type of restriction is familiar from other aspect markers, as discussed in chapter 2. Under the nominal past tense analysis of \textit{kue}, however, we would have to say that \textit{kue} can only locate those situation times \(\tau(s)\) in the past that originate from stage-level predicates and predicates denoting structurally non-homogenous artifacts. Since tense markers do not \textit{apply} to nominal descriptions, such a restrictions has to be stipulated.

### 6.4.2 Cooccurring Nominal Temporality Markers

| Grammatical aspect markers, but not tenses, may cooccur. |

As mentioned in chapter 5, \textit{kue} and \textit{rā} can cooccur in examples like (91).\footnote{Nordlinger and Sadler (2004:787ff) present similar data from Tupinamba under the heading “tense stacking”.}

(91) A-hecha pa’i-rā-ngue-pe.
    I-see priest-RA-KUE-PE
    ‘I am seeing the former future priest.’

This example asserts that the individual denoted by the noun phrase was in the process of becoming a priest but did not become one after all. The fact that \textit{kue} and \textit{rā} cooccur in examples like (91) provides evidence, according to this criterion, that not both markers are tense markers (since this would require two tense markers to cooccur). If we assume, following Cinque (1999), that aspect markers tend to occur closer to the stem than tenses, examples like (91) minimally suggest that \textit{kue} is not a tense marker.

Another argument against the tense analysis of \textit{kue} and \textit{rā} on the basis of such examples derives from the fact that a tense analysis does not assign the correct interpretation to such examples. To illustrate this, I assume that \textit{kue} functions as the higher tense, i.e. one that provides the time relative to which the lower tense \textit{rā} is interpreted, following sequence-of-tense analyses (cf. Enç 1987; Stowell 1996).
tenses, the specifications of the two nominal tenses would contradict each other, hence immediately ruling out examples like (91), cf. chapter 2.) Consider the representation of (91) in (92) under the tense analysis of –kue and –rā.

(92) The unresolved DRS of (91) if –kue and –rā are nominal tenses:

```
\[ \langle \{ \text{sp a e now} \} \rangle, \]
\[ \text{speaker(sp)} \]
\[ \text{see(e,sp,a)} \]
\[ \tau(e) \subseteq \text{now} \]
\[ \text{priest(s,a)} \]
\[ t_n \subseteq \tau(s) \]
\[ t' < t_n \]
\[ t' \not< t \]
```

(92) specifies that the speaker is seeing an individual ‘a’ at the utterance time, and that the property ‘priest’ is true of this individual at a time \( t_n \) that lies in the future of a time \( t' \) (the contribution of \(-rā\)), which in turn lies in the past of the time \( t \) (the contribution of \(-kue\)). The times \( t_n, t' \) and \( t \) need to be resolved in the discourse context. (For simplicity, the DRS in (92) does not include the constraints imposed by the change property on the location of the situation time \( \tau(s) \).

For the question of whether there is a resolution of the times \( t_n, t' \) and \( t \) that results in a DRS that represents the intended meaning of (91) it suffices to examine the times to which the nominal time \( t_n \) can be resolved. \( t_n \) is either subsequent, overlapping or prior to the utterance time. If \( t_n \) is subsequent to the utterance time, the DRS in (92) specifies that the individual seen by the speaker will or might become a priest in the future, which is not what (91) means. If \( t_n \) overlaps with the utterance time, the DRS in (92) specifies that the individual seen by the speaker is currently a priest, which again is not what (91) means. Finally, if \( t_n \) is prior to the utterance time, the DRS in (92) specifies that the individual seen by the speaker was a priest in the past. I conclude that none of the resolutions of \( t_n \) results in a resolved DRS that assigns the appropriate meaning to (92). More generally, the problem of the tense analysis is that it attempts to locate the situation time \( \tau(s) \) during which the individual is a priest. This, however, is bound to fail to capture the meaning of (91) since the individual denoted by the noun phrase was never a priest but only somebody who was going to become a priest.
Can the tense analysis of either marker be saved in the face of examples like (91)? One might assume that only \( -kue \) is a tense marker, while \( -râ \) is a prospective aspect/modality marker. \( -kue \) would then assert that the time during which the individual was a prospective priest is in the past of the utterance time (i.e. resolving \( t \) to the utterance time). While this result in the appropriate interpretation of (91), it is not compatible with the results from the other four criteria distinguishing tense and aspect, which strongly suggest that \( -kue \) is not a tense marker.

The analysis of the two nominal temporality markers as grammatical aspects, on the other hand, assigns the desired interpretation to examples like (91). The DRS in (93) represents the meaning assigned to (91) under the aspect analysis of \( -kue \) and \( -râ \).

(93) The unresolved DRS of (91) with \( -kue \) and \( -râ \) as nominal aspects:

\[
\begin{align*}
\{ \{ t_n \} \}, & \\
\text{sp a now es} & \\
\text{speaker(sp)} & \\
\text{see(e,sp,a)} & \\
\tau(e) \subseteq \text{now} & \\
\text{TERM(PROSP)(priest)(s,a)} & \\
\text{t}_n \subseteq \tau(s) &
\end{align*}
\]

The highest nominal description in (91) is \( \text{TERM(PROSP(priest))} \), which, according to \( \text{ATL} \), is located at the nominal time \( t_n \). Hence, the DRS (93) specifies that the speaker is seeing an individual for whom the property \( \text{TERM(PROSP(priest))} \) is true at the nominal time \( t_n \). The nominal time \( t_n \) is resolved by default to the topic time (here, the utterance time), resulting in an interpretation where the state characterized by \( \text{TERM(PROSP(priest))} \) is true of the individual denoted by the noun phrase \( \text{peteî pa’i-râ-ngue} ‘a priest-RA-KUE’ \) at the utterance time. Partial truth conditions are given in (94).

(94) \( \exists s \exists a \left( \text{TERM(PROSP(priest)}(s,a) \land \text{now} \subseteq \tau(s) \right) = 1 \text{ in w}_\theta \)

iff \( \exists s \exists a \exists s’ \left( \text{PROSP(priest)}(s’)(a) = 1 \text{ in w}_\theta \land \tau(s’) \supset \tau(s) \land \text{now} \subseteq \tau(s) \right) \)

iff \( \exists s \exists a \exists s’ (\forall w’ \in \text{Best(Circ,NOcc,priest)} \exists s” \exists a’ \left( \text{PROSP(priest)}(s”)(a’) = 1 \text{ in w’} \land \tau(s’) < \tau(s”) \land \text{cont}(a,a’) \right) \land \tau(s’) \supset \tau(s) \land \text{now} \subseteq \tau(s)) \)

According to (94), and the meanings of \( -kue \) and \( -râ \), the property ‘\( \text{TERM(PROSP(priest))} \)’ is true of the individual ‘\( a \)’ during \( \tau(s) \) if the property ‘\( \text{PROSP(priest)} \)’ is true of the same individual at a time \( \tau(s’) \) that abuts \( \tau(s) \) and if the property ‘\( \text{priest} \)’ is true of the individual
a” (hence, a) in the worlds in Best(Circ,NOcc, priest) at a time \( \tau(s'') \) that lies in the future of \( \tau(s') \).

Assume the following characterizations for Circ(priest) and NOcc(priest):

\[
\begin{align*}
95 \hspace{1cm} & \text{Circ(priest): \{ a wants to become a priest, a is in seminary, a is in good standing in seminary, ... \}} \\
& \text{b. NOcc(priest): \{ a does not lose intent to become a priest, a is not expelled from seminary, ... \}} \\
\end{align*}
\]

Under the analysis of \(-\text{kue} \) and \(-\text{rā} \) as grammatical aspects, (91) asserts that there is a time \( \tau(s) \) during which the individual is a TERM(\text{PROSP}(priest)) and a time \( \tau(s') \) during which the individual was a PROSP(priest). From the perspective of \( \tau(s') \), the individual would have become a priest in the future (of \( \tau(s') \)) in the worlds in Best(Circ,NOcc, priest). We know, however, that the actual world was not part of these worlds and, hence, that the individual did not become a priest. Crucially, then, (91) does not assert under the aspect analysis of \(-\text{kue} \) and \(-\text{rā} \) that the property ‘priest’ was ever true of the individual in the actual world.

6.4.3 Encoding of State Changes

| Grammatical aspect markers, but not tenses, may encode a state change. |

Both \(-\text{kue} \) and \(-\text{rā} \) have the CHANGE meaning property, i.e. encode a state change. Thus, according to this criterion, both markers are of aspectual nature, not tenses.

6.4.4 Spatiotemporal Nouns and Topic Times

The behavior of \(-\text{rā} \) with spatiotemporal nouns provides a Guaraní-internal piece of evidence in favor of the grammatical aspect/modality analysis of \(-\text{rā} \).

\[
\begin{align*}
96 \hspace{1cm} & \text{Pyhare-\text{pe-}a-hai peteī kuatiañe’ē.} \\
& \text{night-\text{PE} A1sg-write one card} \\
& \text{‘In the night, I wrote a card.’} \\
& \hspace{1cm} [\text{E}] \\
& \text{Pyhare-\text{rā-}a-hai peteī kuatiañe’ē.} \\
& \text{night-\text{RA} A1sg-write one card} \\
& \text{‘For the night, I wrote a card.’} \\
& \hspace{1cm} [\text{E}]
\end{align*}
\]
In this example, *pyhare* ‘night’ denotes a particular time of a 24-hour day. In (96a), the topic time of the utterance is restricted to this time, and hence the speaker asserts having written a card during the night. In (96b), on the other hand, *pyhare-rā* ‘night-RA’ denotes a part of the day that precedes the night, e.g. the afternoon or evening. Hence, in (96b), the speaker asserts having written a card during a time that precedes the night. I have shown above that the interpretation of –rā under the prospective aspect analysis successfully accounts for such examples.

The nominal tense analysis of –rā does not provide an (elegant) interpretation to such examples. As a nominal future tense marker, –rā asserts that the nominal time \( t_n \) at which the denotation of *pyhare* ‘night’ in (96b) is located is subsequent to a perspective time \( t \). In order to capture the meaning of (96b) under the tense analysis of –rā, we would have to assume that the time \( t \) is identified with the time at which the eventuality description ‘I write a card’ is interpreted, i.e. \( t \) is the topic time. –rā would locate *pyhare* ‘night’ at the nominal time \( t_n \) in the future of the topic time, thereby asserting that the time denoted by *pyhare* ‘night’ is the future of the topic time. This would correctly result in the eventuality description ‘I write a card’ to be located at a time prior to the time denoted by *pyhare* ‘night’. The analysis is undesirable, however, since we would have to assume that the noun *pyhare* ‘night’ in (96b) is interpreted relative to the (independently constrained) topic time rather than constraining the topic time as it does in (96a). The analysis of –rā as a prospective grammatical aspect is favored since it allows the temporal nouns in both (96a) and (96b) to constrain the topic time.

### 6.5 Summary

This chapter developed formal semantic analysis of the two Guaraní nominal temporality markers –*kue* and –rā as terminative and prospective grammatical aspects, and presented initial evidence for the aspect analysis over the tense analysis.

One of the striking differences between the two markers, one that has not been recognized in the literature on such markers, are their cooccurrence restrictions across semantic noun classes: –*kue* is much more restrictive than –rā, which is basically acceptable with nouns from all classes (cf. Table 6.1). Another important facet of the meaning of the two markers is that they encode a CHANGE meaning property. Previous discussions of nominal temporality markers, including those of Guaraní, restrict their attention to the
precedence relation encoded by the two markers.

Before I turn to examining the meaning and use of the nominal temporality markers
in discourse, I discuss in chapter 7 how verb phrases are temporally interpreted.
Chapter 7

The Grammar of Temporality

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This chapter describes the grammar of verbal temporality and modality in Guaraní. Its purpose is to provide a background against which the temporal interpretation of Guaraní noun phrases in discourse can be examined in chapter 8. The chapter also allows for a better evaluation of the nominal tense analysis of the Guaraní nominal temporality markers: if –kue and –rã are nominal tenses, we need to know whether Guaraní has verbal tenses and, if yes, how they are interpreted. I restrict my discussion to the following three
points. In section 7.1, I examine future time reference in Guaraní and argue that Guaraní is a tenseless language. Section 7.2 illustrates the effect of lexical aspect on the temporal interpretation of predicates. The semantics of the five main grammatical aspect markers and temporal adverbs is explored in section 7.3.

7.1 Modality and Future Time Reference

I start with the observation that in naturally occurring discourse, many predicates appear in their unmarked form. Consider the start of the story in Appendix B.2:

(1)  a. O-ndoje raka’e petē mitā tyre’ ų o-hayhu-va myamba-kuera-pe.  
     A3-be-SAY RAKAE one child orphan A3-love-RC wild.animal-PL-PE  
     ‘There once was an orphan who loved animals.’

    b. Ha’e h-ēra Huan-chi ha o-guereko petē jagua h-ēra-va Piruli.  
       3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli  
       ‘His name was Juanito and he had a dog whose name was Piruli.’

    c. Petējey he’i h-yamba jagua-pe:  
       one time A3.say 3-pet.animal dog-PE  
       ‘One time, he said to his dog:’

    d. ‘Ja-ha ja-heka ŋane-iru-rā’.  
       A1pl.incl-go A1pl.incl-search B1pl.incl-friend-RA  
       ‘Let’s go and look for a friend for us.’

    e. Ha o-je-oi hikuáí.  
       and A3-JE-go 3.PL  
       ‘and they went.’

The formulaic opening O-ndoje raka’e ‘it is said that there was’ situates the story prior to the utterance time using the reportative evidential –ndoje ‘it is said’. The subsequent (bold-faced) predicates in (1a) to (1e) are all interpreted in the past of the utterance time, but they are not marked with a temporal or modal marker.

I argue in this section that Guaraní is a tenseless language (contrary to e.g. Gregores and Suárez (1967)). Past and present time reference are expressed by unmarked predicates, as in (1. Future time reference is conveyed with a number of modality markers. The lexical aspect of unmarked predicates play a central role in their interpretation, as I discuss in section 7.2 (see also Tonhauser (2006b)): 
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(2) a. O-u.
   A3-come
   ‘S/he came.’ [E]
b. O-vy’a.
   3-happy
   ‘S/he is ... rain.’ [E]
b. O-ky-ne.
   A3-rain-NE
   ‘It might rain.’ [E]
c. O-ky
   A3-rain
   va’erā.
   VAERA
   ‘It has to rain.’ [E]

Without further discourse context, unmarked telic predicates receive a default perfective interpretation. This is illustrated in (2a) with ou ‘come’, which is accordingly translated by an English past tense. Atelic predicates, on the other hand, like vy’a ‘happy’ in (2b), receive a default imperfective interpretation, as indicated by the present tense translation in English.

Whereas unmarked predicates are compatible with past and present time reference (3a), predicates with future time reference must be marked, for example with the suffix –ta illustrated in (3b).

(3) a. O-ky.
   A3-rain
   ‘It is/was raining.’ [E]
b. O-ky-ta.
   A3-rain-TA
   ‘It will rain.’ [E]

–ta is the marker speakers produce when asked to translate Spanish utterances with future time reference but it is not the only marker used in natural language discourse to convey future time reference. Other markers, with more clearly modal meanings, are presented in (4).

(4) a. I-katu  o-ky.
   3-possible A3-rain
   ‘It is possible that it rains/rained/will rain.’ [E]
b. O-ky-ne.
   A3-rain-NE
   ‘It might rain.’ [E]
c. O-ky  va’erā.
   A3-rain VAERA
   ‘It has to rain.’ [E]
The modal marker *i-katu* in (4a) asserts the embedded proposition as possibly being realized, either in the past, present, or future. The modal suffix *–ne* in (4b) is more restricted: it is compatible with future time reference only and conveys that it is possible that the eventuality will be realized in the future. *Va’erâ* in (4c), a grammaticalized combination of the relative clause marker *va’e* and the prospective aspect marker *–râ*, expresses a deontic or epistemic necessity, which is compatible with future time reference.

I assume that Guaraní does not have present or past tenses on the basis of the lack of a marker that could express such a meaning. The central question I address in this question is whether Guaraní has a future tense or not. Following strategies described in Bohnemeyer (2000) and Bittner (2005), I provide an overview of the ways in which future time reference is expressed in Guaraní. The summary, presented in Table 7.1, identifies *–ta* as the sole possible candidate for a future tense marker, according to the criteria developed in chapter 2.2. In section 7.1.2, I present three arguments against an analysis of *–ta* as a future tense, thereby rendering Guaraní a tenseless language. Instead, I argue *–ta* is a modal marker that indicates that the eventuality is not asserted as realized.

### 7.1.1 Contexts with Future Time Reference

The following contexts with future time reference are explored here, following for the most part Palmer’s (2001) classification of modality. (See Bybee 1998 for an alternative classification.)

(5) a. Propositional Modality
   i. Epistemic modality (predictions, expectations, intentions, epistemic possibility, epistemic necessity)

b. Event Modality
   i. Deontic modality (willingness, promise, fear, desire, hope, ability)
   ii. Dynamic modality (permission, prohibition, obligation, imperatives, warnings)

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1Bittner’s (2005) study of future time reference in Kalaallisut relies exclusively on parallel text studies. Since large corpora are not available to me for Guaraní, the data I present here is only partially based on text studies, and supplemented with data elicited with the help of Dahl’s questionnaire and other elicitation sessions. I do not make a claim that this study of future time reference in Guaraní is complete, but it brings out the main point, namely that *–ta* is a potential candidate for a future tense marker.
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    c. Other
        i. Hypotheses and counterfactuals
        ii. Schedules
        iii. Habituals and generics
        iv. Dependent clauses (purpose, reason, doubt, belief, reports)

Palmer (2001) distinguishes propositional modality, which refers to the status of the proposition relative to the speaker, and event modality, which refers to the speaker’s attitude to the factual status of the proposition. Within propositional modality, Palmer further distinguishes epistemic modality, which expresses a speaker’s judgement about the factual status of the proposition (e.g. speculation and deductions), and evidential modality, which indicates the speaker’s evidence for the factual status of the proposition, e.g. first-hand personal experience (usually visual) and hearsay. (I do not discuss evidentiality here.) Event modality is also divided into two types: deontic modality expresses conditioning factors on the realization of the eventuality that are external to the agent (e.g. permission and obligation) and dynamic modality expresses the conditioning factors on the realization of the eventuality that are internal to the agent (e.g. willingness and ability). Hence, with event modality, the eventuality in the scope of the modal operator is not realized but merely possible, whereas the eventualities in the scope of propositional modality can already have been realized. Based on Bohnemeyer (2000:day4), I have added several other contexts with future time reference: hypotheses, counterfactuals, schedules, habituals, generics, and dependent clauses. Each of these contexts, as well as the Guaraní markers that are used in these contexts, are now discussed in turn. A summary is presented in Table 7.1.

7.1.1.1 Epistemic Modality

Predictions, Expectations, and Intentions

Predictions, expectations, and intentions are generally expressed through utterances with –la. The examples in (6) illustrate expectations and predictions:

(6)   a. Context: We’re on our way to visit somebody but are running late.
    Ko’agâ o-sê-ta-ma.
    now A3-leave-TA-MA
    ‘He will have already left by now.’ [E]
   A3-arrive-COND-PURP-RA the OBJ.NOM-drink cold-fresh-COMPL-TA-MA
   ‘When he arrives the food will be cold.’

Both examples in (6) are ungrammatical without –ta. Intentions are also expressed with
–ta, as in (7a,b). The complex marker –po-ta-ite ‘bunch-TA-very’ is used for predictions,
expectations, and intentions about the very near future, as in (7c).

   thing A2sg-do-TA tomorrow A1sg-stay-TA house-PE
   ‘What are you going to do tomorrow? I will stay at home.’
   [D]

   A1sg-lie.down-TA now-very
   ‘I’ll lie down (right now).’
   [D]

c. A-ñeno-po-ta-ite.
   A1sg-lie.down-bunch-TA-very
   ‘I’m about to lie down.’ (speaker must already be bending over bed)
   [D]

–ta is also obligatory with when-clauses that express predictions:

   A2sg-hear-when A2sg-laugh-TA
   ‘When you hear it, you will laugh.’
   [D]

   A2sg-hear-when A2sg-laugh
   (Intended: When you hear it you will laugh.)
   [E]

Epistemic Modality: Possibility and Necessity Two markers that express epistemic
possibility are illustrated in (9).

(9) a. I-katu o-ky ko’ëro.
   3-possible A3-rain tomorrow
   ‘It’s possible that it’ll rain tomorrow.’
   [E]

b. Nde-py-hó-ne re-ñe-mbo-tako-álo-ramo.
   B2sg-foot-go-MIGHT A2sg-JE-CAUS1-heel-high-COND
   ‘You might catch your foot in a whole if you wear high heels.’ (Velázquez-
   Castillo 2002a:158)²

²I have changed the glosses here to conform to mine.
c. Ho’a-ma-ne.
A3.fall-MA-MIGHT
‘It might have fallen already.’ [E]

The marker –ta is generally perceived by speakers as expressing a stronger likelihood that the eventuality will take place. Compare the following two minimal pairs:

(10) a. Nde re-purahei-rō che a-guatá-ne.
‘If you sing, I might leave.’ (Nordhoff 2004:33)
b. Nde re-purahei-rō che a-guatá-ta.
‘If you sing, I will leave.’ [E]

(11) a. Ko’ërō a-purahei-ne.
tomorrow A1sg-sing-NE
‘Tomorrow I might sing.’ [E]
b. Ko’ërō a-purahei-ta.
tomorrow A1sg-sing-TA
‘Tomorrow I will sing.’ [E]

According to my consultants, the eventualities expressed by (10a) and (11a) are less likely to be realized than those in (10b) and (11b), respectively. That –ne is less strong than –ta is also evidenced by the contrast in (12).

(12) a. A-purahei-ne ... ha a-purahei-ta!
A1sg-sing-NE and A1sg-sing-TA
‘I might sing ... and (in fact) I will sing!’ [E]
b. #A-purahei-ta ... ha a-purahei-ne!
A1sg-sing-TA and A1sg-sing-NE
(Intended: I will sing ... and (in fact) I might sing!) [E]

I assume that (12a) is acceptable because the weaker assertion (with –ne) is followed by the stronger one whereas the stronger one is followed by the weaker one in (12b).

Epistemic necessity is expressed with va’erā, as illustrated in (13).

(13) a. Context: A farmer is desperately waiting for rain.
Ko’ërō o-ky-ma va’erā.
tomorrow A3-rain-MA VA’ERA
‘Tomorrow it (just) has to rain.’ [E]
b. Nde jepe re-guerovia va`erä.
   B2sg until A2sg-believe VAERA
   ‘Even you have to believe (in god).’ [E]

c. “I-porä va`erä-ngo a-ha a-je-po-reka algun mymba
   3-prety VAERA-EMPH A1sg-go A1sg-JE-hand-search some animal
   forest-REHE
   ‘It would (have to) be nice to go and look for a wild animal.’ [C]

d. Tuju-ma-n‡e heta va`erä tape-pe.
   mud-MA-only much VAERA path-PE
   ‘The path will be very muddy.’ (Lustig 1996:89)

e. Context: The police arrive at a crime scene after having been told that some-
   body was murdered. They see a person lying on the ground with a big knife
   in his chest.

   H-asº va`erä chu-pe.
   3-hurt VAERA 3-PE
   ‘It must have hurt him.’ [E]

Unlike English will, –ta is not used to express epistemic necessity as illustrated in (14b).

(14) Context: My friend’s child hasn’t come back from school at the usual time. I try
   to soothe my friend by saying:

   a. O-º-me-va`erä in-angiru-kuéra-ndive.
      A3-exist-PE-VAERA 3-friend-PL-with
      ‘He might be/must be with his friends.’ [E]

   b. #O-º-me-ta in-angiru-kuéra-ndive.
      A3-exist-PE-TA 3-friend-PL-with
      (Intended: He will be with his friends.) [E]

7.1.1.2 Event Modality

Dynamic Modality I have subsumed under this section examples which express future
time reference and one of the following dynamic modalities: willingness and promise
(15), fear (16), desire (17)-(18), hope (19), and ability (20).

Utterances that convey willingness and promises are expressed in Guaraní with i-katu
‘3-possible’ and –ta, as illustrated in (15).
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(15) a. I-katu ro-gueraha aeropuerto-pe nde-gusta-ha hora.  
3-possible 12-take airport-PH B2-like-NOM hour  
‘I can take you to the airport whenever you like.’ [E]

b. Ro-gueraha-ta aeropuerto-pe nde-gusta-ha hora.  
12-take-TA airport-PH B2-like-NOM hour  
‘I will take you to the airport whenever you like.’ [E]

A1sg-CAUS1-clean-PH-TA the house A2sg-arrive-COND-GUA-RA  
‘I will clean the house for your arrival.’ [E]

d. A-menda-ta nde-rehe n-a-menda-se-i ramo jepe.  
‘I will marry you although I do not want to.’ [E]

Fears are expressed with the dynamic predicate kyhyje ‘fear’, as illustrated in (16a). The complement of kyhyje ‘fear’ is marked by the complex –rô-guâ-râ ‘-COND-PURP-RA’, which is roughly translatable by for if x will.

(16) Context: The speaker worries about his wife.

A1sg-fear B1sg-leave-COND-PURP-RA  
‘I’m afraid that she will leave me.’ [E]

b. ??A-kyhyje che-r-eja-ta.  
A1sg-fear B1sg-leave-TA  
(Intended: I’m afraid that she will leave me.) [E]

As illustrated by (16b), the complement of kyhyje ‘fear’ cannot be marked with –ta: one of my consultants commented that this sounds like the speaker is already sure that she will leave him and that he’s only afraid of living alone, but not that she will leave him.

Desires are expressed by the suffix –se, including those that are transferred from the agent to the entity (17c).

(17) a. Che ryvy o-jogua-se (peteî) óga.  
my brother A3-buy-DES one house  
‘My brother wants to buy a house.’ [E]

b. E-pyta-se-pa ko’ape?  
A2sg-stay-DES-QU here  
‘Would you like to stay here?’ [D]
c. Ko tornijo nd-o-jere-se-i.
   this screw NEG-A3-turn-DES-NEG
   ‘This screw doesn’t want to turn.’ [D]

I have not encountered a cooccurrence of –ta with –se in natural discourse, but consultants accept (18a), in contrast to (18b).

(18) a. Che-kyvvy o-estudia-se-ta tuicha-ve-vove.
    B1sg-little.brother A3-study-DES-TA big-more-when
    ‘My brother will want to study when he’s bigger.’ [E]

b. *Che-kyvvy o-estudia-ta-se tuicha-ve-vove.
    B1sg-little.brother A3-study-TA-DES big-more-when
    (Intended: My brother will want to study when he’s bigger.) [E]

Hopes are expressed with the dynamic predicate ha’arō ‘hope’. The complement clause is not marked with –ta, as illustrated in (19b).

(19) a. Che-ryvy o-ha’arō o-ky ko’ēro.
    B1sg-brother A3-hope A3-rain tomorrow
    ‘My brother hopes that it will rain tomorrow.’ [D]

b. *Che-ryvy o-ha’arō o-ky-ta ko’ēro.
    B1sg-brother A3-hope A3-rain-TA tomorrow
    (Intended: My brother hopes that it will rain tomorrow.) [E]

Ability is expressed with i-katu ‘3-possible’, which also featured above in the expression of willingness and epistemic possibility.

(20) a. Che-ryvy i-katu o-hupi pe ita.
    B1sg-brother 3-possible A3-lift that stone
    ‘My brother can lift that stone.’ [D]

b. Che-ryvy i-katu o-moñe’ē ha o-hai.
    B1sg-brother 3-possible A3-read and A3-write
    ‘My brother can read and write.’ [D]

c. E-purahei?
    A2sg-sing
    ‘Can you sing?’ [E]

As illustrated in (20c), ability can also be questioned using the unmarked predicate.
Deontic Modality  In this section I discuss permission and prohibition (21), obligation (22)-(23), and imperatives and warnings (24)-(25). Permission is expressed with the dynamic predicate *a-mo-nei* 'I cause to permit' in (21a) and with *i-katu* '3-possible' in (21b). The subordinate clauses are not marked with –*ta*.

(21) a. **A-mo-nei** re-ñembosarai-ha-guā ne-angiru-kuéra-ndive.  
   A1sg-CAUS1-permit A2sg-play-COMPL-GUA B2sg-friend-PL-with  
   ‘I permit you to play with your friends.’  
   [E]

b. **I-katu** e-ñembosarai ne-angiru-kuéra-ndive.  
   3-possible A2sg-play B2sg-friend-PL-with  
   ‘You can play with your friends.’  
   [E]

c. Che ha’e chu-pe **nd-i-katu-i-ha** o-ñembosarai  
   B1sg A1sg.say 3--PE NEG-3-possible-NEG-COMPL A3-play  
   iň-anguri-kuéra-ndive hakatu nde e-mo-nei.  
   3-friend-PL-with but B2sg A2sg-CAUS1-permit  
   ‘I told him that he cannot play with his friends but you allowed him to.’  
   [E]

d. **Nde-rei-katu-i** ere che-ve  
   NEG-A2sg-possible-NEG A2sg.say B1sg-VE  
   n-a-menda-i-ha-guā he-ndive.  
   NEG-A1sg-marry-NEG-COMPL-GUA 3-with  
   ‘You cannot tell me that I cannot marry him.’  
   [E]

Prohibitions are expressed in (21c,d) with the negated predicate *i-katu* '3-possible' and *rei-katu* 'A2sg-possible', respectively. Obligation, as mentioned before, is expressed in Guaraní with *va’erā*:

(22) a. Che a-guyje **va’erā** che-kyvy-pe che-pytyvō-ha-gue-re  
   B1sg A1sg-thank VAERA my-brother-PE B1sg-help-HA-KUE-RE  
   ‘I have/had to thank my brother for having helped me.’  
   [E]

b. Che-ryvy nd-o-topa-i-rō pya’e i-amba.apo-rā o-vende **va’erā**  
   B1sg-brother NEG-A3-find-NEG-COND fast 3-work-RA A3-sell VAERA  
   h-ōga.  
   3-house  
   ‘If my brother does not find work soon, he will have to sell his house.’  
   [E]

That *va’erā* is not restricted to future contexts is illustrated in (23).
(23) Context: It’s my wedding and I know me and my husband have to dance the first
dance of the evening. I don’t want to do it and it’s already a good time into the
wedding. The guests are waiting for our dance.

A-jeroky-ma va’erä kuri hakatu nahaniri.
A1sg-dance-MA VAERA KURI but not
‘I should have danced already but I haven’t.’ [E]

Positive imperatives are expressed with the second person set A markers e(i)– (singular)
and pe(i) (plural), as in (24a,b). ani expresses negative imperatives, as illustrated in
(24c).

(24) a. Ei-pe’a pe okē.
   A2sg-open this door
   ‘Open the door!’ [E]

b. Pei-pe’a pe okē.
   A2pl-open this door
   ‘Open the door!’ [E]

c. Ani e-mombo yty tapé-pe.
   NEG.IMP A2-throw garbage path-PE
   ‘Do not litter.’ [sign in bus]

Warnings can be expressed with –ta, as in (25a), but not with –ne, as in (25b).

(25) Context: A bumps against a table on which a vase is standing. M shouts:

a. Hake! Ho’a-ta-ma!
   watch.out A3.fall-TA-MA
   ‘Watch out! It’ll fall!’ [overheard]

b? Hake! Ho’a-ne-ma!
   watch.out A3.fall-NE-MA
   (intended: Watch out! It might fall!) [E]

7.1.1.3 Future Time References in Other Modal Contexts

In this section I discuss future time reference in hypotheses and conditionals, schedules,
habituals and generics, and dependent clauses.
Hypotheses and Counterfactuals  The protasis of conditionals is marked with \textit{–ramo} 
‘-COND’ or its shortened form \textit{–rō}. By itself, it is not future-time referring, but it can 
receive future time reference with a temporal adjective like \textit{ko’èrō} ‘tomorrow, as in (26b),
or with \textit{–ta}, as in (26c).

(26)  a. O-ky heta-rō la tape-pe heta i-tuju.
A3-rain much-COND the path-PE much 3-mud
‘If/when it rains much, the path is very muddy.’ [E]
b. O-ky-rō ko’èro ja-pyta óga-pe.
A3-rain-COND tomorrow A1pl.incl-stay house-PE
‘If it rains tomorrow, we’ll stay home.’ [E]
A3-rain-TA-COND tomorrow A1pl.incl-stay house-PE
‘If it rains tomorrow, we’ll stay home.’ [E]

The apodosis of conditionals is optionally marked with \textit{–ta}.

In counterfactuals, the marker \textit{–rire} ‘-after’ together with \textit{–ramo} marks the protasis.
The adoposis is marked with \textit{-va’erā-mo’ā}, i.e. a combination of the necessity modal marker \textit{-va’erā} and the counterfactual marker \textit{mo’ā} (cf. section 7.1.2).

(27)  a. Che-r-enōi-rirē-ramo, a-ha-va’erā-mo’ā.
B1sg-REL-call-after-COND A1sg-go-VAERA-MOA
‘If they had called me, I would have gone.’ [E]
NEG-weather-good-NEG-after-COND A1sg-go-VAERA-MOA Villarica-PE
‘If the weather hadn’t been that good, I would have gone to Villarica.’ [E]
c. Ko’èrō e-menda-rā-mo’ā nde-kichiha nd-o-mano-i-rire.
tomorrow A2sg-marry-VAERA-CF B2sg-boyfriend NEG-A3-die-NEG-after
‘You would have married tomorrow if your boyfriend hadn’t died.’ [E]
d. Edu ha Pedro o-guahē-rā-mo’ā n-o-ńe-aproblema-i-rire
Hedwig and Pedro A3-arrive-VAERA-CF NEG-A3-je-problem-NEG-after
ij-avion.
3-plane
‘Hedwig and Pedro would have arrived if their airplane hadn’t had a prob-
lem.’ [E]
Schedules  As illustrated in (28), scheduled eventualities can be expressed with the unmarked predicate.

(28) Tren o-sē pakoī aravo jave  
train A3-leave 12  hour  when  
‘The train leaves at 12 in the morning.’ (lit: The train leaves when it is 12.)  [D]

Habituals and Generics  Like schedules, habitual (29) and generic (30) statements are realized with an unmarked verb form and no special marking.

(29) a. Mba’e e-japo e-ğuahe-vo nde-róga-pe?  
thing  A2sg-do A2sg-arrive-when B2sg-house-PF  
‘What do you (usually) do when you get home?’  [D]

b. A-ğuahe-vo a-hai peteĩ kuatiañe’e, a-kai’u ha upei  
A1sg-arrive-AT A1sg-write one letter  A1sg-burn-drink and then  
a-ñeno.  
A1sg-lie.down  
‘When I get home, I (usually) write a letter, I drink mate and then I lie down.’  [D]

(30) a. Kure o-reko kuatro i-py.  
pig  A3-have four  3-foot  
‘Pigs have four feet.’  [E]

b. Ryguasu o-mbo’a.  
chicken  A3-lay.eggs  
‘Chicken lay eggs.’  [E]

c. Yva-kúera t-esāi-rà.  
fruit-PL  REL-health-RA  
‘Fruits are healthy (lit: for health).’  [E]

Future Time Reference in Dependent Clauses  Future time reference in certain dependent clauses is discussed here, including purposes and reasons (31), as well as propositional attitudes like doubt, belief and reports (32).

(31) a. He-’u pōha e-ñe-ñandu-porā-ha-guā.  
A2sg-drink medicine A2sg-JE-feel-good-COMPL-PURP  
‘Take the medicine so that you’ll feel good.’  [D]
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b. Context: I arrive at somebody’s house with umbrella and I’m asked why I brought one.
A1sg-grab B1sg-umbrella A3-rain-hand-TA-because
‘I brought my umbrella because it will rain soon.’ [E]

Purpose clauses are expressed in Guaraní with the purpose/benefactive marker –guã, as illustrated in (31a). Reasons are expressed with the ablative marker –gui, as in (31b). The marker –ta is necessary for the reason to have future time reference.

The complement of propositional attitude verbs like he‘i ‘say’ or mo‘ã ‘think’ is typically marked with –ta when the embedded proposition is temporally located in the relative future of the main clause. This is illustrated in (32a,b) for he‘i ‘say’ and for mo‘ã ‘think’ in (32c,d).

(32) a. Che-ryvy he‘i kuehe o-u-ta-ha ko‘árape.
B1sg-brother A3.say yesterday A3-come-TA-NOM today
‘My brother said yesterday that he will come today.’ [D]
b. *Che-ryvy he‘i kuehe o-u-ha ko‘árape.
B1sg-brother A3.say yesterday A3-come-NOM today
(Intended: My brother said yesterday that he will come today.) [E]
c. Che-ryvy o-mo‘ã o-ky-ta-ha ko‘éro.
B1sg-brother A3-think A3-rain-TA-NOM tomorrow
‘My brother thinks that it will rain tomorrow.’ [D]
d. Juã oí-mo‘ã kuehe ro’y-ta-ha ko‘árape
Juan A3-think yesterday cold-TA-NOM today
‘Juan thought yesterday that it will be cold today.’ [D]

7.1.1.4 Summary and Discussion

I have explored in this section the way in which future time reference is expressed in Guaraní in different modal contexts. Table 7.1 summarizes the markers and expressions I have identified and the contexts in which they are realized.

The top-down order of the markers in the table indicates to some extent the flexibility with which they can occur in (or realize) different kinds of modal contexts. At the top of the list we find the marker –ta, which expresses a wide range of uses, similar to English will and be going to. This marker has been argued to be a future tense marker
### marker | gloss/translation | in context of
--- | --- | ---
–*ta* | –TA | epistemic modality (predictions, expectations, intentions, epistemic certainty, dynamic modality (willingness, promise), relative futurity
*(o)i-katu* | ‘(A)3-possible’ | epistemic possibility, dynamic modality (ability), deontic modality (permission, prohibition)
*va’erā* | ‘VAERA’ | epistemic and deontic necessity
–*mo’ā* | ‘–CF’ | counterfactuality
–*ne* | ‘–MIGHT’ | epistemic possibility
–*se* | ‘–DES’ | desire (dynamic modality)
–*ramo* | ‘–COND’ | conditional
–*guā* | –PURP/BEN | purpose
*e(i)–* | A2sg– | imperative
*pe(i)–* | A2sg– | imperative
*ani* | ‘NEG.IMP’ | negative imperative
*(o)kyhyje* | ‘to fear’ | fear
*(oi)pota* | ‘to want’ | desire, need
*(o)ha’arō* | ‘to hope’ | hope
*(o)-mo-nei* | ‘to permit’ | permission
– | – | An unmarked predicate can express dynamic modality (ability), scheduled, habitual and generic eventualities, and the imperative (with 2nd person marker)

| Table 7.1: Future Time Reference |

in previous literature (e.g. Guasch 1996; Gregores and Suárez 1967; Velázquez-Castillo 1996; Nordhoff 2004). Its distribution across a wide range of modal contexts with future time reference is certainly suggestive of such an analysis. According to the criteria for distinguishing future tense and modality presented in chapter 2.2, support for the future tense analysis of –*ta* comes from the fact that it is used to express predictions and intentions, which are the proto-typical meanings of future tenses identified in the typological literature (cf. Bybee et al. 1994). The fact that none of the other markers productively are used to express predictions and intentions makes –*ta* the only potential candidate for a future tense. In the next section, I present three arguments against a future tense analysis of –*ta*. 


7.1. MODALITY AND FUTURE TIME REFERENCE

7.1.2 –ta is Not a Future Tense

For the first argument, recall from the last section that –ta is compatible with absolute and relative future time reference, as illustrated in (33a) and (33b), respectively.\(^3\)

(33) a. Ko’érō o-ky-\textit{ta}.  
    tomorrow A3-rain-TA  
    ‘Tomorrow it will rain.’  \[E\]

b. Che ryvy he’i kuehe o-u-\textit{ta}-ha ko’árape.  
    my brother.manor A3.say yesterday A3-come-\textit{TA}-COMPL today  
    ‘My brother said yesterday that he will come today.’  \[D\]

In (33a), –\textit{ta} marks an eventuality which is located at a time in the future of the utterance time (absolute future time reference), and in (33b), it marks an eventuality which is located at a time in the relative future of the embedding clause. If –\textit{ta} were a future tense, we would expect it to express (relative or absolute) future time reference in all contexts. The following examples, however, suggest that future time reference is not part of the asserted meaning of –\textit{ta}. Consider the example in (34) where –\textit{ta} cooccurs with the past time referring adverb \textit{kuri}.

(34) Context: M has a little store that she usually closes during the siesta.

\begin{verbatim}
Ko asaje a-\textit{ñeno-\textit{ta}} kuri hakatu ou petef mita’i
this siesta A1sg-lie.down-TA KURI but A3.come one child
o-mba’e-jogua-ha-guâ.
A3-thing-buy-NOM-PURP

‘This siesta, I was about to lie down but a child came to buy something.’  \[overheard\]
\end{verbatim}

(34) was uttered by one of my consultants who has a little store with school supplies in the front of her house. She expresses that she had the intention of lying down but that her intent was not realized because she was interrupted by a customer. If –\textit{ta} asserted future-time reference, we would expect (34) to express that there is a time in the relative future of the time of the siesta at which the speaker will lie down. This, however, is not what (34) means. –\textit{ta} does not express future-time reference in this example but, rather, that the eventuality of lying down is not realized at the past time referred to by \textit{kuri}.

The examples in (35) further illustrate the meaning of the combination of \textit{kuri} and –\textit{ta}.

\(^3\)This section is an extension of the material presented in Tonhauser (2006b).
(35) a. A-guapy-\textit{ta} \textit{kuri}.
\begin{tabular}{l}
A1sg-sit.down-\textit{ta} KURI
\end{tabular}
\begin{tabular}{l}
'I was about to sit down/I almost sat down (but I didn’t).'
\end{tabular} \textbf{[E]}

b. A-japo-\textit{ta} \textit{kuri} peteî ōga.
\begin{tabular}{l}
A1sg-do-\textit{ta} KURI one house
\end{tabular}
\begin{tabular}{l}
'I was about to build a house/I almost built a house (but I didn’t).'
\end{tabular} \textbf{[E]}

c. A-ha-\textit{ta} \textit{kuri} Brasil-\textit{pe}.
\begin{tabular}{l}
A1sg-go-\textit{ta} KURI Brasil-\textit{pe}
\end{tabular}
\begin{tabular}{l}
'I was about to go to Brazil/I almost went to Brazil (but didn’t).'
\end{tabular} \textbf{[E]}

I propose that \textit{–ta} is a modal marker, in particular, a marker of non-asserted realization. In examples in which \textit{–ta} cooccurs with \textit{kuri}, \textit{–ta} asserts that at the time in the past referred to by \textit{kuri} the eventuality is not realized.

The second argument against a future tense analysis of \textit{–ta} derives from the fact that \textit{–ta} cannot occur in the scope of clausal negation,\footnote{Also unlike other tenses, \textit{–ta} occurs in nominalizations, e.g. (33b).} as illustrated in (36a).

(36) a. *Ko’ērō \textit{nd-o-ky-\textit{ta}-i}.
\begin{tabular}{l}
tomorrow NEG-A3-rain-\textit{ta}-NEG
\end{tabular}
\begin{tabular}{l}
(intended: Tomorrow it won’t rain.) \textbf{[E]}
\end{tabular}

b. Ko’ērō \textit{nd-o-ky-mo’\textit{ā}-i}.
\begin{tabular}{l}
tomorrow NEG-A3-rain-CF-NEG
\end{tabular}
\begin{tabular}{l}
'Tomorrow it won’t rain.' \textbf{[E]}
\end{tabular}

In order to express future time reference with negated clauses, the counterfactual marker \textit{mo’\textit{ā}i} is used, as in (36b).\footnote{Some examples that illustrate the counterfactual marker \textit{–mo’\textit{ā}i} are given in (i):}

(i) a. Kuehe \textit{o-ky-mo’\textit{ā}i}.
\begin{tabular}{l}
yesterday A3-rain-\textit{mo’\textit{ā}}
\end{tabular}
\begin{tabular}{l}
'Yesterday it almost rained.' \textbf{[E]}
\end{tabular}

b. Context: The speaker was scheduled to sing the next day but the concert was cancelled.
\begin{tabular}{l}
Ko’ērō \textit{a-purahei-mo’\textit{ā}i}.
\end{tabular}
\begin{tabular}{l}
tomorrow A1sg-sing-\textit{mo’\textit{ā}i}
\end{tabular}
\begin{tabular}{l}
'Tomorrow I would have sung.' \textbf{[E]}
\end{tabular}
Instead, if –ta is a marker that does not assert that the eventuality denoted by the predicate it modifies is realized, its unavailability in the context of clausal negation makes sense: clausal negation asserts that the eventuality in its scope is not realized at the topic time, i.e. the time denoted by ko’érō in (36a). Using –ta, a speaker asserts that the realization of the eventuality is not asserted. I propose that –ta cannot appear in the scope of clausal negation because the meaning of the negation entails that of –ta (negation asserts non-realization whereas –ta merely does not assert realization): the desired future-time oriented meaning does not result from this. Hence, an analysis of –ta as a marker of non-asserted realization explains why –ta does not occur in the scope of clausal negation.

A third argument against an analysis of –ta as a future tense comes from the fact that –ta does not assert the realization of an eventuality, even when the topic time is in the past of the utterance time. Consider the examples in (37) and (38).

(37)  
(a) Context: A Paraguayan friend complains that I returned to Paraguay later than I said I would.

E-re ambue ary-pe che-ve e-ju-ta-ha-gue octubre  
A2sg-say other year-PE B1sg-VE A2sg-return-TA-NOM-KUE October  
ñepyru-ha-pe...  
begin-NOM-PE

‘You told me last year that you would return at the beginning of this (past) October.’

(b) ... haka tu nde-re-ju-i.  
   but NEG-A2sg-return-NEG

‘...but you didn’t return.’ [E]

(38)  
(a) Context: I run into Maria on the street and ask her how our friend Juan is doing. She tells me that she saw him last month:

Hi-angkeoi o-ho-ta-gui dentista-pe ambue ára.  
3-worry A3-go-TA-because dentist-PE other day

‘He was very worried because he was going to the dentist the next day.’ [E]

(b) ... haka tu nd-o-ho-i.  
   but NEG-A3-go-NEG

‘...but he didn’t go.’ [E]
In both (37a) and (38a) the dependent clause is marked with –ta to indicate that the eventuality denoted by the dependent clause is located in the (relative) future of the eventuality denoted by the matrix clause predicate. If –ta were a future tense, we would expect it to locate the eventuality denoted by the dependent clause at this time in the relative future. The examples above were constructed such that this time in the relative future is in the past of the utterance time. In this constellation, the eventuality denoted by the dependent clause located at a time prior to the utterance time. If –ta were a future tense marker, we would expect the eventuality to be realized at this time. However, as the continuations in (37b) and (38b) indicate, the eventualities are not asserted to be located at this relative future time.

Again, this is predicted by the analysis of –ta as a marker of non-asserted realization: what –ta asserts in such examples is that, at the topic time in the past of the utterance time, the eventuality is not asserted as realized by the speaker. For instance, from the perspective of the time at which Maria saw Juan in (38), Juan’s going to the dentist is not asserted as realized because it lies in the (relative) future. From this it follows that the speaker is not committed to the eventuality of Juan going to the dentist as being realized at the topic time in the past.

A possible objection against this argument is that some languages with future tense morphemes do not use these to express the propositions like (37a) and (38a). Consider the Spanish examples in (39a-c).

(39) Spanish
a. Martha estaba muy preocupada porque tenía que ir al dentista al próximo día.
‘Martha was very worried because she was going to go to the dentist the next day.’

b. Martha estaba muy preocupada porque iba a ir al dentista al próximo día.
‘Martha was very worried because she was going to go to the dentist the next day.’

---

*I thank Maria Bittner for pointing this out to me.*
(39a) and (39b) are acceptable in contexts like (38), but not the version with the future tense in (39c). That is, not all languages realize embedded propositions with (relative) future time reference using the future tense morphemes of the language. One reason why this might be the case, at least in Spanish, is that Spanish is a "sequence of tense" language, whereas languages that do not have sequence of tense (such as Sanskrit) use the future tense in such contexts. I cannot say whether guarani is a "sequence of tense" language because it does not have tenses (besides the tense candidate –ta). If it is a sequence of tense language, the non-occurrence of –ta in examples like (37) and (38) is expected.

In conclusion, I have presented three pieces of evidence against an analysis of –ta as a future tense marker. I conclude that –ta is not a future tense marker and, hence, that Guarani is a tenseless language.

I suggested above that –ta is a modal marker of non-asserted realization. That is, an eventuality description with –ta is not asserted by the speaker as realized. This accounts for the interpretation of –ta in utterances where it cooccurs with the past-time referring adverb kuri, as discussed above, and also provides a straightforward explanation for the behavior of –ta in complement clauses, such as (37) and (38). How does –ta give rise to future-time interpretations in examples like (40)?

(40) Context: Looking at the sky.

O-ky-ta.
A3-rain-TA

‘It will rain.’ [E]

A puzzle here is that –ta cannot give rise to the non-asserted realization interpretation with kuehe ‘yesterday’, as in (i).

(i) *Kuehe a-purahei-ta.
yesterday A1sg-sing-TA
(Intended: Yesterday I almost sang.) [E]
I propose a blocking analysis here. Recall that unmarked predicates in Guaraní are compatible with past and present time reference. I assume that future time reference is the marked member of the pair that consists of ‘past/present time reference’ (unmarked), on the one hand, and ‘future time reference’ (marked), on the other hand. It follows that marked eventualities in examples like (40) are interpreted with future time reference. Thus, –ta asserts that the eventuality is not realized at the utterance time and, by blocking, the eventuality is interpreted as realized in the future of the utterance time.

7.1.3 Conclusions

I have argued in this section that Guaraní is a tenseless language. Unmarked predicates can realize past and present time reference, providing no obvious candidate for past or present tense morphology. The marker –ta was the strongest candidate for a (future) tense marker since it appears in contexts with future time reference across a variety of modal contexts. I identified three problems for a future tense analysis of –ta and, instead, propose that it is a modal marker of non-asserted realization.

Based on this discussion, I propose that Guaraní encodes a basic distinction between realis and non-realis eventualities: realis eventualities are asserted to be realized whereas non-realis eventualities are not asserted to be realized (or even asserted to not be realized). In this sense, realis eventualities subsume eventualities with past or present time reference while non-realis eventualities subsume eventualities with future time reference, as depicted in Figure 7.1. In Guaraní, unmarked predicates realize realis eventualities, while irrealis eventualities are always marked.

![Figure 7.1: Realis and Non-Realis Eventualities](#)
7.2. THE IMPORTANCE OF LEXICAL ASPECT

The realis/non-realis distinction is not about whether an eventuality is actual or non-actual, or about whether the speaker conceives of the eventuality as factual/real or non-factual/unreal. Rather, the realis/non-realis distinction refers to whether a speaker is willing to assert the eventuality (realis) or not (non-realis) (cf. Bybee et al. 1994:239). Languages with similar modality-based systems (rather than the tense-based systems of English and German) are Inuktitut (Swift 2004) and Kalaallisut (Bittner 2005). See Bittner (To appear) for a formalization of the effect of modality on temporal interpretation.

7.2 The Importance of Lexical Aspect

I proposed above that unmarked predicates are asserted as realis, i.e. the eventuality description denoted by such predicates is asserted to be realized. In this section, I explore how this assertion, in combination with lexical aspeputal properties of the predicates, affects their temporal interpretation. I suggest that both telicity and durativity play a role in the interpretation of unmarked predicates.

My proposal builds on previous discussions of how the asserted realization of eventualities may affect their interpretation in particular languages (as discussed in Smith (1991), Bohnemeyer and Swift (2004), and Bittner (To appear)). According to these authors, an atelic eventuality (e.g. a state or activity) can be asserted as realized when it has started, i.e. after the onset of the eventuality, and a telic eventuality (e.g. achievement or accomplishment) when it is completed, i.e. after the eventuality has culminated. It follows that atelic eventualities that are asserted as realized are typically interpreted as if they were marked with imperfective grammatical aspect, since this grammatical aspect asserts an eventuality description without its final boundary. Similarly, telic eventualities that are asserted as realized are typically interpreted as if they were marked with perfective grammatical aspect, since this aspect asserts an eventuality description including its final boundary, i.e. as completed. In other words, the lexical aspeputal features of the eventuality denoted by a predicate affect its aspeputal interpretation, even if a grammatical aspect is not marked on the predicate. In the words of Bohnemeyer and Swift (2004:265): “event realization is the basis on which aspeputal reference is assigned to clauses not overtly marked for aspect in languages with telicity-dependent aspeputal reference”. This insight is also what underlies the proposals of Partee (1984), Dowty (1986) and Hinrichs (1986), who argue that stative eventualities are located by the topic time
(t_{top} \subseteq \tau(s)) whereas eventive eventualities are located within the topic time (\tau(e) \subseteq t_{top}).

The effect of telicity on temporal interpretation is that, without further context, (realis) telic predicates are translated as having past time reference while (realis) atelic predicates are translated with present time reference:

(41)  
a. O-u.
A3.come
‘S/he came.’ [E]

b. O-purahei.
A3-sing
‘S/he is singing.’ [E]

For the telic predicate u ‘come’ in (41a) to be asserted as realized, the leaving eventuality must have been completed, resulting in a perfective interpretation, which is translated into Spanish (and English) with a past tense. The atelic predicate (o)purahei ‘sing’, on the other hand, is asserted as realized once it has started: what is implicated is that the singing eventuality is currently ongoing, which is translated with a present (progressive) in English. Other languages where telicity affects aspectual reference are Russian, German and Inuktitut (Bohnemeyer and Swift 2004; Bittner In press).

In Guaraní, durativity is also relevant: when asserted realized, unmarked predicates that can have a punctual interpretation are typically interpreted as being completed:

(42) O-ho.
A3-go
‘S/he left.’ [E]

In this example, the predicate ho ‘go’ is not interpreted as ‘S/he is going’ (imperfective interpretation) but as ‘S/he left’, a perfective interpretation. That is, the punctual lexical aspect determines the default perfective reference.

I conducted two studies to examine the effect of telicity and lexical aspect on the interpretation of unmarked predicates in Guaraní. The first is a consultant study in which I examined the relation between telicity, durativity and temporal interpretation. The second is a study of naturally occurring discourse.
7.2. THE IMPORTANCE OF LEXICAL ASPECT

7.2.1 The Consultant Study

In the consultant study, I determined for 31 dynamic and 19 stative predicates whether they are telic or atelic in Guaraní and how they are temporally interpreted in two discourse contexts. If the temporal interpretation of unmarked predicates is affected by telicity, we expect to see a correlation between the telicity of a predicate and its temporal interpretation. I report on the results of this study below, after laying out the design of the study.

Telicity  In order to determine whether a Guaraní predicate is telic or atelic, I examined the compatibility and interpretation of the predicate in the context of the duration adverb sinko minuto/hora puku-kue (five minute/hour long-KUE ‘for 5 minutes/hours’ and the time-frame adverb sinko minuto/hora-pe (five minute/hour-PE) ‘in 5 minutes/hours’. If a predicate was compatible with the former, I counted it as being atelic, if a predicate was compatible with the latter, I counted it as being telic. Most predicates were judged either telic or atelic by my consultants but a handful of predicates (e.g. a-guejy montaña-gui ‘A1sg-descend mountain-GUI’) were judged compatible with both types of adverbs (e.g I descend in/for 5 hours). I disregarded coerced interpretations (Kearns 2000), i.e. cases where a predicate was compatible with one or the other adverb only if the predicate denotation was coerced into one compatible with the adverb (e.g. an inceptive interpretation for a-guata ‘A1sg-walk’ with sinko minuto/hora-pe (five minute/hour-PE) ‘in 5 minutes/hours’).

Discourse Context 1: The Empty Discourse Context  As mentioned above, the consultant study examined whether there is a correlation between telicity and the temporal interpretation of unmarked predicates. The first discourse context in which I examined the interpretation of unmarked predicates is the “empty” discourse context, which also underlies the judgements in (41). I asked my consultants to translate the Guaraní expression into Spanish. If the expression was translated with a past perfective (e.g. Spanish me

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8One result of this part of the study is that telicity crosscuts the “dynamic” and “stative” predicate classes: a-vy’a ‘A1sg-happy’, for instance, is an atelic dynamic predicate and che-pusrygi ‘B1sg-slip’ is a telic “stative” predicate. Mithun (1991) already noted that there are seemingly stative predicates in the “dynamic” class (which she refers to as active), e.g. vy’a ‘happy’, and non-stative predicates in the “stative” class (which she calls inactive), e.g. hu’u ‘B1sg-cough’. The current study suggests that neither dynamic/stative nor active/inactive are the most suitable terms for the two classes of lexical predicates.
resbalé ‘I slipped’ for the Guaraní che-pyho ‘B1sg-slip’), I counted the Guaraní expression as giving rise to a perfective interpretation. If the Spanish translation contained a present imperfective form (e.g. Spanish estoy cansada ‘I am tired’ for the Guaraní che-kane’ô ‘B1sg-tired’), I counted the Guaraní expression as giving rise to an imperfective interpretation.

**Discourse Context 2: “When I saw Juan”** The second discourse context in which I examined the interpretation of the 50 unmarked predicates is the following:

(43) Context: I meet my friend Maria. She is worried about Juan who she has not seen in some weeks. She asks me whether I know about his whereabouts and I tell her that I saw him at his house just two days ago. When I saw Juan...

I presented my consultants with this discourse in combination with each of the 50 unmarked predicates and asked them to translate the Guaraní expression back into Spanish. An overlap interpretation was taken as evidence for an imperfective interpretation (e.g. o-yta (A3-swim) “(when I saw Juan) he was swimming”) and a completive or result state interpretation was taken as evidence for a perfective interpretation (e.g. ho’a (A3.fall) ‘(when I saw Juan) he had fallen/he fell).

**Results and Discussion** For 38 of the 50 predicates I examined, there is a strong correlation between the telicity of the utterance containing the predicate and its aspectual interpretation in the two discourse contexts I tested. That is, predicates that were judged telic receive a perfective interpretation and atelic predicates receive an imperfective interpretation. I list the atelic predicates in (44a) and the telic predicates in (44b):


The 12 verbs that did not show the expected interpretation are listed in Table 7.2. The first column of the table gives the expression I examined, the second column indicates whether the expression is telic (TEL) or atelic (AT), the third column presents the interpretation in the “empty” discourse context and the fourth column in the discourse context in (43), where ‘PERF’ and ‘IMP’ stand for ‘perfective’ and ‘imperfective’, respectively. A * on a label indicates that only two of the three consultants I conducted this study with gave the answer that corresponds to the label.

<table>
<thead>
<tr>
<th>Predicative expression</th>
<th>Telicity</th>
<th>“Empty” context</th>
<th>“When I saw Juan”</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-japo peteḵ őga</td>
<td>TEL</td>
<td>IMP</td>
<td>IMP</td>
</tr>
<tr>
<td>‘A1sg-make one house’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ai-pe’a ko oveta</td>
<td>TEL</td>
<td>IMP*</td>
<td>IMP</td>
</tr>
<tr>
<td>‘A1sg-open this window’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a-joka che-espejo</td>
<td>TEL</td>
<td>PERF*</td>
<td>IMP*</td>
</tr>
<tr>
<td>‘A1sg-break B1sg-mirror’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cate o-ñe-nupa</td>
<td>TEL/AT</td>
<td>PERF</td>
<td>IMP</td>
</tr>
<tr>
<td>‘Cate A3-je-hit’</td>
<td></td>
<td></td>
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<tr>
<td>a-guey montaña-gui</td>
<td>TEL/AT</td>
<td>PERF</td>
<td>IMP</td>
</tr>
<tr>
<td>‘A1sg-descend mountain-GUI’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a-jagara che-sombrija</td>
<td>AT</td>
<td>IMP*</td>
<td>PERF*</td>
</tr>
<tr>
<td>‘A1sg-grab B1sg-hat’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a-ptyy ‘A1sg-wake’</td>
<td>TEL</td>
<td>IMP</td>
<td>IMP</td>
</tr>
<tr>
<td>a-kañy ‘A1sg-hide’</td>
<td>TEL/AT</td>
<td>PERF</td>
<td>IMP*</td>
</tr>
<tr>
<td>che-popa’a ‘B1sg-hand.stuck’</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>che-’are ‘B1sg-be.much.time’</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>che-hu’u ‘B1sg-cough’</td>
<td>AT</td>
<td>IMP</td>
<td>PERF</td>
</tr>
<tr>
<td>che-atā ‘B1sg-sneeze’</td>
<td>AT</td>
<td>IMP*</td>
<td>PERF*</td>
</tr>
</tbody>
</table>

Table 7.2: Telicity and Durativity in Temporal Interpretation

The top six predicates are transitive predicates, mostly accomplishments, except for Cate o-ñe-nupa ‘Cate A3-je-hit’), which is a semelfactive. The accomplishments tended to be judged telic by my consultants but received imperfective interpretations in the discourse contexts, in particular the “when I saw Juan” context (rightmost column). This
discourse context seems to bring out the imperfective interpretation of accomplishments because it emphasizes what Juan was doing at the time at which the speaker saw him. Thus, while achievements receive perfective interpretations (44b), accomplishments may receive imperfective interpretations. This illustrates that, besides telicity, durativity also plays a role in the temporal interpretation of unmarked predicates. A couple of comments are in order about the top six utterances. First, *japo*, which I gloss ‘make’ here, is not necessarily a verb of creation but could equally well be glossed as ‘do’. Consequently, while *japo* ‘make/do’ receives a telic interpretation with *peteŋ ōga* ‘one house’ but, as indicated in the two rightmost columns, it is compatible with an imperfective interpretation. Second, *a-joka che-espejo* ‘A1sg-break B1sg-mirror’ is a punctual verb which only in the “when I saw Juan” context receives an imperfective interpretation (by two of the three consultants), hence again indicating the extent to which this discourse context may coerce a durative interpretation.

The six utterances at the bottom of Table 7.2 are intransitive predicates. Again, the consultant study suggests that there is no correlation between telicity and temporal interpretation for the unmarked predicates that appear in these utterances. The predicates can, roughly speaking, refer either to an activity or to a (result) state. For instance, *akaŋ* ‘A1sg-hide’ can refer to the process of hiding, i.e. finding a hiding spot, or to the result state ‘being hidden’. The semelfactive expressions *che-hu’u* ‘B1sg-cough’ and *che-atla* ‘B1sg-sneeze’ also fall into this group since they can refer to the state characterized by coughing or sneezing (i.e. ‘I am a sneezer), or to a (repetitive) coughing or sneezing eventuality. With these predicates, the discourse context seems to have an effect on whether the activity or the (result) state interpretation is triggered. Questions that remain to be addressed in future research are how to characterize the discourse contexts that bring out one or the other interpretation and why the semelfactives *hu’u* ‘cough’ and *atla* ‘sneeze’ do not behave like *nupa* ‘hit’.

In conclusion, the consultant study suggests a strong correlation between the telicity and durativity of an unmarked predicate and its temporal interpretation: atelic predicates are interpreted with imperfective aspectual reference and punctual telic predicates with perfective aspectual reference. The correlation is less strong for accomplishments, where durativity also plays a role, and for predicates that can denote an activity and a (result) state: for the latter, the discourse context plays a strong role in determining aspectual reference.
7.2. THE IMPORTANCE OF LEXICAL ASPECT

7.2.2 A Study of Naturally Occurring Discourse

The second study explores the effect of telicity and the lexical aspect of unmarked predicates on the temporal interpretation of such predicates in naturally occurring discourse. Consider (45), repeated from (1) above.

(45) Beginning of the story in Appendix B.2

a. O-i-ndaje raka’e peteĩ mitā tyre’û o-hayhu-va mymba-kuéra-pe.
   A3-be-SAY RAKAE one child orphan A3-love-RC wild.animal-PL-PE
   ‘There once was an orphan who loved animals.’

b. Ha’e h-éra Huan-chi ha o-guerekọ peteĩ jagua h-éra-va Piruli.
   3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli
   ‘His name was Juanito and he had a dog whose name was Piruli.’

c. Peteĩ jey he’i h-yamba jagua-pe:
   one time A3.say 3-pet.animal dog-PE
   ‘One time, he said to his dog:

   d. "Ja-ha ja-heka ŋane-iru-rā’.
      A1pl.incl-go A1pl.incl-search B1pl.incl-friend-RA
      ‘Let’s go and look for a friend for us.’

e. Ha o-je-oí hikuái.
   and A3-JE-go 3.PL
   ‘and they went.’

(45a) introduces a topic time interval in the past of the utterance time at which there is a little boy who is an orphan. The situation time of the eventuality denoted by the predicate hayhu ‘love’, a stative (hence, atelic) predicate, in the second clause of (45a) is interpreted as overlapping with this topic time interval. This is as predicted by my proposal, according to which atelic predicates receive an imperfective interpretation. The stative eventuality description also does not move the topic time forward. As a result, the stative predicates in (45b), namely the two occurrences of h-éra ‘his name’ and o-guerekọ ‘A3-have’, are interpreted as overlapping with this past topic time. Again, the topic time does not move forward for the interpretation of (45c), such that the telic predicate he’i ‘A3.say’ is interpreted within the topic time since it is a perfective predicate. As a telic predicate, he’i ‘A3.say’ moves forward the topic time to a novel time (still in the past when the boy is an orphan). At this novel topic time, the eventuality description ja-ha ja-heka (A1pl.incl-go A1pl.incl-search) ‘let’s go and look for’ in (45d) is interpreted. In this
motion-cum-purpose construction, the eventuality of looking for a friend is interpreted in the future of the saying, i.e. future time reference is marked by the construction. In (45e), then, the telic predicate o-je-o'i ‘they go’ in (45e) receives a perfective interpretation as they left, i.e. the leaving is located after the saying.

In sum, in this discourse, the telicity of an expression correlates with whether it receives an imperfective or perfective interpretation. In future research I hope to explore a larger fragment of discourse to examine the effect of durativity, and the discourse contexts that can override the default interpretation. In the next section, I explore the five main grammatical aspect markers and temporal adverbs. One of their functions is to provide temporal and aspectual reference to predicates when the default interpretation in the discourse context would not result in the desired interpretation.

### 7.3 Grammatical Aspect Markers and Temporal Adverbs

I explore the five main grammatical aspect markers and temporal adverbs markers in this section. Their respective numbers of occurrences in my corpus are listed in Table 7.3.

<table>
<thead>
<tr>
<th></th>
<th>kuri</th>
<th>va’ekue</th>
<th>–pa</th>
<th>–ma</th>
<th>hina</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>7</td>
<td>18</td>
<td>45</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 7.3: Occurrences of Aspect Markers and Temporal Adverbs in Corpus

*Kuri* and *va’ekue* are past time locating adverbs (section 7.3.1), which are often used when the discourse context and the lexical aspect features of the predicate alone would not suffice to convey past time reference. The completive and perfect grammatical aspect markers –*pa* (section 7.3.2) and –*ma* (section 7.3.3), assert the termination of an eventuality or the change of state of an eventuality, respectively. Finally, the progressive aspect marker *hina*, discussed in section 7.3.4 asserts that the eventuality is ongoing. Unlike the English progressive, it is also compatible with stative predicates to indicate current relevance.

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9Other temporally locating adverbs, like *kuehe* ‘yesterday’, *ko’erō* ‘tomorrow’ and *ko’a’aga* ‘now’, are not discussed here.
7.3. GRAMMATICAL ASPECT MARKERS AND TEMPORAL ADVERBS

7.3.1 Past Time Locating Adverbs kuri and va’ekue

I discuss the adverbs kuri and va’ekue together in this section. They are both past time locating adverbs and because their meaning is, to a certain extent, best understood in a comparative approach.

Kuri occurs extremely infrequently in my corpus (only 4 occurrences), which is understandable given that unmarked predicates are compatible with past time reference already. The use of kuri is necessitated, to a large extent, only when the discourse context and the lexical aspect of the predicate do not suffice to locate the situation time of the eventuality in the past of the orientation time. One such example is presented in (46), with the atelic predicate ha’ā ‘fight’.

(46) Context: The boy and the dog have given up on catching the frog and went home to take a bath. Suddenly they see the frog in their bathroom. He had followed them home. The little boy says:

Mba’e-piko pea heta ŋañe-ha’ā kuri ja-gueru-ha-guā thing-QU.EMPH that much B1.pl.incl-fight KU41.pl.incl-bring-NOM-PURP ŋane-ndive ha ko’agă i-pa-ha-pe ou ha’e-ño B1.pl.incl-with and now 3-end-NOM-PE A3.come 3.pron-alone

‘What did we fight to bring him with us and now, at the end, he comes (voluntarily) by himself.’

The topic time in the context of (46) is the time of the boy’s utterance. In this discourse context, the atelic predicate ha’ā ‘fight’ does not receive a past time interpretation by itself. Kuri locates the eventuality in the past, at the time when the boy and the frog were still trying to catch the frog.

Discourse-initially, too, kuri serves to locate stories in the past of the utterance time, as illustrated by (47) — the first sentence of one of the stories in my corpus.

(47) O-i-je kuri upe kyju kapi’ipé-pe peteĩ ka’arē-guŷ-pe, o-gueroko-ha-pe A3-be-SAY KURI that cricket meadow-PE one bush-under-PE A3-have-NOM-PE i-kuára-mi. 3-cave-DIM

‘There was once a cricket in a meadow under a bush, where it had its cave.’

This example also illustrates that kuri is not anaphoric, since it regularly occurs when the discourse context does not provide for a past topic time.
Previous researchers analyze *kuri* as a marker of recent past of the same day (e.g. Gregores and Suárez 1967:125 and Melià et al. 1997:102) or a marker of recent or near past (e.g. Zarratea 2002:91 and Nordhoff 2004:34). The following example illustrates that *kuri* is not a marker of recent past of the same day.

(48)  Context: A 43-year old woman says:

\[
\text{Che-mitâ-me ai-mo’â-ma } \textbf{kuri} \text{ ko tekove o-pa-ta-ha } 2012{-}\text{pe.} \\
\text{B1sg-child-PE A1sg-think-MA KURI this world A3-end-TA-NOM 2012-PE}
\]

‘When I was a child, I thought the world would go under in 2012.’  \[E\]

In (48), *kuri* is compatible with a topic time that precedes the utterance time at least by 30 years (assuming one is a child when one is younger than 13). Hence, *kuri* is not a marker of recent past of the same day.

Whether *kuri* is a marker of recent past (not necessarily of the same day) depends on how the above authors understand ‘recent’. I believe that the attribution of ‘recency’ to *kuri* is due to the way its use contrasts with that of *va’ekue*. This marker generally refers to times farther in the past than *kuri* (as illustrated below). I therefore do not assume that *kuri* is a marker of recent past, but a past time referring adverb.\[10\]

\[10\] Nordhoff (2004) who calls *kuri, va’ekue* and –*ta* tenses, claims (p.34) that the “Suffix –*kuri* verhält sich wie das prädikationelle Futur –*ta*” (suffix –*kuri* behaves like the predicable future –*ta*). I do not share this assumption for the following two reasons. First, *kuri* is not bound, in contrast to –*ta*, as illustrated by the examples in (i).

(i)  a.  Nde japu *kuri*. (preferred) / Nde japu-*ta*.
    \[B2sg lie KURI B2sg lie-TA\]
    ‘You lied.’ / ‘You will lie.’  \[E\]

b.  Nde *kuri* japu. / *Nde-*ta* japu.
    \[B2sg KURI lie B2sg-*ta* lie\]
    ‘You lied.’ / (Intended: You will lie.)  \[E\]

Second, contrary to –*ta*, *kuri* cannot be realized in a nominalization:

(ii) a.  Kuëhe Peru o-hecha pe të kuimba’ë o-hepyme’ë-*ta*-va cabaju.
    yesterday Pedro A3-see one man A3-sell-TA-RC horse
    ‘Yesterday Pedro saw a man who will sell horses.’  \[E\]

b.  *Kuëhe Peru o-hecha pe të kuimba’ë o-hepyme’ë-*kuri*-va cabaju.
    yesterday Pedro A3-see one man A3-sell KURI-RC horse
    (Intended: Yesterday Pedro saw a man who sold horses.)  \[E\]
The temporal adverb va’ekue is a past time locating adverb like kuri: it locates the situation time of an eventuality description in the past of the utterance time. Two occurrences of va’ekue are illustrated in the excerpt in (49) from the story in Appendix B.2.

(49) a. Ha amo bajo gotyo-ve o-ho o-topa peteĩ y nasiente. and there down towards-more A3-go A3-find one water spring ‘And a bit further down they found a water spring.’

b. Ha upe-gui o-gueroja va’ekue che-sy la y. and there-GUI A3-carry VA’EKUE mother the water ‘And from there mother carried the water.’

c. Heta año o-gueroja la y iñ-aka ari. much year A3-carry the water 3-head on ‘Many years she carried the water on her head.’

d. Ha upéi o-ñepyũ va’ekue papa o-jo’o la i-poso-rā. and then A3-begin VAEKUE father A3-excavate the 3-well-RA ‘And then father started excavating a well for them.’

Although unmarked predicates can have past time reference in Guaraní, and the topic time in the discourse context in (49) is located in the past of the utterance time. va’ekue is necessary in (49b) and (49d) to convey that the eventualities are located in the (far) past, as confirmed through further consultant work on this discourse. The reason is that the topic time in (49a) and (49c) extends into the present. As a consequence, the eventualities denoted by the subsequent utterances, i.e. (49b) and (49d), respectively, need to explicitly be located in the past. For instance, in (49b), va’ekue is necessary in order for the situation time of the atelic predicate o-gueroja ‘A3-bring’ in the far past, not at a time that overlaps with the utterance time (since the mother does not bring the water from this water source anymore).

Like kuri, va’ekue can be used in the first utterance of a discourse to locate the discourse in the past. (50) is the first utterance of another story in my corpus.

(50) Che-valle-pe o-i va’ekue peteĩ karai. B1sg-town-PE A3-be VAEKUE one gentleman ‘In my town there was a gentleman.’

The two past time locating adverbs kuri and va’ekue differ on at least two dimensions. The first is their frequency of occurrence: in spoken language, kuri is more frequent than
va’ekue. In my corpus both are rather infrequent: 7 occurrences of va’ekue compared to 4 occurrences of kuri. The second dimension on which kuri and va’ekue differ is the recency of the location of the topic time relative to the orientation time (utterance time): speakers conceive of kuri as locating the topic time at a more recent past time than va’ekue and, according to descriptive grammarians, va’ekue expresses a far past, while kuri expresses a recent past. An example which illustrates this constrast between kuri and va’ekue is (51).

(51) Ape ai-ko kuri / va’ekue siete ary, upe-va-re rupi ai-kuaa-pa
here A1sg-live KURI VAEKUE seven year this-REL-RE through A1sg-know-PA
all path
‘I’ve lived here for seven years, that’s why I know all the streets.’ [D]

According to my consultants, kuri locates the time at which the speaker lived at the location referred to by ‘here’ at a more recent time than va’ekue. What counts as recent is relative: when asked to contrast kuri and va’ekue in examples like (51), speakers locate the topic time at a time about 6 to 12 months in the past of the utterance time with kuri, and to a time about 1 year and more in the past with va’ekue. Recall, however, that when kuri is not compared to va’ekue it is able to locate an eventuality in the recent past (48).

While it is not clear what time constitutes the cut-off line between kuri and va’ekue, it is clear that only kuri can locate eventualities at a topic time in the recent past. This is illustrated with the examples in (52).

(52) Context: Coming home from a quick shopping trip that turned out to be longer than planned.

a. Che-rape puku kuri.
   B1sg-path long KURI
   ‘My path was long.’ [overheard]

b. #Che-rape puku va’ekue.
   B1sg-path long VAEKUE
   ‘My path was long.’ [E]

(52a) is a naturally occurring example which was uttered by my consultant when we had just come back from the store. Kuri here indicates that the path we had just taken was long. I asked her about the acceptability of (52b) in this discourse context. She judged it unacceptable since we had only just taken the path. She commented that with va’ekue we
would have to have taken the path at a time in a more distant past.\textsuperscript{11}

In conclusion, \textit{kuri} and \textit{va‘ekue} are past time locating adverbs. In many contexts, their occurrence is explained by the fact that the discourse context alone would not suffice to locate an eventuality at a time in the past.

### 7.3.2 Compleitive Aspect –\textit{pa}

The grammatical aspect –\textit{pa} is compatible with both telic and atelic predicates, as illustrated in (53). With telic eventualities, it asserts completion, and with atelic eventualities it asserts termination of the eventuality denoted by the predicate.

\begin{enumerate}
\item[(53)]
\begin{enumerate}
\item \textbf{O-ky-\textit{pa}.}
\begin{verbatim}
A3-rain-COMPL
\end{verbatim}
‘It stopped raining.’
\end{enumerate}
\item \textbf{A-\textit{ñani-}\textit{mba}.}
\begin{verbatim}
A1sg-run-COMPL
‘I finished/stopped running.’
\end{verbatim}
\end{enumerate}

\textsuperscript{11}Unlike –\textit{kue}, \textit{va‘ekue} does not entail a state change:

\begin{enumerate}
\item[(i)]
\begin{enumerate}
\item \textbf{Ha‘e o-pu’a voi-eterei o-\textit{ñami} ha\textquoteleft g\textquoteleft u-i-vaca, heta o-guereko \textit{va‘ekue} ha‘e la pron.3 A3-get.up early-very A3-milk.the.cow PURP 3-cow many A3-have VA\textit{EKUE} pron.3 the vaca. cow
\end{verbatim}
‘She (the grandmother) got up very early to milk the cows, she had many cows.’
\item[\textit{kue}] ...
\end{enumerate}
\end{enumerate}

The consultant who produced (ia) asserts that it means that the grandmother had many cows in the past and does not have cows anymore. The fact that (ia) can be continued by (ib), however, shows that \textit{va‘ekue} does not entail a state change.
crocodile A3-grow-COMPL-PY-RE A3-exist big-very-REL
'The fully grown crocodile is very big.' [C]

In (53a), –pa asserts termination of the atelic eventuality (o)ky ‘rain’. The eventuality denoted by purahei ‘sing’ can be either telic or atelic, but receives a telic interpretation in (53b) with –pa. Similarly, řani ‘run’ in (53c) could be telic or atelic, and is translated accordingly. In (53d), –pa occurs in the attributive expression o-kakuaa-pa-py-re ‘(that) is fully grown’ where it asserts the termination of the growing eventuality.

I propose that –pa is a complete grammatical aspect. This also accounts for examples where the contribution of –pa is best translated by English all or everybody, such as (54).

(54) a. O-ñe-mondýi-mba.
A3-JE-scare-COMPL
‘Everybody was scared.’ [E]

b. Ore michi-me, che-sy, che-kyvy ha che-reindy-kuéra
B1pl.excl small-PE B1sg-mother B1sg-big.brother and B1sg-sister-PL
roi-ko-pa va’ekue che-sy sy r-ôga-pe.
A1pl.excl-live-COMPL VAEKUE B1sg-mother mother REL-house-PE
‘When we were small, my mother, my brother and my sisters, we all lived in my grandmother’s house.’ [C]

In these examples, which feature atelic predicates, the complete aspect –pa expresses complete affectedness of the patient/theme eventuality participants. In (54a), –pa asserts that all of the individuals were scared and, in (54b), that they all lived in the grandmother’s house.

The relation between the termination/cessation interpretation and the total affectedness interpretation is particularly clear in examples like (55), where the total affectedness of the object correlates with the termination/cessation of the eventuality.12

12 Liuzzi and Kitchuck (1989) suggests that –pa is a terminative aspect, and Gregores and Suárez (1967) and Guasch and Ortiz (2001) claim that it means “completeness, totality, all”. The historical origin of –pa is probably the predicate pa ‘to end/to cease’, which is illustrated in the following examples.

(i) a. Context: A asks if there’s any chicken left and M says:
O-pa-ma.
A3-end-MA
‘It’s all gone.’ [overheard]
(55) a. I-ky’a-\textbf{pa}-ite Juan-chi porque tuju-ry o-jagara-\textbf{pa} la ij-ao. B3-dirty-COMPL-very Juan-DIM because mud A3-grab-COMPL DEF 3-cloth ‘Juan was completely dirty because the mud grabbed his clothing.’ [C]

b. Kyju kiri-kiri, ho-‘\textbf{u}-\textbf{pa} avei upe hogue, ha oike i-kuára pe, grillo A3-eat-COMPL also this leaf and A3-enter B3-cave PE o-vya-hápe A3-happy-place.of ‘The cricket also finished eating his leaf and went to his cave where he was happy.’ [C]

In (55a), the state of Juan’s dirtiness correlates with the mud having completely grabbed his clothing. Similarly, in (55b), the cricket finishes eating the leaf when the leaf is completely gone.

### 7.3.3 Perfect Aspect –\textit{ma}

With 45 occurrences in my corpus, the suffix –\textit{ma} is the most frequent of the five temporal expressions I discuss in this section. I propose here that –\textit{ma} is a (type of) perfect aspect:13

(56) a. Context: The frog jumps to a far away place to avoid the boy and dog.

\textbf{Ko’ape che-ya a-kaňy-\textbf{ma} chu-gui-kuéra} here A1sg-already A1sg-hide-MA 3-GUI-PL ‘Here I have hid from them.’ [C]

b. H-embi.apo porá-ngue o-\textbf{pa} rupi o-ñe-mombe’u. 3-embi.work pretty-KUE A3-end RUPI A3-NE-tell ‘The work he did (was) finished fine, it is said.’ [from radio show]


d. I-\textbf{pa}-ha-\textbf{pe} oï-ko h-óga-\textbf{pe}. 3-end-NOM-PE A3-live 3-house-PE ‘In the end all lived in his house.’ [C]

13 Gregores and Suárez (1967:144,232) give ‘already’ and ‘now’ as the meanings for –\textit{ma}, and note that it is often duplicated by the Spanish \textit{ya} ‘already’ (p.154). Nordhoff (2004:36) analyzes –\textit{ma} as a perfective suffix: –\textit{ma} “bedeutet, dass man die Handlung schon vollzogen hat” (means that the activity has already been completed or finished).
b. Context: The frog did not want to stay all alone and decided to follow the boy and the dog.

Ha o-ŋuha-ma-ramo la i-py-po-re-kuéra o-hecha oi-ke peteĩ and A3-arrive-MA-CON LA 3-foot-hand-RE-PL A3-see A3-enter a koty-pe room-PE

‘And when he had arrived, he saw footprints going into a room.’ [C]

In (56a), –ma occurs on atelic predicate kaŋę ‘hide’ and conveys that the frog is now in the (result) state of hiding from the boy and the dog. In (56b), too, the eventuality description marked with –ma denotes the result state of arriving: it is during this result state that the frog notices the footprints that enter a room.

In many examples, –ma is best translated with English already:

(57) Context: After catching the monkey that has bothered her, the woman says:


‘For a long time already you have been bothering me.’ [C]

In (57), –ma does not occur on the main predicate mbo-py’a-rasy ‘bother’ but on the temporal expression yma-ite-gui-vé ‘for a long time’. Here, –ma expresses that the state of bothering the woman has been true of the monkey in the past and is still true. (Cf. also Michaelis (1992, 1996) who argues that already “presupposes the anteriority of [a] state of affairs to an interval of a specific type” (Michaelis 1992:326).)

Fong (2004) distinguishes several meanings for already in Singapore English. According to Fong, She sing already in Singapore English can either mean ‘She has sung’ (a perfect interpretation), ‘She has started to sing’ (an inceptive interpretation) or ‘She is going to sing’ (a prospective interpretation). Guarani –ma seems to exhibit a similar variety of meanings, as illustrated in the following examples. The perfect interpretation of –ma was already illustrated above. The inceptive interpretation is illustrated in (58).

(58) Context: The monkey has just convinced the fox to untie him from the post.

O-je-po-kyty kyty ha o-jorá-ma-ne ra’e hapichá-pe. AC3-REFL-hand-dry dry and AC3-untie-MA-NE RAE college-PE

‘He [the fox] rubbed his hands and started to untie his colleague.’ [C]
In this example, –ma does not assert the result state of the untying eventuality but rather that the fox has started untying the monkey. In other words, –ma asserts the inception of the eventuality.

The prospective interpretation of –ma is illustrated in the discourse in (59).

(59) Context: The boy and the frog are looking for some animal to catch.

   a. Hesa-ho y-pe peteũ ju’i-rehe.
      eye-go water-PE one frog-REHE
       ‘Suddenly he sees a frog in the water.’

   b. “Pe-a che-mba’e-ma” he’i i-pyapy-pe.
      that-RC B1sg-thing-MA A3.say 3-stomach-PE
       ‘“This is going to be mine” he says to himself.’

From the discourse context we know that the boy does not have the frog yet, but has only seen it. Hence, –ma in (59b) does not assert the result state of having, nor the inception of the state of having. Rather, that the boy is going to have the frog, a prospective interpretation.

The Guaraní perfect marker –ma is perhaps better analyzed as a marker of transition whose semantics subsume that of the perfect. In addition to being able to signal the transition from the eventuality to its post-state (the perfect interpretation), Guaraní –ma is able to signal the inception of the eventuality (the inceptive interpretation) and a potential transition from the pre-state to the eventuality itself (the prospective interpretation). This analysis of –ma also accounts for examples like (60), where –ma seems to emphasize the transition expressed by –ve ‘more’.

(60) a. Context: The boy tried to catch the frog but fell into the water next to the frog.

      ha ju’i katu tuicha-vé-nte-ma o-ñe-mondyi
      and frog indeed big-more-only-MA A3-JE-scare
       ‘And the frog got scared even more.’

   b. Context: The boy has just attempted to catch the frog who, as a result, jumped away from the boy and the dog.

      Pero pe-icha-ha-gui o-topa peteũ itã mombyry-vé-ma chu-gui-kuíra
      but that-like-NOM-GUI A3-find one stone far-more-MA 3-GUI-PL
       ‘From there he [the frog] found a stone that was even further away from them.’

   [C]
In these examples, –ma occurs with –ve ‘more’: this combination expresses that some prior state of affairs is now intensified. In (60a), the frog is even more scared and, in (60b), the frog is even farther away from the boy and the frog. One possible explanation for the occurrence of –ma in these examples is that it emphasizes the transition into a new state of affairs. A full analysis of the interpretation of –ma has to await future research.

7.3.4 Progressive Aspect hīna

The marker hīna is compatible with present, past, and future time reference, as illustrated in the examples in (61).

(61) a. Nda-i-por-i-pa hīna?
     not.exist-QU HINA
     ‘She’s not here?’ [overheard]

b. Yvy hykúe hīna kuri
     earth wet HINA KURI
     ‘The earth was getting wet.’ (Gregores and Suárez 1967:115)

c. Ága-ité-ma o-ğuahé-ta hīna la o-ho-va’e-kúe.
     now-very-MA A3-arrive-TA HINA LA A3-go-REL-KUE
     ‘Very soon now the one who went will be arriving.’ (Gregores and Suárez 1967:115)

In (61a), hīna occurs with present time reference, in (61b), it asserts past time reference, and, in (61c), hīna cooccurs with –ta, which here conveys future time reference. This establishes that hīna is not a present tense but a grammatical aspect marker. Gregores and Suárez (1967:155) claim that hīna is a marker of proressive aspect and of present tense when no other modifier indicates past action.14 Having established that hīna is not a present tense, I propose that it is a aspect marker.15 Its use with dynamic predicates is

14 That hīna is an adverb rather than a suffix is evidenced by the fact that it can appear in either order with kuri.

15 Another way to indicate progressive aspect is with the verb (ol)ho ‘to go’ in a serial verb construction with -wo ‘at’ (cf. also Velázquez-Castillo 2004).

(i) Pe ao i-potí o-ho-vo.
    this cloth 3-clean A3-go-at
    ‘These clothes are getting clean.’ [E]
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illustrated in (62).

(62)  

a. Context: The frog has decided to play with the boy and the frog after they left and is now following their foot prints.

Ha upevare ha’e o-ho hîna o-segi la mitâ róga-pe.
and therefore he A3-go Hîna A3-follow the child 3.house-PE
‘and therefore he is going, he’s following the child to its house.’ [C]

b. Context: M is watching Juan and I ask her what he is doing.

Oi-ke hîna h-óga-pe.
A3-enter Hîna 3-house-PE
‘He is entering his house.’ [E]

In (62), hîna occurs with the dynamic predicates ho ‘go’ and (o)ke ‘enter’ and expresses a progressive aspect meaning: hîna asserts that the eventuality is ongoing at the topic time. Unlike the English progressive, hîna is not restricted to dynamic predicates. The following examples illustrate the meaning of hîna with stative predicates.  

(63)  

a. Che-pochy hîna.
B1sg-angry Hîna
‘I am angry.’ [E]

b. Context: If on a small dark path you meet somebody dressed completely in white...

Upéa hîna Póra.
that Hîna Póra
‘that’s Pora.’ [AdC:23]

According to my consultants, (63a) is acceptable with and without hîna; some have the intuition that the version with hîna expresses greater immediacy or current relevance, as in the English utterance I am angry now. In (63b), hîna occurs in the identificational construction; again, my consultants confirm that hîna is optional here.

16 There is at least one dynamic predicate that is not acceptable with hîna, namely mano ‘die’.

(i) *O-manô hîna.
A3-die Hîna
(Intended: He is dying.) [E]
For some authors, a progressive marker is (mostly) restricted to dynamic predicates, like the English progressive (e.g. Comrie 1976:20, Binnick 1991; Smith 1991, Olsen 1997:67). A marker that expresses a progressive meaning and is compatible with stative predicates is typically characterized as an imperfective marker. However, Guaraní hîna is not an imperfective marker since it is not used in habitual or generic utterances. Instead, I assume here that the progressive is not restricted to dynamic eventualities. According to this proposal, the progressive expresses ongoingness with dynamic predicates and ‘immediate relevance’ or ‘temporarity’ with stative predicates (also Michaelis 2004:36ff.).17 The following examples illustrate this interpretation of hîna with stative predicates.

(64) a. Context: J came back from the store.
   O-î hîna vakuna local-pe.
   A3-be Hîna vaccination local-PE
   ‘There are vaccinations in the store now.’ [overheard]

b. #O-î vakuna local-pe.
   A3-be vaccination store-PE
   (Intended: There are vaccinations in the store.) [E]

I overheard (64a) on a day when J had just come back from the store (which also serves as a center for health and communication in general). J uttered (64a) to pass the good news on to M that health workers had just arrived in town who were going to do vaccinations for several hours. Hîna in (64a) conveys that the fact that the vaccinations happening at the store are a temporary state of current relevance. (64b), without hîna, is not felicitous in this discourse context since the store does not usually offer vaccinations. (64b) expresses that vaccinations are generally or habitually available in the little store.

The elicited examples in (65) illustrate the same point:

(65) a. O-î juky local-pe.
   A3-be salt store-PE
   ‘There’s salt in the store.’ [E]

b. O-î hîna juky local-pe.
   A3-be Hîna salt store-PE
   ‘There’s salt in the store (now).’ [E]

17Michaelis (2004) claims that only those stative predicates occur with the progressive that can be construed as (homogenous) activities. This is not the case for Guaraní hîna which can cooccur with stative predicates that are not construable as activities, such as o-î ‘be’ in (64).
(65a) is compatible in a context where somebody wants to know where one can buy salt in the village. (65a) conveys that salt is (usually or always) available in the store. (65b), on the other hand, is felicitous in a context where the store has run out of salt (causing great distress in the community), and, one day, the person who buys supplies announces that the store has salt again.

A final example is (66), which was uttered by a mother who got impatient with her misbehaving child.

(66) Context: A mother scolding her child for misbehaving.

\[
\text{Nd-e-entende-i \ hina?} \\
\text{NEG-A2sg-understand-NEG HINA}
\]

‘You don’t understand!’ [overheard]

Again, hina here conveys the immediacy of the child’s not understanding what the mother has told him.

In sum, hina is a progressive marker which is compatible with both dynamic and stative predicates. With the former it asserts the ongoingness of the eventuality description, whereas it asserts immediate relevance or temporariness of the state with the latter type of predicate.

### 7.4 Summary

This chapter has placed Guaraní among the tenseless languages. It is also a language in which the temporal interpretation of unmarked predicates is affected by telicity, durativity and the discourse context. The chapter also described the meaning of the five main temporal adverbs and grammatical aspect markers, namely the past time locating adverbs kuri and va’ekue, the completive aspect –pa, the perfect aspect –ma and the progressive aspect hina. Equipped with an understanding of how predicates are temporally interpreted in Guaraní, I examine in the next chapter the temporal interpretation of noun phrases in discourse.
Chapter 8

Nominal Temporality Markers in Discourse

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This is the second part of the two-part exploration of the meaning and use of the Guaraní nominal temporality markers −kue and −rā. In chapter 6, I explored the meaning of the two markers and their distributional restrictions, and proposed an analysis of −kue as a terminative grammatical aspect marker and of −rā as a prospective grammatical aspect/modality marker. In this chapter, I focus on the meaning and use of the two markers in discourse, and the contribution of the two markers to the temporal interpretation of
Guaraní noun phrases. In section 8.1, I apply the remaining two criteria for distinguishing TENSE and ASPECT to –kue and –rā, finding further support for the aspect analysis over the tense analysis. Sections 8.2 to 8.3 illustrate facets of the use of the nominal temporality markers in Guaraní discourse. The chapter culminates in section 8.4 in an evaluation of the way in which noun phrases are temporally interpreted in Guaraní.

8.1 Discourse Criteria to Distinguish Tense and Aspect

As discussed in chapter 6, there are two proposals regarding the meaning of the Guaraní nominal temporality markers –kue and –rā. The first, proposed by Liuzzi (1987), Liuzzi and Kirtchuk (1989), Sadler and Nordlinger (2001), Nordhoff (2004) and Nordlinger and Sadler (2004), maintains that the two markers are nominal past and future tenses. The proposal is built on the assumption that the temporal interpretation of noun phrases and verb phrases is parallel, i.e. depends on a semantic TENSE relation:

(1) Crosslinguistic Temporal Interpretation of Verb Phrases (= (26), chapter 3)
discourse context: TENSE
encoded meaning: (φ:tense) (MODALITY)[ATL[ASPECT* [eventuality description]]]

According to this proposal, Guaraní, but not English, has nominal tenses that specify the nominal TENSE relation. Accordingly, we expect to observe differences in the way in which noun phrases are interpreted in the two languages.

The second proposal is the one I am defending in this dissertation. I propose that the markers are nominal grammatical aspect/modality markers and that the temporal interpretation of noun phrases and verb phrases is not parallel:

(2) Crosslinguistic Temporal Interpretation of Noun Phrases (= (72), chapter 3)
discourse context: discourse participants with temporally located properties
encoded meaning: resolve(t_n) (MODALITY)[ATL[ASPECT* [nominal description]]]

Since both English and Guaraní have nominal ASPECT and MODALITY, we do not expect the temporal interpretation of noun phrases in the two languages to be very different. Rather, noun phrases in both languages are interpreted according to the link between the denotation of the noun phrase and the contextually established individuals.
8.1. DISCOURSE CRITERIA TO DISTINGUISH TENSE AND ASPECT

An initial comparison of the two proposals in chapter 6 lent support to the second proposal. I pointed to data that challenges the assumption that the temporal interpretation of noun phrases and verb phrases is parallel. Second, noun phrases that are not marked with a nominal temporality marker are interpreted in ways that suggest that the nominal temporality markers do not have the same function as verbal tenses. Third, I applied three of the five criteria for distinguishing TENSE and ASPECT to the markers and found that each supported the aspect analysis over the tense analysis. In this section, I evaluate the two proposals on the basis of the remaining two criteria. If the two markers are nominal tenses, we expect them to restrict the location of the nominal time \( t_n \) (criterion (iv)) we expect their interpretation to be anaphoric in discourse (criterion (v)). If they are aspect markers, we expect neither.

8.1.1 Restricted Localization

In this section, I apply the following criterion:

| Tenses, but not grammatical aspect markers, restrict the time of evaluation. |

Recall from chapter 5 that noun phrases that are not marked with \( -kue \) or \( -r̃a \) can be interpreted relative to one of four times, just like noun phrases in English: the utterance time, the topic time, a contextually given time (that is not the utterance or topic time) or a time denoted by a temporal adjective. Noun phrases that are marked with \( -kue \) or \( -r̃a \) can also be interpreted relative to a time given by a temporal adjective, as illustrated for \( -kue \) in (3).

(3) Mbo’e-ha-ra-kue ochenta-gua o-vy’a.
  teach-NOM-AG-KUE eighties-of A3-happy
  ‘Former teachers of the eighties are/were happy.’  

The temporal adjective ochenta-gua ‘of the eighties’ locates the time, relative to which the individuals were former teaches. Thus, the individuals are asserted in (3) to have been teachers prior to the eighties. (3) does not have an interpretation according to which the individuals were teachers in the eighties.

The question then is whether the nominal temporality markers restrict the interpretation of noun phrases relative to contextually given times (the utterance time, the topic
time or another time)? We would expect such a restriction if the markers were no nominal tenses, but not if they are nominal aspects. Consider the temporal interpretation of the noun phrases in (4), which are marked with –kue.

(4) a. Context: The speaker is giving instructions on a game that involves people moving around.

> Che a-ha-ramo nde re-ju che-renda-gue-pe.
> ‘When I go, you come to my former place (the place that I am at now).’ [E]

b. Pe pa’i-kue h-eñoi 1960-pe.
> that priest-KUE 3-born 1960-PE
> That ex-priest was born in 1960.’ [E]

In (4a), the possessive relation denoted by che-renda ‘my place’ is true at the utterance time but is no longer true at the topic time in the future of the utterance time. In (4b), the property ‘priest’ is true of the individual at a contextually given time that lies in the future of the topic time (the time when he was born) and in the past of the utterance time. Thus, the nominal predicates are interpreted at the utterance time and other contextually given times: crucially, their temporal interpretation is not restricted to a time in the past of the utterance or topic time as we would expect if –kue were a past tense. If –kue were a past tense, we would also have to assume that it need not be interpreted relative to a fixed perspective time (unlike verbal tenses): its perspective time would have to be the topic time in (4a) and the utterance time in (4b).

Under the grammatical aspect analysis of –kue, the interpretation of the examples in (4) is predicted by the theory: in (4a) the nominal time \( t_n \) at which \( \text{TERM}(\text{my-place}) \) is true of the speaker and the place is resolved (by default) to the topic time, resulting in an interpretation where the ‘my place’ relation is not true anymore at the topic time in the future of the utterance time but is still true at the utterance time. In (4b), the nominal time is resolved to the utterance time. Consider the unresolved DRS \( K_I \) of (4b) in (5).
8.1. DISCOURSE CRITERIA TO DISTINGUISH TENSE AND ASPECT

Both the nominal time \( t_n \) and the discourse referent ‘a’ of the demonstrative noun phrase *pe pa’i-kue* ‘that priest-KUE’ need to be contextually resolved. The discourse referent ‘a’ is resolved to a discourse participant who is salient in the here and now of the discourse context and not near the speaker. As discussed in chapter 3, this supports a resolution of the nominal time \( t_n \) to the utterance time rather than the topic time \( t_{top} \). This resolution is also supported by world knowledge since people are not born with the property ‘priest’ already true of them.

The resolved DRS in \( K_2 \) specifies that the property \( \text{TERM(priest)} \) is true of the individual ‘a’ that was born in 1960 at the utterance time. From the analysis of the terminative grammatical aspect –*kue* it follows that the individual ‘a’ was a priest in the past of the utterance time and is not a priest anymore.

The examples in (7) illustrate temporal interpretations of noun phrases marked with –*rā*.

A1sg-find-TA B2sg-thermos-RA  
‘I will find a thermos for you.’  [E]
b. Kuehe a-jogua che-syrykoi-ᵣā
    yesterday A1sg-buy B1sg-motorbike-RA
    ‘Yesterday I bought my motorbike.’

In (7a), the possessive relation denoted by nde-termo ‘your thermos’ is true at the topic
time in the future of the utterance time. In (7b), the possessive relation denoted by che-
syrykoi ‘my bike’ is true at the utterance time, which is in the future of the topic time.
Thus, the possessive relations here are interpreted at the topic time and the utterance
time. The temporal interpretation of the noun phrases is not restricted to a time in the
future of either the topic or the utterance time, as we would expect if –ᵣā were a nominal
future tense. Again, the perspective time of –ᵣā as a nominal tense is not fixed, unlike that
of verbal tenses: it is the utterance time in (7a) and the topic time in (7b). As a prospective
aspect marker, the interpretation of the noun phrases in (7) is as predicted by the theory:
the nominal time tᵣ is not restricted to a particular time by –ᵣā and can be resolved either
to the utterance time (7a) or the topic time (7b).

In sum, the nominal temporality markers –kube and –ᵣā do not restrict the times relative
to which noun phrases can be interpreted. According to criterion (iv), the two markers
are nominal grammatical aspect markers rather than nominal tenses.

8.1.2 Anaphoricity

The fifth criterion for distinguishing tense and aspect is the following:

\[
\text{Tenses, but not grammatical aspect markers, are anaphoric.}
\]

If –kube and –ᵣā are nominal past and future tenses, we expect the resolution of the nomi-

al time tᵣ to be determined anaphorically, i.e. with respect to a contextually salient
antecedent. If, however, the two markers are grammatical aspect markers, we do not
expect the nominal time tᵣ to be resolve to a contextually salient antecedent but rather
according to the link between the noun phrase denotation and the contextually estab-
lished entities.

In my fieldwork, I found no naturally occurring data that would suggest an anaphoric
interpretation of the nominal temporal markers. In other words, my corpus and further
stories I examined contain no examples in which a noun phrase marked with –kube or –ᵣā
is temporally interpreted such that the situation time of the unmodified predicate was
located by the nominal marker at a contextually salient time. (And the same is true for
possessive noun phrases and the possessive relation.) This suggests that the interpretation of the Guaraní nominal temporality markers is not anaphoric and, hence, that they are grammatical aspect or modality markers rather than tenses.

The non-anaphoricity of the nominal temporality markers is also illustrated by the fact that they do not locate the time of the nominal predicate at the time given by a noun phrase-internal modifier:

(8) Mbo’e-ha-ra-\textit{kue} ochenta-gua o-vy’a. \quad (= (3))
\hspace{1cm} \text{teach-NOM-AG-KUE eighty-of} \quad \text{A3-happy}
\hspace{1cm} ‘Former teachers of the eighties are/were happy.’

As discussed above, (8) does not have an interpretation according to which the individuals denoted by the noun phrase were teachers during the eighties. In other words, –\textit{kue} does not locate the property ‘teacher’ at the noun phrase-internal time, as we would expect a nominal past tense marker to do.

In order to further examine the anaphoricity of the Guaraní nominal temporality markers, I conducted a consultant study. In this study, I presented my consultants with constructed discourses and asked them to translate them back to Spanish, thus clarifying whether the nominal temporality markers received an anaphoric or non-anaphoric interpretation.

I assume that the anaphoricity of tense markers manifests itself in two ways, both of which I exploited in the study. Consider the examples in (9).

(9) a. Sheila had a party last Friday and Sam got drunk. \quad (Partee 1984:245)
\hspace{1cm} b. Yesterday John sang.

The topic time $t_{top}$, relative to which an eventuality description is interpreted, can be given by prior discourse context, as in (9a), or be constrained by a temporal adverb in the same clause, as in (9b). In the first conjunct of (9a), the topic time is constrained to the time denoted by \textit{last Friday}. The stative eventuality description ‘Sheila have a party’ does not update this topic time, meaning that the eventuality description ‘Sam get drunk’ of the second conjunct is interpreted relative to the same topic time. In other words, the time introduced by the past tense predicate \textit{got drunk}, which needs to be resolved to a time in the past of the utterance time, is resolved to the topic time provided by the first conjunct. In (9b), the topic time relative to which the eventuality description ‘John sang’ is interpreted, is constrained by the temporal adverb \textit{yesterday}. This accords with the
requirement of the past tense predicate sang that the eventuality description is located at a time prior to the utterance time.

The first type of discourse I constructed to examine the anaphoricity of the nominal temporality marker is based on the anaphoric interpretation illustrated in (9a). Consider the discourse in (10), which is representative of the kinds of discourses I presented to my consultants.

(10) a. Context: I want to buy my sister a bike.

*Kuehe* a-ha bisikleta-ñe-vende-há-pe ha enterove bisikleta
yesterday A1sg-go bike-JE-sell-NOM-PE and all bike
o-í-va-gui ai-poravo peteĩ che-hermana-pe-guȃ-rã.
A3-exist-RC-GUI A1sg-choose one B1sg-sister-PE-GUA-RA
‘Yesterday I went to a bike shop and of all the bikes they had there I chose one
for my sister.’

b. #Koẽ-ramo a-ha-jevy-ta a-jogua-ha-guã pe bisikleta-*kue.*
dawn-COND A1sg-go-return-TA A1sg-buy-NOM-PURP that bike-KUE
(intended: Tomorrow I’ll go back to buy that bike.)

Consultant’s comments: *Sounds like you’re going to buy a bike that doesn’t work
anymore, an ex-bike.*

In (10a), the temporal adverb *kuehe* ‘yesterday’ introduces to the discourse context a time $t$ that is prior to the utterance time. This is the time at which the speaker selects a bicycle for her sister, i.e. the bicycle exists at this time in the past of the utterance time. In (10b), the noun phrase *pe bisikleta* ‘that bike’ is marked with –*kue*. If –*kue* were a nominal past tense marker, we would expect it to be able to locate the time at which the entity denoted by *pe bisikleta-kue* ‘that bike-KUE’ is a bicycle at the contextually salient past time, i.e. the time denoted by *kuehe* ‘yesterday’ at which the speaker first identified the bicycle. However, as indicated by the #, my consultants consider this example odd in this discourse context and comment that it sounds like the speaker is going to buy a bicycle that does not work anymore, i.e. an old bike.

Of course, the oddness of (10b) in this discourse context cannot be attributed to a non-anaphoric behavior of –*kue*. The interpretation of –*kue* might well be anaphoric, i.e. identifying the nominal time $t_n$ with the past time introduced in the discourse context. But even if –*kue* is anaphoric, it still has the CHANGE meaning property which here requires the property ‘bicycle’ to be false of the entity at the utterance time (the perspective
time of –kue, if it were a nominal past tense). We can conclude that this type of constructed discourse does not allow one to determine whether –kue receives an anaphoric interpretation or not. Regardless, this type of example provides evidence of a different kind for the non-anaphoricity of the nominal temporality markers. What we learn from discourses like (10) is that the kinds of contexts in which the nominal temporality markers could be interpreted anaphorically are extremely restricted, namely to those contexts in which the nominal description is true of the individual denoted by the noun phrase at a contextually salient time in the past or future of the perspective time and false at the perspective time (because of the change meaning property). If –kue and –rā were nominal tenses, their distribution would be very much unlike that of verbal tenses, which are felicitous and anaphorically interpreted in all contexts that provide a (past or future) antecedent.

Next, I examined whether the nominal temporality markers are anaphoric in discourses modeled after (9b). Consider the example in (11), which again is illustrative of the kind of discourse I presented to my consultants.

(11) Ambue ary-pe peteĩ doytor-kue o-mo-nguera in-angiru-pe i-mba’asy.
other year-PE one doctor-KUE A3-CAUS1-healthy 3-friend-PE 3-sickness

‘Last year, an ex-doctor healed his friend’s sickness.’

In this example, the temporal adverb ambue ary ‘last year’ introduces a past time into the discourse context, and the noun phrase peteĩ doytor ‘a doctor’ is marked with –kue. If -kue were a nominal past tense, we would expect it to identify the nominal time tₙ with the time denoted by ambue ary ‘last year’, resulting in an interpretation where the individual healed his friend as a doctor (and is now a former doctor). This interpretation is also favored by world knowledge, since it is more likely for a doctor than an ex-doctor to heal his friend. However, the Spanish translations my consultants provided for such examples consistently indicate that they consider the individual to have been a former doctor at the time at which he healed his friend. They also preferred this interpretation when explicitly asked (after providing the translation) whether the individual was a doctor or a former doctor when he healed his friend. This strongly suggests that –kue does not receive an anaphoric interpretation in such examples and, hence, is not a tense marker.

Some more sample discourses that illustrate this test are given in (12) for –kue, and in (13) for –rā, to which the same reasoning applies.
(12) a. O-japo mokoį ary peteĩ tendota-kue o-ñe’e heta pueblo-pe
A3-make two year one president-kue A3-talk much people-pe
 television-rupi.
television-through
‘Two years ago an ex-president talked much to the people on television.’ [E]

b. Upe marzo peteĩ pa’i-kue h-esarai i-biblia-gui ore tupa-ò-pe.
that march one priest-kue 3-forget 3-bible-GUI B1pl.excl god-house-pe [E]
‘Last March an (ex-)priest forgot his bible in our church.’

one day-PE 1986-PE one hair stylist-kue A3-cut 3-friend-PE 3-head-hair
‘One day in 1986, an ex-hair stylist was cutting his friend’s hair.’ [E]

Again, it is more plausible for a president than a former president to talk to the people (11b), for a priest than an ex-priest to forget his bible in church (11c), and for a hairdresser than a former hairdresser to cut his friend’s hair (11d). Nevertheless, my consultants here, too, expressed a strong and consistent preference for the non-anaphoric interpretation where the nominal property (i.e. ‘president’, ‘priest’ and ‘hairdresser’) are not true for the individual anymore at the topic time.

The examples in (13) were designed to examine the anaphoricity of –rã.

(13) a. Ambue ary-pe peteĩ abogado-rã oï-pytvyo-ta i-sosio-pe i-problema
other year-PE one lawyer-RA A3-help-RA 3-friend-PE 3-problem
 ley-ndive-gua-PE
law-with-of-PE
‘Next year a future lawyer will help his friend with his law problems.’ [E]

b. Ambue ary-pe peteĩ óga-apo-ha-rã o-japo-ta h-óga.
other year-PE one house-make-NOM-RA A3-make-RA 3-house
‘Next year, a future builder will build his house.’ [E]

It is more plausible for a lawyer to help his friend with law problems than somebody who is in law school (13a), and for a builder to build a house than somebody who is learning to become a builder (13b). If –rã were a nominal future tense, we would expect it to locate the nominal time \( t_n \) at which the individual is a lawyer or a builder at the contextually provided time in the future of the utterance time, i.e. to anaphorically interpret the nominal time \( t_n \). Nevertheless, with these examples, too, my consultants consistently preferred non-anaphoric interpretations where the nominal property, i.e. ‘lawyer’ and ‘builder’, are not yet true of the individual denoted by the respective noun phrase at the
topic time. This, again, is unexpected if –rā is a future tense marker. The interpretations are predicted, on the other hand, on the prospective aspect analysis of –rā. Take (13b). The prospective aspect –rā asserts that the property ‘PROSP(builder)’ is true of the individual denoted by the noun phrase at the nominal time \( t_n \). The nominal time is resolved (by default) to the topic time ‘next year’, which results in an interpretation of (13b) according to which the individual is not yet a builder when he builds his house.\(^1\)

In conclusion, the fifth criterion for distinguishing tense and aspect also supports the analysis according to which Guaraní –kue and –rā are grammatical aspect/modality markers rather than nominal tenses.

### 8.1.3 Conclusions

This section and chapter 6.4 have provided several pieces of evidence that the Guaraní nominal temporality markers are nominal aspect/modal markers rather than nominal tenses, including evidence from five criteria for distinguishing TENSE and ASPECT. A larger implication of this result is that one of the languages claimed to provide empirical evidence for nominal TENSE does not, in fact, provide such evidence. The purported empirical evidence for nominal TENSE from other languages is examined in part III. In the end, it is not surprising that the Guaraní markers are not nominal tenses, given the similarities between the way in which noun phrases are temporally interpreted in English and Guaraní.

There are two facts about Guaraní I did not use in my discussion of whether –kue and –rā are tenses or aspects. The first is their morphosyntactic status, i.e. that they are derivational suffixes. Tense markers are typically considered to be inflectional, such that, if morphosyntactic status were included as a criterion, it would further support the aspect analysis. However, given the crosslinguistic variation in temporal systems and the extent

\(^1\)An alternative resolution of the nominal time \( t_n \) for (13b) is the utterance time, as predicted by the theory I developed in chapter 3. One of my consultants interpreted the noun phrase this way and said that the individual is a builder at the topic time, hence seemingly supporting the anaphoric tense-like interpretation of –rā. However, the comments he subsequently volunteered are indicative of a non-anaphoric (aspectual) interpretation: he commented that (13b) has this meaning because an individual who is learning to be a builder at the utterance time must surely be a builder within a year because it does not take that long to learn how to build a house (in this rural part of Paraguay). According to his comments, he arrived at this interpretation for (13b) by locating the property ‘PROSP(builder)’ at the utterance time, which allows the inference (for this consultant) that ‘builder’ is true for the individual at the topic time. Crucially, he did not arrive at this interpretation by locating the property ‘builder’ at a time in the future of the utterance time.
to which temporality in natural languages is still unexplored, it seems methodologically more sound to only rely on the meaning of the markers when assessing their semantic category. The second fact about Guaraní that I did not use in my discussion of –kue and –rã here is that Guaraní is a (verbally) tenseless language. One might assume a markedness hierarchy according to which only languages with verbal tenses would be expected to have nominal tenses. It is not clear, however, whether such a markedness hierarchy is plausible since the temporal semantics of noun phrases and verb phrases are largely independent.

8.2 The Partitive Interpretation of –kue

In some descriptions of Guaraní, the marker –kue is claimed to have a partitive meaning. In this section, I argue that –kue does not have a partitive meaning and that examples in which –kue seems to have a partitive meaning can be accounted for under the terminative aspect analysis.

Guasch (1996:57) claims that –kue has a partitive meaning besides the temporal meaning: “se usa para formar el plural de adjetivos partivos y expresar nombres de clase, especie o grupo determinado” (it is used to form the plural of partitive adjectives and express the names of classes, kinds or subgroups) and “se emplea –kue para indicar la parte de animal o planta separado de su todo” (it is used to refer to a part of an animal or plant that is separated from the whole). Two examples from Guasch are given in (14).

(14) a. Ei-poravo ché-ve pe ryguasu rupí’a hesa porâ-ngue-te,
   A2sg-pick B1sg-VE that chicken egg look pretty-KUE-very
   hesa-’i-kue-te t-o-pyta, e-heja.
   look-DIM-KUE-very IMP-A3-stay A2sg-leave
   ‘Escógeme los huevos mejores y más grandes; los muy pequeños que se queden, déjalos.’ (‘Pick me the best and biggest eggs, the ones that look small stay, leave them.’) (Guasch 1996:57)

b. Ja-juká-ta kure. Ho’o-kue e-heja ja-’u-ha-guã,
   i-kyra-kue t-o-ñe-me’e
   3-fat-KUE IMP-A3-JE-put
   ‘Vamos a matar el cerdo. La carne la dejas para comer; la gordura para vender.’
   (‘Let’s kill the pig. The meat leave to eat, the fat to sell.’) (Guasch 1996:57)
8.2. **THE PARTITIVE INTERPRETATION OF –KUE**

In (14a), two subsets of the whole set of eggs are referred to, respectively, with *hesa porã-ngue-te* (look good-KUE-very) ‘those that look very good’ and *hesa-‘i-kue-te* (look-DIM-KUE-very) ‘those that look small’. In (14b), the meat part and the fat part of the pig are referred to with expressions marked with –*kue*, namely *ho’o-kue* ‘meat-KUE’ and *i-kyra-kue* ‘3-fat-KUE’.

In certain contexts, my consultants, too, translate –*kue* with Spanish *parte* ‘part’:

(15) **Context:** We’re building a shed and I just cut a piece of wood into two pieces.

    O-vale-ma    la mbyky-\textit{kue}.
    A3-worth-MA LA short-KUE

    Spanish: ‘El parte corto es suficiente.’
    ‘The short part is sufficient.’ [E]

In this example, the short part of the wood is identified with *mbyky-kue* ‘short-KUE’. Under the analysis of –*kue* as a partitive marker, –*kue* in (15) asserts that there is a part-whole relation between the short piece of the wood and the piece of wood as a whole. The analysis of –*kue* as a terminative grammatical aspect markers can account for examples like (15), too: what –*kue* asserts in such examples is that the (abstract) possessive relation between the whole piece of wood and the short piece was true in the past but is now terminated. Similarly, both analyses can account for the fact that –*kue* is not always obligatory in such examples. Under the partitive analysis of –*kue*, the noun phrase *la mbyky* ‘the short (one)’ without –*kue* simply refers to the short wood without mentioning the part-whole relation to the whole wood. Similarly, under the analysis of –*kue* as a terminative grammatical aspect marker, *la mbyky* ‘the short (one)’ simply refers to the short piece of wood without revealing that it was part of the whole wood at an earlier time.

Another example that illustrates the fine line between the partitive interpretation and the terminative aspect interpretation is (16).

(16) **Context:** A girl sweeps behind the oven and finds the remains of a chick.

    A-nohè    ryguasu-ra’y pire-kue.
    A1sg-get.out chicken-little skin-KUE

    ‘I got a chick skin out.’ [overheard]

I overheard this example when the girl of the family I was living with swept behind the oven and found the remains of a little chick that the family had tried to raise in the
kitchen. All that remained of the chick was the skin, which is referred to with ryguasu-ra’y pire-kue ‘chicken-little skin-KUE’. If –kue were a partitive marker here, the noun phrase would refer to the part of the chick that is the skin. Under the terminative grammatical aspect analysis, the noun phrase asserts that the possessive relation between the skin and the chick is not true anymore since the chick is dead.

I propose that examples in which the same situation is viewed from different temporal perspectives can shed light on the question of whether –kue is a partitive marker, in addition to a terminative grammatical aspect, or just a terminative grammatical aspect. I argue that since the occurrence of –kue depends on the temporal construal of the situation, the analysis of –kue as a purely temporal marker is favored. Consider the examples in (17).

(17)  a. Context: My sister is visiting me in Paraguay. She has never seen any farm animals so I introduce her to the animals and their parts.

   Ko-va ha’e vaca po/*po-kue.
   this-RC 3.pron cow foot/foot-KUE
   ‘This is a cow’s foot.’ [E]

   b. Context: I’m pointing to an alive cow:

   Ha’-u-se ko vaca py(-kue).
   A1sg-eat-DES this cow foot-KUE
   ‘I want to eat this cow foot.’ [E]

   c. Context: I show a picture of a cow in a meadow to my parents.

   E-ma’e papa che ha’u ko-va ko vaca py-kue.
   A2sg-look papa B1sg A1sg.eat this-RC this cow foot-KUE
   ‘Look dad, I ate the foot of this cow.’ [E]

In each of these three examples, a cow foot is referred to. In (17a), –kue cannot be realized, in (17b) –kue is optional and it is obligatory in (17c). If –kue were a partitive marker, we would not expect this variation in the realization of –kue since the foot is always a part of the cow. If we assume, however, that –kue is a terminative aspect marker in these examples, the cooccurrence pattern is predicted since the occurrence of a nominal temporality marker depends on the perspective from which the situation is presented, as discussed in chapter 3.3.4.

Consider first the temporal perspective taken in each of the examples. In (17a), the cow’s foot is contextually asserted to still be attached to the cow and the cow is alive. In
(17b) the cow is alive, too, but the cow’s foot is asserted to be the object of a future eating event at which time the cow’s foot is (most likely) not attached to the cow anymore. In (17c), finally, the cow is dead in actuality and, hence, not in possession of her foot anymore, but the picture I show to my father still has the foot attached to the cow. The occurrence pattern of –kue in these examples correlates with the temporal perspective taken. –kue is not acceptable in (17a) since the possessive relation between the foot and the cow is true from the perspective of the utterance time. –kue is obligatory in (17c) since, from the perspective of the poststate of having eaten the cow’s foot, the possessive relation is terminated. The optionality of –kue in (17b) is attributable to variation with respect to the perspective taken: relative to the utterance time, the possessive relation is still true and hence –kue is not realized; relative to the time at which the speaker eats the foot, however, the possessive relation is terminated and –kue must be realized. Since –kue as a partitive marker cannot account for this pattern, I conclude that –kue is not a partitive marker but only a terminative aspect.

The examples in (18) illustrate the same point.

(18) a. Amova pe yvyra r-akā(-ngue) i-pohyi-eteri.
that that tree REL-branch-KUE 3-heavy-very
‘That branch weighs a lot.’ [E]

b. E-ma’e-mi, ko-va ko apyka a-japo pe lapacho rakā-ngue-gui.
A2sg-look-DIM this-RC this chair A1sg-do that lapacho branch-KUE-GUI
‘Look, I made this chair of the branch of the lapacho.’

–kue is optional in (18a) because the branch can be either (mentally) weighed while it is still on the tree (without –kue) or when it is detached from the tree (with –kue). The nominal temporality marker is obligatory in (18b) because one can only make a chair of a tree branch that has been detached from the tree. Hence, the possessive relation between the branch and the tree must be asserted to be terminated, as the terminative aspect –kue does.

I conclude that there is no partitive marker –kue, but that the terminative grammatical aspect –kue can give rise to a partitive interpretation (and is hence translated with a partitive construction) in particular contexts. Such examples provide an excellent illustration of the reason why –kue is more frequent in natural discourse than English former (besides

\[2\] A Lapacho is a tree native to Paraguay, Brazil and Argentina.
the fact that English old blocks the occurrence of former with artifact nouns as I noted in chapter 6). Consider the examples in (19):

(19) a. “Néike, San Fransiko, t-a-japi amo guyra ha i-kyra-kué-pe
     let’s.go San Francisco, IMP-A1sg-aim.at that bird and 3-fat-KUE-PE
     ro-mo-ataindý-ne!”
     12sg-CAUS1-candle-MIGHT
     ‘Let’s go, San Francisco, I focus on that bird and of its fat I’ll make you light.’
     [P:68]

b. O-henói chu-pe peteĩ kariniséro o-me’é-ha-guā chu-pe peteĩ i-jatúá-kue
     A3-call 3-PE one butcher A3-give-NOM-PURP 3-PE one 3-neck-KUE
     pehêngue guasu, i-karu-rā.
     piece big, 3-food-RĀ
     ‘A butcher called him to give him a big piece of neck, for his food.’
     [P:87]

In the Guaraní versions of (19a) and (19b), the termination of the possessive relation between the possessor and the possessee, e.g. the fat and the bird in (19a), is overtly asserted to be terminated with –kue. In the English versions, on the other hand, the possessive relation is not overtly indicated to be terminated. Instead, this information is inferred from the discourse context and world knowledge. A consequence for the temporal interpretation of noun phrases in the two languages is that noun phrases in Guaraní are more frequently interpreted at the topic time than in English. In (19), for instance, the Guaraní noun phrases are interpreted relative to the topic time (when the terminated possessive relation is true) while the English noun phrases are interpreted relative to a contextually given time prior to the topic time.

### 8.3 Semantic Extensions of –rā

Guaraní –rā is much more frequent in naturally occurring discourse than any of its English or German counterparts like future, prospective or zukünftige. I illustrate in this section that this is (partially) due to the fact that –rā can give rise to purposive, benefactive, and obligation interpretations, which are not available for English future or German zukünftige. I discuss the syntactic, semantic, and discourse conditions under which –rā can give rise to such interpretations (sections 8.3.1 to 8.3.3), and I show how these interpretations arise from the prospective grammatical aspect/modality analysis. Section
8.3.4 concludes with a discussion of the crosslinguistic morphosyntactic implications of these interpretations.

### 8.3.1 Purposive Interpretations with –rā

In many contexts, utterances with –rā are translated with a purposive marker or construction. Consider, for instance, (20).

(20) Oi-ke Dominga. O-mby-aku-tá-hína y ka’a-y-rā.
A3-enter Dominga A3-CAUS1-hot-TA-HINA water herb-water-RA
‘Dominga entered. She boiled water for mate.’ (Velázquez-Castillo 2002b:521)

(20) asserts that the purpose of the water Dominga boiled was to make mate (a herbal infusion). The example is ungrammatical without –rā, as illustrated in (21a):

(21) a. *O-mby-aku-tá-hína y ka’a-y-
A3-CAUS1-hot-TA-HINA water herb-water

b. O-mby-aku-tá-hína y.
A3-CAUS1-hot-TA-HINA water
‘She boiled water.’

c. O-mby-aku-tá-hína ka’a-y-rā.
A3-CAUS1-hot-TA-HINA herb-water-RA
‘She boiled (something) for mate.’

d. O-mby-aku-tá-hína ka’a-y-rā y.
A3-CAUS1-hot-TA-HINA herb-water-RA water
‘She boiled water for mate.’

[E]

At the same time, (21b) and (21c), where only one of the noun phrases y ‘water’ or mate-rā ‘mate-RA’ is realized, are acceptable: (21c) asserts that Dominga boiled mate-rā ‘mate-RA’, something that will become mate. Finally (21d), where the order of the noun phrases in (20) is reversed, is acceptable, too, thereby demonstrating the syntactic independence of the two noun phrases. These examples suggest that –rā plays a role in the purposive interpretation that arises with (20) and (21c,d). My goal in this section is to examine when and how this interpretation arises.

I start by illustrating the meaning that –rā assigns to (20):
(22) The DRS of (20):

(22) specifies that the feminine individual y boiled water at a time t (both y and t need to be resolved in the discourse context), and that at the nominal time \( t_n \) not only the property ‘water’ is true of the entity \( w \) but also the property ‘\( \text{PROSP} \) (mate)’. (I assume that the two noun phrases denote the same entity, cf. the construction rules in Appendix A.) According to the meaning of \( \text{PROSP} \), repeated in (23), the DRS in (22) is true at the utterance time in the actual world \( w_{\theta} \), if in all worlds in \( \text{Best(Circ,Nocc,mate)} \) there is an entity \( x' \) for which the property ‘mate’ is true at a time in the future and that is a continuation of the entity \( w \) with the property ‘water’.

(23) The Meaning of –\( r\ddot{a} \) as a Prospective Grammatical Aspect/Modality

\[
\forall P \forall s \forall x (\text{PROSP}(P)(s)(x) = 1 \text{ in } w \text{ iff } \\
\forall w' \in \text{Best(Circ,NOcc,P)} \exists s' \exists x' (P(s')(x') = 1 \text{ in } w' \land \tau(s) < \tau(s') \land \text{cont}(x,x')))\]

The worlds in \( \text{Best(Circ,Nocc,mate)} \) are those in which Dominga continues boiling her water with the intent of making mate and nothing happens that would interrupt this process or cause her to loose the intent of making mate.

I propose that a purposive interpretation can arise when two entities, like the water and the mate in (20), are asserted to stand in a spatiotemporal continuation relation by the prospective aspect marker. My proposal relies on Croft’s (1991:179) characterization of a purpose as “an event that is intended by an agentive initiator of the main verb causal segment to follow causally from the event denoted by the main verb causal segment”. In (24), for example, the eventuality of opening the bottle is the purpose of smashing it against the table since the agent of the smashing intends the bottle to open and hence lends purpose to the smashing.

(24) He smashed the bottle against the table to open it.
More abstractly, we can say that the eventuality with the property Q (here, smashing the bottle) serves the purpose of the eventuality with the property P (here, opening the bottle), i.e. P is the purpose of Q. The example in (25) illustrates that not only eventualities, but entities, too, can serve purposes.

(25) This wine is for cooking only.

The entity with the property ‘wine’ is, per world knowledge or the intention of an agent, reserved for the purpose of cooking; if ‘wine’ is the property Q and ‘cooking’ is the property P, the purposive interpretation is again constituted by P being the purpose of Q, with the sole difference that P and Q are properties of entities, not eventualities. We can extend Croft’s characterization of purposive interpretations to include both eventualities and entities as follows:

(26) **Purposive Interpretations**

A property P (of an eventuality or entity), is the purpose of the property Q (of an eventuality or entity) if P, by world knowledge or by the intention of an agentive initiator, follows from Q.

On the basis of (26), the connection between the purposive and prospective interpretation is evident: purposive interpretations arise when the property Q follows from the property P, i.e. when, over time, entities with property P develops into entities with property Q. Thus, (20) gives rise to a purposive interpretation since the water (P) is asserted to be prospective mate, where mate (Q) is the purpose of (boiling) the water.\(^3\)

Since –rā is not a general purposive marker but a prospective grammatical aspect that can give rise to purposive interpretations, –rā evokes such interpretations only in syntactic and semantic contexts that accord with the general requirements of –rā. I illustrate these syntactic and semantic constraints in turn.

### 8.3.1.1 Syntactic Constraints

Noun phrases marked with –rā in utterances with a purposive interpretation can realize either a syntactic argument or an adjunct.

\(^3\)The relation between temporal and purposive interpretations is evident in English also in items like for (purposive) versus before (spatial or temporal) and foreshadowing. I thank Seth Cable for pointing this out to me.
(27) Context: A man is selling his cow.
   a. A-vende so’o-rā.
      A1sg-sell meat-RA
      ‘I am selling for/future meat.’ [overheard]
   b. A-vende che-vaca so’o-rā.
      A1sg-sell B1sg-cow meat-RA
      ‘I am selling my cow for meat.’ [E]

In (27a), the noun phrase so’o-rā ‘meat-RA’ is the direct object of the predicate vende ‘sell’, whereas it is an adjunct in (27b), where che-vaca ‘my cow’ is the direct object.

The purposive interpretation also arises in identificational constructions, as illustrated in (28), repeated from chapter 6.

(28)  a. Ko kamby kesu-rā.
      this milk cheese-RA
      ‘This milk is for cheese/to make cheese.’ [E]
   b. Ko arai ama-rā.
      this cloud rain-RA
      ‘This cloud is for rain.’ [E]

In these identificational clauses, the first noun phrase, e.g. kamby ‘milk’ in (28a), is asserted to have the prospective property denoted by the second noun phrase, i.e. kesu-rā ‘cheese-RA’ in (28a). Thereby, the entity denoted by the first noun phrase is asserted to be for the purpose of creating an entity with the property denoted by the nominal predicate of the second noun phrase.

It is not necessary for both properties to be overtly realized in the same clause, as illustrated in the examples in (29) to (31).

(29) Te-kotevē heta hi-’u-py-rā a-japo, ha peva-rā ai-kotevē-ta heta
     IMP-necessary much 3-eat-PY-RA A1sg-do and that-RA A1sg-need-TA much
     jepe’a.
     firewood
     ‘It’s necessary that I cook a lot of food and therefore I need much firewood.’ [E]

In (29), the demonstrative peva ‘that’ is marked with –rā. This results in an interpretation where the purpose of the firewood is to enable the speaker to cook lots of food. In (30), –rā occurs on the possessive noun phrase i-karu ‘his food’:
8.3. SEMANTIC EXTENSIONS OF –rā

(30) Nda-i-karu-rā-i-ndaje hīna Mbya peteī pyhareve asajé-pe.
NEG-3-food-RA-NEG-SAY PROG Mbya one morning siesta-PE
‘It is said that one mid-morning Mbya didn’t have anything to eat.’ [P:87]

The noun phrase i-karu-rā ‘his food-RA’ denotes entities that serve the purpose being of Mbya’s food. Since the noun phrase occurs in the scope of clausal negation, (30) states that on this particular morning, there did not exist anything that could serve the purpose of Mbya’s food. In (31b), –rā is realized on the noun mba’e ‘thing’ (shortened to mae) which functions as a question word here.

(31) a. Che-patróna che-jokuái apuíro-ite-pe.
   B1sg-boss B1sg-send hurry-very-PE
   ‘My boss sent me to hurry.’

b. Ha mae-rā-iko?
   and thing-RA-QU.EMPH
   ‘And why (lit: for what)?’

c. Ha a-ha a-mba’e-joguá-vo.
   and A1sg-go A1sg-thing-buy-at
   ‘To buy something.’ [P:22]

The question in (31b) inquires about the purpose of the individual’s hurrying. Just like in the examples in (29) and (30) above, there is no second noun phrase in the same clause that would specify what the purpose is, but the purpose is either specified in or inferred from the discourse context.

8.3.1.2 Semantic Constraints

The fact that –rā is a prospective aspect marker, rather than a purposive marker, predicts that not all purposive meanings can be expressed with –rā. I illustrate two restrictions. First, recall that –rā requires the entity y with property P to be the spatiotemporal continuation of the entity x with property PROSP(P). Where this is not the case, purposive meanings cannot be expressed by –rā. Consider the examples in (32).

(32) a. O-vy’a o-u-vo si o-gueru avei vosa-‘i-pe avati tupi
   A3-happy A3-come-at because A3-carry also bag-DIM-PE white corn
   i-lokro-rā.
   3-corn-RA
   ‘He came along happily because he also carried white corn in his little bag, for
   his locro.’ [P:87]
b. #O-vy’a o-ú-va o-gueru-gui vosa-’i-pe avati tupi mbeju-rá
   A3-happy A3-come-RC A3-carry-GUI bag-DIM-PE white corn mbeju-RA
   (Intended: He was happy because of what he was carrying in his little bag, corn for mbeju.)  [E]

(32a) is acceptable because locro, a white corn dish, is made of corn. Thus, when the
prospective grammatical aspect –rā asserts that the corn is locro-rā ‘white corn dish-RA’,
i.e., the locro is construed as being the purpose of the corn. (32b) is infelicitous because corn does not get used in the cooking of mbeju, a dish made of cassava starch. In order to express a purposive meaning here (e.g., to indicate that the corn will be eaten with the mbeju), the purposive marker –guá is used:

(33) O-vy’a o-ú-va o-gueru-gui vosa-’i-pe avati tupi mbeju-pe-guá-rá
   A3-happy A3-come-RC A3-carry-GUI bag-DIM-PE white corn mbeju-PE-GUA-RA
   ‘He was happy because of what he was carrying in his little bag, corn for mbeju.’  [E]

A purposive interpretation arises with –rā in the following examples, since the two entities are on the same spatiotemporal path:

(34) a. Ko toro guei-rá.
    this bull ox-RA
    ‘This bull is for ox.’  [E]

   b. A-heka-ta jepe’a tata-rá.
      A1sg-search-TA firewood fire-RA
      ‘I will search firewood for fire.’  [E]

   c. Ko ta’yi andai-rá.
      this seed squash-RA
      ‘This seed is for squash.’  [E]

---

4 As illustrated in (i), purposive constructions like (33) are not grammatical without –rā.

(i) *O-vy’a o-ú-va o-gueru-gui vosa-’i-pe avati tupi mbeju-pe-guá
    A3-happy A3-come-RC A3-carry-GUI bag-DIM-PE white corn mbeju-PE-GUA
    (Intended: He was happy because of what he was carrying in his little bag, corn for mbeju.)  [E]
Thus, –rā is acceptable in these utterances because a bull can be turned into an ox (34a), firewood into fire (34b), and a (squash) seed into squash (34c).

While it is easy to discern whether two concrete entities are on the same spatiotemporal path, it is less straightforward with abstract entities. (35), where the money is asserted to be for the boy’s break, is acceptable:

(35) Context: A mother gives money to her son as he gets ready to go to school.

Ko pirapire nde-rekro-rā.
this money B2sg-break-RA

‘This money is for your break.’

In this discourse context, it is possible to assert that the entity m that is money for the purpose of the boy’s lunch break. The marker –rā on nde-rekro ‘your break’ asserts that the money has the property PROSP(break) at the utterance time, and, hence, that an entity y will exist in the future of the utterance time which has the property ‘break’ and which is a spatiotemporal continuation of the money m. The DRS of (35) is given in (36).

(36) The DRS of (35)

\[
\begin{align*}
m \ s \ b \ s' \ a \ now \\
\text{addressee(a)} \\
\text{money(s,m)} \\
\text{now} \subseteq \tau(s) \\
\text{PROSP(break-of)(s',a,m)} \\
\text{now} \subseteq \tau(s')
\end{align*}
\]

\[\text{\underline{5}Since different animal species are not spatiotemporal continuations of each other, an animal of one species can typically not be asserted to be the purpose of another. ‘Magical’ contexts like (i) are an exception:}\]

(i) Context: A magician’s assistant is sent to the market to buy a dove. When the assistant returns from the market, the magician tells him what dove is going to be used for in the next magic show.

Ko pykasu tapiti-rā
this dove rabbit-RA

‘This dove is for rabbit.’ [E]
The only concrete entities that seem to be able to metaphorically transform into abstract entities like breaks are money (35) and food items, like mani ‘peanuts’ in (37).

(37) Ko mani nde-rekreo-řā
this ground.peanuts B2sg-break-RA
‘This mani is for your break.’ (i.e. to eat during the break) [E]

Although sombreros and soccer balls can be for breaks, i.e. the break is the purpose of bringing them to school, these purposive interpretations cannot be expressed with –řā, as illustrated in (38).

(38) a. Context: It’s the hot season and the mother gives the boy a sombrero to use during the school break (which is spent outside, in the sun).

#Ko sombrero nde-rekreo-řā.
this sombrero B2sg-break-RA
(Intended: This sombrero is for your break.)

b. #Ko pelota nde-rekreo-řā.
this ball B2sg-break-RA
(Intended: This ball is for your break.)

What exactly distinguishes money and peanuts from sombreros and balls that explains this pattern is left for future research.

The second restriction on the purposive interpretation of –řā is that –řā can express such an interpretation only if the second entity does not yet exist at the perspective time. Consider the two minimal pairs in (39) and (40).

(39) a. O-jeity pé-icha tujú-pe yyvra po’i-mi-mi puente-řā.
A3-throw that-like mud-PE wood thin-DIM-DIM bridge-RA
‘He threw the thin wood into the mud as a bridge.’ [P:20]

b. O-jeity pé-icha tujú-pe yyvra po’i-mi-mi puente-pe-guā-řā.
A3-throw that-like mud-PE wood thin-DIM-DIM bridge-PE-PURP-RA
‘He threw the wood for a bridge (that already exists)’ [E]

(39a), which was already discussed above, asserts that the individual throws a stick into the mud and thereby creates a bridge that allows him to cross the mud. The elicited variant of (39a) in (39b) receives a purposive interpretation, too, here with the purposive marker –guā. The crucial difference between the two examples is that (39a) can only be
used when the bridge does not exist yet, while (39b) requires the bridge to already exist: the stick is thrown into the mud to add to an already existing bridge.

The same contrast is illustrated with (40). I overheard (40a) when sitting in a bus that was driving past a meadow around which some men were building a wall. A woman sitting behind me uttered (40a).

(40) a. Context: We drive by a field that has obviously been used as a soccer ground. Some men are building a wall around the meadow. A woman behind me in the bus comments:

Ko muro pe kancha-rā.
this wall that soccer.ground-RA

‘This wall is for that soccer ground.’

[overheard]

this wall that soccer.ground-PE-GUA-RA

‘This wall is for that soccer ground.’

[E]

In (40a), the wall is defining a particular space and, hence, creating a soccer ground. The following DRS represents the meaning of (40a):

(41) DRS for (40a)

\[
\begin{align*}
\langle \{ \}, \ & \text{now s w s'} \\
& \text{wall(s,w)} \\
& \text{now} \subseteq \tau(s) \\
& \text{PROSP(soccer-ground)(s',w)} \\
& \text{now} \subseteq \tau(s')
\end{align*}
\]

According to this DRS, (40a) asserts that the wall is a prospective soccer ground. The property PROSP(soccer-ground)(s',w) is true in the actual world at the utterance time ‘now’ if in the future of ‘now’ there is an entity that is a spatiotemporal continuation of the wall and is a soccer field. This predicts that (40a) is not acceptable in a discourse context in which the soccer ground already exists at the time of utterance, whether in actuality or in the speaker’s opinion. Speakers who assume that the soccer field already exists (perhaps because the meadow was used to play soccer on before) would use (40b) with the purposive marker –guā.
In sum, the nominal prospective grammatical aspect marker –rā can evoke a purpo-
sive interpretation because purposive interpretations arise when two entities are con-
strued as being causally related, as defined in (26). The purposive marker –guā expresses
purposive meanings that cannot be expressed with –rā. This includes verbal purposive
constructions, as illustrated in (42).

(42) Context: From a story about the life of crocodiles.

O-ñemuña-ha-guā o-mbo’a.
A3-procreate-NOM-PURP A3-lay.eggs

‘To procreate, they lay eggs.’ [C]

8.3.2 –rā Evokes Benefactive Interpretations

Many naturally occurring Guaraní examples with –rā are translated with benefactive con-
structions in English or Spanish. This section examines the contribution of –rā to bene-
active interpretations. In light of crosslinguistic evidence, in particular from Oceanic
languages, I propose that –rā in such examples, too, is a prospective aspect marker.

The examples in (43) and (44) illustrate Guaraní examples that are translated by En-
lish benefactive constructions.

(43) Context: The little boy wants to go on an adventure and tells his dog:

Petei jey he’i h-yamba jagua-pe: ‘Ja-ha ja-heka
one time A3.say 3-animal dog-P3 A1pl.incl-go A1pl.incl-search
ñane-iru-rā.’
B1pl.incl-friend-RA

‘One time he said to his pet dog: ‘Come on, let’s go look for a friend for us.’’ [C]

The noun possessive phrase ñane-iru-rā ‘our friend-RA’ is translated by the benefactive
construction ‘a friend for us’ in English, i.e. the boy and the dog are the benefactors of the
search. The examples in (44) illustrate benefactive interpretations with nouns denoting
food and non-food artifacts.

(44) a. A-japó-ma pene-rembi’u-rā.
A1sg-make-MA B2pl-food-RA

‘I have already made food for you.’ (lit: your future food) (Lustig 1996:40)
b. Ai-kotevē che-koty-ṟā.
   A1sg-need B1sg-room-RA
   ‘I need a room for me.’ (lit: I need my future room) (Lustig 1996:98)

(44a) conveys that the entity denoted by *pene-rembi’u-ṟā ‘your food-RA* is for the benefit of the hearers and (44b) expresses that the speaker needs a room for him/herself.

I argue that –ṟā is not a benefactive marker but a prospective grammatical aspect, which under particular syntactic and semantic conditions can give rise to a benefactive interpretation. One piece of evidence is that –ṟā, unlike English *for*, is not marked on the noun phrase that denotes the benefactor but the benefit. There are two conditions: a syntactic one and a lexical semantic one.

The syntactic condition for the benefactive interpretation to arise is that –ṟā must be realized on the possessive noun phrase that denotes the benefit and whose possessor is the benefactor. This condition is illustrated with the examples in (45).

(45) a. A-topa-ма [che-angiru ao-ṟā].
   A1sg-find-MA B1sg-friend cloth-RA
   ‘I’ve already found clothes for my friend.’ [E]

b. #A-topa-ма [ao] [che-angiru-ṟā].
   A1sg-find-MA cloth B1sg-friend-RA
   (Intended: I’ve already found clothes for my friend.) [E]
   Consultant’s comment (laughing): *That sounds like you found clothes that will turn into your friend.*

In (45a), the benefactor is realized as the possessor of a noun phrase marked with –ṟā, and the construction gives rise to a benefactive interpretation. In (45b), on the other hand, the intended benefactor is realized as a separate noun phrase, which results in a purposive interpretation. When the benefactor is not realized as the possessor, a benefactive interpretation is expressed with purposive/benefactive marker -guā:

(46) A-topa-ма [ao] [che-angiru-pe-guā-ṟā].
   A1sg-find-MA cloth B1sg-friend-PE-PURP-RA
   ‘I’ve already found clothes for my friend.’ [E]

The lexical semantic condition on the benefactive interpretation is that the main predicate of the clause must entail or implicate a change in possession or control over the entity denoted by the direct object. Examples of such predicates are *heka ‘search’, japo ‘make’,
kotevë ‘need’, jo’o ‘excavate’, guereko-ma ‘already have’, jogua ‘buy’, mo-ngakuua ‘raise’ and topa ‘find’. The minimal pairs in (47) and (48) illustrate the effect of the verb meaning on the benefactive interpretation.

(47) a. Ai-kotevë che-shampoo-rā.
    A1sg-need B1sg-shampoo-RA
    ‘I need shampoo for me.’

    A1sg-have B1sg-shampoo-RA
    ‘I have my future shampoo (i.e. something that will become shampoo).’

In (47a), which gives rise to a benefactive interpretation, the verbal predicate kotevë ‘need’ expresses a desired change of control with respect to the shampoo. In (47b) the verbal predicate guereko ‘have’ does not implicate a change in possession or control and (47b) does not give rise to a benefactive interpretation. The speaker merely asserts that she is in the possession of something that might turn into shampoo.\(^6\)

A similar minimal pair is (48a) with pota ‘want’, which evokes a benefactive interpretation, and (48b) with hecha ‘see’, which does not.

(48) a. Ai-pota che-koty-rā.
    A1sg-need B1sg-room-RA
    ‘I need a room for me.’

    A1sg-see B1sg-room-RA
    ‘I am seeing my future room.’

The verbs that give rise to a benefactive interpretation fall into three groups: verbs of obtaining (49a), verbs of creation (49b) and verbs of (desired or achieved) possession or control (49c).

(49) Verbs with which –rā gives rise to a benefactive interpretation:

a. Verbs of obtaining: jogua ‘buy’, nohë ‘lift (e.g. water from a fountain)’, jereure
   ‘ask for (e.g. a wife)’

b. Verbs of creation: japo ‘make’, mby-aku ‘make hot (e.g. water)’

\(^6\)While guereko ‘have’ does not evoke a benefactive interpretation (47b), guereko-ma ‘already have’ with the aspectual marker –ma does give evoke a benefactive interpretation because the complex predicate evokes a change of control.
c. Verbs of (desired or achieved) possession: *heka* ‘look for/search’, *topa* ‘find’, *kotevē* ‘need’, *pota* ‘want’, *guereko-ma* ‘now have’

Summarizing, –rā is not a benefactive marker but can evoke a benefactive interpretation if (i) it is realized on a possessive noun phrase, with the benefactor realized as the possessor, and (ii) the noun phrase marked with –rā is the direct object of a verb that entails or implicates a desired change of possession for the direct object.

### 8.3.2.1 The Fine Line Between the Benefactive and Prospective Possession Interpretation

What is the difference between a prospective possession interpretation and a benefactive interpretation? Consider (50), which could be translated equally well with either interpretation:

(50) Ha upēi o-ŋēpyrū va’ekue papa o-jo’o la i-poso-rā.

and then A3-begin VAEKUE father A3-excavate LA 3-well-RA

‘And then father started excavating a well for them.’

This example could be translated equally felicitous with ‘Father started excavating a well for them’ (benefactive) or ‘Father started excavating their future well’ (prospective possession). While these examples illustrate the close relationship between prospective possession and the benefactive interpretation, other examples are compatible with only the benefactive interpretation, thereby pointing to differences between the two. One such example is (51).

(51) Context: I needed a thermos so we went to the neighbors to borrow one from them. On the way back the girl who went with me said:

Ja-gue-reko-ma nde-thermo-rā.

A1pl.incl-have-MA B2sg-thermos-RA

‘Now we have a thermos for you.’

[overheard]

In this example, the non-benefactive future possession interpretation ‘Now we have your future thermos’ is contextually implausible because the thermos is already in my possession at the utterance time. Thus, (51) only has a benefactive interpretation. A similar example is (52).
LA priest ‘The priest told him to raise a dove for Easter. “As a holy spirit for us”, said the priest to him.’  

Here, the noun phrase nande-espríitu santo ‘our holy spirit’ is marked with -râ. The only interpretation of this example is that the priest and his community are the benefactors of the holy spirit (as represented by the dove). My consultants strongly reject an interpretation according to which the dove is a future holy spirit.

In sum, the benefactive and prospective possession interpretations are close but not always interchangeable.

8.3.2.2 Crosslinguistic Comparison

The conditions under which Guaraní utterances with -râ evokes benefactive interpretations are strikingly similar to the conditions under which possessive noun phrases in languages without a nominal prospective aspect/modality marker evoke such interpretations (Croft 1985; Margetts 2004). Croft (1985) dubs the phenomenon “indirect object lowering”: a referent that is realized in a non-argument position (e.g. as a possessor) is interpreted as if it were an argument or adjunct of the verb itself. Two of his examples are given in (53).

(53) a. I will buy your shirt.
   (possible interpretation: I will buy you a shirt.)

b. Quiché (Maya)
   k-Ø-yā xun nu-kēx
   IMPF-3sgABS-2plERG-give one 1sgPOSS-deer
   ‘Give me a deer.’  (Mondloch 1981:200 as cited in Croft 1985:41)\(^7\)

In both the English and the Quiche example in (53), the (bold-faced) possessors are interpreted as the benefactor of the eventuality denoted by the verb. These “indirect object

\(^7\)Only the benefactive interpretation is reported for this example.
lowering” constructions are highly reminiscent of the Guaraní examples. Croft (1985:44f.) presents a list of verbs which trigger this phenomenon, which is surprisingly similar to the list given for Guaraní in (49):

(54)  
a. **Predication of possession**: have, exist  
b. **Transfer of possession**: give, send  
c. **Verbs of creation**: make, bake, write, sew  
d. **Verbs of obtaining**: buy, get, bring  

In order to understand the contribution of –rā to benefactive interpretations in Guaraní, it seems promising to first examine how possessive noun phrases without nominal prospective markers give rise to such interpretations. Margett’s (2004) discussion of possessive noun phrases and the benefactive interpretation in Oceanic languages is particularly instructive. Consider the following examples from Saliba, a Western Oceanic language (where CL is a possessive classifier).

(55)  Saliba (Western Oceanic)  
a. Kabo yo-na lulu ya-hemaisa-0.  
   will CL1-3sg:poss shirt 1sg-buy-3sg:O  
   ‘I will buy his shirt.’ or ‘I will buy him a shirt.’  
   (Margetts 2004:447)  

b. Ka-na keke ya-gabu.  
   CL-3sg:poss cake 1sg-bake  
   ‘I baked a cake for her.’  
   (Margetts 2004:450)

The sentence in (55a) can receive two interpretations: a possessive interpretation according to which the speaker buys somebody’s shirt, and a benefactive one according to which the speaker buys a shirt for somebody. Only a benefactive interpretation is reported for (55b). The difference between the possessive and the benefactive interpretations is whether the shirt, at the time of the buying, is already this man’s shirt (possessive interpretation) or whether the possessive relation is prospective prior to the time of buying and becomes true as a result of the buying event (benefactive interpretation). Thus, the two interpretations depend on the time at which the possessive relation denoted by

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8In some Oceanic languages, the possessive marker grammaticalized or is in the process of grammaticalizing into a benefactive marker (cf. Lichtenberg 2002, Margetts 2004). Based on data from Oceanic languages, Margetts (2004) adds verbs of performance to Croft’s list. Guaraní –rā does not evoke a benefactive interpretation with such verbs.
the noun phrase is true: if it is true before the time of buying, the possessive interpretation results. If, however, the possessive relation is true at or after the time of buying, the benefactive interpretation results. In the latter case, the event of buying is interpreted as bringing about the possessive relation, i.e. causing the possessor to be the benefactor of the change of state.

This explains why the benefactive interpretation arises only with verbs that entail or implicate a change of possession or control. Only with such verbs is it possible for the possessive relation to be false prior to the time of the verb and become true as a result of the eventuality denoted by the verb.

### 8.3.1.3 The Contribution of Guaraní –rā to Benefactive Interpretations

In Guaraní, we know that possessive phrases marked with –rā express that the possessive relation is prospective at some time. With verbs that entail or implicate a change in possession or control, such noun phrases are interpreted at a time prior to the time of the verb (the time when the change has not yet happened), thereby giving rise to the (benefactive) interpretation according to which the possessive relation becomes true as a result of the eventuality denoted by the verb.

(56) A-topa-ma che-aorā.
A1sg-find-MA B1sg-cloth-RĀ

‘I already found clothes for me.’

Thus, in examples like (56), the possessive interpretation (‘I already found my clothes’) is not possible because the possessive interpretation is asserted by –rā to be prospective.

Examples that feature unmarked noun phrases, such as (57), can only give rise to the possessive interpretation in Guaraní, while both a possessive and benefactive interpretation was possible in Saliba:

(57) A-topa-ma che-ao.
A1sg-find-MA B1sg-cloth

‘I already found my clothes.’

I attribute the unavailability of the benefactive interpretation with examples like (57) to the fact that Guaraní has a nominal prospective marker which brings out the benefactive interpretation in examples like (56).
More formally, the difference between (56) and (57) comes down to what type of relation is true of the possessor and the possessee at the time of the finding event. Compare the unresolved DRSs $K_1$ and $K_2$ of (56) and (57), respectively:

$$K_1: \langle \{ t_{n2} \} \rangle, \quad K_2: \langle \{ t_{n2} \} \rangle.$$

In the DRS $K_1$, the situation time of \textsc{prosp}(poss)(s',sp,a) is located at the nominal time $t_{n2}$. Since the verb entails that the possessive relation between the speaker and the clothing is true after the finding event $e$, the nominal time $t_n$ is resolved to a time prior to the utterance time ‘now’. In contrast, the nominal time $t_{n2}$ in $K_2$ is resolved to the topic time, resulting in an interpretation according to which the speaker found clothing that is in his possession at the topic time. This interpretation leaves open whether the possessive relation was true prior to the finding event or not: in Guarani, the interpretation where the possessive relation was not true is blocked by the existence of $K_1$, in Saliba, this interpretation is possible, as discussed above.

In conclusion, –rā evokes benefactive interpretations under particular syntactic and semantic conditions. The contribution of –rā to this interpretation is minimal since possessive noun phrases themselves already can give rise to benefactive interpretations, as evidenced by languages like English, Quiche and Saliba.\footnote{The Guarani benefactive constructions have left their mark in Paraguayan Spanish benefactive constructions. In the examples in (i) the possessive noun phrases are marked with \textit{para}, the Spanish purposive/benefactive marker.}

(i) Paraguayan Spanish

\begin{itemize}
  \item a. Necesito \textit{para} mi shampoo.  
    need.1sg.PRES for my shampoo
    ‘I need shampoo (for me).’ [overheard]
\end{itemize}
8.3.3 The Obligation Interpretation

–rā is generally restricted to nominal predicates, as noted in chapter 5. It can, however, cooccur with the relative clause marker –va’e, and thereby affect the temporal interpretation of relative clauses. In this section, I briefly discuss the interpretations –rā gives rise to with relative clauses, and relate them to the prospective aspect meaning. Consider (59):

(59) a. Pe karai o-purahei-va o-ho.
    this man A3-sing-RC A3-go
    ‘The man who was singing left.’ [E]

b. Pe karai o-purahei-va’e-rā o-ho.
    this man A3-sing-RC-RA A3-go
    ‘The man who will/has to sing left.’ [E]

The relative clause in (59a) is interpreted as cotemporaneous with the main clause, i.e. the man was singing at the time at which he left. In (59b), on the other hand, the man left at a time in the past and is either predicted to be singing in the future (‘who will sing’) or is asserted to be under the obligation to sing (‘who has to sing’).

Relative clauses that are marked with –rā do not always receive an obligation interpretation. First, the context has to support the obligation interpretation (e.g. somebody in the context of (59b) must be able to express an obligation and stand in the appropriate relation to the man), and, second, the relativized eventuality must be such that one can stand under an obligation to carry out this eventuality. The latter condition is not fulfilled in (60):

b. Ya tenemos para tu termo.
    already have.1pl.-PRES for your thermos
    ‘Now we have a thermos for you.’ [elicited, compare to (51)]

Compare the examples in (i) to the Mexican and Peninsular Spanish versions in (ii) where the benefactor is marked with para.

(ii) Mexican and Peninsular Spanish

a. Necesito shampoo para mi.
    need.1sg.PRES shampoo for me
    ‘I need shampoo for me.’ [E]

b. Ya tenemos un termo para ti.
    already have.1pl.-PRES one thermos for you
    ‘Now we have a thermos for you.’ [E]
8.3. SEMANTIC EXTENSIONS OF –RĀ

(60) Pe karai i-po ryrýi-va’e-rā o-ho.
    this man 3-hand shake-RC-RA A3-go
    ‘The man whose hands will be shaking left.’ [E]

Since one cannot usually be under the obligation to have one’s hands shaking, (60) does not typically give rise to an obligation interpretation. (One could, of course, imagine that (60) is uttered by a theater director who has given an actor the command to have his hands shaking when he exits the stage.)

I propose that –rā does not lead a double life as an obligation marker. Instead, I propose that the prospective grammatical aspect meaning of –rā can account for these interpretations. The idea is that with the relative clause marker –va’e, the modal base for –rā can be deontic rather than circumstantial. A sample deontic modal base Deo for (59b) is the following:

(61) Deo(sing(x)) = { the individual x can sing, the individual x is under the obligation to sing from somebody who can impose that obligation, the individual x recognizes the obligation, ... } 

The proposal raises two questions.

First, why does the combination of –rā with the relative clause marker –va’e only permit a deontic modal base in addition to the circumstantial one? I propose that a buletic modal base, i.e. one that expresses an agent’s desires, is blocked by the availability of the desiderative marker –se, which can be realized in relative clauses:

(62) Kuehe a-hecha pe karai-pe o-gueraha-se-va’e nde-yvyra mata.
    yesterday A1sg-see that man-PE A3-carry-DES-RA B2sg-tree plant
    ‘Yesterday I saw the man who wants to carry your tree.’ [E]

A second question is why the obligation interpretation of –rā arise only with relative clauses? I do not have an answer to this question but point to the fact that va’erā, the grammaticalized combination of the relative clause marker –va’e, and the prospective grammatical aspect marker –rā, is an independent marker of deontic necessity (63a) and epistemic necessity (63b).

(63) a. A-purahei va’erā.
    A1sg-sing VAERA
    ‘I have to sing.’ [E]
b. Nde jepe re-guerovia *va'era*.
   B2sg until A2sg-believe VAERA
   ‘Even you have to believe (in god).’  [E]

The answers to whether the deontic interpretation of \( \neg \text{\( n \)} \) with relative clauses preceded or followed the grammaticalization of *va'era* might shed light on the second question raised. Both are left to future research.

### 8.3.4 Conclusions and Implications

The nominal temporality marker \( \neg \text{\( n \)} \) occurs more frequently in natural discourse than its English counterparts *future* and *prospective*. To some extent, this is due to the fact that \( \neg \text{\( n \)} \) is compatible with nouns from all semantic classes (chapter 6). Furthermore, \( \neg \text{\( n \)} \) occurs more frequently because it has the ability to give rise to purposive, benefactive and obligation interpretations.

The fact that Guaraní has a future-oriented temporal marker that gives rise to purposive and benefactive interpretations has an interesting implication for the morphosyntax and semantics of purposive and benefactive constructions crosslinguistically.\(^{10}\) It has been reported for a number of languages that benefactive and purposive meanings are encoded by the same morpheme or construction (Croft (1991:ch5) for a number of languages, Luraghi (2005) for Greek). Examples from English, Spanish and Hebrew are given in (64) to (66).

(64)  
\begin{enumerate}
  \item a. I wrote this song for Lola. (benefactive)  
  \item b. I wrote this song for money. (desiderative, purposive) \quad (Wechsler 1995:68)
\end{enumerate}

(65)  
\begin{enumerate}
  \item a. Compré un coche \text{for} el. (benefactive)
    \begin{enumerate}
      \item 1sg.bought a car for him
      \item ‘I bought a car for him.’
    \end{enumerate}
  \item b. Le \text{\( f \)} dinero \text{for} comida. (purposive)
    \begin{enumerate}
      \item him 1sg.gave money for his food
      \item ‘I gave him money for his food.’ \quad (Pedro Almaguer, p.c.)
    \end{enumerate}
\end{enumerate}

\(^{10}\)This discussion is based on talks I presented in the Berkeley Syntax/Semantics Circle (October 2005) and the 9th Meeting of the Texas Linguistics Society (November 2005).
These examples illustrate that the same marker, i.e. English for, Spanish para, and Hebrew le, can encode purposive and benefactive interpretations in the respective languages. The same was observed above for the Guaraní marker –guã. Such data suggest that purposive and benefactive constructions share certain facets of their meaning, making it possible for the same marker to realize a purpose and a benefactor. What, then, is common to purposive and benefactive constructions? While there is plenty of evidence from purposive/benefactive markers that they have something in common, the meaning of these markers is rather abstract and, hence, does not provide immediate insight to shared meaning properties of purposive and benefactive constructions. Guaraní –rã, however, has a clear meaning: it is a prospective aspect/modality marker. I therefore propose that Guaraní –rã provides empirical evidence that a future-oriented meaning is shared by purposive and benefactive constructions.

I cannot work out this proposal in detail here, but point to supporting evidence from the synchronic and diachronic literature. In this literature, the idea that purposive and benefactive constructions have a future-oriented meaning component is often implicit. In the synchronic literature, for instance, the marker for has been suggested to the intended recipient (Green 1974:92ff), the object of desire (Gawron 1986:349), destined beneficiary (Jackendoff 1990), cause and purpose (Croft 1991), and cause and desiderative (Wechsler 1995:68), where all of the italicized notions are future-oriented or have future-oriented components. Similar synchronic evidence comes from the way in which benefactors and purposes are described. In many languages, benefactors are construed as new, intended or prospective possessors (cf. Lichtenberg 2002; Margetts 2004 for Oceanic languages, and Croft 1991, Pinker 1989), and benefactive constructions have as their central meaning transfer of goods (Shibatani 1996) and are essentially expressions of intended transfer (Goldberg 1995). Purposes are described as destinations in Lakoff and Johnson (1980). Again, the italicized notions are future-oriented, which indirectly supports my proposal
that purposive and benefactive constructions share a future-oriented meaning component (for which \(-râ\) provides explicit evidence).

There are also supportive clues from diachrony for the idea that purposive and benefactive meanings contain a future-oriented meaning component. The *World Lexicon of Grammaticalization* (Heine and Kuteva 2002), for instance, notes that “come to” and “give”, two forward- or future-oriented verbs, grammaticalize into benefactives (pp. 73, 78, 149 and 154), and that “go to” markers, which again are forward-oriented, grammaticalize to purpose markers and express “realized intention” or “speaker determination” (p.163). Garrett (In press) observes that purposive constructions are based on motion verbs which express speaker’s intentions, i.e. another future-oriented notion.

In sum, the fact that Guaraní \(-râ\) gives rise to purposive and benefactive interpretations provides support for the idea, present in the synchronic and diachronic literature, that purposive and benefactive constructions contain a future-oriented meaning component.\(^{11}\) This suggests that benefactive and purposive constructions can receive a unified analysis and that further crosslinguistic investigations of the future-oriented meaning component of these constructions are a fruitful avenue for a better understanding of these constructions.

### 8.4 The Temporal Interpretation of Noun Phrases in Guaraní

I illustrated in the preceding sections and chapter 6 that the Guaraní nominal temporality markers encode meanings strikingly similar to those of English nominal temporality expressions. One difference between the two languages is the frequency with which the nominal temporality expressions are used: the Guaraní ones are much more frequent. This is partially accounted for by three factors. First, the Guaraní markers show less cooccurrence restrictions with members of nominal classes. Second, the Guaraní markers give rise to meanings not expressed by the English nominal temporality expressions (e.g. the purposive, benefactive, and obligation interpretations of \(-râ\)). Third, the meanings encoded by the nominal temporality markers are more frequently encoded overtly in Guaraní than in English, where such meanings are only inferred from the discourse.

\(^{11}\)I am not making a diachronic claim about \(-râ\), i.e. that it is on its way to becoming a purposive marker. In fact, elements with other meanings develop future meanings, not the other way around (cf. Heine and Kuteva 2002)
context (e.g. the assertion that something is ‘old’ or ‘broken’, or that the possessive relation is terminated).

Despite these differences in the meaning and use of the nominal temporality expressions, the temporal interpretation of noun phrases in the two languages is remarkably similar. Both languages have nominal expressions that instantiate the semantic categories ASPECT and MODALITY, and the temporal interpretation of noun phrases in both languages is accounted for by the theory developed in chapter 3.

A set of examples that illustrates particularly well the extent to which the temporal interpretation of noun phrases is parallel in the two languages are examples in which a change is encoded for an eventuality participant. For instance, if Guaraní but not English had nominal tenses, we would expect to see the noun phrases that feature in such examples to be marked differently in the two languages. As I demonstrate in what follows, noun phrases in the two languages are interpreted strikingly similar in these examples, too.

Consider first utterances with verbs of creation, coming into existence and destruction. As discussed in chapter 3.3.4, noun phrases that denote effected and affected eventuality participants are not marked in English. The same is true for the Guaraní counterparts. Consider the examples in (67), which feature verbs of destruction.

    A1sg-burn-COMPL-COND B2sg-newspaper
    ‘I just (completely) burnt your newspaper.’

b. A-jeka mama espejo.
    A1sg-break mother mirror
    ‘I broke mother’s mirror.’

In these two examples, the affected entity is asserted to have been destroyed or become broken as a result of the eventuality denoted by hapy ‘burn’ and jeka ‘break’. The noun phrases that denote these entities are not marked with –kue. I suggest that this is the case because, just like in English, the meaning of the verbal predicate and its temporal features convey the state of the affected entity. That is, –kue is not used to indicate that the mirror in (67b) is broken. Both examples in (67) are judged odd by my consultants if the noun phrases are marked with –kue.

The next set of examples feature verbs of creation and coming into existence:
(68) Context: Yesterday I read in the newspaper that a new solar system formed itself.

Petē kuarahy pyahu o-ñepuru o-je-hecha-ka.
one sun new A3-begin A3-JE-see-CAUS2

‘A new sun came into existence.’ (lit: began to let itself be seen) [E]

(69) a. Mba’e re-japo pe-va pe yvyra-gui?
thing A2sg-do that-RC that wood-GUI
‘What are you doing with this wood?’

b. A-japo (hīna) petē silla.
A1sg-do PROG one chair
‘I am making a chair.’ [E]

(68) asserts that a novel sun came into existence and the speaker of (69b) asserts that she is making a chair out of the wood. Neither petē kuarahy ‘one sun’ nor petē silla ‘one chair’ is marked with –rā, even if the effected entity does not exist yet (69b).

It is possible to mark the objects of verbs of creation with –rā, as illustrated in (70b), but this results in different meanings.

(70) a. A-japo hīna petē tata.
A1sg-do PROG one fire
‘I’m making a fire.’ [E]

b. A-japo hīna petē tata-rā.
A1sg-do PROG one fire-RA
‘I’m making for a fire (e.g. chopping wood).’ [E]

(70a) and (70b) differ in that the noun phrase that denotes the effected entity is marked with –rā in the latter but not the former. As the English translations indicate, different meanings result: in (70a) the speaker is engaged in the activity of making a fire, e.g. putting the sticks and wood on a pile, holding a match to it and blowing into the flames. In (70b), on the other hand, the speaker is engaged in making something that is a prospective fire, i.e. something that could turn into a fire in the future. My consultants suggest that here the speaker is engaged in activities that precede the making of a fire, e.g. finding the wood and chopping it. The following two DRSs illustrate the way in which this difference in interpretation arises:
In the DRS $K_1$, the entity $f$ is a fire at a time $t$ in the future of the utterance time. In $K_2$, on the other hand, the property PROSP(fire) is true of the entity $f$ at the time $t$ that follows the utterance time. Hence, at the utterance time, the speaker of (70a) is engaged in making something that is a fire at $t$ while the speaker of (70b) is engaged in making something that is a prospective fire at $t$. (70b) does not assert that the speaker is making a fire.

The following set of examples illustrates the interpretation of noun phrases that denote entities that already exist but change into a different entity.

(72) a. Rossani o-japo peteĩ pojera-gui peteĩ blusa.
    Rossani A3-do one skirt-GUI one blouse
    ‘Rossani changed a skirt into a blouse.’

b. Mitã kuña porã-ite o-jerova peteĩ ŋakyrã-me, o-veve, o-guejy
    child woman pretty-very A3-turn one cricket-PE A3-fly A3-descend
    yyvra ru’a-re ha o-pyta o-purahãy ypuru puku.
    tree top-RE and A3-stay A3-sing deep long
    ‘The beautiful girl became a cricket, flew into the top of a tree and stayed there
    singing loudly.’

In these examples, an entity is changed into another one: in (72a), the entity is a skirt at the beginning of the eventuality and a blouse at the end. In (72b), a girl changes into a cricket. None of the noun phrases is marked with a nominal temporality expression in either language.

A noun phrase is also not marked if the entity it denotes acquires a novel property:

(73) Carla o-mopotĩ ventana ky’a.
    Carla A3-clean window dirt
    ‘Carla cleaned the dirty window.’
The window, which was formerly dirty and is now clean, is not denoted with a noun phrase marked with –kue. Similarly, –kue is not used in (74) to indicate that the nominal property is not true of the individual denoted by the noun phrase anymore:

(74) a. Ko’ prisonero o-diskapa jey.
   this prisoner A3-escape again
   ‘This prisoner has escaped again.’

b. Ko’agā pe fugitivo o-i-jey-ma carcel-pe.
   now that fugitive A3-be-again-MA prison-PE
   ‘Now the fugitive is in prison again.’

In both of these Guaraní examples, the noun phrase is interpreted at a time prior to the topic time: in (74a), the individual is not a prisoner anymore at the topic time because he has escaped and, in (74b), the individual is not a fugitive anymore because he is in prison. As discussed in chapter 5, the noun phrases are not marked with –kue although the property is not true anymore at the topic time.

The last set of examples feature verbs of transfer of possession or change of state. I illustrate vendé ‘sell’ and jogua ‘buy’ in (75) and menda ‘marry’ in (76).

(75) Mba’e-re re-vy’a?
   thing-RE A2sg-happy
   ‘Why are you happy?’

   A1sg-sell B1sg-house B1sg-neighbor-PE
   ‘I sold my house to my neighbor.’

   A1sg-buy B1sg-neighbor-GU1 3-house
   ‘Because I bought my neighbor’s house.’

The two answers in (75a) and (75b) express that the house has undergone a change in possession as a result of the transfer of possession verbs. In both cases, the possessive relation is not true anymore between the possessor (crossreferenced on the noun phrase) and the house, yet neither noun phrase is marked with –kue.

The examples in (76) demonstrate the way in which Guaraní noun phrases denote the O-argument of the predicate menda ‘marry’.

   ‘I married my husband/my boy/girlfriend in 1998.’
   ‘I will marry my boy/girlfriend in 2007.’  [E]

c. #A-menda-ta che-mena-re 2007-pe.
   (Intended: I will marry my husband in 2007.)  [E]

Just like in English, one can talk about having married a husband/wife or boyfriend or girlfriend (76a) and one can plan to marry a boyfriend or girlfriend (76b). One cannot, however, plan to marry one’s husband (or wife) (76c). Thus, Guaraní exhibits the same asymmetry as English: eventuality participants are preferably identified with properties that they currently have or had in the past, not with properties that they might have in the future.

In conclusion, noun phrases in Guaraní, a language with nominal temporality markers, and in English, a language without such markers, are interpreted to a large extent alike, as captured by the constraint in (77):

(77) The Temporal Interpretation of Noun Phrases

The nominal time $t_n$ is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

There are two main areas of divergence between the two languages. The first concerns the frequency of use of the nominal temporality expressions and the meanings they can give rise to. The second concerns contexts in which English noun phrases, but not the corresponding Guaraní ones, can be interpreted at times other than the topic time. Such data is discussed in chapter 9.
Part III

Crosslinguistic Perspectives in Noun Phrase Temporality
Chapter 9

Crosslinguistic Variation

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This chapter examines crosslinguistic variation in the temporal semantics of noun phrases. I set out in section 9.1 by examining the nominal markers of four more languages that have been claimed to have nominal tenses. I conclude that the evidence available does
not support the claim that the markers are nominal tenses. Section 9.2 proposes a taxonomy of nominal temporality expressions on the basis of a diverse set of languages, including Indo-European languages. Section 9.3 explores crosslinguistic variation in the times relative to which noun phrases can be interpreted on the basis of data from English, Guaraní, and St’a’timcets (Salish).

9.1 Evidence for Nominal Tense?

This section examines the evidence cited in support of nominal tense markers in languages besides Guaraní. The languages that have been claimed to have nominal tenses, together with the paper(s) that contain those claims for the particular language (family), are listed in Table 9.1. (NS04 stands for Nordlinger and Sadler (2004).)

<table>
<thead>
<tr>
<th>Language</th>
<th>Family</th>
<th>Paper(s) with nominal tense claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariana</td>
<td>Arawak</td>
<td>Aikhenvald 2003, NS04</td>
</tr>
<tr>
<td>Tupinamba</td>
<td>Tupí-Guaraní</td>
<td>Lehmann and Moravcsik 2000, NS04</td>
</tr>
<tr>
<td>Hixkaryana</td>
<td>Carib</td>
<td>Derbyshire 1996, NS04</td>
</tr>
<tr>
<td>Iatè</td>
<td>Macro-Jê</td>
<td>NS04</td>
</tr>
<tr>
<td>Nambiquara</td>
<td>Nambiquaran</td>
<td>Lowe 1999, Kroeker 2001, NS04</td>
</tr>
<tr>
<td>Somali</td>
<td>Cushitic</td>
<td>Lecarme 1996, 1999, 2004b, NS04</td>
</tr>
<tr>
<td>Potowatomi</td>
<td>Algonquian</td>
<td>NS04</td>
</tr>
<tr>
<td>Kwakw’ala</td>
<td>Northern Wakashan</td>
<td>NS04</td>
</tr>
<tr>
<td>Halkomelem</td>
<td>Salish</td>
<td>Burton 1997; Wiltschko 2003, NS04</td>
</tr>
<tr>
<td>Jarawara</td>
<td>Arawá</td>
<td>Dixon 2004, NS04</td>
</tr>
<tr>
<td>Warí’</td>
<td>Chapakura</td>
<td>NS04</td>
</tr>
<tr>
<td>Movima</td>
<td>isolate, Bolivia</td>
<td>Haude 2004, 2006</td>
</tr>
<tr>
<td>Mawayana</td>
<td>Arawak</td>
<td>Carlin 2006</td>
</tr>
</tbody>
</table>

Table 9.1: Languages Claimed to Have Nominal Tenses

Except for Movima and Mawayana, the languages in Table 9.1 were reported to have nominal tenses in Nordlinger and Sadler (2004). In this section, I examine the nominal markers of four languages on this list: Somali, Tariana, Halkomelem and Movima. I claim that they, like Guaraní, do not provide empirical evidence for nominal TENSE.
9.1. EVIDENCE FOR NOMINAL TENSE?

9.1.1 Somali

Somali, a Cushitic language, has received extensive discussion in a series of papers and talks by Jacqueline Lecarme, who argues that Somali provides overt evidence for nominal tense (Lecarme 1996, 1999, 2004a,b, 2005a,b). I argue in this section that the evidence presented in Lecarme’s work is not sufficient to support the claim this claim. (Nordlinger and Sadler (2004) also relies on Lecarme’s work.)

Somali has definite determiners –t (feminine) and –k (masculine). These determiners can occur with what Lecarme calls [+past] and [-past] tense suffixes, given in Table 9.2. (The language also encodes a nominative [+/- nom] case distinction.)

<table>
<thead>
<tr>
<th></th>
<th>-past</th>
<th>+past</th>
</tr>
</thead>
<tbody>
<tr>
<td>+nom</td>
<td>–uu</td>
<td>–ii</td>
</tr>
<tr>
<td>-nom</td>
<td>–a</td>
<td>–ii</td>
</tr>
</tbody>
</table>

Table 9.2: Somali Definite Determiners According to Lecarme 1999

Lecarme (1999:334) suggests that the nominal tense opposition in Somali is –θ/–ii (although the [-past] column in Table 9.2 is not phonetically zero): –θ is the [-past] marker and –ii is the [+past] marker. I refer to the purported tense suffixes as the –θ/ii-suffixes in the following discussion. Lecarme’s earlier papers (Lecarme 1996, 1999, 2004b) are mainly concerned with a syntactic analysis of the position, distribution, and agreement phenomena of the –θ/ii-suffixes in the determiner phrase. I do not comment here on this facet of her papers, but focus on the empirical evidence and theoretical claim that underlies Lecarme’s work, namely that the –θ/ii-suffixes are nominal instantiations of the semantic category TENSE.

Like many studies in the nominal tense literature, Lecarme’s study does not provide a semantic analysis of the –θ/ii-suffixes as nominal tenses. That Lecarme indeed has a semantic category similar to verbal TENSE in mind when she calls the Somali markers ‘nominal tenses’ is evident, for instance, from her claims (Lecarme 1999:339) that the syntax and semantics of nominal and verbal tense is strictly parallel, and that there is parametric variation in tense such that some languages realize tense only on verbs (Romance languages) and some realize tense on both nouns and verbs (Somali). What, then, is the evidence for the nominal tense analysis of the Somali suffixes? My discussion here is based on the evidence presented in Lecarme (1996, 1999, 2004b), and the Somali data discussed in Nordlinger and Sadler (2004:785-7). Two types of evidence are presented:
the cooccurrence pattern of the –∅/ii-suffixes with temporal modifiers (section 9.1.1.1), and the translation of the –∅/ii-suffixes in certain examples (section 9.1.1.2). I argue that this evidence is insufficient to warrant the claim that –∅/ii-suffixes are temporal suffixes and, consequently, insufficient to warrant the claim that Somali has nominal tenses. At the end of the section, I briefly point to Lecarme’s suggestion that the –∅/ii-suffixes are in fact specificity markers.

9.1.1.1 Cooccurrence with Temporal Modifiers

The first type of evidence presented involves the behavior of the –∅/ii-suffixes with certain modifiers. Consider the data in (1).¹

(1)  
   a. sánnad-ka/*-kii dambe
      year-detM next
      ‘next year’
   b. sánnad-kii/*-ka hore
      year-detM[+past] before
      ‘last year’

   (Lecarme 1999:342)

In (1a), the definite noun phrase occurs with the modifier dambe, glossed ‘next’ here. The noun phrase must be marked with the –∅ suffix, i.e. the purported [-past] marker, as illustrated by the * before the –kii form. (Lecarme does not represent the –∅ suffix in the examples, cf. footnote 1.) In (1b), on the other hand, the definite noun phrase occurs with hore, glossed ‘before’ here. This noun phrase must be marked with the –ii-suffix, i.e. the purported [+past] marker. Lecarme (1999:341) claims on the basis of these examples that “[o]vert temporal modifiers in Somali must occur with a matching tense morpheme”. This implies that the markers are tense markers because they show temporal concordance with a temporal modifier. A similar claim is made in connection with the data in (2).

(2)  
   a. qabqabashá-dii shálagy
      arrests-detF[+past] yesterday
      ‘yesterday’s arrests’

¹In her examples, Lecarme only glosses the grammatical version of an expression and does not represent the [-past] marker –∅. I follow her in this convention. Only Lecarme (2004b) explains her glosses: F = focus marker; detF/M = definite feminine/masculine article; dem = demonstrative; neg = negation. Pronominal clitics are identified by their person, number and gender features (uppercase). Lowercase = agreement features.
b. qabqabashá-díi usbúuc-íi hore
arrests-detF[+past] week-detM[+past] before
‘last week’s arrests’ (Lecarme 1999:342)

Again, these data illustrate that the purported [+past] suffix –ii cooccurs with the past-time oriented temporal modifiers sh’alay ‘yesterday’ (2a) and with hore ‘before’ (2b). At this point in the paper, Lecarme already assumes that –ii is a nominal past tense, and claims that “[s]emantically, tense morphemes and temporal adverbs are both restrictive material that contribute to the temporal location of the variable provided by the noun predicate. Syntactically, nominal tense is the licenser of the temporal modifier” (Lecarme 1999:342). The problem with this argument is that the cooccurrence pattern of the –l/i- suffixes with temporal modifiers is not sufficient evidence for the claim that the markers are of temporal nature, and much less evidence that they are nominal tenses.

Apparently, the same criticism was raised by Richard Larson (personal communication with Lecarme (Lecarme 2004b:footnote 10)), who seems to have suggested that the data only points to a concord phenomenon but does not provide evidence of –ii being a nominal tense. Lecarme replies that since “the attributive adjectives dambé/horé ‘before’/‘after’ do not have intrinsic temporal value”, “the temporal value comes from the tensed DP” (Lecarme 2004b:449). Thus, contrary to what is claimed in Lecarme (1999), dambé ‘next’ and horé ‘before’ are not temporal modifiers at all and, hence, do not require a temporal concord with the “tense” suffixes. Rather, Lecarme (2004b) claims that the modifiers receive their temporal meaning from the “tense” suffixes. The nontemporal interpretation of hore ‘before’ is illustrated in (3). (No example in which dambé ‘next’ receives a nontemporal interpretation is presented in Lecarme’s papers.)

(3) tuulá-doo hore
village-detF:dem before
‘that village yonder/#previously mentioned or former village’ (Lecarme 2004b:449)

The modifier hore ‘before’ is realized in (3) with the noun ‘village’ and receives an obviously nontemporal interpretation as ‘yonder’ (i.e. ‘far away, distant’). Lecarme’s (2004) reply to Larson thus effectively says that since hore ‘before’ is not inherently temporal, the temporal meaning in examples like (1b) has to come from the nominal suffix –ii. This argument is not conclusive, however, since Lecarme does not provide evidence that the temporal interpretation does not come from the nominal predicate: under such a proposal, hore ‘before’ would receive a temporal interpretation with temporal nouns like
'year’ (1) and ‘arrests’ (2), and a spatial interpretation with nouns like ‘village’ (3b). Thus, such examples do not provide evidence that the suffixes are temporal suffixes. But even if the temporal interpretation were to come from the suffix, all we would be able to conclude from the examples is that the suffix has a temporal meaning, not that it is a past tense. Thus, the evidence presented from the cooccurrence pattern of the -θ/i-i-suffixes with modifiers like hori ‘before’ and dambe ‘after’ does not support the conclusion that the markers are temporality markers, and much less that they are nominal tenses.

9.1.1.2 Translations of the -θ/i-i-suffixes

The second type of evidence for an analysis of the -θ/i-i-suffixes as nominal tenses that is presented in Lecarme (1996, 1999, 2004b) and Nordlinger and Sadler (2004) is based on the translations of some examples. The most suggestive type of example is presented in (4) and (5).

(4) a. bandígga máad daawatay?
   exhibition-detM[-past] Q+2S saw[+past]
   ‘Have you seen the exhibition? (still running)

   (4b)
   exhibition-detM[+past] Q+2S saw[+past]
   ‘Have you seen the exhibition? (closed at the time of utterance)
   (Lecarme 1999:338)

(5) a. búug-ganu sáfarkay-ga buu tilmáamayaa
   ‘This book relates my journey (intended or in progress)

   (5b)
   ‘This book relates my journey (achieved) (Lecarme 1999:338)

(4a) and (4b) differ with respect to whether the definite noun phrase ‘the exhibition’ is marked with the purported [-past] suffix -θ (4a) or the purported [+past] suffix -i (4b). According to Lecarme, (4a) with [-past] presupposes that the exhibition is still running, while (4b) with [+past] is appropriate only when the speaker believes the exhibition to be closed. A similar distinction is presented in (5) with the noun phrase ‘my journey’, which is marked with -θ in (5a) and with -i in (5b), again, indicating, according to Lecarme’s
glosses, whether the journey is ongoing or completed.\footnote{A general problem with the argumentation based on in (4) and (5), and many other examples in Lecarme’s work, is that Lecarme claims that these examples are compatible with particular discourse contexts but does not provide evidence of this compatibility and the linguistic expressions that constrain the compatibility. For instance, Lecarme (1999) claims that (4a) presupposes that the exhibition is still running, but she does not present (i) discourse contexts that (do not) satisfy the presupposition, (ii) tests that identify the effect as a presupposition rather than an entailment or an implicature, and (iii) minimal pairs that identify the locus of the presupposition.}

The examples in (4) and (5) are certainly suggestive of an effect of the –\(\emptyset\)/\(ii\)-suffixes on the temporal semantics of the event nouns ‘exhibition’ and ‘journey’. But, again, the question that is not addressed is where this temporal effect originates: the event noun or the suffix? In other words, is the temporal interpretation of the noun phrases in (4) and (5) due to the temporal meaning of the –\(\emptyset\)/\(ii\)-suffixes or due to the nontemporal meaning of the suffixes in combination with the (temporal) event nouns? Support for the latter position comes from the interpretation of non-event nouns, where no such temporal effect is observed:

\[
\begin{align*}
(6) & \quad \text{a. ardáyda iyo macállinkoodu (wáy joogaan)} \\
& \quad \text{students-detF and teacher-detM+Poss3P[nom] (F+3P are-present)} \\
& \quad \text{‘The students and their teacher (are present).’} \quad \text{(Lecarme 1996:166)} \\
& \quad \text{b. ardáydií wáy joogaan} \\
& \quad \text{students-detF[past] F+3P are-present} \\
& \quad \text{‘The students (I told you about) are present.’} \quad \text{(Lecarme 1996:165)}
\end{align*}
\]

In (6a), the noun phrase \textit{ardáyda iyo macállinkoodu} ‘the students and their teacher’ is marked [\(-\text{past}\)], whereas \textit{ardáydií} ‘the students’ in (6b) is marked [\(+\text{past}\)]. The glosses for the two examples (and similar examples in Lecarme’s work) do not point to a difference in the time at which the property ‘student’ or ‘teacher’ is true of the individuals denoted by the noun phrase. Thus, in comparison with examples like (4) and (5), the –\(\emptyset\)/\(ii\)-suffixes here do not give rise to a temporal contrast. This suggests that the temporal contrast observed in (4) and (5) is due to the event nouns, not the suffixes.

Thus, what examples like (4) and (5) reveal is that the \textit{combination} of the –\(\emptyset\)/\(ii\)-suffixes with event nouns like ‘exhibition’ and ‘journey’ results in a particular temporal interpretation of the noun phrases. Crucially, the examples do \textit{not} tell us that the suffixes are the origin of this temporal effect, and, more important, they do \textit{not} tell us that the suffixes

The following pair of examples is also featured in Nordlinger and Sadler (2004) as evidence that –ii is a past tense suffix:

(7) a. arðáy-da baan kasin su’áash-aa-dii.
   students-detF[-past] F+neg understood[+past] question-detF+Poss2S[+past]
   ‘The students (who are present/I am telling you about) did not understand
   your question.’

b. arðáy-dií wáy joogaan
   students-detF[+past] F+3P are-present[-past]
   ‘The students (e.g. students I told you about) are present.’ (Lecarme 1999:335)

The two occurrences of the noun phrase arðáy-dií ‘the students’ in (7) differ with respect to whether they occur with the purported non-past tense suffix –0 (7a) or with the purported past tense suffix –ii (7b). In relation with this example, Lecarme (1999:335) writes about these examples that “the [+past] tense morpheme somehow locates arðáydií ‘the
students’ in the past, i.e. before the time of utterance”. This claim is, again, neither
fleshed out (what does it mean to “somehow locate the noun phrase in the past”?) nor
empirically backed up (e.g. with a discourse context). Nevertheless, Nordlinger and
Sadler (2004:786) report for (7b) that “the past tense marked noun […] is used anaphorically
to refer to a past time already mentioned in the discourse and taken as the reference
point (Lecarme 1999)”. Neither Lecarme’s nor Nordlinger and Sadler’s claim is suffi-
ciently supported, and hence not acceptable as the basis for an analysis of the –ii suffix as
a temporal suffix. It is even less acceptable as evidence that –ii is an anaphoric past tense.

In conclusion, neither the evidence from the cooccurrence restrictions of the –0/ii-
suffixes, nor the translations of particular examples provide sufficient evidence that So-
mali has nominal tenses.3

3I restrict my discussion here to the examples presented in Lecarme (1996, 1999, 2004b) and Nordlinger
and Sadler (2004) as evidence for a nominal tense analysis of the suffixes. There are many examples in
Lecarme’s work in which the [+past] suffix does not give rise to a temporal interpretation, which could be
construed as further evidence against a temporal analysis of the suffixes. None of the [+past] marked noun
phrases in (i), for instance, receive a past time interpretation.

(i) a. Búug-gani waa búug-gfí Maryan.
   ‘This book is Maryan’s book.’
9.1.1.3 The –∅/ii-suffixes as Specificity Markers

Although Lecarme promotes the suffixes as overt evidence for nominal tenses, Lecarme (1996, 1999) suggest an analysis of –∅/ii-suffixes as specificity markers. This analysis is motivated on the basis of the observation that there is a set of noun phrases that are marked with –t/-k but do not receive a specific interpretation. Such examples suggest that –t/-k are not definite determiners. One such type of noun phrase are quantificational noun phrases. They cannot be marked with the –ii suffix (Lecarme 1996:167-8):

(8)  a. ardáyií kúlli-g-ood wáa gudbeen
    students-detF[+past] all-detM+Poss3P (they succeeded)
    ‘All the students (succeeded).’

b. *ardáyií kúlli-g-ooodii wáa gudbeen
    students-detF[+past] all-detM+Poss3P[+past] (they succeeded)

(Lecarme 1996:168)

The noun kúlli ‘all’ cannot be marked with the purportted [+past] determiner (8b). Lecarme takes this as evidence for the relationship between specificity and the –∅/ii-suffixes. In her earlier work, Lecarme analyzes the –∅/ii-suffixes as specificity markers, as evidenced by the following quote (see Lecarme (1996:174) and Lecarme (1999:348) for similar claims):

“The fact that syntactically definite noun phrases are not obligatorily specific, while noun phrases with overt tense markers are unambiguously specific clearly suggests that the tense marker is an indicator of specificity (in some broad sense).” (Lecarme 1996:168)

The analysis of the suffixes –∅/ii as specificity markers jibes well with the observation that these suffixes are in complementary distribution with demonstrative suffixes, and “could be considered as belonging to the same category” (Lecarme 1996:161,footnote 5).

b. Buq-gan waa buq-g-ay-gií / waa k-ay-gií
    book-detM.dem F book-m-Poss1S-m-[+past] / F m-Poss1S-detM[+past]
    ‘This book is my book / is mine.’

c. Adi-gu xáas-k-ay-gíí baad tahay
    thou-detM+[nom] wife-m-Poss1S-detM[+past] F2S fs.is
    ‘You are my wife.’

(Lecarme 2004b:463)
The relation between the proposed specificity analysis of the suffixes and the tense analysis that is so prominently advocated in the papers (and adopted by e.g. Nordlinger and Sadler (2004)) is based on Enç’s work on tense. Enç (1987) analyzes (verbal) tense as referential expressions which must be bound or anchored in order for the verb phrase (or sentence) to receive a denotation. In a similar vein, Lecarme (1996:168) assumes that “Somali Nouns do not acquire referentiality simply by combining with a D: it is the tense morpheme which determines the referential capacity of the nominal expression”. In other words, the specificity suffixes –0/ii are analyzed as tenses because they anchor noun phrases, i.e. turn them into referential expressions. We can conclude the following. There is little or no evidence that the Somali suffixes are temporal suffixes. Rather, as Lecarme suggests, they are specificity markers. Whether we assume that Somali has nominal tenses depends on the definition of nominal tense, i.e. whether nominal tenses are temporal markers that behave like verbal tenses or whether they are (atemporal) markers that can be argued to have a function parallel to verbal tenses. In this dissertation, I adopt the first definition, on the basis of which I conclude that Somali does not have nominal tenses.

9.1.1.4 Lecarme’s Assumptions about the Temporal Semantics of Noun Phrase

Before closing, it is worth considering some of Lecarme’s assumptions regarding the temporal semantics of noun phrases, because they seem to be widely held in the nominal tense literature.

A first assumption concerns the relationship between temporal interpretation and the existence of nominal TENSE. The following statement makes explicit Lecarme’s assumptions about this point (compare this to the ‘nominal tense argument’ I presented in chapter 3.4.1):

In order to justify the possibly surprising assumption that noun phrases can have a temporal structure at all, I first spell out some widely held assumptions. a) Semantically, all instances of bare noun phrases are predicates (Williams 1981; Higginbotham 1985), therefore are time sensitive (Enç 1981; Musan 1995). Temporal modification such as former (former president of France, etc.) is a direct argument for an e-position in nominals (Higginbotham 1985 [...]). b) Time reference is a universal property of language; tense, a morphosyntactic notion, can be parametrized.
The joint effect of these assumptions is that the central question raised by the variation displayed in Somali is no longer how noun phrases can bear temporal morphology, but why tense hardly ever shows up in the nominal system. (Lecarme 1999:334)

In effect, then, Lecarme assumes that since nominal predicates are temporally interpreted, TENSE must be relevant to the temporal interpretation of noun phrases and tense morphemes can (but are rarely) realized. The assumption that temporal interpretation goes hand in hand with a TENSE category is empirically challenged for noun phrases in this dissertation (chapter 3.3.1). The fact that the theory of the temporal interpretation of noun phrases developed in chapter 3 proceeds without a semantic TENSE relation supports the claim that temporal interpretation cannot be equated with the existence of a tense category.

A second assumption worth mentioning here concerns the relation between the temporal interpretation of noun phrases and verb phrases. Many of Lecarme’s statements make clear that she assumes that they are parallel, for instance, “Time reference (C or D selecting T) is a universal property of language, independent of whether a given language has grammatical tense morphemes or not” (Lecarme 2004b:447) and the “tense/event structure of nominals and clauses does not differ” (Lecarme 2004b:448). This assumption, too, is not empirically supported: there are differences between the way in which noun phrases and verb phrases are temporally interpreted in discourse (chapter 3.3.1), as well as in the semantic categories that are relevant for the temporal interpretation of the two types of phrases, as discussed in this dissertation.

Possibly the most widespread assumption in the nominal tense literature is “the undeniable existence of ‘nominal tensed’ languages” (Lecarme 2004b:447). The empirical foundation of this claim is already shaky: for both Guaraní and Somali, the claim that they have nominal tenses does not hold up to scrutiny. My discussion of three more languages in the next sections further undermines this claim.

9.1.2 Tariana

Tariana is an Arawak language spoken in northwestern Brazil. According to Aikhenvald (2003:68), nouns in this language have the grammatical category “nominal tense”, distinguishing past and future tenses as in Table 9.3.
<table>
<thead>
<tr>
<th>unmarked</th>
<th>future tense</th>
<th>past tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\emptyset$</td>
<td>$-\text{pena}$</td>
<td>$-\text{miki-}\mathcal{R}$ (masc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$-\text{miki-}\mathcal{R}$ (fem.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$-\text{miki}$ (pl.)</td>
</tr>
</tbody>
</table>

Table 9.3: Tariana Nominal Temporality Markers (Adapted from Aikhenvald 2003:183)

According to Aikhenvald (2003:187), the nominal tenses are restricted to noun phrases, and are formally distinct from the (more complex set of) verbal tense forms. Aikhenvald does not justify the claim that these markers are tenses, and, again, Nordlinger and Sadler (2004) adopt the author’s claim without further discussion. According to Aikhenvald (2003:181), the ‘nominal future tense’ suffix $-\text{pena}$ “is used to mark ‘future’ on nouns”, and the ‘nominal past tense’ clitic $-\text{miki}$ “is used to refer to a previous state of the head noun”. Two examples that illustrate the markers are given in (9).

(9) a. diha di-sa-do $\text{pena}$ dalipa di-a di-ka-tha-pidana
he 3sgnf-spouse-FEM-NOM.FUT near 3sgnf-go 3sgnf-see-FR-REM.P.REP
‘He went (in vain) to look at his wife-to-be.’ (Aikhenvald 2003:184)

b. pi-Ruku pi-uka hi
2sg-come.down 2sg-arrive DEM:ANIM
panisaru $\text{miki-}\mathcal{R}$-naku piRa pi-katha-nha
abandoned.village-NOM.PAST-NF-TOP.NON.A/S 2sg+order 2sg-vomit-IMPV
‘When you come to an abandoned ex-village, order (him) to vomit.’ (Aikhenvald 2003:187)

In (9a), the purported nominal future tense marker $-\text{pena}$ occurs on the possessive noun phrase $\text{di-sa-do}$ ‘his wife’ to indicate that the individual the man went to look at was not yet his wife but might become his wife in the future.. In (9b), Aikhenvald’s glosses suggest that the purported nominal past tense marker $-\text{miki}$– asserts that the village is not a village anymore, but used to be a village in the past.

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4In my examples, R is the flapped liquid (Aikhenvald 2003:29). The following glosses are used in the Tariana examples: 3sgf/nf = 3rd person singular feminine/non-feminine; AFF = derivational affix; ART = article; AUG = augmentative; CL:DAY/FEM/ROUND = classifier; CAUS1/2 = causative; COMPL = completive; DEM:IN = (in)animate demonstrative; DECL = declarative; FEM = feminine; FOC:A/S = focussed subject; FR = frustrative; FUT = future; IMPV = imperative; NEG = negative; NF = non-feminine; NOM.FUT/PAST = nominal past/future; P = person; PEJ = pejorative; PL = plural; PRES.NONVIS = present non-visual; REL = relative; REM.P.REP = remote past reported; SUB = subordinating; TOP.NON.A/S = topical non [subject, JT].
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The characterizations of the meanings of these markers and their meaning in examples like (9) suggest that the encoding of a precedence relation might have played a role in their analyses as nominal tenses. That is, since –pena and –miki– seem to locate the property denoted by the nominal predicate (or possessive) in the past or future, a tense analysis suggests itself since a precedence relation is associated with the meaning of tenses in well-studied Indo-European languages. However, as discussed in this dissertation, the fact that a temporality marker encodes a precedence relation is not sufficient evidence for a tense analysis, since aspect and modal markers can convey such a relation, too. The question, then, is what is the semantic category of the Tariana markers? One observation is that the contributions of –pena and –miki– in (9) are very similar to that of Guaraní –râ and –kue. While similarity of interpretation is certainly not conclusive evidence for an aspect/modality analysis of the Tariana markers, it at least suggests that this might be a fruitful path of investigation.

Before I discuss further evidence which supports an analysis of the Tariana markers as aspect/modality markers, there is one data point that suggests that the Tariana markers are markedly different from the Guaraní markers. This piece of evidence is Aikhenvald’s (2003:181) claim that “[a]bout 40 per cent of nouns in the corpus are marked for tense”. This seems to point to a striking difference between the Tariana and the Guaraní markers, the latter of which occur much less frequently in naturally occurring data. ⁵ (There are 26 occurrences in my corpus.) However, when I examined the occurrences of the nominal temporality markers in the five Tariana texts given in Aikhenvald (2003:630-70) to compare the Tariana and Guaraní nominal temporality markers, I found only nine occurrences of such markers, a frequency very similar to that of the Guaraní markers.⁶ I therefore conclude that there is no evidence from frequency of occurrence that Guaraní and Tariana markers are markedly different.

Ideally, of course, a discussion of the meaning of the Tariana nominal temporality markers must be based on fieldwork during which the criteria developed in chapter 2 are applied to the two nominal temporality markers. I believe, however, that the data in Aikhenvald (2003) and Aikhenvald’s discussion of the data contains some pointers

⁵This percentage of occurrences of Tariana nominal temporality markers was also reported in Nordlinger and Sadler (2004:779) and Tonhauser (2002:302).

⁶According to Sasha Aikhenvald (personal communication), the Tariana nominal temporality markers are more frequent in spoken discourse, and the five texts printed in the grammar are not typical regarding the frequency of occurrence of Tariana nominal temporality markers.
which support the aspect/modality analysis over the tense analysis. The majority of this evidence comes from the observation that the Tariana markers seem to entail a state change. Recall, for instance, the example in (9a) with the purported future tense marker –pena, repeated here:

(10) diha di-sa-do-**pena** dalipa di-a di-ka-tha-pidana
    he 3sgnf-spouse-FEM-NOM.FUT near 3sgnf-go 3sgnf-see-FR-REM.P.REP
    ‘He went (in vain) to look at his wife-to-be.’ (Aikhenvald 2003:184)

Aikhenvald’s gloss suggests that the individual who the man looks at is not yet his wife, but might become his wife in the future. If –pena indeed entails that the individual is not the man’s wife at the topic time, –pena would entail the CHANGE property, just like Guaraní –rā. In other words, –pena would entail that the ‘wife’ relation is not yet true of the individuals, which, according to the criteria developed in chapter 2, is evidence in support of an aspect analysis rather than a tense analysis. An example that illustrates the same point is (11).

(11) kale-**pena-ne** hī kaRe di-eku di-a
    wind-NOM.FUT-FOC.A/S DEM:ANIM wind 3sgnf-arrive 3sgnf-go
    ‘The one who was going to become wind, this wind arrived.’ (Aikhenvald 2003:183)

In (11), the marker –pena occurs on the noun kale ‘wind’, and the resulting utterance seems to indicate, according to the prospective aspect be going to used in the gloss, that the property ‘wind’ was not true of the individual at some time in the past.

Further, albeit indirect, evidence for an aspect/modality analysis of –pena comes from the observation that it seems to give rise to a purposive interpretation similar to that of Guaraní –rā discussed in chapter 8. Consider the following examples.

(12) a. diha kaRi-yāna kiniki di-pana-ka-pidena hī
    ART Kali-PEJ manioc 3sgnf-sow-DECL-REM.P.REP DEM:ANIM
    kiniki-pena-nuku
    manioc-NOM.FUT-TOP.NON.A/S
    ‘The naughty Kali (the creator of manioc) was sowing manioc which was going to be this future manioc.’ (Aikhenvald 2003:184)
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b. ne kwaka-pena-kade-pu-mha nhua
   NEG what-NOM.FUT-NEG-AUG-PRES.NONVIS I
   ha-ehkwapi-nuku
   DEM:INAN-CL:DAY-TOP.NON.A/S
   ‘I am the one who is to be good for nothing in this world.’ (Aikhenvald 2003:187)

In (12a), what Kali is sowing is asserted to be future manioc: that is, he is sowing something that is not manioc but is for manioc. Similarly, in (12b), the speaker asserts, using –pena, that s/he is good for nothing, i.e. does not serve a purpose in this world. While these data are not direct evidence for a tense or aspect analysis, it would not be surprising for future-oriented prospective aspect/modality markers across languages to be able to give rise to purposive interpretations.

There is evidence that the past-time oriented marker –miki–, too, entails a state change. Consider first the characterization of the meaning of –miki– in Aikhenvald (2003:185): –miki– refers “to a previous state of the head noun (and could be translated with English ex-, as in ex-husband)”. Thus, –miki– asserts that the property of the noun is not true of the entity denoted by the noun phrase anymore, but was true of it at a time in the past (“previous state”). This suggests that –miki– has the change meaning property, which is typical of an aspect marker, not of a tense. The example in (9b), repeated in (13), is highly reminiscent of the terminative aspect meaning of Guaraní –kue.

(13) pi-Ruku pi-uka hi
    2sg-come.down 2sg-arrive DEM:ANIM
    panisaru-miki-Ri-naku piRa pi-katha-nha
    abandoned.village-NOM.PAST-NF-TOP.NON.A/S 2sg+order 2sg-vomit-IMPV
    ‘When you come to an abandoned ex-village, order (him) to vomit.’ (Aikhenvald 2003:187)

The following examples also illustrate that –miki– entails a state change.

(14) a. thepi di-maRe-pidena eta-miki-Ri-nuku
    to.water 3sgnf-throw+CAUS-REM.P.REP eagle-NOM.PAST-NF-TOP.NON.A/S
    ‘He threw the remains of the eagle (lit. what used to be the eagle) into water.’
    (Aikhenvald 2003:186)
b. nese-pidana i:ha-da di-swa nhaniRi
   then-REM.P.REP feces-CL:ROUND 3sgf-stay 3pl+father
   iha-da-miki-Ri
   feces-CL:ROUND-NOM.PAST-NF
   ‘Then the feces were there, their dead father’s feces.’ (Aikhenvald 2003:186)

In (14a), –miki– occurs on the noun eta ‘eagle’ to indicate that the thing thrown into water is not a live eagle anymore, but a dead one. Similarly, in (14b), it is the (now) dead father’s feces that are referred to at this point in the story. Aikhenvald (2003:185) provides further examples of this type of state change assertion: –miki– “is very often used to refer to dead people, e.g. di-phe-ri-miki-ri (3sgf-elder.sibling-MASC-NOM.PAST-NF) ‘his late elder brother’, du-sa-do-miki-ru (3sgf-spouse-FEM-NOM.PAST-F) ‘his late spouse’.

That –miki– entails a state change is also suggested by the following data, where –miki– occurs on a relative clause.

(15) a. yatu ka-pusu-ku-kaRi-miki-Ri-mha diha
   snuff REL-mix-P.REL.NF-NOM.PAST-NF-PRES.NONVIS he
   ‘He is the one who used to mix up the snuff a long time ago (and is not doing it any more).’ (Aikhenvald 2003:188)

b. Context: “This example comes from a story about two sisters and a tinamou-bird; the two sisters (and hence all the women) became stinking after they had slept with the ‘naughty’ mucura-rat.” (Aikhenvald 2003:187)

   i:-peni naka na-dia-niki walikasu
   stinking-PL:ANIM 3pl+arrive 3pl-become-COMPL at.beginning
   kesa-ni-ma-pe-miki
   REL+smell-AFF-CL:FEM-PL-NOM.PAST:PL
   ‘They became stinking (the women) who at the beginning used to smell nice.’ (Aikhenvald 2003:187)

For (15a), Aikhenvald (2003:187) writes that “–miki– implies that he has stopped doing so”, i.e. he stopped mixing the snuff and is therefore currently not doing it. Similarly, for (15b), Aikhenvald says that “–miki– appears on a modifier (used without a head) to refer to an already non-existent property of the head” (Aikhenvald 2003:187), i.e. the women do not currently smell nice. This change of state meaning, if entailed as suggested by the glosses and comments, supports an aspect analysis of the two markers over a tense analysis.
The contexts in which the Tariana nominal temporality markers are not used lend further support to the idea that Tariana and Guaraní are quite similar with respect to the temporal semantics of noun phrases, or at least more similar than we would expect if Tariana but not Guaraní had nominal tenses. For instance, just like in English and Guaraní, Tariana noun phrases are unmarked when the property denoted by the noun of the noun phrase is true for the entity denoted by the noun phrase at the time relative to which the verb phrase is interpreted. Consider the examples in (16).

(16) a. dusa du-a **du-siRi-ne** du-a-pidana
   3sgf+go.up 3sgf-go 3sgf-husband’s.brother-INS 3sgf-go-REM.P.REP
   ‘She went with her husband’s brother.’ (Aikhenvald 2003:639)

b. **maRisi** pi-ña pi-swe-ta pi-wapa-nha
   grass 2sg-clear.garden 2sg-stay+CAUS1-CAUS2 2sg-wait-IMPV
   di-a-pidana **hekwa-ka** pi-wapa-mhade phia di-a-pidana
   3sgnf-say-REM.P.REP midday-SUB 2sg-wait-FUT you 3sgnf-say-REM.P.REP
   ne-mhade **pi-kisi-pe** na: hi **syawa-nuku** na:-mhade
   then-FUT 2sg-relative-PL 3pl+go DEM:ANIM fire-TOP.NON.A/S 3pl+go-FUT
   na-whanipa 3pl-deposit
   ‘“Arrange the clearing of the grass and wait,” he said, “wait until it is midday,
   then your relatives will go and deposit this fire.”’ (Aikhenvald 2003:645)

The noun phrase **du-siRi-ne** ‘her husband’s brother’, which is interpreted relative to the past topic time, is unmarked in (16a). Similarly, none of the noun phrases in (16b) are marked since they are all temporally interpreted relative to the topic time.

Noun phrases in Tariana are also unmarked when the entity denoted by the noun phrase is asserted to be created, coming into existence or destroyed, as illustrated in the examples in (17).

(17) a. ya:piku kamuy di-eme-ta-pidana
   some.time summer.heat 3sgnf-put+CAUS1-CAUS2-REM.P.REP
   ‘He (Thunder) created summer heat for some time.’ (Aikhenvald 2003:645)

b. někana na-ha-do-nuku ka-ňha-kaRi
   3pl+chief 3pl-parent-FEM-TOP.NON.A/S REL-eat-PAST.REL.MASC.SG
   di-musu-pidana di-nu
   3sgnf-go.out-REM.P.REP 3sgnf-come
   ‘Their (evil spirits’) chief, who had eaten their mother, came out.’ (Aikhenvald 2003:130)
Neither the created object kamuy ‘summer heat’ in (17a) nor the destroyed object na-ha-dō-nuku ‘their mother’ in (17b) is marked with a nominal temporality marker. The non-obligatory marking of created or destroyed entities with a nominal temporality marker is what we have observed in languages with nominal aspect/modality markers like English and Guaraní. The example in (18) illustrates that the marker –pena may be realized on a created object, similar to the optional occurrence of –nā in such cases.

(18) kayu-maka hi waRipeRe unyane-pena di-kaka=pidana. 
     so-AFF DEM:ANIM Walipere flood-FUT 3sng-plan-REM.P.REP
     ‘Thus Walipere was planning the future flood.’  (Aikhenvald 2003:184)

In conclusion, Aikhenvald (2003) does not present evidence that the Tariana nominal temporality markers –miki– and –pena are nominal past and future tenses, respectively. Nordlinger and Sadler (2004) also simply adopt the nominal tense claim without discussion its justification. Instead, I argue that the data and comments in Aikhenvald (2003) suggest that both Tariana markers entail a state change, which supports an aspect analysis over a tense analysis. This analysis is also suggested by the many observed similarities between the meaning and use of the Guaraní and the Tariana markers. Although future fieldwork is necessary to apply the criteria developed in chapter 2 to determine their semantic category precisely, I conclude that there is no evidence that the Tariana markers are nominal tenses.

An interesting difference between the past-time oriented nominal markers of Tariana and Guaraní is that Tariana –miki– can cooccur with nouns denoting animate individual-level properties: examples presented above include eta-miki ‘eagle-NOM.PAST’, which denotes the remains of an eagle and di-phe-rī-miki-ri (3sngn-elder.sibling-MASC-NOM.PAST-NF) ‘his late elder brother’. Thus, in contrast to Guaraní –kue, Tariana –miki– can assert that an animate entity is deceased. I refer to this meaning of –miki– (which is similar to that of the English late) as the TERMINATION OF EXISTENCE meaning. Thus, while Guaraní –kue only has the TERMINATIVE ASPECT meaning, and English late only has the TERMINATION OF EXISTENCE meaning, the Tariana marker –miki– under this proposal, has both the TERMINATIVE ASPECT and the TERMINATION OF EXISTENCE meaning. This suggests a revision of the implicational hierarchy I introduced in chapter 6 when comparing Guaraní –kue and English former.
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(19) Implicational Hierarchy for Past-Time Oriented Nominal Temporality Expressions

C1: professions, stage-level relations
    < C2: non-food artifacts
    < C3: animate natural kinds, individual-level relations
    < C4: food artifacts, inanimate natural kinds

This revised version makes the hierarchy even more precise. It differentiates C3 from C4 based on animacy: C3 includes animate natural kinds and individual-level relations, while C4 includes non-animate food artifacts and natural kinds. English *former* is productive only with nouns from class C1, Guaraní *kue* with nouns from class C2 and higher, and Tariana *miki* with nouns from class C3 and higher (thereby motivating the split between C3 and C4). 7

9.1.3 Halkomelem

Halkomelem is a Salish language spoken on the Northwest Coast of North America. Halkomelem has two nominal temporality markers, -elh and -cha, which have been described as nominal past and future tenses, respectively (Burton 1997; Wiltschko 2003; Galloway 1993:382ff). The following sample noun phrases illustrate the two markers, glossed -PAST and FUT in line with the nominal tense analysis.8

(20) a. te-l mâːl-elah
    DET-1sg poss father-PAST
    ‘my late father’ (Wiltschko 2003:665)

7The contribution of *-miki* in (13) is not completely clear: is the panisaru-miki-Ri-naku ‘abandoned village’ NOM-PAST-NF-TOP.NON.A/s’ a village that does not exist anymore or merely one that is abandoned? If the former is the case, this might suggest that *miki* may assert the non-existence of inanimate entities (TERMINATIVE OF EXISTENCE meaning) rather than just asserting that the entity still exists but has lost its property (the TERMINATIVE ASPECT meaning). Aikhenvald (2003:178) observes that *miki* ‘is more often used with animates than with in animates’. The fact that no such tendency has been observed for *pena* (Aikhenvald 2003:178) points to a similar asymmetry between the cooccurrence restrictions of the two nominal temporality markers as was observed for Guaraní *kue* and *râl* in chapter 6. Such cooccurrence restrictions further support the aspect analysis of the Tariana markers.

8Many of the examples in this section present the two nominal temporality markers -elh and -cha in noun phrases because both Burton (1997) and Wiltschko (2003) mainly present them in noun phrases rather than in full sentences or (even) discourses.
b. te-l xéltel-elh  
DET-1sg.poss pencil-PAST
‘my former pencil’  (Wiltschko 2003:665, attributed to Burton 1997:67)

(21) a. te-l swáqeth-cha  
DET-1sg.poss husband-FUT
‘my future husband’  (Wiltschko 2003:665)

b. te-l lálém-cha  
DET-1sg.poss house-FUT
‘my future house’  (Wiltschko 2003:665)

The nouns phrases marked with –elh in (20) denote a deceased individual (20a) and a destroyed artifact (20b). According to my theory, this suggests that the marker –elh has a TERMINATION OF EXISTENCE meaning and a TERMINATIVE ASPECT meaning. Burton (1997) and Wiltschko (2003), on the other hand, propose that –elh is a nominal past TENSE. The marker –cha in (21) is parallel to Tariana –pena and Guaraní –râ: the noun phrases denote entities for whom the possessive relations ‘husband’ and ‘house’ are not true yet but might be true at a time in the future. Again, –cha might be a future-oriented aspect/modality marker or a nominal future tense. The latter is assumed in Burton (1997) and Wiltschko (2003).

Burton (1997) does not discuss evidence for the nominal tense of –elh, the only marker he discusses. Wiltschko (2003) does not defend the analysis either, but the following provides a clue about her assumptions: after presenting the examples in (20) and (21), Wiltschko (2003:665) argues that the markers –elh and –cha are tenses because they modify the temporal interpretation of the noun. In the context of assessing the implications of T[ense] being interpretable in D in the context of Pesetsky and Torrego’s (2004) theory of case, Wiltschko writes: “I take this to be crucial evidence for the claim that T on D in Halkomelem is [+interpretable]”. Thus, Wiltschko assumes that because the markers affect the temporal interpretation of noun phrases, they must instantiate the semantic category TENSE. However, as I discussed above, the fact that a marker is a temporality marker or that a temporality marker encodes a precedence relation, is not sufficient evidence for a tense analysis.

I suggest that there is evidence that the Halkomelem markers encode grammatical aspects and modalities, just like the Guaraní markers. My argument again mainly rests on the finding that both markers encode a state change. The other criteria need to be investigated in future fieldwork. Consider first the title of Burton’s (1997) paper: “Past
tense on nouns as death, destruction, and loss”. All three nouns in the title denote state changes, thus providing a first indication that –elh encodes a state change. This is also supported by the examples in (20), where the referent of the noun phrase is deceased or has been destroyed.

Further evidence for the state change meaning of –elh is provided through Burton’s analysis of the marker. Burton (1997:69) asserts that –elh marks that the time at which the property is true of the denoted individual is in the past. He further clarifies that –elh entails that the property is true of the individual only in the past, i.e. it is no longer true at the perspective time.9 This is identical to the change meaning property of Guarani –kue, which, according to the criteria for distinguishing tense and aspect, motivates an aspectual analysis of –elh. Halkomelem –elh differs from Guarani –kue in that the former can also encode a TERMINATION OF EXISTENCE meaning, as illustrated again in (22) and (23).

(22) kw’étlexwes tel má:l-elh te sqwemá:y.  
    see my father-PST the dog
    ‘My (late) father saw the dog.’ (Burton 1997:68)

(23) a. stó:les-elh  
    wife-PST
    ‘dead wife’ OR ‘ex-wife’

b. siyó:ye-lh  
    friend-PST
    ‘dead friend’ OR ‘ex-friend’ (Burton 1997:74)

In (22), –elh on the noun phrase tel má:l ‘my father’ asserts that the father is dead at the utterance time. (He was not dead when he saw the dog.) The examples in (23) illustrate again that –elh can encode both a terminative aspect meaning and a termination of existence meaning: without further context, the nominal predicate stó:les-elh ’wife-PST’ in (23a), for instance, can denote either ‘dead wife’ or ‘ex-wife’. Again, both meanings require –elh to encode a state change. I propose that –elh is a termination of existence

9Burton (1997:72-73) argues that “[t]his ‘only in the past’ clause actually follows from an inference of maximal informativeness, not from the bare semantics, as Musan (1995) discusses in detail”. Contrary to Guarani –kue then, which entails the state change, Burton argues that the state change of Halkomelem –elh is inferred from a pragmatic principle. Unfortunately, he does not empirically support his claim.
marker, as well as a terminative aspect marker, the latter of which is supported over
the tense analysis by the fact that –elh encodes a state change.

A final piece of data that supports that grammatical aspect/termination of existence
analysis of –elh is that s-lá:t-elh ‘nom-night-past’ means ‘morning’ (Galloway 1980:61 as
cited in Wiltschko 2003:669). The meaning of s-lá:t-elh as ‘morning’ falls out from the
analysis of –elh as a terminative aspect marker since the termination of the night is the
morning. Under the past tense analysis of –elh, s-lá:t-elh merely asserts that ‘night’ was
ture of a time t’ in the past of a time t, but not that ‘night’ is not true at t anymore.10

I conclude that the evidence presented from Halkomelem does not support the exist-
ence of nominal tense markers. Instead, I have suggested that the data points to the
Halkomelem markers being instantiations of the categories aspect, modality and ex-
istence (the semantic category to which termination of existence belongs). With
respect to the implicational hierarchy in (19), the data currently available suggests that
Halkomelem –elh is compatible with nouns from classes C3 and higher.

9.1.4 Movima

Movima is an isolate language spoken in lowland Bolivia by about 1500 people. My
discussion of Movima is based on Katharina Haude’s work on this language (Haude
2004, Haude 2006:155ff). According to Haude, Movima has articles which can affect the
temporal interpretation of the noun phrase and/or of the verb phrase. The articles are
listed in Table 9.4.11

<table>
<thead>
<tr>
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<th>fem</th>
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<td>i’nes</td>
<td>as</td>
<td>is</td>
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<td>kus</td>
<td>kinos</td>
<td>kos</td>
<td>kis</td>
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<td>us</td>
<td>isnos</td>
<td>oj</td>
<td>is, (isos)</td>
</tr>
</tbody>
</table>

Table 9.4: The Movima Article (Adapted from Haude 2006:159)

The articles of interest here are the past articles given in the bottom row in Table

10 Recall that Guaraní pyhare-kue (night-kue) does not denote ‘morning’ but ‘during the night’. Why
Guaraní –kue does not behave like Halkomelem –elh with temporal period nouns is left to future research.
11 The ‘present’ category in Haude (2006) corresponds to ‘unmarked’ in Haude (2004). The two doc-
uments also differ in the spelling of some examples. I present the spelling and glosses of the respective orig-
inal. I only discuss articles here, some similar contrasts also encoded with demonstratives and pronouns
(Haude 2006).
9.4. These are referred to as past tense articles in Haude (2004). In the examples in (24) and (25), the past article looks strikingly similar to Halkomelem –cha (but only at a first glance).\textsuperscript{12}

\begin{flushright}
\textbf{(24) a.} \textit{oj ya:lowe-wa=kinoj kweya=us ney=j alkol} \\
\textit{ART.N.P drink-NMZ=ART.F.A woman=3M.A DEF=ART alcohol} \\
\textit{‘[He didn’t like] that his wife drank that alcohol.’} \hspace{1cm} (Haude 2004:84)
\end{flushright}

\begin{flushright}
\textbf{(24) b.} \textit{la’ n-oj son-tinon’a kayni isnoj ay’ku} \\
\textit{before O-ART.N.P other-IN:year be.dead ART.F.P my.aunt} \\
\textit{‘Last year my aunt died.’} \hspace{1cm} (Haude 2004:84)
\end{flushright}

\begin{flushright}
\textbf{(24) c.} \textit{ajalo:maj loy oj no:no di’ pako} \\
\textit{tell:TR INC ART.N.P pet REL dog} \\
\textit{‘I’ll tell you about my (former, deceased) pet dog.’} \hspace{1cm} (Haude 2004:85)
\end{flushright}

In (24a), the absentive article –\textit{kinoj} is used with \textit{kweya ‘woman’}. The referent of the noun phrase is asserted to be absent in the speech situation in which (24a) is uttered. In (24b) and (24c), the past articles \textit{isnoj} and \textit{oj} are used, indicating that the referents of the respective noun phrases are deceased. While the past article seems to encode a TERMINATION OF EXISTENCE meaning in these examples, other examples that I present below show that this meaning is not entailed by the marker.

In (25), the past article seems to encode a TERMINATIVE ASPECT meaning.

\begin{flushright}
\textbf{(25) joj koro’ kos tochi’-toda-n-a=\textit{os} bote:liya n-as bari=’ne} \\
\textit{SPC DM.a.n ART.n.a small-BR.piece-LN-LV=ART.n.p bottle obl-ART.n foot=f} \\
\textit{‘Probably she has a small piece of a (former) bottle in her foot.’} \hspace{1cm} (Haude 2006:161)
\end{flushright}

In this example, the use of the past article –\textit{os} with the artifact noun \textit{bote:liya ‘bottle’} is translated with \textit{former}, seemingly indicating that the entity denoted by the noun phrase does not have the property denoted by the artifact noun anymore. Haude’s comments, on these and similar examples, however, suggest that the articles do not encode a TERMINATIVE ASPECT meaning with such artifact nouns. In (25), for instance, what is relevant

\textsuperscript{12}The following glosses are used in the Movima examples: \textit{<DR> = bivalent direct infixation; <POSS~> = possessive predicate infixation; <PRD~> = predicative infixation; 1pl = first person plural; 3m.a = third person masculine absential; ABS = absolute state; ART.(f.a/f.p/m/n/n.a/n.p/pl) = article feminine absentive/feminine past/masculine/neuter/neuter absentive/neuter past/plural; BR = bound root; DEF = definite; DEM.a.n = demonstrative absentive neuter; f = feminine; IN = incorporated noun; INC = inchoative; LN = linking nasal; LV = linking vowel; O/obl = oblique; PRON.a/n.prs = free pronoun neuter absentive/neuter presentive; REL = relativizer; SPC = speculative; TR = transitive.}
is not that the bottle is broken but that it has ceased to exist at the utterance time. (26) illustrates this point, too.

(26) a’ko rey lala<kwa~>-kwá=oj do’we
    PRO.N.PRS again seam<POSS~>-ABS=ART.N.P my.dress
    ‘This is the seam of my (former) dress.’ (Haude 2004:85)

Haude comments that this example does not refer to a dress that is just torn apart, but the dress has ceased to exist. Thus, the noun phrase lala<kwa~>-kwá=oj do’we ‘the seam of my (former) dress’ refers to an entity that has ceased to exist. Haude (2006:162f) writes:

“the basic condition for the application of the past article is that the referent must have ceased to exist [...]. Entities which have simply lost their function or identity (of the type that can be referred to in English by the prefix ex–), are not automatically referred to by the past article in Movima, but according to their physical presence or absence with respect to the speech situation. [...] The loss of function or identity can be indicated by the lexical aspect of the verb” or by the general context.

Thus, the Movima “past tense” article does not encode a TERMINATIVE ASPECT meaning. More interestingly, the Movima “past tense” article also does not entail TERMINATION OF EXISTENCE: first, the article is not obligatorily used when an entity has ceased to exist and, furthermore, its use does not entail in all uses that the entity has ceased to exist. This is illustrated with the examples in (27) and (28).

(27) a. kinoj ney ay’ku di’ jayna kayni
    ART.F.A DEF my.aunt REL already be.dead
    ‘That (absent) aunt of mine who died [yesterday].’ (Haude 2004:84)

b. kinos senyo:ra jala;yij n-os kayni-wa=sne
    ART.f.a madam angry obl-ART.n.p die-NMZ=f.a
    ‘That woman was angry when she died.’ (She died the day before, but is being carried to the cemetery at the time of speaking.) (Haude 2006:163)

Both examples in (27) lexically assert that the human individual has died, but the individual is referred to with a noun phrase marked with the absentive article, not the past article. Thus, the “past tense” article is not obligatorily used with deceased entities. Furthermore, the examples in (28) demonstrate that the past article does not assert that the entity denoted by the noun phrase has ceased to exist.
(28) a. n-asko elaná=uj pa’ isnoj ma’
   O-PRO.N.A leave=ART.M my.father ART.F.P my.mother
   ‘At that (time) my father left my mother.’ [both absent, but alive] (Haude 2004:87)

b. n-oj to<ch~>chik-a=’nej majni
   O-ART.N.P little<PRD~>-LV=ART.F my.child
   ‘when my (present) daughter was little’ (Haude 2004:84)

c. jayna lista n-oj joyaj-wa=oj awto jayna
   already ready(F) O-ART.N.P arrive-NMZ=ART.N.P car already
   ‘[She] was ready when the car arrived.’ (Haude 2004:86)

In (28a), the parents are both alive, but are referred to with a noun phrase marked with the past marker. In (28b), the same referent (who is alive) is referred to twice, once with an unmarked noun phrase and once with a noun phrase marked with the past article. Finally, the car in (28c) is referred to with a noun phrase with a past article, although it still exists at the utterance time.

We can conclude, then, that the Movima past article is not a marker that asserts the termination of existence of an entity and it is not a terminative aspect either. Rather, as Haude (2006) suggests, the article marks spatial and/or temporal absence, with the meaning of a particular occurrence of the article depending on the discourse context. This also means also that the marker is not a past tense since it does not necessarily have a temporal meaning.

How is the Movima past article related to the implicational hierarchy for past-time oriented nominal temporality expressions (repeated on the next page)?

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13Natural languages often have expressions that are compatible with or express both a spatial and a temporal meaning, e.g. before in English.

(i) a. The supermarket is **before** the gas station. [spatial use of before]
    b. He shaved **before** he showered. [temporal use of before]
(29) Implicational Hierarchy for Past-Time Oriented Nominal Temporality Expressions

C1: professions, stage-level relations
   > C2: non-food artifacts
      > C3: animate natural kinds, individual-level relations
         > C4: food artifacts, inanimate natural kinds

The Movima past article can imply the termination of existence of inanimate entities, as well as animate entities: examples with inanimate entities presented above include =os bote:liya ‘-ART.N.P bottle’ (25) and =oj do’we ‘-ART.N.P dress’ (26). This suggests that the Movima article is compatible with nouns from class C3 and higher. The following observation (Haude 2004:163) touches on the availability of nouns in C4 with the past article:

The possibility of variation in the encoding of ceased or ongoing existence depends, on the one hand, on properties of the referent, and on the other hand on the speaker’s priorities for tense marking in discourse. The more time-stable the referent and the more relevant it is to the speaker, the less it can be referred to by the past article. [...] The article is chosen according to the actual existence of the referent, independent of contextual tense.

The noun class C4 contains the inanimate individual-level, i.e. time-stable, nouns. In contrast to nominal temporality expressions of other languages, which are simply unavailable with nouns in C4, the Movima past article is used with a different function with such nouns. (This alternative function is available with nouns from classes C1 to C3, too, since the use of the article does not only depend on the properties of the referent.) Consider the example in (30).

(30) kaw-poy is pa:ko di’ pa:ko=y’i, che ilo:ni–y’iri n-os chanimo, much-Br.animal ART.pl dog REL dog=1pl and walk–1pl obl-n.p forest
che man<a>ye=is pa:ko os rulrul
and find<DR>=ART.pl dog ART.n.p jaguar
‘We had many dogs. And we walked in the forest, and the dogs found a jaguar.’
(Haude 2006:165)

(30) is the first sentence of a discourse. In this example, the noun phrase referring to the inanimate entity ‘the forest’ is marked with the past article, as are several noun phrases
that refer to animate entities. For none of these does the past article encode **termination of existence**. Rather, according to Haude (2006), the past article locates the time at which the individual propositions of the discourse are interpreted in the past of the utterance time. This use of the past article is generally more possible with nonhuman participants (whereas the past article is usually used with human participants only when the eventuality participant also seems to play a role). Haude observes that when referents relevant to the discourse context are concerned, the article is chosen according to the existence of the referent (i.e. past for nonexisting referents and present/absent for existing referents). When the referent is not relevant to the speaker at the time of speaking, in contrast, the article is generally chosen to temporally locate the situation denoted by the utterance, as in (30).

In conclusion, the past article of Movima is not a nominal past tense but a marker of spatiotemporal non-existence (also Haude 2006). It does not entail the semantic category **termination of existence** in all discourse contexts but can give rise to this meaning in particular discourse contexts.

### 9.1.5 Conclusions

I have argued for four languages that the claim that they have nominal tenses is not empirically supported. This confirms the hypothesis H3 I developed in chapter 3:

(H3) **Hypothesis 3:** There is no semantic category nominal TENSE, and, consequently, there are no markers which instantiate such a semantic category.

Thus, together with Guaraní, 5 of the 14 language (families) in Table 9.1 do not support the claim that nominal TENSE exists and is relevant to the temporal semantics of noun phrases. This is empirical support for the theory of temporal interpretation of noun phrases I developed in chapter 3. Instead, I suggested that the nominal temporal markers of Tariana and Halkomelem instantiate the semantic categories MODALITY, grammatical ASPECT and EXISTENCE, hence supporting hypotheses H1 and H2:

(H1) **Hypothesis 1:** The semantic category MODALITY is relevant for noun phrases; nominal modality markers are instantiated across languages.

(H2) **Hypothesis 2:** The semantic category ASPECT is relevant for noun phrases; nominal grammatical aspect markers are instantiated across languages.
In section 9.2 I develop a taxonomy of nominal temporality markers.

In concluding, I briefly comment on the nominal tense claim as it pertains to the other 9 languages (or language families) in Table 9.1. For one set of languages, including Nambiquara (Lowe 1999; Kroeker 2001), Jarawara (Dixon 2004), Mawayana (Carlin 2006), and Tupinamba (Lehmann and Moravcsik 2000), the respective authors assign the “tense” label to the nominal marker without justifying why it is tense, rather than aspect, modality or some other category. For all of these languages, there is very little data on the basis of which I could have evaluated the tense claim here. Consider, for instance, the data from Nambiquara in (31) from Lowe (1999):14

(31) a. wa³lin⁹-su²-a²
   manioc-CL:BONE.LIKE-DEF
   ‘the manioc root’

b. wa³lin⁹-su²-ai²-na²
   manioc-CL:BONE.LIKE-DEF.CURRENT
   ‘the manioc root which we both see before us now’

c. wa³lin⁹-su²-n³ti²
   manioc-CL:BONE.LIKE-OBSERVATIONAL.RECENT.PAST.GIVEN
   ‘the manioc root that both you and I saw recently’

d. wa³lin⁹-su²-ai²-ta³li²
   manioc-CL:BONE.LIKE-OBSERVATIONAL.MID.PAST.GIVEN
   ‘the manioc root that both you and I saw some time past’

e. wa³lin⁹-su²-ai²-tā²
   manioc-CL:BONE.LIKE-OBSERVATIONAL.MID.PAST.NEW
   ‘the manioc root that I saw (but you didn’t) some time past at some distant place’

f. wa³lin⁹-su²-nü¹-tā²
   manioc-CL:BONE.LIKE-INFERENTIAL.DEF.UNMARKED
   ‘the manioc root that must have been at some time past, as inferred by me (but not by you)’

(Lowe 1999:282-283)

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14 The numbers in the examples represent tones. CL stands for ‘classifier’, MID for ‘mid past’ (in contrast to CURRENT and RECENT.PAST).
9.1. EVIDENCE FOR NOMINAL TENSE?

Lowe (1999) claims that definite nouns in Nambiquara can be inflected for spatiotemporality, presenting the noun phrases in (31) as illustrative of some of the combinations of evidentiality, demonstrativeness, and spatiotemporality that can be marked on Nambiquara nouns. Kroeker (2001), who presents even less data on these markers, calls the markers past, present, and future. While these data are certainly exciting and inspire future research on the temporal facets of these markers, it is impossible to tell whether they really are temporality markers, and, if so, whether they are tense, aspect, or modality markers. Nordlinger and Sadler (2004) does a great service to the linguistic community by pointing out the various languages that have been claimed to have nominal temporality markers. However, Nordlinger and Sadler (2004) adopt the nominal tense claim made in the literature (e.g. Burton 1997; Lecarme 1999; Lowe 1999; Aikhenvald 2003) without any discussion. Given that the paper does not provide any criteria for distinguishing TENSE, ASPECT, and MODALITY, it is not clear how, on the basis of such papers, Nordlinger and Sadler (2004) can conclude “we have found languages that encode both tense and mood, but no languages (as yet) which encode aspect”.

For a second set of languages in Table 9.1, including Iạtê (Lapenda 1968:76ff), Potowatomi (Hockett 1958), Kwak’al (Anderson 1985) and Wari’ (Everett and Kern 1997), the respective authors themselves do not make a claim that the temporality markers are nominal tenses. Here, the nominal tense claim originates in Nordlinger and Sadler (2004), which, again, raises the question on what basis Nordlinger and Sadler (2004) analyze these markers as nominal tenses, rather than, say, nominal aspects or modality markers. It is worth pointing out that there are even less data available for these languages than for the ones I discussed in the four sections above (where a conclusive analysis of the markers was already impossible). Furthermore, for some languages, the original authors themselves state that it is not clear what the semantic category of the markers is. Consider, for instance, the data in (32) from Iạtê (Macro-Jê), which is the only data presented in Lapenda (1968:76ff) (which is written in Portuguese) on these markers.

(32)  
  a. seti = casa ‘house’
  b. se’tisê = ex-casa ‘ex-house’
     “o que deixou de ser casa, parcial ou totalmente; algo que já foi casa”
     (that which stopped being a house, partially or totally; something that already was a house)
c. sëtihe = futura casa ‘future house’
   casa que ainda está sendo construída; algo que será casa
   (house that is still being made; something that will be a house)

d. se’tkēá = casa possivel ‘possible house’
   algo que tem possibilidade de ser casa
   (something which has the possibility of becoming a house)

e. se’tiskēá = o que teria sido casa, mas não o foi; algo que já teve possibilidade
   de ser casa (something which was going to become a house but didn’t; something
   that had the possibility of becoming a house) (Lapenda 1968:77)

In my opinion, these five data points might be sufficient to conclude that the markers
are temporality markers, but they are certainly not sufficient for a discussion of whether
they are tenses, aspects or modality markers. Even less so, the data does not support
the conclusion that they are nominal tenses. Interestingly, Lapenda (1968:76) also discusses
the nature of the markers, seemingly considering them to be of aspectual nature: “Éstes
são antes aspectos dos nomes no tempo; indicam próprio estado em que algo se
encontra” (these (markers) are rather aspects of nouns in time (rather than tenses); they
indicate the state in which something is). He continues: “Como o aspecto está, de certo
modo, ligado ao tempo, divido-o em presente, passado e futuro, embora reconheça que
esta denominação não deixe de ser imprópria” (Since aspect is, in some way, linked to
time, it is divided into present, past and future, although it is acknowledged that this
denomination is still not the proper one). On pages 77-8, Lapenda (1968) continues to
call the markers “aspectos” (aspects) several times. Nordlinger and Sadler (2004) never-
thless include latê in their list of nominally tensed languages. For other languages, too,
including Potowatomi (Hockett 1958), Kwakw’ala (Anderson 1985), and Wari’ (Everett
and Kern 1997), the original authors discuss the nominal markers in the context of a gen-
eral discussion of temporality. Regardless, Nordlinger and Sadler (2004) claim that these
markers are nominal tenses without any justification and explicitly state that they are not
aspect markers.

It is fair to conclude that the assumption that languages have nominal tense markers
is neither empirically supported nor theoretically substantiated.
9.2 A Semantic Taxonomy of Nominal Temporality Expressions

I propose the semantic taxonomy of nominal temporality expressions (NTEs) in Figure 9.1, which is a taxonomy of nominal markers or adjectives that affect the temporal interpretation of the noun phrase they occur with. The taxonomy is based on the NTEs of the languages discussed so far, including English, Guaraní, Halkomelem and so on, and further illustrated with data from a variety of languages.

![Semantic Taxonomy of Nominal Temporality Expressions](image)

**Figure 9.1: A Semantic Taxonomy of Nominal Temporality Expressions**

The taxonomy makes a basic distinction between present-time oriented NTEs, which are those NTEs that do not encode a temporal shift, and shifting NTEs, which are further divided into past-time and future-time oriented NTEs. The taxonomy includes the semantic categories ASPECT, MODALITY and EXISTENCE and currently distinguishes five meaning categories: TERMINATIVE ASPECT, TERMINATION OF EXISTENCE, PROSPECTIVE ASPECT/MODALITY, POSSIBILITY, and EXIST. These cover the NTEs I am currently aware of but I expect the taxonomy to grow as we gain knowledge about nominal temporality. For instance, I would expect that there are a variety of future-time oriented aspect/modality NTEs besides the prospective aspect/modality.

The non-shifting NTEs include the POSSIBILITY modality, which encodes that at the time of evaluation, the property denoted by the nominal predicate might be true or false. This is what I assume is encoded by the English *would-be* (chapter 2.3.2). The EXIST meaning is illustrated below with the St’át’imcets (Salish) determiner system: EXIST is a subtype, together with TERMINATION OF EXISTENCE, of the semantic category EXISTENCE.
and asserts the spatiotemporal (non)existence of an entity.

Past-time denoting NTEs encode the TERMINATION OF EXISTENCE meaning and/or the TERMINATIVE ASPECT meaning. If we assume the basic animacy hierarchy (animate > inanimate), we predict that TERMINATION OF EXISTENCE markers that occur with inanimates also occur with animates but not necessarily vice versa.

The implicational hierarchy, repeated in (33), captures the relation between the TERMINATION OF EXISTENCE and TERMINATIVE ASPECT meanings: a TERMINATIVE ASPECT meaning is restricted to classes C1 and C2, whereas TERMINATION OF EXISTENCE may occur with any of C1 to C4, depending on the animacy restrictions of the particular marker.\textsuperscript{15}

(33) **Implicational Hierarchy for Past-Time Oriented Nominal Temporality Expressions**

C1: professions, stage-level relations

< C2: non-food artifacts

← English *former*

< C3: animate natural kinds, individual-level relations

← Guaraní –*kue*

< C4: food items, inanimate natural kinds

← Tariana –*miki* (?)

The taxonomy is based exclusively on semantic distinctions because the morphosyntactic realization of NTEs across languages is not uniform. English, for instance, has adjectives *late* and *former* to realize TERMINATION OF EXISTENCE and TERMINATIVE ASPECT, respectively, while Halkomelem uses the suffix –*elh*. In Guaraní, the suffix –*kue* expresses TERMINATIVE ASPECT but TERMINATION OF EXISTENCE is expressed with the adjective *re’õngue* ‘dead’. The following three sections illustrate nominal temporality expression from across languages in the context of this semantic taxonomy.

\textsuperscript{15}I have yet to identify a marker that can express TERMINATION OF EXISTENCE with nouns from C4. Tariana –*miki* might be a candidate since it is reported in Aikhenvald (2003) to occur with nouns denoting ‘moonlight’ where it conveys that the moonlight is extinguished.
9.2.1 Present-Time Oriented NTEs

Besides would-be (chapter 2.3.2), English current and now– are also present-time oriented NTEs. German matches these with expressions like heutige ‘today’ and jetzige ‘now’.

The semantic category existence is illustrated by the determiners of St’at’imcets (Salish). According to Matthewson (1998:175), St’at’imcets determiners encode dimensions of existence and spatio-temporal distance:

```
assertion of existence  non-assertion of existence  ku
  present  absent  remote
    ti...a    ni...a    ku...a
```

Figure 9.2: St’at’imcets Determiners (Matthewson 1998:175)

St’at’imcets makes a basic distinction between determiners that assert the existence of the entity denoted by the noun phrase, and the determiner ku, which does not assert existence. In the semantic taxonomy I presented, all of these determiners encode the semantic category exist, but encode different values of it: positive for the determiners that assert existence and negative (or nothing) for the determiner ku. The examples in (34) illustrate the use of ku (glossed as NON.EXIST).\(^\text{16}\)

(34) a. Context: When pointing at the ruins.

\[
\text{nīl-ti7} \quad \underline{k^\text{w-u-cfx}^\text{w}} \quad 7^\text{w7\l p}
\]

\text{anticipatory.pronoun NON.EXIST-house burn.down}

‘This is the house that burned down.’ \hspace{1cm} (van Eijk 1997:170)

b. Context: When talking about the house when it is completely absent from the situation of speech.

\[
7^\text{w7\l p-tu7} \quad \underline{\text{ni7-k}^\text{w-u-cfx}^\text{w}}
\]

\text{burn.down-definite.past DET.ABSENT-DET.NONEXIST-house}

‘That house burned down.’ \hspace{1cm} (van Eijk 1997:170)

\(^{16}\)I represent van Eijk’s examples using ‘‘ instead of ‘·’ for the glottal stop, and e for schwa.
In these examples, the determiner kʷu encodes that the existence of the houses is not asserted, from which it follows, together with other information in the context, that they have negative existence.

### 9.2.2 Past-Time Oriented NTEs

Past-time oriented NTEs include Guaraní –kue, English ex–, then, late and former, Tariana –miki–, Halkomelem –elh and the latè markers mentioned in the last section. German has a plethora of such markers, too, including damalige ‘then’, ehemalige ‘former’, gestrige ‘yesterdays’, frühere ‘former’ and Alt– (similar to ex–). An example with the Russian byoshij ‘former.masc’, diachronically related to the participle of the verb ‘be’, is in (35).

(35) Russian

Ja vstretil na vecherinke moju byvshuju podrugui.
I met at party my former.fem (girl)friend.

‘I saw my former girlfriend at the party.’

While Indo-European languages predominantly use adjectives to encode terminative aspect and termination of existence, American indigenous languages use affixes. The example in (36) is from Kwakw’ala (Northern Wakashan):

(36) Kwakw’ala

a. xʷakʷ ena ‘canoe’

b. xʷakʷ ena-xdi ‘canoe that has been destroyed’ (Anderson 1985:30)

The affix –xdi in (36b) encodes that the entity was a canoe in the past and is not a canoe anymore. This is strikingly similar to Guaraní –kue and suggests a terminative aspect analysis for the Kwakw’ala suffix.

Cree, an Algonquian language, has a marker –ipan that “indicates that the denotatum of the noun no longer exists” (Wolfart 1973:31 as cited in Joseph (1979)). Some sample noun phrases from Joseph (1979) are given in (37).

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37 I thank Lev Blumenfeld for the Russian data presented in this section.
9.2. A SEMANTIC TAXONOMY OF NOMINAL TEMPORALITY EXPRESSIONS

(37) Cree
   a. kisēyin-\textit{ipan}
      old.\textit{man-late}
      ‘old man no longer alive’
   b. nimosōm ‘my grandfather’
      nimosōm-\textit{ipan} ‘my late grandfather’
      (Joseph 1979:351)

The marker –\textit{ipan} in both (37a) and (37b) asserts that the animate entities denoted by each of the noun phrases are no longer alive. Thus, –\textit{ipan} is a \textbf{TERMINATION OF EXISTENCE} marker. According to Joseph (1979), this marker is restricted to animates. Wolfart reports that Lacombe (1874:18-19) gives an inanimate paradigm, which is rejected, however, by Wolfart’s speakers.

Potowatomi, another Algonquian language, has a marker –\textit{pen},\textsuperscript{18} which might be cognate to Cree –\textit{ipan} and which seems to realize both a \textbf{TERMINATION OF EXISTENCE} meaning, as well as a \textbf{TERMINATIVE ASPECT} meaning. Consider the following examples.

(38) Potowatomi
   a. /nčiman/ ‘my canoe’ (noun)
   b. /nčiman\textit{pen}/ ‘my former canoe, now lost destroyed or stolen.’

(39) a. /nos-/ ‘my father,’
   b. /nos-\textit{pen}/ ‘my deceased father,’

(40) a. /nke\textit{vsates}/ ‘I am happy’ (verb)
   b. /nke\textit{šate\textit{pen}}/ ‘I was formerly happy (but not now),’

Hockett (1958:238) reports for –\textit{pen} that it is “an inflectional category reminiscent of tense or aspect”. In (38b), the suffix –\textit{pen} occurs on the artifact noun /nčiman/ ‘canoe’ and conveys that the canoe is lost, destroyed, or stolen. This description is reminiscent of the title of Burton (1997), and the meaning of the marker is reminiscent of the \textbf{TERMINATIVE ASPECT} meaning of Guaraní –\textit{kue}. In (39b), the suffix occurs on the final-stage relational noun ‘father’ and has a \textbf{TERMINATION OF EXISTENCE} meaning. (40) illustrates that the marker can also occur on verbal predicates.

\textsuperscript{18}I represent the ‘schwa’ with \textit{e}.
Labrador Inuktitut and Mittimatalingmiutut, two Eskimo-Aleut languages, have markers which, when they cooccur with nouns denoting animals, refer to the meat food derived of that animal:

\[(41)\]

a. Labrador

\[\text{puiji-vini-mmik nigi-vunga} \]
\[\text{seal-former-mod. eat-intr.indic.1s} \]
\[\text{‘I’m eating some seal meat.’} \quad \text{(Johns 2005:7)} \]

b. Mittimatalingmiutut

\[\text{tuktu-vinir-tuq-tunga} \]
\[\text{caribou-former-consume-intr.part.1s} \]
\[\text{‘I’m eating caribou meat.’} \quad \text{(Johns 2005:10)} \]

In (41a), the marker \(-vini\) occurs on the noun \(puiji\) ‘seal’ and the resulting expression denotes seal meat. Similarly in (41b), \(tuktu-vinir\) ‘caribou-former’ denotes caribou meat. Whether these markers encode a TERMINATIVE ASPECT and/or TERMINATION OF EXISTENCE cannot be concluded from these examples. They are interesting, however, because they are the only ones I have so far encountered where the combination of a past-time oriented NTE with a noun denoting an animal denotes food derived from that animal. Recall that \(vaca-kue\) ‘cow-kue’ is not acceptable in Guaraní, and \(eta-miki\) ‘eagle-past’ in Tariana denoted the remains of an eagle, not eagle meat. Whether the markers in (41) together with a noun that denotes an animal can denote a dead animal of that kind is a matter for future research.

Derbyshire (1996:41ff) identifies the marking of present and former possession as typical of Carib languages. The following examples from Hixkaryana illustrate the possessive markers \(ri/Se\) ‘possession’ and \(thiri/Senhiri\) ‘past/former possession’.

\[(42)\]

a. \(\text{\textit{i-kanawa-ri}}\)

\[\text{3-canoe-POSSD} \]
\[\text{‘his canoe’} \]

b. \(\text{\textit{i-kanawa-thiri}}\)

\[\text{3-canoe-past/former.possession} \]
\[\text{‘his old/former canoe’} \]

\[\text{19} \] The glosses are mod=modalis case, intr=intransitive, indic=indicative mood and part=participial mood.

\[\text{20} \] I represent the alveolar flap with R.
9.2. A SEMANTIC TAXONOMY OF NOMINAL TEMPORALITY EXPRESSIONS

(43) a. o-he-tSe
2-wife-POSSD
‘your wife’
b. o-he-tSenhiri
2-wife-past/former.possession
‘your former wife’

In (42b), the suffix –thiri on the possessive noun phrase i-kanawa ‘his canoe’ indicates, according to the glosses, that the canoe is either not in the individual’s possession anymore or is not a canoe anymore (but an old canoe). The example in (43b) illustrates the marker with the ‘wife’ relation. From the glosses, it is not clear from the examples and glosses given whether these possessive markers can only mark the termination of the possessive relation or also the termination of the existence of the entity denoted by the noun phrase. Similar possessive markers are reported for other Carib languages as well, including Apalai, Macushi, Wai Wai, Carib, Dekwana, Trio and Wayana. Derbyshire (1996:41) also mentions (citing personal communication with Berend Hoff) that the Carib -mbo past possession suffix is not restricted to possessive constructions. For Waiwai, Hawkins (1998:129) reports that pen is used to express that the referent which precedes it is ‘dead’ or ‘gone’ or in some way deserving of pity.

Mosetén, a language spoken in Bolivia, is reported in Sakel (2004) to have the marker –win (glossed as ‘C’ which stands for ‘completed’), which “can be added to a name and [express] that this person or animal is dead” (p.75).

(44) wiyá-win
old.man-C
‘the old man (that is dead)’ (Sakel 2004:75)

I suggest that this marker encodes the TERMINATION OF EXISTENCE meaning.

Finally, other Tupí-Guaraní languages, too, have been reported to have nominal temporality markers. Rose (2003) mentions that Emérrilon, a Tupí-Guaraní language spoken North of the Amazon, has the nominal temporality marker –kwe, a cognate of Guaraní –kue. The examples with –kwe, which Rose translates with French ancien, in (45) illustrate the semantic similarity to –kue. (‘NSP’ stands for ‘possesseur non spécifié’ (non-specified possessor).)
In (45a), –kwe occurs on the noun ba’e ‘thing’ and refers to the termination of the thing, here a story. Similarly, in (45b) –kwe occurs on the noun apidZ ‘house’, resulting in a phrase that denotes an abandoned house.

Tupinamba is an extinct Tupí-Guaraní language. The following data from Lehmann and Moravcsik (2000:742) illustrates the marker –wér, a cognate of Guaraní –kue:

(46) a. rók-a
   ‘house’

b. rók-wér-a
   ‘former house’

In conclusion, TERMINATION OF EXISTENCE and TERMINATIVE ASPECT meanings are encoded by nominal expressions across a variety of languages, sometimes with a single form, sometimes with two separate forms.

9.2.3 Future-Time Oriented NTEs

Future-time oriented NTE mentioned above include English wanna-be, prospective, –to-be and future, Guaraní –rã, Tariana –pena, Halkomelem –cha, and the laté markers mentioned in the last section. German, too, has several such markers including möchten ‘wanna-be’, zukünftige ‘future’, baldige ‘soon-to-be’ and morgen ‘tomorrow’. Russian budushchij ‘future’ is illustrated in (47).

(47) Russian

**Budushchij** prezident byl shchestliv.

future president was happy

‘The future president was happy.’
9.2. A SEMANTIC TAXONOMY OF NOMINAL TEMPORALITY EXPRESSIONS 361

Again, whereas Indo-European languages tend to encode future-oriented nominal meanings with adjectives, American indigenous languages have markers that encode such meanings. The example in (48) presents the Kwak’ala marker λ:

(48)  
a.  \( x^{\text{it}} \text{ak}^{\text{en}} \text{a} \) ‘canoe’

b.  \( x^{\text{it}} \text{ak}^{\text{en}} \text{a} \lambda \) ‘canoe that will be, that will come into existence’  \( \text{(Anderson 1985:30)} \)

According to Anderson’s glosses, the suffixλ conveys that the entity denoted by the noun phrase does not exist yet, which suggests that the marker encodes a PROSPECTIVE ASPECT/MODALITY meaning.

Comparable markers are found in the Eskimo-Aleut languages. (49) illustrate the marker \(-\text{ssa}\) of Kalaallisut glossed ‘desired’ or ‘expected’ by Bittner (2005).²¹

(49)  
a.  Context: If we’re not expected [by the marshall] to leave tomorrow, then

\[
\text{illuiga-rput paa-liur-tariaq-pa-rput} \\
\text{igloo-1p.sg porch-make-need-IND.TV-1p.3s} \\
\text{iga-vvi-ssa-tsin-nik} \\
\text{cook-location-\text{desired}-1p.sg-MOD}
\]

‘we need to add to our igloo a porch, a (desired) place for us to cook in.’  
(\text{O’Dell 1994:58 as reported in Bittner 2005:383})

b.  Context: Dr. Evans had saved many lives.

\[
\text{Nakursa-p taassuma inup-pa-ssui-t} \\
\text{doctor-sg.ERG that.ERG person(s)-group-big-pl} \\
\text{tuqu-ni-ssa-ralu-an-nit} \\
\text{anna-tar-sima-va-i.} \\
\text{die-v\textasciitilde-n-expected-unrealized-3p_aABL rescue-habit-prf-IND.TV-3s.3p}
\]

‘That doctor had been saving a lot of people from an otherwise expected death.’  
(\text{Bittner 2005:363})

In (49a), the suffix \(-\text{ssa}\) occurs on the noun \textit{iga-vvi} ‘cooking location’ and conveys that the cooking location does not exist yet but that its existence is desired. In (49b), the suffix occurs on \textit{tuqu-ni} ‘death’, conveying that the death was expected or prospective (but ultimately not realized, as asserted by \(-\text{ralu}\) ‘unrealized’). Whether the desiderative

²¹Other glosses are \( \perp = \) background; \( \text{ABL} = \) ablative; \( \text{ERG} = \) ergative; \( \text{IND.TV} = \) indicative intransitive verb form; \( \text{MOD} = \) modalis; \( \text{PRF} = \) perfect; \( \forall \text{n} = \) nominalizer.
meaning of –ssa in (49a) is encoded by the suffix or arises from the discourse context is not clear from the examples available. I tentatively conclude that –ssa is a prospective aspect/modality marker (cf. also Bittner 2005).

The Inuktitut language discussed in Swift (2004) seems to have a similar marker, glossed ‘fut’:\footnote{The glosses here are ABS= absolute; ATP = antipassive; CTG = contingent; CND = conditional; EMPH = emphatic/intensifier; HAB = habitual; NEAR-FUT = near future; NZ = nominalizer; PERF = perfect.}

(50) Inuktitut (Arctic Quebec)

\begin{verbatim}
  nasaq-\textit{tsaq}-it pi-jariiq-langa-nga\-git\-tuq\-alu\-k\-mat
  hat-\textit{fut}-ABS.2Sg do-PERF-NEAR\-FUT-NEG\-NZ\-EMP\-h\-be\-CTG.3sS
  igit-tsi-qattaq-tuaq-guvit
  throw-ATP-HAB-as\-soon\-as\-CND.2sS
\end{verbatim}

‘Because your (future) hat won’t be finished if you keep throwing it.’ (Swift 2004:24-5)

In this example, –\textit{tsaq} occurs on the noun \textit{nasaq} ‘hat’ and conveys that the hat does not yet exist. Swift (2004:24f) mentions that nominal reference to an object that does not yet exist must be marked with the suffix –\textit{tsaq}. Whether –\textit{tsaq} is a marker of NON\-EXISTENCE or a PROSPECTIVE ASPECT/MODALITY is not completely clear: if –\textit{tsaq} conveys that the entity does not yet exist but might exist in the future, this would support a PROSPECTIVE ASPECT/MODALITY analysis.

Jarawara, an Arawá language, is described by Dixon (2004) as having a future marker –\textit{ba} that can be realized on nouns in non-predicative position, as in the following two examples:\footnote{Other glosses are CINT = content interrogative; DEC= declarative mood; f = feminine; FUT = future modality; M = masculine; POSS= possessive.}

\begin{verbatim}
(51) a. [oko jima\-wa] -\textbf{ba}_{\textit{pers}} ow\-a tee-kawa-hab\-ana ti-ke
  1sgPOSS knife(f) -FUT 1sgO 2sgA\+APPL\-IC\-give-FUTf 2sg-DECf
  ‘You’ll lend me a knife (lit. you give me my future knife)’ (Dixon 2004:297)

b. [oko mowe ow\-a] -\textbf{ba}_{S} ee-ra?
  1sgPOSS brazil.nut(m) another+m -FUT what\-about\-CINTm
  ‘Can I have another brazil nut? (lit: what about my future another brazil nut?)’
  (Dixon 2004:303)
\end{verbatim}
In both examples, –ba occurs on a possessive noun phrase and encodes that the entity denoted by the noun phrase is not yet in the possession of the speaker but might become so as a result of the eventuality denoted by the verb. In both examples, the verb entails or implicates a transfer of possession or control, which is highly reminiscent of the benefactive interpretations described for Guaraní –ɾã in chapter 8.

Emérillon, one of the Tupí-Guaraní languages mentioned above, also has a future-time oriented NTE –(a)m. Although –(a)m is not a cognate with Guaraní –ɾã, its use is surprisingly similar in examples like (52a).24

(52) Emérillon

a. pe-kual wāĩwĩ-am t-a-l-eko.
   2pl.IMP-trouver femme-TRANS BUT-1sg.l-CAUS.COM-vivre
   ‘Trouvez une femme pour que je l’épouse.’
   (I found a woman to marry.) (Rose 2003:337)

b. a’e-kom kudZabulu-am o-ho-NJ
   DEM-PL sirène-TRANS 3l-aller-PL
   ‘Celles-ci sont devenu des sirènes.’
   (They stem from sirens.) (Rose 2003:335)

In (52a), –am, which Rose glosses as (French) -TRANS ‘translatif’, occurs on the noun wāĩwĩ ‘woman’, and the utterance denotes an individual who the speaker is not yet married to but might marry in the future. Examples like (52b), however, point to a difference between Emerillon –(a)m and Guaraní –ɾã: according to Rose (2003), –am is used to mark an object that results from the transformation of another object. Guaraní –ɾã, in contrast, marks an object that is being transformed.

My final example here comes from Yukaghir, a Yukaghir-Uralic language. (There are also claims that it is an isolate.) Yukaghir has a postpositional marker –možũ, which Maslova (2003:121-2) analyzes as a prospective marker “what is going to be X”. She comments that the suffix is outmoded and mainly used to derive terike+možũ (wife+PRSP) ‘bride’ and pulut+možũ (husband+PRSP) ‘bridegroom’. It is widely used, however, with nominalizations, as in (53).25

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24 The glosses used in these examples are IMP = impératif (imperative); TRANS = ; BUT = goal; CAUS.COM = causatif-comitatif (causative-comitative); DEM = démonstratif (demonstrative); PL = plural.

25 Glosses besides PRSP ‘prospective’ are ACC ‘accusative’, NEG ‘negative’, PFV ‘perfective’ and RNR ‘result nominalizer’.
Here, možu occurs on the nominalization denoting ‘way’. The utterance means that the individual did not find an entity that would be his/her way out. According to Elena Maslova (personal communication), Yukaghir does not have a bound form that denotes a TERMINATIVE ASPECT or TERMINATION OF EXISTENCE meaning.

9.2.4 Discussion

I have only presented NTEs from a limited set of languages.\textsuperscript{26} I expect that all languages of the world have ways of expressing the meanings represented in the semantic taxonomy of NTEs in Figure 9.1, if not as adjectives or affixes, then as participles or relative clauses. Since the morphosyntactic realization of NTEs varies, the semantic taxonomy I presented offers a way of comparing the meanings of these expressions across typologically diverse languages. Thus, if a NTE is past-time oriented, it has a TERMINATIVE ASPECT meaning if it requires the property denoted by the nominal predicate to be true and false of the entity during different times of the entity’s time of existence. A past-time oriented NTE has a TERMINATION OF EXISTENCE meaning if it asserts that the entity denoted by the noun phrase is dead (for animates) or has ceased to exist (more generally, animates and inanimates).

I have so far only encountered future-time oriented NTEs that seem to fit the PROSPECTIVE ASPECT meaning and I expect future research to reveal whether other meanings, like desiderative or deontic, are encoded by NTEs. For present-time oriented NTEs, we have those that encode an EXIST meaning, whether positive or negative, and those that encode a POSSIBILITY meaning, a subtype of MODALITY that asserts that, for the property denoted by the nominal predicate, it is possible that the property is true or false of the entity denoted by the noun phrase (like English would-be, chapter 2.3.2).

The taxonomy is based on what is empirically attested at this point and it raises several questions. There is evidence from a substantial number of languages for nominal terminative and prospective aspects — do we expect to find other grammatical aspect

\textsuperscript{26}Other languages with such markers that I have not included here are Hupa (Athabascan) and Miwok (Utian).
and modality meanings? If yes, which ones? Perhaps the fact that most nominal predicates encode stative properties precludes the existence of nominal progressives or imperfectives, but what about nominal incepts? For properties that can gradually cease to be true of an entity, do we find NTEs that express a gradual cessation? Are there markers of gradual coming into existence or gradual termination of existence? I leave these questions for future research.

9.3 Crosslinguistic Temporal Interpretation of Noun Phrases

In this section, I examine crosslinguistic variation in the times relative to which noun phrases are interpreted. The empirical basis of this section are data from English, Guaraní, and St’a’timcets, a Salish language. A comparison of these three languages reveals differences in the contexts that support a resolution of the nominal time \( t_n \) to a time distinct from the topic time.

9.3.1 Comparing English and Guaraní

In most of the examples discussed in this dissertation, the Guaraní noun phrase is interpreted relative to the same time as its English counterpart. In this section, I present three types of examples which illustrate a difference in the temporal interpretation of the two languages. In all of these examples, the Guaraní noun phrase features a nominal temporality marker and is interpreted at the topic time. The corresponding English noun phrase in the same discourse context is not realized with a nominal temporality expression and is temporally interpreted relative to a time distinct from the topic time. Consider the example in (54).

(54) From a folk tale: The main actor, a monkey, has been tied to a post by a woman who then walked away. The monkey is now trying to trick a fox, who is passing by, into untying him and letting himself be tied to the post. The monkey says to the fox:

Che-jora pya’e ai-porō-toro-moi che-renda-gué-pe.  
B1sg-untie quickly A1sg-??-??-put B1sg-place-KUE-PE

‘Untie me quickly and I’ll put you in my place.’ [C]
In the Guaraní version of the example, the possessive noun phrase *che-renda* ‘my place’ is marked with the terminative aspect –*kue*. This conveys that, at the time in the future of the utterance time when the monkey would put the fox into his place, the possessive relation between the monkey and the place is terminated. Compare this to the English (and Spanish) translation where the noun phrase *my place* is not marked with *former*. Thus, Guaraní employs a noun phrase that is interpreted relative to the (future) topic time, while English employs a noun phrase that is interpreted relative to the utterance time.

What is furthermore interesting about this example is that the Guaraní example without –*kue* is rejected by my consultants, and that the English versions with *former* or *then former* are odd in this discourse context:

(55)  a. #Untie me quickly and I’ll put you in my former place.
     b. #Untie me quickly and I’ll put you in my then former place.

Regarding (54), then, English and Guaraní form a minimal pair with respect to the temporal perspective from which the eventuality participant (the place) is denoted. This variation is predicted by Hypothesis 5 (ii) predicts this variation:

(H5) **Hypothesis 5**: There is crosslinguistic variation in the temporal semantics of noun phrases, (i) with respect to the morphological status of grammatical aspect/modality markers, and (ii) the times relative to which a noun phrase in a particular discourse context is interpreted.

According to (ii), languages can differ with respect to the time from which the eventuality participant is denoted in a particular discourse context. The discourse context of (54) contains two salient times relative to which the place can be identified: the utterance time, when the place is the monkey’s place, and the topic time in the future of the utterance time, when the place is the monkey’s former place. While English chooses the former to identify the place (and, hence, the noun phrase is interpreted relative to the utterance time), Guaraní chooses the latter (hence using –*kue* and temporally interpreting the noun phrase relative to the topic time). In both languages, the denotation of eventuality participants and the temporal interpretation of noun phrases depends on the discourse context; the two languages merely choose different times relative to which the eventuality participants are denoted and the noun phrases are interpreted. This observation raises some questions:
1. Are Guaraní noun phrases more typically interpreted relative to the topic time than English noun phrases?

2. What characterizes the contexts in which English and Guaraní noun phrases are not interpreted relative to the same time?

3. What underlies this difference between the temporal interpretation of noun phrases in English and Guaraní?

The temporal interpretation of English and Guaraní noun phrases in the example (56) suggests an affirmative answer to the first question.

(56) Context: A friend of mine is marrying next week. I ask:

a. Máva-pa i-paino-rā?
   person-QU his-best.man-RA
   ‘Who is his future best man?’

b. Máva-pa i-paino-ta?
   person-QU his-best.man-TA
   ‘Who will his best man be?’

c. #Máva-pa i-paino?
   person-QU his-best.man
   ‘Who is his best man?’

In Guaraní, the question *Who is his best man?* can either contain the noun phrase *i-paino* ‘his best man’ marked with the prospective aspect marker –rā as in (56a), or with the marker of non-asserted realization –ta as in (56b). (56c) is not felicitous in this discourse context: my consultants’ comments suggest that it is infelicitous because the ‘best man’ relation is not true at the utterance time but at a time in the future when the wedding is happening.

In English, however, the most natural question is *Who is his best man?* not *Who will his best man be?* or *Who is his future best man?*. Thus, again, the Guaraní noun phrases must be interpreted relative to the topic time, while the English noun phrase in this discourse context is interpreted relative to a contextually given time. What is left open for future research, however, is question 2, i.e. what characterizes the context of (54) and (56) that would bring out the different behavior of English and Guaraní.

One hypothesis regarding the reason why English and Guaraní noun phrases are in some discourse contexts interpreted at different times (question 3) is that the nominal
temporality expressions of Guaraní are more productive than those of English. As a consequence, the Guaraní markers are used in more discourse contexts, resulting in an interpretation of the noun phrase relative to the topic time. (Although noun phrases marked with a nominal temporality marker need not be interpreted at the topic time.) Some examples that support this hypothesis are presented in (57) to (59). These examples illustrate that Guaraní chooses to specify more than English whether an artifact still has the function specified by the noun or not. This results in more uses of –kue and a higher frequency of interpretations of the noun phrases relative to the topic time.

(57) Context: M tells me what she did for her puppy dog who has to spend the night outside.

A-moi peteĩ ao-kue che-rymba jagua-pe.
A1sg-put one clothes-KUE B1sg-animal dog-PE

‘I put (outside) a (former) piece of clothing for my pet dog.’ [overheard]

(57) was already discussed in previous chapters: the noun ao ‘clothes’ is marked with –kue to indicate that what the speaker put outside is not used as clothing anymore. According to the speaker who uttered (57) and other consultants, the example is grammatical without –kue, too, (in contrast to (54)), but then suggests that the speaker put outside something for the dog which is still used as clothing. In the English translation, former is less odd than in (54), but speakers of English would probably not use former in this context. Thus, in Guaraní, the speaker uses –kue to specify that the clothing is considered old and not worn anymore, whereas the same information is inferred from the discourse context in English. I assume that the fact that speakers of Guaraní assert that (57) without –kue implies that the clothing is still used is due to the contrast with the version with –kue. The example in (58) is a similar case.

(58) Che-jaryi o-me’e-uka chêve ij-ao-kue.
1IN-grandma 3AC-give-CAUS 1IN-DAT 3IN-clothes-KUE
‘My grandma had (someone) give me her clothes.’ or
‘My grandma made me give (away) her clothes.’ (Velázquez-Castillo 2002b:526)

In this example, the possessive noun phrase ij-ao ‘3-clothes’ is marked with –kue to indicate that, at the time when the clothing was given away, the possessive relation between the grandmother and the clothes had been terminated. I elicited the following examples in order to examine the use of –kue in such examples.
(59)  Context: I come back home from the market.
   a.  Mba’e re-japo  mercado-pe?
       thing  A2sg-do mercado-PE
       ‘What did you do at the market?’
   b.  A-ha  a-vende che-kyp’y ao-kue.
       A1sg-go A1sg-sell B1sg-sister clothes-kue
       ‘I went to sell my sister’s (old) clothes.’

My consultants translate this discourse with –kue to indicate that what I sold at the market
were clothes that my sister does not use anymore. (59b) is grammatical without –kue, too,
but would indicate, according to my consultants, that I sold clothes that my sister is still
using. Although English old could be used in such examples, it seems to be less readily
used than Guaraní –kue.

I conclude that although the temporal interpretation of noun phrases in English and
Guaraní is strikingly similar in most discourse contexts, there are contexts that bring out
a difference. This suggest that the temporal interpretation of noun phrases in Guaraní
is more restrictive than in English. The characterization of the discourse contexts that
bring out these difference is left for future research, as well as the question of whether
the grammatical status of the English and Guaraní nominal temporality expressions cor-
relates with the differences in interpretation.

9.3.2 St’at’imcets (Salish)

St’at’imcets (Salish) is the third language I bring into the comparison. Demirdache (1996)
develops a theory of the temporal interpretation of noun phrases in St’at’imcets accord-
ing to which the temporal interpretation of noun phrases in St’at’imcets is (i) always
determined relative to the topic time (p.70) and (ii) not freely determined by the dis-
course context (p.72). If true, St’at’imcets would present a counterexample to hypothesis
4, which maintains that the temporal interpretation of noun phrases depends on the dis-
course context and is not predetermined by the grammar of a language.

(H4)  **Hypothesis 4**: The temporal interpretation of noun phrases crosslinguistically is
governed by the following constraint:

**The Temporal Interpretation of Noun Phrases**

The nominal time \( t_n \) is determined by the nature of the link between the denota-
tion of the noun phrase and entities established in the discourse context.
I show in this section that although the temporal interpretation of noun phrases in St’at’imcets is interestingly different from that of Guaraní, and English, neither of Demirdache’s claims hold up. To start, I introduce some examples that support Demirdache’s claim and illustrate a difference between the times relative to which St’at’imcets, Guaraní and English noun phrases are interpreted.

(60) Context: The speaker and Martina got married this year.27

a. nilh s-Martina n-sem7am-a
   FOC NOM-Martina 1sg.poss-wife-DET
   ‘Martina is my wife...’ (or ‘It’s Martina whose [sic] my wife’)

b. *kalhas maqa7 lhel-ni s-pzan-an-a kw-s n-sem7am-a
   three year from-DET.ABS NOM-meet-DET DET-NOM my wife-DET
   ‘I met my wife three years ago.’

c. kalhas maqa7 lhel-ni s-pzan-an-a kw-s Martina
   three year from-DET.ABS NOM-meet-DET DET-NOM Martina
   ‘I met Martina three years ago.’ (Demirdache 1996:75)

In the context given in (60a), (60b), where the individual is referred to with kw-s n-sem7am-a ‘my wife’ is not acceptable. (60c), where the individual is referred to with the proper name Martina, is acceptable. On the basis of such examples, Demirdache (1996) argues that noun phrases in St’at’imcets must be interpreted at the topic time. Thus, (60b) is not acceptable because the ‘wife’ relation was not true of the possessor and possessee at the topic time of the utterance, i.e. at the time at which the two individuals met. The examples in (61) present a similar case.

(61) a. nilh t’u7 án’was zánucwem lhel-ni s-pzan-an-a ti n-snúk’w-a
   FOC PART two year from-DET.ABS NOM-meet-DET my friend
   ‘It was two years ago that I met my friend.’

b. *t’u7 pálá7 maya7 t’u7 ayih kw-a-s n-snúk’w-a
   just one year PART and then DET-PROG-NOM my friend
   ‘but we didn’t become friends until last year.’ (Demirdache 1996:75)

In (61a), an individual is referred to with the noun phrase ti n-snúk’w-a ‘my friend’. Demirdache (1996) argues that since the continuation in (61b) would force the noun

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27Demirdache (1996) uses the following glosses: 1sg.poss = first singular possessive; ABS = absolutive; DET = determiner; FOC = focus; NOM = nominalizer; PART = particle; PROG = progressive.
phrase in (61a) to be interpreted at a time distinct from the topic time, the continuation is not possible.

On the basis of several examples like (60) and (61), Demirdache (1996) develops a theory according to which all noun phrases in St’at’imcets are interpreted relative to the topic time. This, however, does not accord with the empirical evidence I now present.\footnote{The following St’at’imcets data presented here was kindly collected and glossed for me by Henry Davis and Lisa Matthewson. I use their glosses: caus: causative, conj: conjunctive, deic: deictic, det: determiner, emph: emphatic, erg: ergative, hyp: hypothetical, impf: imperfective, neg: negation, nom: nominalizer, poss: possessive.}

Consider (62).

(62) 1950 lh-kwís-as ta n-kwátms-a
1950 hyp-fall-3conj det 1sg.poss-husband-det
‘My husband was born in 1950.’

The ‘husband’ relation is true for the speaker and her husband at the utterance time. Hence, the noun phrase ta n-kwátms-a ‘my husband’ is interpreted relative to the utterance time, not relative to the topic time in the past of the utterance time. This example falsifies Demirdache’s claim that all noun phrases in St’at’imcets are interpreted relative to the topic time. (63) is another example.

(63) I t’íq-as kw s-John, plan tu7 wa7 ts’ek-s-ás kw when.past arrive-3conj det nom-John already then impf finished-caus-3erg det s-Peter ta ápvl-s-a nom-Peter det apple-3poss-det
‘When Peter arrived, John had already eaten the (entire) apple – look nothing’s left.’

In this example, the topic time is the time in the past when Peter arrived. At this time, John had already eaten the apple completely, i.e. it was gone and did not exist anymore. Hence, the noun phrase ta ápvl-s-a ‘his apple’ is interpreted at a time prior to the topic time, a time at which the apple still existed (and was large enough to count as an apple). A final example illustrates the same point with a verb of creation.

(64) cúz’-lhkan tu7 mays-áfts ta tsítsel n-tsítcw, t’u7 cw7ao-y-s going.to-1sg.subj then fix-house det new 1sg.poss-house but neg-3poss kw-en-s tsukw-s det-1sg.poss-nom finish-caus
‘I started building a house last year but it’s still not finished.’
Here, the entity referred to with *ta tsîtsel n-tsîtcw ‘my new house’* is not yet finished, i.e. not yet a house at the utterance time. Since the entity will be a house in the future of the utterance time, if at all, the noun phrase is interpreted at a time in the future of the utterance and the topic time, not at the topic time.

We can conclude, then, that noun phrases in St’at’imcets can be interpreted relative to a time distinct from the topic time and their temporal interpretation may be determined by the discourse context, contrary to Demirdache’s (1996) claims. Nevertheless, Demirdache’s examples in (60) and (61) suggest that the temporal interpretation of noun phrases in St’at’imcets is more restrictive than that of English and Guaraní, since these noun phrases cannot be interpreted at a time distinct from the topic time in St’at’imcets, whereas they can be in Guaraní and English. In light of the fact that English is less restrictive than Guaraní (cf. section 9.3.1), I suggest the following restrictiveness hierarchy (where ‘<’ stands for ‘less restrictive than’):

(65) **Restrictiveness Hierarchy**  
English < Guaraní < St’at’imcets

Based on the data presented here, the English noun phrases that can be interpreted at a time distinct from the topic time are a superset of the Guaraní ones, which in turn are a superset of the St’at’imcets ones. Whether this is an accurate characterization of the situation or whether there are contexts in which English is more restrictive than, e.g., Guaraní or St’at’imcets is a matter for future research. Another question for investigation is whether there are languages that are less restrictive than English or more restrictive than St’a’timcets?

### 9.4 Conclusions

The crosslinguistic evidence discussed in this chapter supports the hypotheses 1-5 that I proposed in chapter 3. Thus, the semantic categories **ASPECT** and **MODALITY**, but not **TENSE**, are relevant for the temporal semantics of noun phrases. An additional semantic category, **EXISTENCE**, was suggested in the context of the discussion of Tariana, and has since been found to be instantiated in numerous other languages, including English (cf. *late*), Guaraní (cf. *re’õngue ‘dead’*), and the St’at’imcets determiner system (in markers of assertion of existence and non-assertion of existence). As predicted by hypothesis 4, the temporal interpretation of noun phrases across languages is determined relative to the
9.4. CONCLUSIONS

link between the denotation of the noun phrase and what is established in the discourse context. I have identified crosslinguistic variation in three areas: first, with respect to the morphosyntactic status of the expression that encodes the semantic categories; second, with respect to the times relative to which noun phrases are interpreted (and the general restrictiveness of the temporal noun phrase interpretation in a particular language); and, third, with respect to whether the temporal interpretation of the noun phrase can determine the temporal interpretation of the verb phrase or not (cf. Movima).

The discussion in this chapter was often not specific due to the scarcity of data available and at many points the discussion raised more questions than it answered. Some of the central questions to be addressed in future research are summarized here:

1. How are semantic categories encoded across languages, and do the meaning differences across languages correlate with morphosyntactic differences?

2. Which kinds of grammatical aspects are encoded by nominal markers across languages? Why are the terminative and prospective aspect so frequent?

3. What are the contexts that bring out differences in the temporal interpretation of noun phrases and determine the position of a language on the restrictiveness hierarchy?

(66) **Restrictiveness Hierarchy**

   English < Guaraní < St’ał’imcets

4. What underlies differences in the temporal interpretation of noun phrases crosslinguistically?

5. How do different noun phrase systems (spatio/temporal deixis system versus definiteness system) affect the temporal interpretation of noun phrases?
Chapter 10

Summary and Future Work

The central claim of this dissertation is that the nominal time relative to which a noun phrase is interpreted is determined by the constraint in (1):

(1) **The Temporal Interpretation of Noun Phrases**

The nominal time $t_n$ is determined by the nature of the link between the denotation of the noun phrase and entities established in the discourse context.

Contrary to previous proposals (e.g. Burton 1997; Lecarme 1999, 2004b; Nordlinger and Sadler 2004), I argue that the temporal interpretation of noun phrases does not involve a semantic TENSE relation. I developed a dynamic semantic theory of the temporal interpretation of noun phrases where the nominal time is a presupposition that is resolved in the discourse context according to (1). While most noun phrases are interpreted relative to the topic time (i.e. the nominal time is resolved to the topic time), I showed that there are two types of discourse contexts that can override the default interpretation: contexts in which the eventuality participants denoted by the noun phrase are already established and contexts in which the denotation of the noun phrase is determined relative to a contextually established entity. My theory predicts that the temporal interpretation of noun phrases and verb phrases is not entirely parallel:

(2) **Crosslinguistic Temporal Interpretation of Noun Phrases**

discourse context: discourse participants with temporally located properties
encoded meaning: $\text{resolve}(t_n) \ (\text{MODALITY})[\text{ATL}[\text{ASPECT}^* \ [\text{nominal description}]]]$
(3) Crosslinguistic Temporal Interpretation of Verb Phrases

discourse context: TENSE

encoded meaning: (Ø:tense) (MODALITY)[ATL[ASPECT• [eventuality description]]]

While grammatical ASPECT and MODALITY apply to both eventuality and nominal descriptions, the crucial difference is the way in which the time is determined relative to which the nominal/eventuality description is interpreted: it is determined according to (1) for noun phrases and according to the semantic TENSE relation for verb phrases. Thus, while the temporal interpretation of both noun phrases and verb phrase depends on the discourse context, it depends on different facets of the discourse context: the discourse participants and the topic time, respectively.

The empirical basis of the dissertation is a comparative study of English and Guarani, a language with nominal temporality markers. Using the criteria for distinguishing TENSE and grammatical ASPECT developed in the dissertation, I argue that the Guarani nominal temporality markers are grammatical ASPECT/MODALITY markers, not TENSES, contrary to Liuzzi (1987), Liuzzi and Kitchuk (1989), Nordhoff (2004) and Nordlinger and Sadler (2004). In particular, I developed a formal semantic analysis of –kue as a terminative grammatical aspect and of –rā as prospective grammatical aspect/modality marker. Further support that grammatical ASPECT and MODALITY, but not TENSE, are semantic categories of noun phrases emerged through an investigation of other languages with nominal temporality markers. In the course of this investigation, I identified a novel semantic category EXISTENCE as relevant for the temporal interpretation of noun phrases (but not of verb phrases).

One of the implications of this dissertation is that the semantic categories grammatical ASPECT and MODALITY can no longer be assumed to be exclusively verbal categories (cf. also Nordlinger and Sadler 2004). This is a result similar to one that emerged from the study of pluraactionality, which identified plurality to be relevant to nouns and verbs alike (Lasersohn 1995). A question raised by this dissertation is how the noun/verb distinction should be perceived, given the apparent overlap in semantic categories relevant to both? While previous research has focused on identifying differences between the two lexical categories, I suggest that an exploration of their similarities might be a fruitful path to understanding the nature of the lexical categories.

The focus of this dissertation was on the Guarani nominal temporality expressions –kue and –rā, for which I proposed analyses as grammatical aspect/modality markers.
While the nominal temporality markers of Guaraní and other languages provided the motivation for this study of nominal temporality, one of the (perhaps perplexing) results of this dissertation is that the nominal temporality expressions of well-studied languages like English and German are at least equally interesting and equally understudied. I have only begun to scratch at the meaning of nominal temporality expressions across languages in this dissertation. Data from a wider variety of languages, with or without nominal temporality markers, will lead to a more detailed and expanded version of the taxonomy I presented in chapter 9.

The theory of the temporal semantics of noun phrases I developed in this dissertation has been successfully applied to Guaraní and English, languages which differ with respect to whether they have nominal temporality markers or not. In future research I would like to extend the theory to languages whose determiners encode distinctions in spatiotemporal distance, like St’at’imcets and Movima. A comparison of such languages to, for instance, English and Guaraní, promises further insight to the way in which reference to individuals, their existence and their properties interacts with the discourse context.

I have argued here that the temporal interpretation of noun phrases depends on the way in which noun phrases are interpreted in the discourse context, i.e. the link between the individual(s) denoted by the noun phrase and entities established in the discourse context. This raises the question of what determines which nominal description is suitable to denote an eventuality participant so that the link to the already established entities can be exploited. In many cases, it seems that speakers have a choice as to which nominal description to use. For instance, I could refer to my father as my father, Helmut, that man over there or a boy who biked through France. Which noun phrase I choose depends on a variety of factors: the discourse context (e.g. what is established about my father), the other discourse participants and the relevance of the nominal description to the message conveyed by the utterance. Chapter 9 provided initial evidence that languages can differ in which nominal description is chosen in a particular discourse context, using an example from Guaraní and its English counterpart:

(4) From a folk tale: The main actor, a monkey, has been tied to a post by a woman who then walked away. The monkey is now trying to trick a fox, who is passing by, into untieing him and letting himself be tied to the post. The monkey says to the fox:
Che-jora pya’e ai-porō-toro-moī che-renda-gué-pe.
B1sg-untie quickly A1sg-??-??-put B1sg-place-KUE-PE

‘Untie me quickly and I’ll put you in my place.’

Since the two languages choose different nominal descriptions in this discourse context (English ‘my place’ and Guaraní ‘my former place’), the noun phrases are temporally interpreted differently in the two languages. Thus, on the basis of examples like this I suggested that there is crosslinguistic variation with respect to which nominal description is chosen to identify eventuality participants in a given discourse context. A production study might provide insight to the various factors that might determine the suitability of a nominal description in a particular context.
Appendix A

Construction of DRSs

This appendix sketches the construction algorithm I assume in this dissertation to build unresolved DRSs from syntactic trees. Anaphora resolution turns the unresolved DRSs into resolved DRSs, as discussed in the main text. After introducing the syntax and lexicon (section 1) and the construction rules (section 2), I present examples of how DRSs are constructed for two English examples and a Guaraní one. The construction algorithm presented here does not construct all of the DRSs presented in the main text but should give an idea of how the rules that would construct such DRSs should look like. See Kamp and Reyle (1993) for a more extensive construction algorithm.

1 Lexicon and Syntax

I assume a non-transformational grammar. The following phrase structure rules generate the English and Guaraní examples given below.

<table>
<thead>
<tr>
<th>English</th>
<th>Guaraní</th>
</tr>
</thead>
<tbody>
<tr>
<td>S → NP VP</td>
<td>S → (NP) (NP) V (NP) (NP)</td>
</tr>
<tr>
<td>VP → (NP) V</td>
<td>S → NP NP</td>
</tr>
<tr>
<td>NP → Pron</td>
<td></td>
</tr>
<tr>
<td>NP → D N'</td>
<td>NP → (D) N'</td>
</tr>
<tr>
<td>N' → Adj N'</td>
<td>N' → N' Adj</td>
</tr>
<tr>
<td>N' → N</td>
<td>N' → N</td>
</tr>
</tbody>
</table>

The lexical items represented in the examples below are the following:
English
N → lawyer, husband
Adj → former, future
D → a, my
V → saw, sang
Pron → I

Guaraní
   kesu-rà ‘cheese-RA’, yuyra ‘wood’, puente-rà ‘bridge-RA’
Adj → po’i-mi-mi ‘thin-DIM-DIM’
D → ko ‘this’, peleñ ‘one’

Since Guaraní is more polysynthetic than English, the Guaraní lexicon contains items
that specify relatively more information than English lexicon items (e.g. che-mena-kue
‘my former husband’ is a complex noun in Guaraní, but a noun phrase containing three
words in English). The construction rules I present in section 2 operate on the nodes of
a phrase structure tree. The construction of DRSs for words in Guaraní is briefly dis-
cussed in section 3. The following four examples illustrate the syntactic trees on which
the construction rules operate.
Example 1: I saw a former lawyer.

English:

```
S
   NP
   VP
     Pron
     V
       NP
         D
           N'
             adj
               former
                 N
                   lawyer
```

Guaraní:

```
S
   V
     NP
       a-hecha
           D
             N'
               petei
                 N
                   abogado-kue
                     lawyer-KUE
```

Example 2: My future husband sang.

English:

```
S
   NP
   VP
     D
       N'
         Adj
           future
             N
               husband
```

Guaraní:

```
S
   V
     NP
       o-purahei
           N
             N'
               che-mena-kue
                 O1sg-husband-KUE
```

Example 3: Ko kamby kesu-rā ‘This milk is for cheese’

Example 4: O-jeity yoyra po’i-mi-mi puente-rā. ‘He threw the thin wood (into the mud) as a bridge’

2 Construction Rules

The construction rules create DRSs of the form \( \langle P(K), A(K) \rangle \) where \( P(K) \) is the presuppositional structure of the DRS and \( A(K) \) is the asserted structure of the DRS (cf. chapter 3). In the following, ‘top DRS’ refers to the top asserted DRS. The construction algorithm traverses down the tree, starting with the \( S \) node. If there is a rule for the node, the rule applies; otherwise, the construction algorithm skips the node and traverses further down the tree. Upon reaching a leaf, the algorithm backs up and traverses down another path.
CR.S: Upon encountering a sentential node S,

1. introduce the indexical discourse referent ‘now’ into the top DRS,

2. introduce a discourse referent \( t_{top} \) into the top DRS, and

3. introduce the DRS \( \text{DRS}_{t_{top}} \) into the presuppositional structure of the DRS.

4. If S is headed by two NPs (Guaraní), introduce the condition \( x=y \) into the top DRS where \( x \) is the discourse referent denoted by the first NP and \( y \) is the discourse referent denoted by the second NP.

CR.VE: Upon encountering a past tensed verb (English),

1. introduce a new discourse referent \( ev \),

2. introduce the condition \( r(ev) \) where \( r \) is the relation denoted by the verb \( V \),

3. introduce the condition \( t_{top} \subseteq \tau(s) \), if \( ev \) is a state, and \( \tau(e) \subseteq t_{top} \), if \( ev \) is an event, and

4. introduce the condition \( t_{top} \prec \text{now} \),

   to the current DRS.

CR.VG: Upon encountering a person-inflected verb (Guaraní),

1. introduce a new discourse referent \( ev \),

2. introduce the condition \( ev:r \) where \( r \) is the relation denoted by the verb \( V \), and

3. introduce the condition \( t_{top} \subseteq \tau(s) \), if \( ev \) is a state, and \( \tau(e) \subseteq t_{top} \), if \( ev \) is an event,

   to the current DRS.

4. If the person-inflection is

   - first person: introduce a discourse referent \( sp \) and a condition \( \text{speaker}(sp) \) into the top DRS,

   - second person: introduce a discourse referent \( hr \) and a condition \( \text{hearer}(hr) \) into the top DRS,

   - third person: introduce a discourse referent \( x \) into the current DRS.
Noun Phrase Rules

**CR.NP1:** Upon encountering an NP that heads a first person pronoun,

1. introduce a novel discourse referent sp into the top DRS, and
2. introduce the condition speaker(sp) into the top DRS.

**CR.NP2:** Upon encountering an indefinite NP ‘a N’ (English) or ‘peteï N’ (Guaraní),

1. introduce a new discourse referent u to the current DRS,

2. introduce the DRS \[
\begin{array}{c}
\text{novel}(u)
\end{array}
\]
   to the presuppositional structure of the DRS, and
3. go to CR.N′.

**CR.NP3:** Upon encountering a definite NP ‘the N’ (English),

1. introduce a new discourse referent u to the current DRS,

2. introduce the DRS \[
\begin{array}{c}
\text{u=?}
\end{array}
\]
   to the presuppositional structure of the DRS, and
3. go to CR.N′.

**CR.NP4:** Upon encountering a demonstrative NP ‘ko N’ (Guaraní),

1. introduce a new discourse referent u to the current DRS,

2. introduce the DRS \[
\begin{array}{c}
\text{visible}(u)
\end{array}
\]
   to the presuppositional structure of the DRS, and
3. go to CR.N′.

**CR.NP5:** Upon encountering a possessive noun phrase ‘my N’ (English),

1. introduce a new discourse referent sp to the top DRS,
2. introduce the condition speaker(sp) to the top DRS,

3. introduce a novel state discourse referent s to the current DRS,

4. introduce the relation poss(s,sp,x) to the current DRS, where x is the discourse referent denoted by the N',

5. introduce the condition \( t_n \subseteq \tau(s) \) to the current DRS,

6. introduce the DRS \( \framebox{t_n} \) to the presuppositional structure of the DRS,

7. go to CR.N'.

**CR.N':** Upon encountering an N',

1. introduce a new discourse referent s to the current DRS, and

2. if N'

   - heads an N (English), introduce the condition \( p(s) \) where p is the property denoted by the noun N,
   - heads an N' modified by ADJ = former or future, introduce the condition \( \text{TERM}(p)(s) \) and \( \text{PROSP}(p)(s) \), respectively, where p is the property denoted by the noun N,
   - heads an N (Guaraní), introduce the material specified by the lexical entry, to the current DRS, and

3. introduce the condition \( t_n \subseteq \tau(s) \) to the current DRS, and

4. introduce the DRS \( \framebox{t_n} \) to the presuppositional structure of the DRS.

### 3 Sample DRSs

In this section I illustrate the construction of the DRSs for the English sentences *I saw a former lawyer* and the corresponding Guaraní sentence. I start with the English sentence *I saw a former lawyer*, repeated in (5).
386 APPENDIX A. CONSTRUCTION OF DRSS

The construction of the DRS for (5) starts with rule CR.S, which results in the following DRS:

\[ \langle \{ t_{top} \}, \text{now } t_{top} \rangle \]

The NP node that heads the pronoun I triggers rule CR.NP1, which results in the following DRS:

\[ \langle \{ t_{top} \}, \text{now } t_{top} \text{ sp}, \text{speaker(sp)} \rangle \]

Next, the V node that heads the past tense verb saw triggers rule CR.VE:

\[ \langle \{ t_{top} \}, \text{now } t_{top} \text{ sp } e, \text{speaker(sp)}, \text{see(e,sp,y)}, \tau(e) \subseteq t_{top}, t_{top} \prec \text{now} \rangle \]

The indefinite noun phrase a former lawyer first triggers rule CR.NP2, then CR.N′:
The DRS constructed for the corresponding Guaraní sentence in (10a) is identical, except that the condition \( t_{top} \prec \text{now} \), which is triggered by past tense, is missing (10b).

Again, the construction of this DRS starts with rule CR.S, which results in the following DRS:

\[
(11) \langle \{ \}, \text{now } t_{top} \rangle
\]

Next, the V node triggers rule CR.VG, resulting in the following DRS:
APPENDIX A. CONSTRUCTION OF DRSS

The indefinite NP triggers rule CR.NP2:

Application of rule CR.N’ results in the following, final, unresolved DRS:

Semantic Composition Below the Word-Level

As mentioned above, English and Guaraní differ with respect to the complexity of lexical items. The DRS for peteí abogado-kue (one lawyer-kue) ‘a former lawyer’ in (15) is a result of the combination of three lexical items in English, but is contributed to the sentence by two lexical items in Guaraní.

I assume that (15) is composed by English words with essentially the same meaning as the corresponding Guaraní expressions:
(16)  a. \( a/pete\bar{\imath} \leadsto \langle \{ \text{novel}(x) \}, x \rangle \)

b. \( \text{lawyer}/\text{abogado} \leadsto \langle \{ \}, \text{lawyer}(s,x) \rangle \)

c. \( \text{former}/-\text{ku} \leadsto \langle \{ \}, \text{TERM}(P) \rangle \) (where \( P \) is the meaning of a noun)

The two languages differ only with respect to whether (15) is created in the syntax (English) or the syntax and the lexicon (Guarani). Thus, while \textit{former lawyer} is constructed in the syntax, \textit{abogado-ku} ‘lawyer-KUE’ is constructed in the lexicon.

(17) \( \langle \{ \}, \text{TERM}(\text{lawyer})(s,x) \rangle \)

One can assume that the meaning of words like \textit{abogado-ku} ‘lawyer-KUE’ are constructed by construction rules similar to those given in section 2. These sublexical rules will be spellt out in future research. (But see Bittner (2001) for a dynamic approach using bridging.)
APPENDIX A. CONSTRUCTION OF DRSS
Appendix B

Texts

B.1 A Boy, a Dog and a Frog (Yucatec Maya)

A boy, a dog and a frog told by Evaristo Dzul Caamal in Tulum (QRoo), July 2002.

(1) Hun-p’éel k’in-ak-e’ hun-p’éel cham pàal k-u bin.
    one-CL day-ak-TOP one-CL little boy IMPF-A3 go
    ‘Once upon a time, a little boy went out.’

(2) H’lok’ ximbal-∅ káa uy il-∅ wáah hu’ chuk-ik
    PRV leave(B3) walk-INC SR A3 see-SUBJ(B3) ALT ASS:A3 catch-INC(B3)
    hun-p’éel ba’al  ich le k’aax-o’.
    one-CL thing in DEF forest-D2
    ‘He left walking to see if he could catch something in the forest.’

(3) Kúch-ul t-u mèet-ah hal hun-p’éel ts’o’not-e’ káa t-u
    arrive-INC PRV-A3 do-CMP(B3) bank one-CL cenote-TOP káa PRV-A3
    il-ah hun-p’éel cháan muuch.
    see-CMP(B3) one-CL little frog
    ‘When he arrived at the bank of a cenote, he saw a little frog.’

(4) Uts-láah t-u y ich le muuch-o’ káa t-u y óot-ah u
    good-all(B3) PREP-A3 eye DEF frog-D2 káa PRV-A3 like-CMP(B3) A3
    chuk-eh.
    catch-SUBJ(B3)
    ‘He liked the frog and wanted to catch it.’
(5) Káa h káah-∅ uy aalkab.
káa PRV start:ACAUS-CMP(B3) A3 run
‘He started to run.’

(6) Túun aalkab-∅-e’ káa h t’ochpa-∅ t-u mots hun-p’éel che’.
PROG:A3 run-INC-TOP káa PRV stumble-CMP(B3) PREP-A3 root one-CL tree
‘As he was running, he stumbled over the root of a tree.’

(7) Káa h lúub-∅ ich le haa’-’o.
káa PRV fall-CMP(B3) in DEF water-D2
‘He fell into the water.’

(8) H wá’al-lah ich le haa’-’o káa h p’aat-∅ naats in le chàan
PRV stand-CMP in DEF water-D2 káa PRV stay-CMP(B3) near ?? DEF little
muuch-∅.
frog-D2
‘He stood in the water and was close to the little frog.’

(9) Uch uy il-ik de que naats ti’ le chàan muuch-∅ káa t-uy
happen(B3) A3 see-INC(B3) that near PREP DEF little frog-D2 káa PRV-A3
öot-ah u mach-eh pero le chàan muuch-∅ h
want-CMP(B3) A3 grab-SUBJ(B3) but DEF little frog PRV
sìit-nah-∅.
jump-CMP(B3)-TOP
‘When he saw that he was close to the little frog he wanted to catch it but the little
frog had jumped.’

(10) Káa h wá’al-lah yoök u mots le che’-’o yàan ich le ts’o’not-∅.
káa PRV stand-CMP(B3) on A3 root DEF tree-D2 exist(B3) in DEF cenote-D2
‘He was standing on a root of a tree that was in the cenote.’

(11) Káa t-u ka’-il-ah le chàan muuch-∅ káa t-u
káa PRV-A3 two-see-CMP(B3) DEF little frog-D2 káa PRV-A3
ka’-öot-ah na’ak-al t-u chuun le che’-’o pero h
two-want-CMP(B3) climb-INC PREP-A3 beginning DEF tree-D2 but PRV
na’ak-∅ xan le peek’-∅.
climb-CMP(B3) also DEF dog-D2
‘When he saw the little frog again he again wanted to climb to the end of the tree
but the frog also climbed up.’
(12) Káa t-uy óot-ah u k’áas-t-∅-o’b u bel.  
káa PRV-A3 want-CMP(B3) A3 block-APPL-SUBJ-PL A3 path  
‘They wanted to cut off his path.’

(13) Káa túun h aalkab-nah le peek’ u chuk-∅ le chan muuch-o’.  
káa so PRV run-CMP(B3) DEF dog A3 catch-SUBJ DEF little frog-D2  
‘The dog ran to catch the frog.’

(14) Le chan chan paal xan-o’ káa t-uy óot-ah u chuk-eh pero  
def little boy also-D2 káa PRV-A3 want-CMP(B3) A3 catch-SUBJ(B3) but  
t-u chuk-ah u peek-’o’, ma’ lete chan muuch-o’.  
PRV-A3 catch-CMP(B3) A3 dog-D2 NEG 3.pron:DEF little frog-D2  
‘The little boy, too, he wanted to catch it but instead he caught his dog, not the little frog.’

(15) Le muuch-o’ h sít-nah  ich le ha t-u ka’-tén-o’.  
def frog-D2 PRV jump-CMP(B3) in DEF water PREP-A3 two-time-D2  
‘The frog jumped into the water again.’

(16) P’u-ha’an le chan muuch-o’ káa h na’ak-∅ yóok hun-p’él tunich.  
angry-RES DEF little frog-D2 káa PRV climb-CMP(B3) on one-CL stone  
‘Angry, the little frog climbed onto a stone.’

(17) Le paal-o’ p’u xan uch u chuk-ik uy alak peek-’o’.  
def boy-D2 angry(B3) also happen(B3) A3 catch-INC(B3) A3 pet dog-D2  
‘The little boy was angry too for having caught his pet dog.’

(18) Káa túun t-u tukl-ah bin.  
káa so PRV-A3 think-CMP(B3) go  
‘He thought to leave.’

(19) Túun ho’p’-ol u bin’-e túun-y a’l-ik bá’l-o’b.  
PROG:A3 start-INC A3 go-TOP PROG:A3-A3 say-INC(B3) thing-PL  
‘As he was leaving he was saying things.’

(20) Le chan muuch-o’ káa h p’át-∅ u tukl-ik le chan paal  
def little frog-D2 káa PRV stay-CMP(B3) A3 think-INC(B3) DEF little boy  
k-u bin-o’.  
IMPF-A3 go-D2  
‘The little frog stayed, thinking about the little boy who was leaving.’
(21) Uch náach-tal túun le chàan paal-o’ le chàan muuch-o’ h
happen(B3) far-INC(B3) so DEF little boy-D2 DEF little frog-D2 PRV
p’áat chéen kul-a’an túun tuukul.
stay(B3) only sit-RES PROG:A3 think
‘When the little boy was leaving, the little frog stayed behind sitting and was
thinking.’

(22) Le chàan muuch-o’ uch uy il-ik de que mu’n
DEF little frog-D2 happen(B3) A3 see-INC(B3) that NEG.PROSP:A3
súut-∅ le chàan paal-o’ káa h bin u kaxt-eh t-u
return-INC DEF little boy-D2 káa PRV go(B3) A3 search-SUBJ(B3) PREP-A3
nah-il.
house-REL
‘The little frog, when he saw that the little boy was not returning, he went to look
for his house.’

(23) Uch u k’uch-ul t-u nah-il le chàan paal-o’ le muuch-o’ káa
happen A3 arrive-INC PREP-A3 house-REL DEF little boy-D2 DEF frog-D2 káa
t-uy il-ah de que túun-y ichkil-∅-e’.
PRV-A3 see-CMP(B3) that PROG:A3-A3 bathe-INC-D3
‘When the frog arrived at the house of the little boy, he saw that they were taking
a bath.’

(24) Káa kum che’ej ki’imak uy óol.
laugh(B3) happy(B3) A3 soul
káa ??
‘He laughed and was happy.’

(25) Káa túun h sít-nah ich le ha tu’ux k-uy ichkil-∅-o’b le
káa so PRV jump-CMP(B3) in DEF water where IMPF-A3 bathe-INC-PL DEF
chàan paal yeete chéen peek’-o’.
little boy with little dog-D2
‘He jumped into the water where the little boy and the little frog were taking a
bath.’

(26) Uch u sít-∅-e’ káa h kuum-∅ u baaxal.
when A3 jump-INC-TOP káa PRV start-CMP(B3) A3 play
‘When he jumped (into the water) they started to play’

(27) Ki’imak láah-uy óol-o’b t-u őox-p’éel-∅-o’b.
happy all-A3 soul-PL PREP-A3 three-CL-REL-PL
‘They were all happy.’ (lit: The souls of all three were happy)
B.1. A BOY, A DOG AND A FROG (YUCATEC MAYA)

(28) Tí’ k-u ts’o’k-ol le ts’ikbal k-in mèet-ik tèech-a’.  
there IMPF-A3 finish-INC DEF story IMPF-A1sg do-INC(B3) you-D1  
‘This is where the story that I am telling you ends.’
B.2  A Boy, a Dog and a Frog (Guaraní)

A boy, a dog and a frog told by Ancia Sabina Maciel in Barcequillo, August 2004.

(1) O-i-nda-je raka’e peteĩ mitä tyre’y o-hayhu-va mymba-kuéra-pe.
    A3-be-say RAKAE one child orphan A3-love-RC wild.animal-PL-PE
    ‘There once was an orphan who loved animals.’

(2) Ha’e h-éra Huan-chi ha o-guereko peteĩ jagua h-éra-va Piruli.
    3.pron 3-name Juan-DIM and A3-have one dog 3-name-RC Piruli
    ‘His name was Juanito and he had a dog whose name was Piruli.’

(3) Peteĩ jey he’i h-yamba jagua-pe:
    one time A3.say 3-pet.animal dog-PE
    ‘One time, he said to his dog:’

(4) “Ja-ha ja-heka ŋane-iru-rã”.
    A1pl.incl-go A1pl.incl-search B1pl.incl-friend-RA
    ‘Let’s go and look for a friend for us.’

(5) Ha o-je-oi hikuáí.
    and A3-JE-go 3.PL
    ‘and they went.’

(6) O-ŋuahe-vo y rembe’y-pe o-mbo-guejy i-mba’e-yryru-kuéra ha
    A3-arrive-AT water bank-PE A3-CAUS1-descend 3-thing-bucket-PL and
    o-jupí yyvra rakâ-me o-ma’e-ha-guá mba’e-icha-gua mymba-pa
    A3-climb tree branch-PE A3-look-NOM-PURP think-like-of wild.animal-QU
    o-topa-ta y kosta-re.
    A3-find-TA water side-RE
    ‘When they arrived at the bank of a lake, the put down their things and climbed
    onto a branch to see which kinds of animals they would see at the bord of the
    water.’

(7) O-hasá-vo upéi o-hecha ju’i-pe o-guapy y mbyté-pe peteĩ yrupê-ari.
    A3-pass-AT then A3-see frog-PE A3-sit water middle-PE one sieve-on
    ‘In passing he saw a frog sitting in the middle of the water on a water lily leaf.’

(8) Vy’a-po-pe sarambi-pe o-guejy hikuáí Pirulo i-yke-re.
    happy-very-PE disorder-PE A3-descend 3.PL Pirulo 3-side-RE
    ‘Happily, they stumbled down, Pirulo at his side.’
(9) Upe-icha-ha-gui-nnte i-pysry peteį yvyra o-ñeno-rehe.
that-like-NOM-GUI-only 3-slip one wood A3-lie.down-REHE
‘Just like that, they stumbled over tree trunk.’

(10) I-poi-pa-ite pe i-po-pe-gua-gui ha ho’a otivo
3-let.go-COMPL-very that 3-hand-PE-of-GUI and A3.fall embarrassingly
y-pe.
water-PE
‘He let go all that he was holding in his hands and fell face first into the water.’

(11) Ju’i tuicha o-ñe-mondyi.
frog big A3-JE-scare
‘the frog was very scared.’

NEG-A3-know-NEG thing-QU LA A3-pass-RC
‘He didn’t know what was going on.’

(13) Upéi i-ñaaka o-sē-vo pe y-gui Huan-chi ju’i rova-ite-rehe o-maña.
then 3-head A3-leave-AT that water-GUI Juan-DIM frog face-very-REHE A3-look
‘Then, when Juanito’s head resurfaced, he was looking directly at the frog.’

(14) Ha he’i i-pyapy-pe:
and A3.say 3-decision-PE
‘And he said with decision:’

(15) “Kó-va ya che-mba’e-ma”.
this-RC already B1sg-thing-MA
‘This is mine already.’

(16) Ha o-ñe-moĩ i-kuã chã’i-ha-guã-icha hese.
and A3-JE-put 3-finger bent-NOM-PURP-like to.3
‘And he started to grab at the frog.’

(17) Mamo-ta-pa ju’i mombyry o-po chu-gui.
place-TA-QU frog far A3-jump 3-GUI
‘but the frog jumped far away from him.’

(18) Pirulo n-o-guerovia-i mba’e-icha-pa Juan-chi nd-o-jura-i ju’i-pe.
Pirulo NEG-A3-believe-NEG thing-like-QU Juan-DIM NEG-A3-grab-NEG frog-PE
‘Pirulo couldn’t believe how Juanito couldn’t grab the frog.’
(19) Ha upéí o-mañña h-enonde gotyo amo-ite yvyra ñeno-ari ju’í o-puka and then A3-see 3-front towards there-very wood lie-on frog A3-laugh hese-kuéra. to.3-PL
‘And then Juan saw in front of him, right there on a tree trunk, the frog laughing about them.’

(20) Ha he’í Juan-chi:
and A3.say Juan-DIM
‘And Juanito says:’

(21) “Ndé piko re-puka-ta che-rehe, ne-mba’e chapí!”
B2sg QU.EMPH A2sg-laugh-TA B1sg-REHE B2sg-thing dull
‘You laugh about me, you little thing?!’

(22) Ha he’í Pirulo-pe:
and A3.say Pirulo-PE
‘And he said to Pirulo:’

(23) “Ndé re-ho-ta chu-pe amó-gui-o lado ha che a-ha-ta chu-pe koa B2sg A2sg-go-TA 3-PE there-GUI side and B1sg A1sg-go-TA 3-PE this other side
‘YOU will go to him from over there and, me, I’ll go by the other side.’

and that-like A3-JE-put A3-go 3.PL A3-grab-NOM-PURP-like frog-PE
‘That’s how they were preparing to grab the frog.’

A3-jump A3-JE-let.go 3-GUI water-PE
‘And as he was getting ready to grab the frog in his little bag, the frog jumped into the water.’

(26) Ha Juan-chi oi-mo’a-nte o-jagara ra’e chu-pei
and Juan-DIM A3-think-only A3-grab RAE 3-PE
‘And Juanito thought that he had grabbed the frog (but that wasn’t the case).’

(27) Ha vokoi-nte Pirulo-pe-nte la o-jura.
and so-only Pirulo-PE-only LA A3-grab
‘but it was only Pirulo who he grabbed.’
(28) Ha ju’i katu tuicha-vé-nte-ma o-ñe-mondýi.
and frog indeed big-more-only-MA A3-JE-scare
‘And the frog got even more scared.’

but that-like-NOM-GUI A3-find one stone far-more-MA 3-GUI-PL
‘From there he found a stone even further away from them.’

(30) Ha he’i ju’i:
and A3-say frog
‘And the frog said:’

(31) “Ko’ape che-ya a-kañy-ma chu-gui-kuéra”.
here B1sg-ya A1sg-hide-MA 3-GUI-PL
‘ ‘Here I’ve hidden from them’.’

(32) Ha upéi upepe o-i-jave hína o-hecha Juan-chi ha Pirulo-pe o-ñe-moi
and then there PROG A3-see Juan-DIM and Pirulo-PE A3-JE-put
o-hupi i-po ichu-pe.
A3-raise 3-hand 3-PE
‘And then, while he was there, he saw Juanito and Pirulo getting ready to say
good-bye to him.’

(33) Ha nd-oi-kuaa-i ju’i mba’e-pa la ha’e-kuéra o-japo-se-va.
and NEG-A3-know-NEG frog thing-QU LA 3.pron-PL A3-do-DES-RC
‘And the frog doesn’t know what they want to do.

(34) Upéi katu Juan-chi ha Pirulo he’i ojoupe:
then indeed Juan-DIM and Pirulo A3-say one.to.other
‘Then Juanito and Pirulo say to themselves:’

(35) “Nda-ha’e-i ra’e la ju’i-pe ja-jura-nte-va pe-icha”
NEG-3.pron-NEG RAE LA frog-PE A1pl.incl-grab-only-RC that-like
‘ ‘It wasn’t so easy after all to get the frog.’’

(36) “Ja-ha jey-mba’e”.
A1pl.incl-go again-thing
‘ ‘Let’s go (home) again’.’

(37) Ha o-ñe-moi o-ho jey hikuai.
and A3-JE-put A3-go again 3.PL
‘And they get ready to go again.’
(38) Tape-re o-ñe-mongeta o-ho-vo ha’e-kuéra ha he’i: 
path-re A3-JE-talk A3-go-AT 3.pron-PL and A3.say
‘Down the path they go chatting and they say:’

(39) “Ñande jey-nte ja-ha o-ño-ndive’.
B1pl.incl again-only A1pl.incl-go A3-alone-with
‘Now it’s again only the two of us alone.’

(40) Kova ñemguasy o-ho-vo hikuai.
face sad A3-go-AT 3.PL
‘Sad-faced they are going.’

(41) Ha ju’i o-pyta o-je-pya-mongeta:
and frog A3-stay A3-JE-stomach-talk
‘And the frog stayed and said to itself:’

(42) “Mba’e-ne piko ra’e la oi-pota-va hikuai?”
thing-might QU.EMPH RAE LA A3-want-RC 3.PL
‘What might it be that they wanted?’

(43) “Ajeve-ramo che-jura-se katu-ete”
therefore-COND B1sg-grab-DES indeed-very
‘Maybe they really wanted to catch me badly’.

(44) Ha pe tape-rehe o-pyta pe Pirulo ha Juan-chi py-po-re.
and that path-REHE A3-stay that Pirulo and Juan-DIM foot-hand-RE
‘And on the path stayed Pirulo and Juanito’s foot and handprints.’

(45) I-liño o-ho-vo ha he’i ju’i:
3-line A3-go-AT and A3.say frog
‘One after the other is how they were going and the frog said:’

(46) “A-ñe-moi-ta ai-pykúi pe h-apykué-rehe ha ai-kuaa-ta mó’o-pa
A1sg-JE-put-TA A1sg-walk that 3-behind-REHE and A1sg-know-TA where-QU
oi-ko”
A3-live
‘I’m going to get ready to follow them and will know where they live.’

(47) Ha o-je-oi.
and A3-JE-go
‘And they were gone.’
(48) O-ñe-moï ju’i oi-pykúi pe h-apykué-rehe.
A3-JE-put frog A3-walk that 3-behind-REHE
‘And the frog gets ready to follow them.’

(49) Ha o-ğuahe-ma-ramo la i-py-po-re-kuéra o-hecha oi-ke peteï koty-pe.
and A3-arrive-MA-COND LA 3-foot-hand-RE-PL A3-see A3-enter one room-PE
‘And when he arrived, having followed their prints, he saw them enter a room.’

(50) Ha la vosa’i o-ñakara-ma-se-ha-gue hese o-ì yvy-pe.
and LA bag-DIM A3-grab-MA-DES-NOM-KUE to.3 A3-be earth-PE
‘And the little bag with which they had wanted to grab him was lying on the floor.’

(51) Ne’ïralti ju’i o-i-kuaa mba’e-pa la pe mitâ ha pe jagua o-i-pota-va’e-kue
still.not frog A3-know thing-QU LA that child and that dog A3-want-RC-KUE
hese.
to.3
‘The frog still didn’t understand what they boy and the dog had wanted of him.’

(52) Upéï ha’e-kuéra o-ñe-moñgëta pe Juan-chi ha Pirulo o-ì hína.
then 3.pron-PL A3-JE-talk that Juan-DIM and Pirulo A3-be PROG
‘Then they were chatting to each other, Juanito and Pirulo were.’

(53) He’i “haimete ña-ñakarama hese” he’i Pirulo, ha Juan-chi he’i:
A3.say almost A1pl.incl-grab 3.to A3.say Pirulo and Juan-DIM A3.say
‘Juanito and Pirulo said “we almost caught him”, that’s what they said.’

(54) “Pe ña-ñakarama-ríre hese o-i-ma-ramo ha’e ñané-ndive ko’ape”
that A1pl.incl-grab-after 3.to A3-be-MA-COND 3.pron B1pl.incl-with here
‘“If we had caught him, he would be with us here now”.’

(55) Ha upe-icha o-ñe-mongeta pe o-i-ha-gui hína.
and that-like A3-JE-talk that A3-be-NOM-GUI PROG
‘Like that they were talking there.’

(56) Ju’i o-guapy-ma pe okê-me hína.
frog A3-sit-MA that door-PE PROG
‘The frog was already sitting in the door.’

(57) O-puka o-hecha-vo chu-pe-kuéra.
A3-laugh A3-see-AT 3-PE-PL
‘He laughed when he saw them.’
(58) He’i ju’i:
A3.say frog
‘The frog said:’

(59) "I-pa-ha-pe ou-jey o-jahu hikuai”
3-end-NOM-PE A3.come-again A3-bathe 3.PL
‘Finally they’re bathing’."

(60) Ha upéi o-hecha sapy’a Juan-chi ha Pirulo ju’i-pe.
and then A3-see suddenly Juan-DIM and Pirulo frog-PE
‘And then suddenly Juanito and Pirulo saw the frog.’

(61) Ij-ypype-te-pe-ma o-i.
3-close-very-PE-MA A3-be
‘He was already very close to them.’

(62) Ha he’i:
and A3.say
‘And they said:’

(63) “Mba’e piko pea heta ŋaŋe-ha’a kuri ja-gueru-ha-guá
thing QU.EMPH this much B1pl.incl-try KURI A1pl.incl-bring-NOM-PURP
ŋaŋe-ŋdive ha ko’agá i-pa-ha-pe ou ha’e-ŋo
B1pl.incl-with and now 3-end-NOM-PE A3.come 3.pron-alone
‘‘What did we not try to bring him with use and now, in the end, he came alone’.’

(64) Ha upe-icha-jave ju’i o-po hi-ari-kuéra
and that-like-while frog A3-jump 3-on-PL
‘and during that the frog jumped onto them.’

(65) Ha upe-gui-ve Pirulo, Juan-chi ha ju’i o-ko o-ŋo-ŋdive
and that-GUI-more Pirulo Juan-DIM and frog A3-pass A3-alone-with
vy’a-po-pe.
happy-very-PE
‘And from then on, Pirulo, Juanito and the frog lived happily together.’

(66) Ha’e-kuéra ju-hayhu-pe.
3.pron-PL mutual-love-PE
‘They liked each other.’

(67) Nd-o-jei-ri ojue-he-gui.
NEG-A3-despegarse-NEG mutual-3-GUI
‘They did not separate from each other.’
(68) Upe-icha o-pa.
    that-like A3-end
‘That’s how it ends.’
B.3 When I was Small (Guaraní)

When I was small told by Marité Maldonado in Barcequillo, August 2004.

1. Ore ore-michi-me che, che-sy, che-kyvy ha
   B1pl.excl B1pl.excl-small-PE B1sg B1sg-mother B1sg-brother and
   che-reindy-kuéra roi-ko-pa
   va’ekue che-sy sy róga-pe.
   B1sg-sister-PL A1pl.excl-pass-COMPL VAEKUE B1sg-mother mother house-PE
   ‘When we were small, my mother, my brother and my sisters, we all lived in my
   grandmother’s house.’

2. Ha’e o-pu’a voi-eteri o-ñami-ha-guã
   i-vaca.
   3.pron A3-get.up early-very A3-milk.the.cow-NOM-PURP 3-cow
   ‘She (the grandmother) got up very early to milk her cows.’

3. Heta o-gue-reko va’ekue ha’e la vaca.
   many A3-have VAEKUE 3.pron LA cow
   ‘She had many cows.’

4. Ha upei o-vende-pa-rire la kamby o-japo va’erã rambosa
   and then A3-sell-COMPL-after LA milk A3-make VAERA breakfast
   i-personal-kuéra o-mba.apo-va kokue-pe-guã-rã ha ore-ve-guã-rã
   3-personal-PL A3-work-RC chacra-PE-PURP-RA and B1pl.excl-VE-PURP-RA
   avei.
   also
   ‘And then, after she had sold it (the milk, she had to make breakfast for her
   personal who was working in the chacra and for us, too.’

5. Ha upei ha’e o-jepokuaa o-ñeno asaje-kue o-pyt'u.
   and then 3.pron A3-be.used.to A3-lie.down siesta-KUE A3-rest
   ‘And then she used to lie down during the siesta to rest.’

6. Ha’e i-kane’ô porque o-cocina va’erã diez – mas o menos diez ...
   3.pron 3-tired because A3-cook VAERA 10 more or less 10
   ‘She was tired because she had to cook for ten, more or less ten...’
(7) Ro-karu va’erä la asaje, ha la hi-olla ha’e oi-puru-vae-kue de hierro A1pl.excl-eat VAERA LA siesta and LA 3-pan 3.pron A3-use-RC-KUE of iron ha tuicha.
and big
‘We had to eat at the siesta and her pan, the pan that she used was made of iron and was big.’

(8) Ha’e o-jatapy tuicha ha o-ho o-ñeno.
3.pron A3-make.fire big and A3-go A3-lie.down
‘She made a big fire and then went to lie down.’

(9) Upe-aja ore che-kyvy-ndi ro-së ro-kañy chu-gui that-while B1pl.excl B1sg-brother-WITH A1pl.excl-leave A1pl.excl-hide 3-GUI
‘During this we, me and my brother, escaped her.’

(10) Ha po-no-ve ro-kañy chu-gui ha’e o-rombe’u va’erä and so.that-no-more A1pl.excl-escape 3-GUI 3.pron A3-tell VAERA ore-ve la pe ūnu-re oi-ko-ha la jasy jatere ara haku-kue B1pl.excl-VE LA that woods-RE A3-live-NOM LA jasy jatere time hot-KUE ro-kykyje-ha-guañ
A3.excl-scare-NOM-PURP
‘And so that we wouldn’t escape her anymore she had to tell us that the jasy jatere lives in the forest during the summer, in order to scare us.’

(11) Ha ore lo mimo-nte ro-së ro-ho ro-kañy chu-gui. and B1pl.excl the same-only A1pl.excl-go A1pl.excl-escape 3-GUI
‘We nevertheless escaped from her.’

(12) Ro-heka ro-heka ūnakyra ha oimeraëva vyra-’i A1pl.excl-search A1pl.excl-search cigarra and any bird-DIM ro-juga-ha-guañ hese.
A1pl.excl-play-NOM-PURP 3.to
‘We looked for crickets or any kind of bird to play with.’

(13) Ro-moï ūnuha ho’a pype la vyra A1pl.excl-put trap A3.fall into LA cricket
‘We layed traps for the crickets.’

(14) Ha’e upe o-mbo-pupu ore-ve la hi-olla-pe 3.pron then A3-CAUS1-boil B1pl.excl-VE LA 3-pan-PE
‘And then she (the grandmother) boiled it in her pan.’
(15) Akāhatā-gui rei-nte ro-japo umia.
   travieso-GUI just.so-only A1pl.excl-do those
   ‘We did it for fun, nothing more.’

(16) Ha mama umia nd-oiku-a-i la i-sy o-japo-ha ore-ve.
   and mother those NEG-A3-know-NEG LA 3-mother A3-do-NOM B1pl.excl-VE
   ‘And mother she didn’t know what her mom was doing for us.’

(17) Upe-ramo oimene ore ro-reko la siete ocho años ha la
    that-COND surely B1pl.excl A1pl.excl-have LA seven eight years and LA
    che-rrvy o-juga-va che a-juga he-ndive mitā-icha.
    B1sg-brother A3-play-RC B1sg A1sg-play 3-with boy-like
    ‘At that time we surely were seven or eight years old and what my brother played
    I played with him, like a boy.’

(18) Ro-kore asaje puku-kue, ro-guata ro-kañy ſu-re.
   ‘We ran all siesta long, we walked and hid in the forest.’

(19) Peteį jey ro-ho la campana-re, che-abuela
    one time A1pl.excl-go LA campana-RE B1sg-grandmother
    o-nase-ha-gue-pe, Kiindy-pe, Kiindy hera la valle.
    A3-be.born-NOM-KUE-PE Kiindy-PE Kiindy 3-name LA town
    ‘One day we went to the countryside, to Kiindy, Kiindy is the name of the town.’

(20) Ha upepe avei o-jepokuaa la o-je-karu-pa-rire
    and there too A3-be.used.to LA A3-JE-eat-COMPL-after
    o-ñe-ñeñ-amba-ite uyvra-guy-PE — kat-re-PE
    A3-JE-lie.down-COMPL-very tree-under-PE makeshift.bed-PE
    ‘And there too after having eaten it was customary to lie down, under a tree or in
    a makeshift bed.’

(21) Ro-ha’arō ore jey la che-rrvy-ndi
    A1pl.excl-wait B1pl.excl again LA B1sg-brother-with
    ro-kañy-ha-guā ro-ho ro-heka ſakyrā.
    A1pl.excl-escape-NOM-PURP A1pl.excl-go A1pl.excl-search cricket
    ‘We again waited, with my brother, to escape, to go and search for crickets.’
(22) Ha ro-kañy ro-ho ro-ho ro-ho-ve ha and A1pl.excl-escape A1pl.excl-go A1pl.excl-go A1pl.excl-go-more and no-ro-mañä-i la ore-rapyke gotyo ha ro-kañy. NEG-A1pl.excl-see-NEG LA B1pl.excl-behind towards and A1pl.excl-hide ‘And we escaped, we went and went and went more, and we didn’t look back and we got lost.’

(23) Ha upei ro-topa jey-vo la ore-rape nd-i-katu-i and then A1pl.excl-find again-at LA B1pl.excl-path NEG-3-possible-NEG ro-hasä porque o-i moköi umi guëi hati puku guasu-va A1pl.excl-pass because A3-be two those bull horn long big-RC ‘And then we found our path again, it wasn’t possible for us to pass because there were two bulls with big long horns.’

(24) Ha kyhyje-po-pe ro-hasä ha che-kväy haimete ho’a and fear-very-PE A1pl.excl-pass and B1sg-brother almost A3.fall mbokaja rati-ari small.coconut.plant spine-on ‘and we passed very frightened and my brother almost fell onto spines of a coconut plant.’

(25) Ro-ñe-mondýi tuicha pero ro-hasä kyhyje-pe A1pl.excl-JE-scare big but A1pl.excl-pass fear-PE ‘And we were very scared but we got over it.’

(26) Ha ro-gueru la ore-ñakrë. and A1pl.excl-bring LA B1pl.excl-cricket ‘and we brought our cricket.’

(27) Ha ro-mosä ha ro-mbo-veve la ilo-re and A1pl.excl-tie and A3-CAUS1-fly LA thread-RE ‘and we tied thread to it and made it fly with the thread.’

(28) Ro-mosä mbyky-mi ilo po’i-pe A1pl.excl-tie short-DIM thread thin-PE ‘We tied the thread short and thin.’
(29) Ha la che-abuela katu o-ñe-kebranta ha he’i ore-ve
and LA B1sg-grandmother indeed A3-jE-annoy and A3.say B1pl.excl-VE
“ani pe-juga pe-icha pe inocente-re” he’i ore-ve
NEG.IMP A2pl-play that-like that innocent RE A3.say B1pl.excl-VE
‘And my grandmother got annoyed and said to us “don’t play like this with this
innocent one”, she said to us.’

(30) H-asë vai ha o-chiä la ñakyra pe tape puku-kue.
3-cry bad and A3-chillar LA cricket that path long-KUE
‘The cricket cried badly and sang all along the path.’

(31) Ha ro-ñuahe ko’ape ha ro-poi chu-gui-kuéra
and A1pl.excl-arrive there and A1pl.excl-go 3-GUI-PL
‘And we arrived there and let go of them (the crickets).’
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