The typology and formal semantic of adnominal possession

Karvovskaya, E.

The typology and formal semantics of adnominal possession

Published by

LOT
Trans 10
3512 JK Utrecht
The Netherlands

phone: +31 30 253 6111
e-mail: lot@uu.nl
http://www.lotschool.nl

Cover illustration: Ishkashim district, Tajikistan; photo by Lena Karvovskaya

ISBN: 978-94-6093-283-0
NUR: 616

The typology and formal semantics of adnominal possession

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof. mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 2 mei 2018
klokke 13.45 uur

door

Lena Karvovskaya

geboren 21 oktober 1985
Moskou, Rusland

Promotores:	Prof. Dr. J.E.C.V. Rooryck Prof. Dr. M. Zimmermann
Co-promotor:	Dr. E. Schoorlemmer
Promotiecomissie:	Prof. Dr. Regine Eckardt (Universität Konstanz) Prof. Dr. Marjo van Koppen (Universiteit Utrecht, Meertens Instituut) Prof. Dr. Jenny Doetjes

This thesis is dedicated to my parents,
Nadežda and Aleksandr.

Contents

List of Tables

List of Figures

List of abbreviations

The structure of this list follows the list of languages used in the dissertation.[1] For every language, I use the glosses provided in the respective grammar. I chose to use the original glosses instead of a unified list because the authors usually have their reasons to deviate from the the Leipzig Glossing Rules. By adopting the originally proposed glosses, I want to keep intact the information they wanted to include in their examples.

In several cases (Limbu, Nêlêmwa, Q'eqchi), I have used my own glosses, as the authors do not provide glosses for all their examples; similarly, I have used my glosses for the modified or additionally elicited examples (Hebrew, Mandarin Chinese).

Adyghe
glosses from Gorbunova (2009)
ABS - absolutive
ERG - ergative
LOC - locative
PL - plural
POSS - alienable possession
PST - past tense
REC - reciprocal
SG - singular

Aguaruna
glosses from Overall (2007)
POSS - possessive
SG - singular

Amele
glosses from Roberts (1987)
SG - singular
PL - plural

Baure
glosses from Danielsen (2007)
ART - article
DEM2 - demonstrative, type 2
M - masculine
SG - singular

Blackfoot
glosses from Bliss (2013)
1 - 1 person
AI - Animate Intransitive
CN - conjunct nominal
DEM - demonstrative

[1] The list is based only on those examples that appear in the text of the dissertation. The database contains more examples than discussed in the thesis.

DIR - direct
FUT - future
INAN - inanimate
IMPF - imperfective
LOC - locative
NEG - negative
PROX - proximate
POSS - possessive
TA - Transitive Animate

Bororo
glosses from Nonato (2008)
P - plural
S - singular

Chontal Mayan
glosses from Knowles (1984)
1 - 1 person
3 - 3 person
A - set A dependent pronoun
MG - masculine gender
REL - relation possessed

Daaakaka
glosses from von Prince (2016)
CL1/2/3 - possessive classifier
DEM - demonstrative
LINK - possessive linker
MED - medial distance
NOM - nominalizer
POSS - possessive
REAL - realis
SG - singular
TRANS - transitivizer

Ewe
glosses from Ameka (1991)
DEM - demonstrative
NEG - negative
SG - singular

Hebrew
my glosses
1 - 1 person
3 - 3 person
CS - construct state
DEF - definite
PL - plural

Hidatsa
glosses from Park (2012)
1 - 1 person
3 - 3 person
POS - possessive

Hungarian
glosses from Gerland and Ortmann (2014)
3 - 3 person
P'OR - possessor
SG - singular

Kayardild
glosses from Evans (1995)
1 - 1 person
ACT - actual
DU - dualis
GEN - genitive
LOC - locative
NOM - nominative

Koyukon
glosses from Thompson (1996)
1 - 1 person
3 - 3 person
pos - possessive
s - singular
K'E - morpheme *k'e*

Lele
glosses from Frajzyngier (2001)
3 - 3 person
gen - genitive
m - masculine

Limbu
my glosses
LN linking nasal

Maltese
glosses from Stolz et al. (2008: 86)
DET - determiner
PL - plural

glosses from Fabri (1993)
DF - definite

Mandarin
glosses from Chappell (1996)
3 - 3 person
BA - morpheme ba
GEN - genitive
LE - morpheme le (my gloss)
SG - singular

Maricopa
glosses from Gordon (1986)
1 - 1 person
2 - 2 person
poss - possessive

Mongsen Ao
glosses from Coupe (2007)
ANOM - agentive nominalization
M - masculine semantic gender

Movima
glosses from Haude (2006)
1 - first person
2 - second person
a - absential
ABS - absolute state
APPL - applicative
ART - article
BE - bound element
BR - bound root
CO - co-participant DET - determiner
DM - demonstrative
DR - bivalent direct
f - feminine
IMM - immediate past
INAL - inalienable possession
LN - linking nasal
LV - linking vowel
m - masculine
MST - mental state
n - neuter
nst - non-standing
obl - oblique
p - past
pl - plural
PRC - process verbalization
PRO - free pronoun
REL - relativizer

Mussau
glosses from Brownie and Brownie (2007)
1 - first person
3 - third person
I - class I
P - possessive
PCL possessive classifier
s - singular
glosses from Ross (2002)
1 - first person
II - class II
sg - singular

Nêlêmwa
glosses from Bril (2013)
1 - 1st person
const - construct state (my gloss)
link - linker
sg - singular

Paamese
glosses from Crowley (1982)
1 - 1 person
dom - domestic
ed - edible
leg - legal
man - manipulate
pot - potable
part - particularising
sg - singular

Panare
glosses from Payne and Payne (2013)
1 - 1 person
CL - classifier
sg - singular
POSS - possessed

Q'eqchi
my glosses
1 - 1 person
sg - singular

Rapa Nui
glosses from Kieviet (2017)
1 - first person
A - a class possessives
NTR - neutral aspect
O - o class possessives
pl - plural
poss - possessive
sg - singular

Saliba
glosses from Mosel (1994)
1 - first person
3 - third person
det - determiner
poss - possessive classifier
sg - singular

Samoan
glosses from Mosel and Hovdhaugen (1992)
3 - third person
art - articles
poss - possessive (a and o)
pres - presentative
sg - singular

Slave
glosses from Rice (1989)
1 - first person
3 - third person
poss - possessive (my modification of the original "possessive")

Standard Fijian
glosses from Palmer (2008)
GENPOSS - general indirect possession

Tanacross
my glosses
1 - 1 person
IND - indefinite
SG - singular

Tariana
glosses from Aikhenvald (2003)
l - 1 person
CL - classifier
POSS - possessive
sg - singular

Tawala
glosses from Ezard (1997)
1 - 1 person
2 - 2 person
3 - 3 person
sg - singular

Toba
glosses from Mesineo (2003)
1 - 1 person
al - alienable
Clg - clasificador genitivo
D - raíz deíctica
fem - femenino
pos - marcador de poseedor
sg - singular

Tolai
glosses from Mosel (1984)
ART - article
POSS.CLFR - possessive classifier
POSS.M - possessive marker
TA - tense, aspect, mood marker

Toqabaqita
glosses from Lichtenberk (2008)
1 - 1 person
DVN - deverbal noun
PERS - personal
PERSMKR - person marker
SG - singular

Tzutujil
my gloss
abs - absolutive

Udmurt
my gloss
1 - 1 person
3 - 3 person
sg - singular

Wandala
glosses from Frajzyngier (2012)
1 - 1 person
3 - 3 person
gen - genitive

Yaitepec Chatino
glosses from Rasch (2002)
1 - 1 person
3 - 3 person
sg - singular

Yine (Piro)
glosses from Hanson (2010)
1 - 1 person
3 - 3 person
FEM - feminine
SG - singular
MSC - masculine
PSSD - possessed noun

Yucatec Mayan
glosses from Lehmann (2002)
0 - meaningless element
1 - 1 person
3 - 3 person
CL - classifier
DEF - definite
D2 - distal deictic
PL - plural
POSS - possessive
textscrel - relationalizer
SG - singular

Acknowledgements

When I started university, I didn't know much about linguistics or research. Back then, I had no idea that I would end up writing a dissertation in linguistics. Many people have helped me on this journey in various ways, and I want to thank at least some of them.

I was first introduced to linguistics at Russian State University for the Humanities. I thank Elena Muravenko and Leonid Iomdin for supervising my first study projects. During my studies, I was lucky to participate in linguistic fieldtrips to the Caucasus and Siberia. I thank Yakov Testelets, Nina Sumbatova and Olga Kazakevich for these unique experiences.

Since I was learning German at the time, I received a scholarship to spend a semester at Humboldt University. There I did an internship at a project documenting Saami languages spoken in Russia. Michael Rießler, Kristina Kotcheva, and Joshua Wilbur made me feel welcome and introduced me to the lively Berlin linguistic community.

I enjoyed my semester abroad and I decided to continue my study of linguistics in Germany. I chose the University of Potsdam, and again I was very lucky. Thanks to the large-scale collaborative research project between three universities in Potsdam and Berlin, I ended up in the most stimulating linguistic environment imaginable. I am very grateful to the wonderful group of Potsdam researchers for numerous discussions and friendly atmosphere: special thanks to Mira Grubic, Anne Mucha, Agata Renans, Marta Wierzba, Joseph De Veaugh-Geiss and Radek Šimík. Apart from my studies, I learned a lot about linguistics by working as a student assistant. I thank Malte Zimmermann for giving me a position in his project on focus from cross-linguistic perspective. Later, the project provided financial support for my own fieldwork trips to the Pamir. I was also employed at ZAS Berlin in Manfred Krifka's project documenting the languages of West Ambrym. I thank my colleagues, Kilu von Prince and Soraya Hosni, for introducing me to Austronesian languages and for being great friends and mentors. During my Berlin-Potsdam time, I realized that linguistics made me happy and that I wanted to continue doing it. In 2013, I moved to Leiden to

start my PhD position on the NWO project, “Lend me your ears: the grammar of (un)transferable possession”.

This dissertation would not have been the way it is without my supervisors: Erik Schoorlemmer, Johan Rooryck and Malte Zimmermann. Erik was my “daily” supervisor at the beginning; he generously helped me with various scientific and non-scientific issues. Johan was the driving force during the second half of my PhD studies. Whenever I wrote something, he was always there, ready to read it and help me improve it. Malte stepped in to supervise the semantic part of the dissertation. I thank him for the inspiring meetings on Skype and in various cafes in Berlin. I thank the members of my dissertation committee: Regine Eckardt, Marjo van Koppen, Jenny Doetjes, Lisa Bylinina, Wataru Uegaki, and Martine Bruil.

I wouldn't have enjoyed my times in the Netherlands as much without my wonderful colleagues. Thank you, Matthias Pache, Alex Reuneker, Gulnaz Sibgatullina, Kate Bellamy, Aliza Glasbergen-Plas, Yang Yang, George Saad, Martin Kohlberger, Amanda Delgado Galvan, Marieke Meelen, Sima Zolfaghari, Anikó Lipták, Stella Gryllia, Leticia Pablos Robles, Güliz Günes, James Griffiths, Crit Cremers, Dominique Block, Stavroula Alexandropoulou, Anja Goldschmidt, Lotte Dros-Hendriks, Myrthe Coret-Bergstra, Jolien Scholten, Heidi Klockmann, Hanna de Vries and Bert Le Bruyn. Special thanks go to my lovely officemates: Enrico Boone, Carmen Ebner, Nastia Ionova.

While I was writing this dissertation, I received help from Pavel Ozerov, Morag Segal, Evgeniya Korovina, Swintha Danielsen, Heather Bliss, Vera Hohaus, Elisabeth Verhoeven, and Stavros Skopeteas. Ciprian Gerstenberger and especially my brother, Dmitriy Karvovskiy, provided invaluable help with the database. I thank Allison Kirk for proofreading this thesis, and Marlijn Meijer for translating the summary into Dutch. Finally, I thank Katja Lubina, for being my writng coach. During my PhD studies, I spent a semester visiting MIT. David Pesetsky was my supervisor there, and I want to thank him for his constant encouragement and for our almost weekly meetings.

As a transition between a somewhat ‘linguistic’ and a purely personal part of these acknowledgements, I want to thank the people linguistics brought into my life. They were with me at various times and places; they taught me a lot about life and about myself. Beste Kamali, Milena Sisovics, İsa Kerem Bayırlı, Sonia Lahuti, Aleksandra Çelik, Alexandra Kolomeychuk, Natlia Aralova, Polina Berezovskay, Thamar Eilam and Beate Reinhold – thank you for being there.

I thank my parents and my brother for their love and for doing everything in their power to guarantee me a good education. I thank Kai for being with me *in voor- en tegenspoed*, and our son Victor for giving me the motivation to finish writing. Finally, I thank the entire Salden family for making me feel at home in the Netherlands.

CHAPTER 1

Introduction

This dissertation is a study of the semantics of adnominal possession cross-linguistically. This chapter introduces the topic and structure of the thesis. In section 1.1, I introduce the notion of adnominal possession and formulate the research question. In section 1.2, I introduce the terminology that I use in the thesis and briefly discuss various approaches to possessive interpretations in formal semantics and in typology. In section 1.3, I justify the sample of languages and the constructions that I analyzed in this study. Finally, section 1.4 is a brief overview of the remainder of the thesis.

1.1 The research question

This thesis presents an inquiry into cross-linguistic variation. The main question is how various semantic types of possession map onto morphosyntactic constructions. The object of study is the relation between the **formal marking of a possessive construction** and its **possessive interpretation**.

As far as interpretation is concerned, in daily use, "possession" is usually understood as ownership. Superficially, possessive constructions like *John's book* describe ownership relations. However, it is easy to show that this possessive phrase can receive various interpretations. *John's book* might describe a book John wrote, a book John likes, a book John recommended to someone or a book John chose to write a review about. The most prominent interpretation of a possessive phrase like *John's nose* is clearly not ownership, but a reference to a body-part relation. Other interpretations are available as well; *John's nose* might describe a nose in John's collection, John's drawing of a nose, or a

nose that John likes, etc. Due to this interpretive flexibility of possessive constructions, linguistic understanding of possession diverges from its daily use. In linguistic models, possession is usually assumed to be an underspecified relation, not limited ownership. Adnominal possession is a grammaticalized way to express this underspecified relation between two nominal groups within a nominal phrase. According to Aikhenvald (2013: 1), adnominal possession is universal: "every language has a mechanism for expressing possession, within a noun phrase and within a clause."

The idea that despite interpretative flexibility, there is a system behind various possessive interpretations has been around for a long time. As I discuss in more detail below, possessive interpretations have been widely discussed under the label of (in)alienable possession in the typological literature (Nichols 1988; Chappel and McGregor 1996; Stassen 2009, among many others). In formal semantics, a crucial distinction has been made between possessive interpretations established in the context and possessive relations provided by the possessed noun itself (Partee 1983/1997; Barker 1995; Löbner 2011). The focus of this thesis is the expression of possession cross-linguistically. It explains the intuition that there is a similarity in how various possessive relations are expressed in genetically unrelated languages. In this thesis, I argue that distinct formal marking may correspond to distinct types of relations between the possessor and the possessed.

1.2 Methodology and assumptions

This thesis combines typological research with formal semantics. The semantic system adopted is truth-conditional formal semantics (see e.g. Heim and Kratzer 1998). The typological part of the study is done with help of a database of adnominal possession, which was created as a part of my work within the NWO-sponsored project, *Lend me your ears: the grammar of (un)transferable possession*. The database is discussed in more detail in section 1.3 and in Appendix 1. In addition to a large-scale study involving the creation of the database, I undertook detailed studies on a smaller set of languages in order provide deeper insights into how possessive interpretations are established in the grammar.

The main assumption behind this study is that cross-linguistic differences in the morphosyntactic encoding of possession may reveal something about the differences in interpretation. As far as syntax is concerned, I assume that it is essentially type-driven; for instance, I don't assume designated slots for possessive markers. In what follows, I introduce the relevant discussion of adnominal possession.

1.2.1 Possessive constructions: the components

Any possessive construction involves a possessed entity and a possessor. A possessive construction may also involve additional morphemes. Thus, in the example *John's nose* above, *John* is the possessor, *nose* is the possessed and *'s* is an additional morpheme. Languages can make use of more than one morphosyntactic construction to express adnominal possession. I use the term *marking strategies* to describe possessive constructions in a given language. A *marking strategy* is a morphosyntactic construction defined by its morphological components: the possessor, the possessed and the morphemes used to express possession. The differences in morphology (differential possessive marking) serve as the primary criterion for me to distinguish multiple marking strategies in a given language. On the general notion of possession that I adopt, the possessor is an entity that stands to the possessed in any conceptual relation. This relation might be ownership, kinship, part-whole (including parts of possessor's body), creator or any other contextually determined relation like 'like', 'take care of' or 'be attacked by'. I use the term **possessive marker** for a morpheme that helps to establish a relation between the possessor and the possessed. Thus, in the Samoan example in (1), the preposition *a* is a possessive marker, but the determiner *le* is not.

(1) le ata **a** le fafine
ART picture poss ART woman
'A picture of a woman' (Mosel and Hovdhaugen 1992)

In the typological literature on possession, it is common to use the notion of "possessive marking", as for instance in "Locus of Marking in Possessive Noun Phrases" in Nichols and Bickel (2013a); see also Nichols (1988), Krasnoukhova (2012) and many other works. This notion should be seen as a cover term for a range of phenomena. For instance, "possessive marking" can describe a morpheme that attaches to the possessor or the possessed within a possessive construction, but it can also describe the possessor expressed by a pronoun-like element. See also van Rijn (2016) for a detailed study of this notion. There are various asymmetries in terms of the constraints on the expression of the possessor and the possessed. The possessed entity is represented by a noun, like *car*, *hand*, etc. The possessed is usually not a pronominal element: **John's she*. In contrast, the possessor can either be represented by a noun e.g. *girl* in *the girl's book* or by a pronoun, like *her* in *her book*. A pronoun can be a separate word, like *her* in the English example. But it can also appear as a morpheme attached to the possessed noun, as in (2) from Baure.

(2) ni=hačkis
1SG=glasses
'my glasses' (Baure; Danielsen 2007) [1]

[1] Here and in the rest of the dissertation I adopt the phonetic orthography and the glossing rules used by the authors of the respective grammars.

Possessive constructions often allow for multiple expression of the possessor; for instance, in Baure example (4) the possessor is represented twice, as a pronoun-morpheme and as the noun 'lizard'. Similarly, in Dutch (1b), the possessor is represented as the pronoun *z'n* and as the noun *Johan*.

(3) a. teč **ro**=wer to **kotis**
DEM2M 3SGM=house ART lizard
'the house of the lizard' (Baure; Danielsen 2007)
b. **Johan z'n** auto
Johan his car
'Johan's car' (Dutch; Le Bruyn and Schoorlemmer 2016: 7)

By contrast, multiple expression of the possessed noun does not seem to be possible in adnominal possessive constructions, e.g. **the house it of the lizard*. Such asymmetries show that the possessor and the possessed have a different status in the grammar. The possessor is more grammatically marked; it can take the shape of an affix, and it can appear in the structure multiple times. I will not provide an explanation for these asymmetries in this dissertation. My focus will be on the relation between different marking strategies for expressing possession.

1.2.2 Adnominal possession: semantics and typology

1.2.2.1 Semantics of possession

The semantics of possession is concerned with interpretations of possessive constructions. A major distinction is usually made between *inherent* and *free* possessive interpretations. It is assumed that *inherent* interpretations result from the lexical semantics of the possessed nouns while *free* possessive interpretations are contextually determined. *Relational* nouns are the source of *inherent* relations. While *sortal* nouns, like *cat*, classify objects, *relational* nouns, like *husband* or *nose*, "describe objects as standing in a certain relation to others" (Löbner 1985: 292).[2] For instance, possessive phrases like *John's nose* or *Mary's husband* have salient interpretations 'husband-of' or 'nose-of'. Other interpretations, such as the nose in John's collection, John's drawing of a nose, or a nose that John likes are available as well, but they require much more contextual support.

It is a matter of debate how the possessive interpretations of *sortal* nouns like *cat* should be modeled. While some models assume these interpretations to be pragmatic and underspecified, other models aim to account systematically

[2]Löbner (1985: 293) points out that the notion of semantic relationality is very flexible; various occurrences of the same noun might be interpreted as sortal or relational. *Sortal* nouns might be coerced into denoting relations by a context. If someone points to a box, which is used as a table, saying *this is my table*, the noun *table* no longer describes a set of tables, but a 'table'-relation between the box and the speaker.

at least for a subset of *free* interpretations. The general intuition is that free interpretations are not all born equal; some are more prominent than others.

For example, Storto (2003) argues for two types of *free* possessive interpretations for sortal nouns: *control* interpretations and truly contextual interpretations. According to Storto (2003), relations of control, including relations of ownership, have a special status in the grammar. A relation of control, as formulated by Storto (2003: 44), holds between a possessor and a possessed if "the possessor has some sort of control of the possessum or of his bearing a relation to the possessum". For example, the possessive construction with the sortal noun 'dogs' in (4a) could receive a control interpretation in the context provided in (4b). In the context provided in (4c), the relation between Gianni and the dogs is 'to be attacked by', which is not in Gianni's control. On Storto's (2003) account, 'to be attacked by' is an example of a truly contextually determined interpretation.

(4) Italian (Storto 2003)
   a. i cani di Gianni
      def dogs of Gianni
      'Gianni's dogs'
   b. ...yesterday Gianni and Paolo were entrusted two groups of dogs...
   c. ...yesterday Gianni and Paolo were attacked by two groups of dogs

Vikner and Jensen (2002) argue for a different system of possessive interpretations. They assume several type-shifters that change sortal nouns into relations. One of the type-shifters derives pragmatic (the truly free) interpretations. One is responsible for general interpretations of *control*, which include relations of ownership.[3] Other type shifters derive possessive interpretations from the lexical semantics of the possessed nouns. Vikner and Jensen (2002) assume qualia theory: nouns in the lexicon are supplied with additional ontological information, so-called qualia roles. For instance, nouns like *book, painting, photo* are assumed to have (among others) an *agentive qualia role*, their creator. A type shifter *Ag* can access this qualia role to derive relational nouns, 'book by', 'painting by', etc. Part-whole interpretations of possessive constructions are derived from the *constitutive role*, and interpretations of use/function from the *telic role*.

Le Bruyn et al. (2016) extend the system of qualia roles proposed by Vikner and Jensen (2002), adding the *possessor role* and the *holistic role*. The possessor role is meant to derive ownership interpretations. The holistic role is meant to derive the interpretation from parts to whole like in *tree's leaves*. The differences

[3]Vikner and Jensen (2002) view control as the most salient interpretation that arises between a possessed and an animate possessor. This interpretation is quite vague. Possessive constructions like *the dog's ball*, but also *the horse's car* and *the owl's computer* give rise to control interpretation. In contrast, possessive constructions with an inanimate possessor, like *the car's cake* or *the cake's garden* never receive an interpretation of control.

between various approaches to possessive interpretations are summarized in table 1.1.

<table>
<tr><th>Barker (1995), Partee and Borschev (2003), Gerland and Ortmann (2014)</th><th>Storto (2003)</th><th>Vikner and Jensen (2002)</th><th>Le Bruyn et al. (2016)</th></tr>
<tr><td rowspan="4">inherent interpretations of relational nouns
John's father[5]
a car's wheel
the tree's leaves</td><td rowspan="4">inherent interpretations of relational nouns
John's father
a car's wheel
the tree's leaves</td><td>inherent interpretations of relational nouns
John's father</td><td>inherent interpretations of relational nouns
John's father</td></tr>
<tr><td rowspan="2">a car's wheel
the tree's leaves
(constitutive role)</td><td>??? (constitutive role)[4].</td></tr>
<tr><td>the tree's leaves
whole-to-parts (holistic role)</td></tr>
<tr><td rowspan="4">free interpretations
John's painting
Johns (favourite) chair
John's dogs (that attacked him)</td><td rowspan="3">CONTROL as a special possessive head
John's keys
John's painting
Johns (favourite) chair</td><td>John's keys (control operator)</td><td>John's keys possession (possessive role)</td></tr>
<tr><td>John's painting (agentive role)</td><td>John's painting (agentive role)</td></tr>
<tr><td>Johns (favourite) chair (telic role)</td><td>Johns (favourite) chair (telic role)</td></tr>
<tr><td>free interpretations
John's dogs (that attacked him)</td><td>free interpretations
John's dogs (that attacked him)</td><td>free interpretations
John's dogs (that attacked him)</td></tr>
</table>

Table 1.1: Possessive interpretations of sortal nouns, inspired by the table in Vikner and Jensen (2002)

Table 1.1 shows that the major distinction between inherent and free interpretations, mentioned at the beginning, is not absolutely clear-cut. As indicated by the shading in the table, different approaches have a different take

[4]Le Bruyn et al. (2016: 60) argue that it is not easy to find examples in which wholes possess their parts: *The door's house*; those examples are predicted by the *constitutive role*. They conclude that "constitutive role simply doesn't give rise to relations that can easily be exploited by HAVE or prenominal genitives"

[5]It wasn't possible to find identical examples for all the studies cited, therefore, the examples are classified according to my understanding of the proposed distinctions.

on what counts as inherent and what counts as free. There is a general agreement between the four models that some interpretations are free, contextually dependent. There is even an inclusion relation: the interpretations considered free by Le Bruyn et al. (2016), are a subset of free interpretations in Barker's (1995) system. All four theories agree that some nouns encode inherent interpretations in their lexical semantics, but there is no agreement on which nouns are relational and which nouns are not. For example, part-whole interpretations like *a car's wheel* are attributed in Barker's (1995) system to relational nouns while in Vikner and Jensen's (2002) model they are attributed to qualia roles. Storto's (2003) and Vikner and Jensen's (2002) models are similar because both attribute a special status in the grammar to relations of control. However, their take on control is slightly different, as Vikner and Jensen (2002) attribute a subset of these interpretations to telic roles.

One could say that Vikner and Jensen (2002), as well as Le Bruyn et al. (2016) are arguing for some kind of gradation between sortal nouns and relational nouns in possessive constructions. On the one hand, some of the nouns that Barker (1995) would consider relational are treated as sortal, but on the other hand, some of the possessive interpretations of the sortal nouns are derived from artifacts of their lexical semantics. Thus, the range of interpretations that are based on the lexical semantics of the possessed nouns is larger in Vikner and Jensen's (2002) and Le Bruyn et al.'s (2016) system than in Barker's (1995) system.

In fact, depending on the context, some sortal nouns might become indistinguishable from relational nouns. This observation is behind the approaches that minimize the differences between relational nouns and sortal nouns in possessive interpretations. For example, Vikner and Jensen (2002) emphasize that not only possessive interpretations provided by the relational nouns, but also possessive interpretations provided by the qualia roles, require no contextual support, in contrast to other possessive interpretations. For instance, *John's car*, out of the blue would be probably interpreted as a car controlled by John. The hearer won't have any difficulties finding the right interpretation, similarly to finding the right interpretation for *John's nose*. This idea was endorsed, for instance, by Löbner (2011). Löbner (2011) points out that although artifacts are typical sortal nouns, they can easily be shifted into relational readings on the basis of their function. "'Toothbrush' is a concept for a certain type of artifact with a purpose specified. Toothbrushes are mostly used by one person exclusively; this results in a mapping from toothbrushes to persons". According to Löbner (2011), after such a shift, 'toothbrush' would describe "the object with the sortal characteristics of a toothbrush which possessor uses to clean his/her teeth".

In his discussion of Barker (1995), Storto (2003) demonstrates another context that neutralizes the differences between a subset of relational nouns and a subset of sortal nouns. Barker's (1995) original observation was that a possessive phrase with a definite possessor can be used to introduce a discourse novel referent only if the possessed is a relational noun, like *daughter* in (5).

The sortal noun like *firetruck* cannot introduce a novel referent.

(5) A man walked in.
   a. His daughter was with him.
   b. #His firetruck was visible through the window.

Storto (2003) points out a problem with this generalization. If it is the inherent relation denoted by *daughter* that makes it possible to introduce a novel discourse entity, one would expect possessives like *his purchase* or *his pen pal* to be felicitous in the same context. By contrast, a sortal noun like *car* would not be used to introduce a novel discourse entity. As the examples in (6) show, we observe exactly the opposite. A sortal noun *car* can be used to introduce a novel discourse entity, but a relational noun such as *pen pal* can't.

(6) A man came into the pub.
   a. His car was idling outside.
   b. #His pen pal was with him

It is important to note that some relational nouns and some sortal nouns might show similar properties in a certain environment. Unfortunately, the only diagnostic for possessive interpretations, suggested by Vikner and Jensen (2002), is the availability of certain out-of-the-blue interpretations. Out-of-the-blue-contexts are problematic in the case of ambiguity, for instance, as discussed in Matthewson (2004). The reasons why certain interpretations are less available out of the blue than the others often have little to do with syntax or semantics. As an example, Matthewson (2004) shows that expressions containing negation or pronouns are often judged odd out of the blue just because they are never used to start a conversation. Accommodation seems to play a big role in this kind of diagnostic.

Furthermore, it is unclear how far the lexical specification of possessed nouns should go. For instance, Le Bruyn et al. (2016) add a possessive qualia role to derive an ownership interpretation. As already observed at the beginning of the section, one of the most prominent interpretations of possessive constructions is ownership. Almost any entity can be interpreted as being in an ownership relation with an animate possessor, for instance, *John's stone* or *John's forest*. It is unclear to what extent it is it plausible that nouns like *stone* or *forest* need to be specified for a possession qualia role.

A cross-linguistic study of possession could help to reveal which semantic dimensions of possession might be encoded in the language. The availability of certain possessive interpretations can be used as an argument for them being either lexically encoded or contextually supplied. Examples from cross-linguistic studies are used, for instance, by Barker (1995) and Löbner (2011) as supporting evidence for the special status of relational nouns in the grammar.

1.2.2.2 (In)alienable possession

The idea that not all possessive interpretations are "born equal" is present in the descriptive and typological literature as well. In the descriptive literature, the contrasts between various possessive interpretations are often addressed in terms of the "(in)alienability" distinction. Nichols (1988: 568) describes this distinction as follows: "the basic idea behind these terms is clear enough: inalienable possession is inborn, inherent, not conferred by purchase; alienable possession is, roughly ownership, socially and economically conferred. But the terms are used to refer to very different phenomena and literature. Two usages dominate. In one of them 'inalienable' is used to label the closed set of bound nouns which cannot be used without possessive marking... The other common usage of the term is as a label for [...] patterns, where bond nouns are called 'inalienably possessed' in their most typical function; e.g. when 'my skin' means the skin on my body or 'my leg' means my own body part. They are called 'alienably possessed' in a secondary, less common usage, e.g. when they mean 'my cowhide' or 'my (turkey) drumstick (that I am eating)'."

Nichols (1988) points to a confusion around inalienability. She mentions "two usages" of the term, and, as I will show below, these two usages can easily be subdivided into at least five. Thus, when "inalienability" is mentioned, one should be aware that different authors are talking about different things. And even individual authors are not always consistent with their use of terminology. This is a common problem with a blanket term which is used to address various phenomena with superficially similar outcomes. The term (in)alienability is traditionally used to address the interface between linguistic possession and the speaker's or the linguist's world knowledge. However, the generalizations based on the linguist's world knowledge often prove to be not linguistically relevant. As Nichols (1988) herself shows, the description of inalienable as "inborn, inherent, not conferred by purchase" has, in fact, little to do with linguistic reality. "The crucial example of Nanai which treats body parts, relational terms and domestic animals as 'inalienable', shows that the hierarchy can be further elaborated without inclusion of kinship terms" (Nichols 1988: 573). If "inborn" criteria had linguistic relevance, domestic animals wouldn't be included in the inalienable class in Nanai to the exclusion of kinship terms.

I will illustrate some usages of the term (in)alienability to make it clear what I mean by referring to it as a blanket term. By demonstrating these inconsistencies, I want to make it clear why I want to avoid using the the term (in)alienability in the rest of the dissertation. In my work, I will concentrate specifically on the distinction in the morphosyntactic means to express possession and I do not want to raise any expectations connected to the other uses of the term. One way of using the term "(in)alienability", as pointed out by Nichols (1988: 568), is to describe certain properties of a noun class. It appears that this one usage actually describes three possible ways of using the term. As an example, Nichols (1988: 568) mentions obligatorily possessed nouns. It appears that in some languages, one can distinguish a considerable group of

nouns that don't appear without a possessor. Saxon and Wilhelm (2016) point out that this use of the term (in)alienability is very common in the grammars of Athabaskan languages. For example, Hargus (2007), in the grammar of Witsuwit'en uses the term "inalienable" for obligatorily possessed nouns. Among them are: kinship terms like 'father' and 'brother', body parts like 'bone' and 'hair' but also parts of plants like 'unripe berry'.[6] Another way of describing a class of nouns as "(in)alienable" is through the morphemes they combine with. Especially for the languages which have two morphosyntactic strategies to express possession, the grammar authors often provide a list of nouns that can appear possessed with one morpheme but not the other. For example, Gruber (2013: 84) divides the nouns in Blackfoot into two groups; those that take a short prefix are inalienable and those that take a long prefix are alienable. "In many languages that morphologically mark the difference between the two overtly, membership of one class or the other is mostly a lexical property; that is to say that real world relational entities need not necessarily belong to the class of inalienable nouns, and vice versa." The examples in (7) show this lexical distinction. While nouns like 'horse', 'ring' and 'husband' receive a short prefix (inalienable in Gruber's terms), nouns like 'cow', 'bracelet' and 'brother in law' receive the long one (alienable). Although Gruber (2013: 84) claims that this distinction is completely lexical, one can see some connection with the word's meanings. The relation between a 'horse' and a horseman is probably different from the relation between a 'cow' and its owner, etc. The problem with any claims about world knowledge is that the speaker's world knowledge might be very different from the world knowledge of a linguist.

(7) Blackfoot (Gruber 2013)

a.	n'-ota'sa	n-is'apiikitsoohsa'tsisa	n'-ooma
	'my horse'	'my ring'	'my husband'
b.	nit-'a'apotskinaama	nit-ohp'o'nna	nit-'o'otoyoomi
	'my cow'	'my bracelet'	'my brother in law'

The third way of characterizing a class of nouns as "(in)alienable" is based primarily on the linguist's world knowledge and categorization. Nouns are described as "(in)alienable" on the basis of their meanings. For example, Bowern (2012: 357) describes all body parts and kinship terms as "semantically inalienable" in her discussion of Bardi, although there is no indication that Bardi treats them as a homogeneous class: "Other items which are inalienable do not take the prefixes. Only about half the body parts take them...; others, such as *langana* 'shoulder' and *gaanyji* 'bone', take regular possessive pronouns. Kinship words also take regular possessive marking."

It is important to realize that while describing a class of nouns as (in)alienable,

[6] Barker (1995, 2008) notes that in English, one can also find nouns that don't appear without a possessor, for instance *sake*, *travels* and *forte*. However, the term (in)alienability is usually not applied to describe those nouns in English.

authors address at least three different phenomena. Unsurprisingly, the class of nouns under discussion varies from one grammatical description to the other. Obligatory expression of the possessor, as described for Witsuwit'en, points to obligatory realization of an argument. In Athabaskan languages, obligatorily possessed nouns can appear in possessive constructions with various morphemes; the choice is predetermined by the noun. Nouns that are not possessed can appear with the same morphemes. This asymmetry between obligatorily possessed nouns and the marking strategies is well known for the language family; see Saxon and Wilhelm (2016). In contrast, in many languages, obligatorily possessed nouns form a class or a proper subset of a class that requires a certain marking strategy. In Blackfoot, for instance, only a subset of nouns that receive the short possessive prefix is obligatorily possessed. It is likely, that the choice between multiple marking strategies, as described for Blackfoot, is driven by other morphosyntactic principles than obligatorily realization of arguments, as described, for instance, for Witsuwit'en or Koyukon. It is also very likely that differential morphological marking and obligatory realization of arguments do not have much in common with abstract semantic classification of nouns as "semantically inalienable". This classification primarily refers to (the linguist's) world knowledge, notions like "inborn" or "inherent". It might have little to do with the way a specific language describes the world. It shouldn't come as a surprise that the three notions of (in)alienability do not lead to any comparable results.

Another major use of the term (in)alienability, pointed out by Nichols (1988: 568) is to describe relations between the possessor and the possessed. There is no agreement, however, on which semantic characteristics correspond to (in)alienable relations. I will describe two major approaches, but there are probably more. Some authors consider the (in)alienability distinction to be a matter of temporality vs permanence. Chappell and McGregor (1996: 4) describe inalienable relations as "permanent and inherent". Von Prince (2012) argues that the term "inalienability" can be "reduced to the notion of temporal relativity". The inalienable relation "is always interpreted to be a permanent property of the possessed noun". As an example, von Prince (2012b) shows two constructions with the word 'bone' *bosi* in (8). According to her, 'pig bone' is a permanent relation: "the possessor noun pig denote[s] a permanent property of the bone"; 'Joebang's bone' describes a relation between Joebang and an animal bone; this relation is temporarily restricted.

(8) Daakaka von Prince (2016)[7]

a. bosi ane barar
bone TRANS pig
'pig's bone'

b. bosi s-e Joebang
bone CL3-LINK Joebang

[7]For a detailed description of Daakaka, see chapter 4.

'Joebang's bone'

This distinction leads to a conceptual problem with the idea of temporal permanence. In the real world, some relations might be permanent by coincidence; for instance, 'Joebang's bone' might stay in his possession all his life. The question is to what extent the language would be sensitive to such notions. Other studies argue that "(in)alienable" relations should be characterized through notions of control.

In a later paper, von Prince (2016) argues that "inalienable" relations are relations lacking control of the possessor. "One other plausible approach to the problem is that alienable relations are control relations – inalienable relations would simply be all non-control relations [...] most importantly, a possessor who has control over her possession should be able to manipulate it and to abandon it or transfer ownership...". From this point of view, the Daakaka example in (8) shows a contrast between a relation of control, 'a bone in Joebang's possession' and a relation that is not controlled by the possessor: 'pig's bone'. In general, "control"-like contrasts between different kinds of possessive relations are often discussed in the literature under the notion of (in)alienability. The examples usually involve a contrast between an inanimate possessor and an animate possessor. For instance, Holton (2000) shows for another Athabaskan language, Tanacross, that a noun like 'water' can appear in two types of possessive constructions. In (9a) there is an ownership relation between 'water' and an animate possessor; in (9b) there is a constitutional relation between 'water' and an inanimate possessor, 'lake'. However, it doesn't seem possible to reduce inalienable relations to inanimate possessors, as there are too many examples to the contrary, such as 'pig' in (8a).

(9) Tanacross

a. štŭ-ˑʔ
1sg.water-poss1(**ˊɛʔ**)
'my water'

b. jêg tú-ʔ
berry water-poss2(**ˊʔ**)
'berry water (wine)'

Evaluation of all those proposals amounts to saying that although they all go under the notion of (in)alienability, they all describe different phenomena. For instance, the definition of inalienability via the nature of the relation is orthogonal to the definition of inalienability as a noun class. Nouns like 'bone' in Daakaka or 'water' in Tanacross cannot be assigned either to an alienable or an inalienable class of nouns. In my opinion, the terminological confusion around the notion of "inalienability" reflects the cross-linguistic diversity of adnominal possession. The same relatively vague label is being applied to describe some prominent contrast in the grammar of a given language, which is in one way or another connected to our understanding of possession. It appears impossible to

establish a single proper use of the term (in)alienability to satisfy all needs. It seems to me that it would only be confusing to redefine inalienability, given the heavy load of expectations that is already connected with the term. The five different ways in which the term (in)alienability can be used are schematically represented in table 1.2.

(in)alienability as characteristic of a noun class			(in)alienability as characteristic of a relation	
1	2	3	4	5
Hargus (2007)	Gruber (2013)	Bowern (2012)	von Prince (2012b)	Holton (2000), von Prince (2016)
Inalienable nouns are obligatorily possessed	Inalienable nouns receive short prefix when possessed (not the long one)	Inalienable nouns are "semantically" inalienable (which is not always reflected in their formal marking)	Inalienable relations are permanent, alienable are relative to a certain point at time	Inalienable relations as not controlled by (inanimate) possessors, alienable relations are controlled

Table 1.2: (In)alienability as a blanket term; uses of the term (in)alienability vary from author to author

The notion of inalienability has found its way into the literature on European languages as well. It received special attention in the discussion of the use of definite determiners in Romance and Germanic languages, as shown in (10). The contrast is between *la bouche* 'the mouth', which is interpreted as Marie's body part, and *le livre* 'the book', which is not interpreted as Marie's possession.

(10) Marie a ouvert la bouche/ le livre.
Marie opened the mouth/ the book
'Marie opened her mouth/ #her book.' (Rooryck 2017)

First, it was described by Bally (1926/1995: 33) as "indivisibility": "each phenomenon, action, state or quality which affects any part whatsoever of the personal domain, automatically affects the whole person". Later, inalienable possession in French was described, for instance, by Vergnaud and Zubizarreta (1992: 596) as body parts and clothing, but crucially not kinship: "An inalienable object is a dependent entity in the sense that it is inherently defined in terms of another object of which it is a part". This characteristic of inalien-

ability is consistent with the left part of table 1.2, column 3; inalienable nouns are seen as a special semantic class.[8]

In the theoretical literature on the semantics of possession, various authors have expressed the hope that the (in)alienability distinction would reveal some attested contrasts between various possessive interpretations. An obvious candidate would be the contrast between sortal and relational nouns, as formulated by Barker (1995: 67): "I expect the alienable/inalienable distinction to be a syntactic and morphological grammaticization of the semantic distinction between *lexical* versus *extrinsic* possessive interpretations." The same claim is made in Löbner (2011: 322): "Inalienability essentially coincides with relationality"; see also Gerland and Horn (2010) for the study of (in)alienability distinction as a grammatical reflection of the distinction between relational and non-relational concepts. There is, thus, a general intuition that relational nouns play an important role in the expression of possession in various languages. Unfortunately, the general confusion around the term "(in)alienability" makes it difficult to test those theoretical claims systematically.

1.2.3 Adnominal possession in this thesis

The discussion of (in)alienability touches upon various phenomena connected with the expression of possession. In order to specify the object of study, I will primarily look at the difference in morphological encoding. One of the questions I want to answer is to what extent the relation between the possessor and the possessed affects morphological marking. If the difference in morphological marking of possession is driven by possessive interpretations, the study should also reveal which interpretations are important and thus help to evaluate the theories described in section 1.2.2. In order to avoid confusion and to stay away from implicit assumptions which are connected with this terminology, I choose not to use the term "inalienability" further in this thesis.

I do not assume either that differences in formal encoding of possession necessarily reflect the distinction between relational and sortal nouns. In chapter 2, I introduce my notion of an *idiosyncratic* noun class and show that there is only a weak link between its members and nouns that are traditionally considered relational. I argue that neither relational nor sortal nouns are uniform with respect to the differential possessive marking. In the analysis developed in chapter 2, I attribute differences in interpretation to possessive markers and not to the possessed nouns. However, in chapter 4 I also show that in addition to the distinction between possessive markers proposed in chapter 2, syntactically relational nouns can play an important role in determining possessive marking. Therefore, I argue that it is important to control for various semantic factors in cross-linguistic analysis.

[8] But see the argumentation against this treatment of inalienability in Rooryck (2017).

1.2.4 Data sources and methodological problems

This study of possessive constructions aims to explore possession beyond well-studied European languages. The major challenge for this kind of study is availability of data. Typological research is dependent on comparable data from many diverse languages. It would have been beyond the scope of a PhD thesis to collect data from a large number of languages in the field. Therefore, empirical evidence for my analysis comes almost exclusively from secondary sources, such as reference grammars of different languages and various publications that discuss possessive constructions specifically. Unfortunately, the use of secondary sources comes at a cost. For the evaluation of a semantic (or syntactic) analysis, first-hand data is crucial.

Secondary data sources come with important shortcomings. Firstly, grammatical descriptions are often based on corpora and spontaneous speech. Descriptions that include elicitations are more rare. The problem with corpora and spontaneous speech is that they cannot provide negative evidence. The reported data does not contain ungrammatical or infelicitous examples. Non-reported data might be ungrammatical, infelicitous or just non-reported (but still available in the language). Negative evidence is crucially required for semantic and syntactic analysis.

Furthermore, even those grammatical descriptions that rely on elicitations provide scarce data for a semantic analysis. This shouldn't be surprising, because a grammatical description is a large-scale study that aims to provide a broad overview of various phenomena to be found in a given language. Fine-grained semantic distinctions are rarely the primary concern of the author. Semantics has to be presented next to the other areas of grammar: phonology, morphology and syntax. However, semantic fieldwork is a very complex process which requires a lot of resources. Firstly, the data acquired in elicitation sessions are by themselves not sufficient for semantic analysis. As argued, for instance, by Matthewson 2004, the speaker's answers provide clues about the data, but they cannot be considered the end-results for semantic analysis. The actual data that is being acquired within an elicitation session is the data about the speaker's behaviour. It is a task of the semantic fieldworker to develop a theory that explains how the data about the speaker's behaviour reveals the data about linguistic meaning (see, for instance, Deal 2015). There are many reasons why a speaker might reject an utterance. It might be rejected because it is not well-formed on syntactic, morphological, phonological, or prosodic grounds. It might also be rejected because of what it means. By contrast to other areas of grammar, semantic research deals not only with ungrammaticality, but also with truth and felicity conditions of the expressions in question. It is not sufficient to determine under which conditions a given sentence is true; one also needs to determine the conditions under which it is appropriately uttered. Unfortunately, reference grammars seldom discuss their assumptions about meaning correspondences. It is not common that we find a detailed description of the context provided to the consultant or systematic

probing for negative evidence. Compare the following remark in Coupe (2007: 253): "**Exploratory elicitation** also **confirms** that the possession of body parts and other entities thought to be bound to their possessors in perpetuity **must be encoded by** nominal apposition." While elicitation is explicitly mentioned, there is no discussion of the exact data provided by the speakers of Mongsen Ao. It is impossible to tell in this case if the utterances with body parts were rejected as ungrammatical or as infelicitous.

Semantic analysis that has to rely on secondary sources is confronted with multiple challenges: scarcity of data, lack of negative evidence and an implicit connection between the claims about meaning that the grammar makes with the actual evidence for a certain semantic analysis. The research in this thesis would have been more reliable if I had access to fuller semantic analyses of the languages involved in the study. As pointed out, for instance, in Baker and McCloskey (2007), large data samples based on secondary sources inevitably contain errors. These errors are either inherited from the grammatical descriptions, or introduced by the researcher's own misreadings of those descriptions. I realize that the lack of original data is a major drawback of the current study. However, I have to leave a more complete evaluation of my proposal in light of first-hand data for future work.

1.3 The sample

As a part of my work in the project *Lend me your ears: the grammar of (un)transferable possession*, I created a database of adnominal possession. The current version of the database provides insights about how possession is expressed in 70 genetically diverse languages. The database is primarily based on secondary sources: grammatical descriptions and papers dedicated to the expression of possession in specific languages. In some cases, I also consulted linguists working on a given language. I am particularly grateful to Swintha Danielsen for the information on Baure, Heather Bliss for the information on Blackfoot, Vera Hohaus for the information on Samoan and Stavros Scopeteas and Elisabeth Verhoeven for a very helpful discussion of Yucatec data. The data from Shughni were collected during my own fieldwork in Tajikistan. The database is a large-scale investigation of the ways in which the different types of possession are encoded in typologically unrelated languages. It shows 1) different morphosyntactic constructions to express possession that are attested in the languages of the world 2) structural and semantic oppositions between different types of morphosyntactic constructions. For a detailed description of the database, see Appendix 1.

The languages that have been entered into the database present a varied set. While making this selection, I followed both practical and methodological criteria; the resulting choice is to some extent arbitrary. The choice of particular languages for the database was determined by geographical spread as the database was expected to provide insights into cross-linguistic variation. An-

other criterion was complexity. Languages that use several marking strategies to encode possession were often preferred to the languages that only make use of a single strategy. For the relatively complex systems of possessive marking, I was additionally interested in microvariation. In line with this interest, there is sometimes more than one language from the same language family included in the database (Mayan, Athabaskan, etc.). Finally, the choice of the languages was also determined by practical factors such as the availability of grammatical descriptions and the level of detail in the description of possessive constructions.

The sample of languages that serves as the basis of the thesis is selected from the languages that appear in the database. Since accounting for the whole diversity of possessive marking is beyond the scope of one dissertation, I had to choose a selection of languages to discuss in the thesis. The primary object of this study is the relation between the interpretation of a possessive construction and the availability of differential possessive marking, Therefore, from the database I first chose the languages that employ multiple morphosyntactic means to mark adnominal possession. As the next step of data sampling, I chose 1) languages for which it is explicitly claimed that the possessed noun determines the shape of the possessive marking (see also Nichols and Bickel 2013b) and 2) languages in which alternation of the possessive marking gives rise to a meaning effect which can be described as a change in the relation.

As I mention in section 1.2, in this thesis I analyze the difference in possessive interpretations as the differences in the semantics of the possessive markers. I describe 39 languages in terms of this analysis. These languages are: Adyghe, Bardi, Blackfoot, Bororo, Chontal Mayan, Daaakaka, Ewe, Guajiro, Hidatsa, Koyukon, Lele, Maltese, Maricopa, Mongsen Ao, Movima, Mussau, Nêlêmwa, Ngiyambaa, Paamese, Panare, Yine (Piro), Q'eqchi, Rapa Nui, Saliba, Samoan, Slave, Tanacross, Tariana, Tawala, Tera, Tlingit, Toba, Tolai, Toqabaqita, Tzutujil, Udmurt, Wandala, Yaitepec Chatino and Yucatec Mayan. The languages that are analyzed in more detail are: Toqabaqita, Hidatsa, Adyghe, Rapa Nui, Panare, Bororo, Paamese, Mussau, Saliba, Tolai, Chontal, Yucatec, Nêlêmwa, Daakaka, Movima, Slave and Koyukon. I briefly discuss several languages with "fixed strategies"; these languages are: Nubian (Dongolese), Limbu, Tehit, Tauya, Moskona, Amele, Wauja, Baure, Aguaruna. In chapter 2 I explain why my analysis does not apply to some of these languages. I argue that instead of the meaning distinction, fixed strategies often signal lexically conditioned allomorphy. In chapter 5 I discuss some problematic cases for my analysis on the basis of Kayardild, Mandarin, Hungarian and Hebrew. All together, the thesis deals with the data from 54 languages from 28 different language families.

It is important to know that not all marking strategies are considered in my analysis. Some phenomena concerning the expression of possession do not receive special attention in the thesis.

For example, consider two kinds of alternation of possessive marking in Udmurt (Uralic). In Udmurt, the case marking of the possessor appears to be conditioned by the syntactic function of the whole possessive DP. As shown in

(16), if the possessive DP is a direct object, the possessor is marked ablative; otherwise genitive case marking is used (for more details, see Winkler 2001; Assmann et al. 2014).

(11) Udmurt (Winkler 2001: 22)

a. so kolkhoz-**len** busi-ja-z min-i
she kolkhoz-gen field-ill-3sg go-pret.3sg
'she went to the kolkhoz field'

b. so kolkhoz-**leš** busi-z-e vožmat-i-z
she kolkhoz-abl field-3sg-acc show-pret-3sg
'she showed the kolkhoz field'

Another alternation of possessive marking noted for Udmurt concerns the vowel of the possessor clitic. This alternation is claimed to be determined by the possessed noun (Edygarova 2010). While for the most nouns the possessor clitic involves the vowel *-e...*, for some nouns the same clitic involves the vowel *-i...*. Consider the example in (6).

(12) Udmurt (Edygarova 2010)

a. ki-**i**, nel-**iz**, vin-**iz**
hand-1sg arrow-3sg younger.brother-3sg
'my hand, his arrow, his younger brother'

b. li-**e**, tuš-**ez**, anaj-**ez**
bone-1sg beard-3sg mother-3sg
'my bone, his beard, his mother'

While in the database all four marking strategies are described for Udmurt, the present study only deals with the alternation between *-e...* and *-i...*. Although this alternation between genitive and ablative as shown in (16) may be very interesting on its own, I chose to exclude it from the discussion in the thesis. The factor that determines the alternation is the syntactic structure of the clause; the relation between the possessor and the possessed does not play any role in the choice of the case marking. Therefore, in chapter 2, Udmurt is discussed among languages that have a binary opposition between morphosyntactic strategies to express possession.

Similarly, not all marking strategies found in Lele are considered in the thesis. In (13), two possessive constructions are shown. (13a) involves juxtaposition of the possessed noun and the possessor clitic; in (13b), the possessor clitic attaches to a morpheme, *kè* 'gen'. According to Frajzyngier (2001), the choice between the two marking strategies in (13) is determined by the possessed noun; the contrast is thus between 'friend' and 'word'.

(13) Lele (Frajzyngier 2001: 71, 74)

a. bùgà-**y**
friend-3m
'his friend'

b. kolo **kè-y**
word gen-3m
'his word'

However, there is an additional marking strategy in Lele which involves multiple exponents of the possessor. The choice of this marking strategy is determined by the wider syntactic structure, in particular the binding domain. Frajzyngier (2001) argues that possessive constructions such as (13a) are interpreted as reflexive. In order to achieve a non-coreffferent (3rd party) interpretation for *idiosyncratic* nouns, the speaker has to express the possessor twice, as shown in (14).The possessed noun *bùgà-y* 'friend' is marked with a possessor clitic *-y* '3m' and additionally with a combination of the morpheme *kè* 'gen' and the clitic *-y*.

(14) Lele (Frajzyngier 2001: 74)
a. è dí túgú **bùgà-y**
go 3m house friend-3m
'he$_1$ went to his$_1$ friend'
b. è dí túgú **bùgà-y kè-y**
go 3m house friend-3m gen-3m
'he$_1$ went to his$_2$ friend'

While the difference between the two marking strategies in (13) is discussed in the study, the difference between single expression of the possessor and possessor doubling does not receive special attention. Similarly, I don't discuss differences in definiteness, emphasis, etc.

To summarize, the alternations I exclude from the discussion do not depend on the relations between the possessor and the possessed. They are determined by other factors, such as syntactic function of the possessive phrase, binding conditions, definiteness or information structure.

1.4 Preview

The thesis is organized around the analysis which I develop in chapter 2. In that chapter, I introduce the main notions such as the opposition between idiosyncratic and non-idiosyncratic strategies, and stereotypical possessive relations. I argue that there is a semantic opposition between two types of possessive strategies. I propose that the main principle that regulates the outcome of the competition between the two possessive strategies is *Maximize Presupposition* (Heim 1991). Empirical evidence for the analysis considered in chapter 2 comes from languages which make use of two marking strategies (but see the discussion of the ignored strategies in section 1.3). In chapter 3 and chapter 4, I show how the proposed analysis can be extended to languages that have more than two marking strategies. In chapter 3, I discuss languages with possessive modifiers, better known from the typological literature as "possessive classifiers".

In chapter 4, I discuss other ways in which multiple marking strategies might come about. In that chapter, I show that meaning-based distinctions between possessive strategies need to be distinguished from form-based distinctions. The first part of the chapter deals with form-based distinctions, lexically determined allomorphy. I show that superficially, some languages seem have more than two marking strategies, but under a more detailed look such systems can be reduced to the binary opposition discussed in chapter 2. In the second part of the chapter, I show that the semantic opposition between idiosyncratic and non-idiosyncratic strategies is not the only factor behind differential possessive marking. The cross-linguistic variation within possessive constructions may be deeper than first meets the eye. That part of the chapter deals with interactions between (non)-idiosyncratic strategies and relational nouns (see the discussion in section 1.2.2). The interaction is presented on the basis of four case studies: Daakaka, Movima, Slave and Koyuon. Although the languages under discussion show some similarities, there are also important differences between them with respect to the role relational nouns play in possessive marking and with respect to the semantic opposition between idiosyncratic and non-idiosyncratic strategies. I argue that in order to analyze possessive marking in various languages, one needs to control for various semantic factors systematically. In chapter 5, I discuss problems and prospects of the proposed analysis.

The main idea developed in this thesis is that morphosyntactic strategies to express possession differ with respect to the relations they can convey. I introduce a meaning-based distinction between idiosyncratic and non-idiosyncratic strategies to mark possession. The idiosyncratic possessive strategy (involving the semantics of *MaxSpec*) is only compatible with the stereotypical relation given the semantics of the possessed noun. My definition of stereotypical relation is that it is derived from the most salient feature of the possessed noun in the given language. By contrast, a non-idiosyncratic strategy (involving the semantics of *MinSpec*) is not restricted with respect to the relations it can express. It allows for a variety of interpretations and, crucially, it allows the relation to be derived from the context. In chapter 3, I develop a unified analysis of the possessive strategies based on the insights from possessive modifiers. I propose a uniform lexical entry for a possessive marker *PossSpec* that either takes as its argument an overt relation provided by a possessive modifier or combines with a covert relational pro-form which gives rise either to an idiosyncratic or to a non-idiosyncratic interpretation.

CHAPTER 2

Idiosyncratic strategies

2.1 Introduction

In chapter 1, I mentioned that (in)alienability is a problematic notion, primarily because it is used by different authors to refer to various phenomena. Under this notion, distinct possessive morphemes, the obligatory realization of arguments, distinctions in lexical semantics, and different relations between the possessor and the possessed, are all treated on par. In this thesis, I focus on one specific aspect of adnominal possession, differential possessive marking. I will show that differential possessive marking comes with a meaning contrast that needs to be accounted for. I argue that this contrast results from the semantics of the possessive markers.

In this chapter, I argue for a meaning-based distinction of morphosyntactic strategies that mark possession. I introduce the distinction between idiosyncratic and non-idiosyncratic morphosyntactic strategies for expressing possession, and argue that idiosyncratic strategies are semantically marked. The chapter shows how this system works for languages that only make use of two morphosyntactic strategies to mark possession. First, in section 2.1, I introduce the terminology that I will use in the rest of the chapter, including the notion of idiosyncratic strategy. In section 2.2, I discuss flexible morphosyntactic strategies and provide examples of the meaning effect that the alternation of possessive marking can give rise to. I argue that only those relations that are systematically derived from the semantics of the possessed noun can be expressed by means of idiosyncratic marking. In section 2.3, I provide the full analysis of possessive marking as a competition between idiosyncratic and non-idiosyncratic

strategies. Two case studies, from Adyghe and Rapa Nui, show my proposal at work.

2.1.1 Two patterns of distribution

A single language may make use of multiple marking strategies to express adnominal possession. As already mentioned in chapter 1, the interaction between those strategies might be quite complex. Abstracting away from various external factors that might affect the distribution, two patterns can be described, illustrated in (1) and (2) as pattern of distribution 1 (PD1) and pattern of distribution 2 (PD2).

In (1) two nouns from Limbu (Sino-Tibetan) are marked differently; 'dog' *go·co·* in (8b) simply combines with the 1sg possessor *a-*, while *cum* 'friend' requires a nasal infix. The manifestation of the nasal is not phonologically conditioned. Van Driem (1987: 27) describes this group of nouns as "some nouns, predominantly kinship terms and terms similar in meaning".

(1) **PD1** Limbu (van Driem 1987)

a. a-<nd>zum stem: *cum*
my-<LN>friend
my friend (my glosses)

b. a-go·co·
my-dog
my dog

In the Rapa Nui (Austronesian) examples in (2), the possessed noun is the same *karone* 'necklace', but the possessive marking differs; (2a) involves the possessive morpheme *o*, while (2b) involves the possessive morpheme *a*.

(2) **PD2** Rapa Nui (Kieviet 2017: 299-301)

a. tō'oku karone
poss.1sg.O necklace
'my necklace (the one I wear)

b. tā'aku karone
poss.1sg.A necklace
'my necklace (the one I am making)'

There are several important differences between these examples. The one that is most relevant for this thesis is the possibility to combine the same possessed noun with various markers. In Limbu, each morpheme is associated with a specific lexical class. In Rapa Nui, the same lexical class can combine with two different possessive morphemes. The crucial difference between the two patterns of distribution is that in the case of Rapa Nui, the alternation between the possessive markers *a* and *o* results in a change in the interpretation. In the case of Limbu, alternation of the marking strategy results in ungrammaticality, as shown in (3).

(3) Limbu (self-constructed)
   a. *a-cum
      my-friend
   b. *a-<nd>-go·co·
      my-<LN>-dog

In table 4.1, I schematically show the two patterns of distribution (PD 1 and PD2) that we find in Limbu and Rapa Nui. In Limbu we see two lexical classes (LC_1 and LC_2) with different selectional requirements. In Rapa Nui, the pattern of distribution is different. There are nouns that can appear possessed with both markers, *a* and *o*. In table 2.1, I show this pattern of distribution as a correspondence between two possessive markers and one lexical class (LC_0).

PD1	PD2
Limbu	Rapa Nui
-nd- ⇔ LC_1 *-∅-* ⇔ LC_2	*-a-*/ *-o-* ⇔ LC_0

Table 2.1: Two patterns of distribution.

This thesis focuses on languages that allow for an alternation in the morphological means to mark possession. Thus, I will first deal with PD2 and then in chapter 3 and chapter 4, I return to the distinction between PD1 and PD2; I show, at least for some languages, that this pattern of distribution is **lexically conditioned allomorphy**; there is no evidence that the possessive markers contribute different meanings to the possessive construction. I argue that PD2 is semantically conditioned and propose an analysis for the possessive markers. In order to describe the difference between the two marking strategies found in PD2, I introduce the distinction between **idiosyncratic** and **non-idiosyncratic strategies**. I argue that the idiosyncratic strategy is semantically marked; typically, it involves morphological markedness and distributional restrictions as well. In the following section, I explain my notion of an **idiosyncratic strategy** in detail.

2.1.2 An idiosyncratic strategy: three main factors

In this section, I introduce the notion of **idiosyncratic strategy**. As I explain below, the term **idiosyncratic** refers to the distribution of a given marker that is not predictable for a given noun. I argue for a meaning-based definition of the idiosyncratic strategy. I discuss three main factors involved in adnominal possessive marking: morphological markedness, productivity (distributional restrictions) and semantic markedness, and show in detail how these factors interact with each other. On my definition of an idiosyncratic strategy, semantic markedness is a necessary property, while morphological markedness and pro-

ductivity are typical but not necessary.

Semantic markedness. Let us first define the opposition between idiosyncratic and non-idiosyncratic strategies. Compare the examples from Adyghe in (4). Both possessive constructions involve the possessed noun *ŝha* 'head', but only in (4a) does the relation between the possessor and the possessed involve an interpretation of 'head' as the possessor's body part.

(4) Adyghe (Gorbunova 2009: 153 - 154)

a. s-**ŝha**
1SG-**head**
'my head'

b. s-jə-**ŝha**
1SG-POSS-**head**
'my head' (said by a zoologist about a dog's head)

I propose that (4a) represents an **idiosyncratic strategy**, because it is semantically restricted. The interpretation of 'head' as a body part is a specific instance of a stereotypical part-whole relation. The meaning difference between the two marking strategies will be discussed in detail in section 2.2. The underlying idea is that an idiosyncratic strategy is predetermined to mark a limited set of relations that are systematically derived from the semantics of the possessed noun. This idea corresponds to the intuition that given a possessed noun, the idiosyncratic strategy is the one that marks stereotypical, predictable relations. The example in (4b) represents a **non-idiosyncratic** strategy. The non-idiosyncratic strategy is semantically underspecified. It is compatible with any relation, including those relations that are contextually determined. The term idiosyncratic is chosen to show that the nouns that can select for the semantically marked strategy do not form a coherent semantic class. The term refers to the selectional requirements of nouns, not to the semantic contribution of the possessive marker. The relation between idiosyncratic and non-idiosyncratic strategies is schematically shown in figure 2.1.

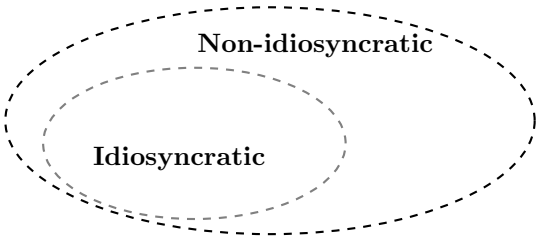


Figure 2.1: Idiosyncratic and non-idiosyncratic marking: asymmetry in relations

In this chapter, I argue that there is a semantic asymmetry between idiosyn-

cratic and non-idiosyncratic strategies to mark possession. This asymmetry concerns the relations which a given strategy can express. There are two factors that interplay with semantic markedness, which I discuss in detail below. Firstly, idiosyncratic strategies typically involve less morphological material than the non-idiosyncratic (morphological markedness). Secondly, semantically marked strategies often show a limited range of application (productivity).

Morphological markedness There often exists an asymmetry between morphosyntactic strategies for expressing possession. One strategy may involve more morphological material than the other. Consider, for instance, the example from Wandala in (5). While in (5a), the 1sg possessive pronoun *rúwá* is juxtaposed to the possessed, the strategy in (5b) involves the 1sg possessive pronoun *rúwá* juxtaposed to the possessed and an additional genitive marker *á*.

(5) Wandala (Frajzyngier 2012)

a. ɔd-rúwá
father-1sg
'my father'

b. rv-**á**-rwá
hand-GEN-1SG
'my hand'

Schematically, this asymmetry is shown in table 2.2. One could say that the marking strategy in (5a) is almost "included" in the marking strategy in (5b); (5b) involves the same morphological material as (5a) in addition to and a the morpheme *á*.

Possessor(=**1sg**) + Possessed(=father)	⇔	LC_1
⇳		
Possessor(=**1sg**) + Possessed(=hand) + **Poss(=*á*)**	⇔	LC_2

Table 2.2: Morphological markedness

Many typologists, for instance, Nichols (1988), Haiman (1983), Heine (1997) and Haspelmath (2008) point out that inalienable strategies tend to be less morphologically marked than alienable strategies. In other words, if there is a contrast between alienable vs. inalienable possession with respect to the presence of morphological structure, alienable possession is always more morphologically marked. I reformulate this observation in terms of idiosyncratic strategies. In case a language has two or more marking strategies to express possession, it is often the case that the idiosyncratic strategy carries a smaller amount of morphological material than the non-idiosyncratic one.

In the course of this chapter, I discuss in more detail how morphological markedness interacts with other factors involved in possessive marking. I argue

that morphological markedness is a typical, but not a necessary, property of an idiosyncratic strategy. The distinction is primarily driven by meaning and not by the morphological form. Morphological markedness does not always help to identify the idiosyncratic strategy. Consider the Rapa Nui example in (2), which I used to introduce the two patterns of distribution. Morphological markedness does not help to determine which strategy is idiosyncratic among *a* and *o*. An example, similar to Rapa Nui, is shown for Udmurt in (6). The difference between the two strategies in (6a) and (6b) is in the quality of vowel (*-i...* vs *-e...*), not the amount of morphology.

(6) Udmurt (Edygarova 2010)

a. ki-**i**, nel-**iz**, vin-**iz**
hand-1sg arrow-3sg younger.brother-3sg
'my hand, his arrow, his younger brother'

b. li-**e**, tuš-**ez**, anaj-**ez**
bone-1sg beard-3sg mother-3sg
'my bone, his beard, his mother'

However, morphological markedness provides an important intuition about the relation between the two strategies: the existence of a simpler form to express a certain meaning blocks the use of the more complex form to express the same meaning. This asymmetry is known as the morphological blocking principle. In section 2.3.2, I discuss this intuition in more detail.

Productivity. Another asymmetry in possessive constructions concerns the range of application of a given strategy. As already indicated in section 2.1.1, the range of application of a marking strategy might be restricted by a lexical class. "Productivity" concerns the relation between the size of the lexical class associated with the idiosyncratic strategy and the size of the lexical class associated with the non-idiosyncratic strategy. Typological studies of (in)alienability often mention a "closed class". Compare Nichols (1988: 562): "The nouns that take 'inalienable' possession virtually always form a closed set, often a small one, while those taking 'alienable possession' are an open, hence infinite set".

If this observation is reformulated in terms of idiosyncratic marking, we expect the range of application of an idiosyncratic strategy to be determined by a closed class of nouns. For instance, in Udmurt, there are two classes of nouns: a closed class and an open class. For the closed class, Edygarova (2010) provides a list of 155 nouns that can appear possessed by means of an *-i...*-strategy. Other nouns, as well as new borrowings, appear possessed with *-e...*. However, Edygarova (2010) also shows that at least some members of the idiosyncratic class, such as *jir* 'head' in (9b), can, under certain circumstances, appear possessed by means of a non-idiosyncratic strategy as well. In (7b) 'head' does not denote a body part of the possessor, it denotes the possessor's husband; the morpheme from the series *-e...* is used.

(7) Udmurt (Edygarova 2010: 124, 125)
   a. jir-**iz**
      head-3sg
      'her head'
   b. zok jir-**ez**
      big head-3sg
      'her big head' (meaning: 'her husband')[1]

The relation between the two classes in Udmurt is schematically shown in the second column of table 2.3. I assume that the marking strategy containing *-e...* is underspecified and thus combines with the members of both lexical classes: LC_1/LC_2; this assumption is based on the fact that LC_1 nouns, which can appear possessed with *-i...*, form a closed class with respect to this type of marking.

Limbu	Udmurt, Rapa Nui	Daakaka
-nd- ⇔ LC_1 -∅- ⇔ LC_2	*-i...* ⇔ LC_1 *-e...* ⇔ $\mathbf{LC}_1/LC_2$	LINK/TRANS ⇔ $\mathbf{LC}_0$

Table 2.3: Lexical class: gradation of flexibility

Finally, I also expect to find languages in which the majority of nouns are compatible with both marking strategies. In my sample, I was unable to identify a language like this with only two morphosyntactic strategies to express possession. The following description of Polynesian possessive marking by Mulloy and Rapu (1977: 7) suggests that it might be fruitful to search among them: "Neither gender nor noun class of possessor or possession determines the choice of the possessive, but the relationship between the two".[2] In chapter 4, I discuss Daakaka (Austronesian) in detail, which makes use of two possessive markers productively; there is no evidence for the existence of a closed class (see also von Prince (2016) and von Prince (2012b))[3]. The gradation from a "closed class" to relatively productive marking is schematically shown in table 2.3. As I argue for a meaning-based distinction between idiosyncratic and

[1]The context provided by Edygarova (2010: 125): "and her big head [her husband] replied to Odot': "that's your own fault! When you are in the forest don't say the things that should not be said."

[2]See also Clark (2000: 264): "serious students of Polynesian languages have always perceived that the A/O distinction hinged, not on a Classification of possessed things (like a noun-class system), but on the nature of the relation between possessor and possessed. One unmistakable clue is the fact that minimal pairs in which the same possessed is related to the possessor by either A or O, with a concomitant difference of meaning, are by no means difficult to find." Initially I assumed, following the description in Mosel and Hovdhaugen (1992), that an example of productive possessive marking is found in Samoan. However, Vera Hohaus p.c. has reported that her fieldwork did not confirm this productivity.

[3]The reason I discuss Daakaka only in chapter 4 is that Daakaka also has a class of syntactically relational nouns

non-idiosyncratic strategies, I show that "closed class" is an extreme case of an idiosyncratic strategy; heavy restrictions on the distribution are a typical but not a necessary property of an idiosyncratic strategy.

In the course of the chapter, I show that it is impossible to predict from the noun whether it will be a member of the idiosyncratic lexical class or not. However, the set of nouns that end up in the idiosyncratic class is not arbitrary. For instance, as observed in many studies, the idiosyncratic class often includes kinship terms and body parts. There is a weak link between this class of nouns and those nouns that are traditionally described as relational, which I discuss in more detail in section 2.2.2.

In the next section, I discuss the interplay between the productivity of the marking strategy and the role of the possessive marker in the semantic composition of a strategy.

2.1.3 Possessive marking: meaning and distribution

In this section, I discuss the distribution and the semantic contribution of the possessive markers. In section 2.1.2, I mentioned that there is a cline from the lexical specification of a marker to its productive application. This cline can be described as a gradation of flexibility. Thus, for a group of languages, the alternation of possessive marking is impossible. In some languages, marking strategies are quite productive; thus, most nouns can appear with either of them. In between, there are many languages in which at least some nouns can appear possessed with both marking strategies.

In order to refer to this gradation of flexibility, I will speak about *fixed* and *flexible* strategies. "Fixed" would mean that a marking strategy is fixed with respect to a certain lexical class of nouns. A "fixed" possessive strategy is indissociable from its lexical class due to its lexical specifications. As an example, we can consider the Limbu example in (8), repeated from (1). Limbu has two morphosyntactic strategies to express possession; both strategies are fixed.

(8) Limbu (van Driem 1987)

a. a-<nd>zum stem: *cum*
my-<LN>friend
my friend

b. a-go·co·
my-dog
my dog

I will speak about "flexible" strategy if there are indications that this strategy can be used to mark possession for multiple lexical classes. An example from Udmurt in (9) shows two marking strategies. The *-i. . .*-type possessive marking in (9a) is only compatible with a closed class of nouns; the *-e. . .*-type possessive marking in (9b) is compatible with an open class of nouns, as well as with some

nouns from the closed class, like 'head'. I will call such a marking strategy that corresponds to the open class "flexible". Thus, Udmurt is a language with a flexible strategy.

(9) Udmurt (Edygarova 2010: 124, 125), repeated from (7)
   a. jir-**iz**
      head-3sg
      'her head'
   b. zok jir-**ez**
      big head-3sg
      'her big head' (meaning: 'her husband')

The focus of this chapter are languages that make use of two morphosyntactic strategies to express possession. I will sometimes call such systems "binary". The languages under discussion are listed in table 2.4. However, some of them (Kayardild, Mandarin, Hungarian and Hebrew) I will only discuss in some detail in chapter 5. The table also presents a summary of the terminology and the corresponding distinctions. As one can see, there are far fewer languages with two fixed strategies than languages with a flexible strategy.[4]

fixed strategies	flexible strategy
$\text{Poss}_1 \Leftrightarrow \text{LC}_1$ $\text{Poss}_2 \Leftrightarrow \text{LC}_2$	$\text{Poss}_1 \Leftrightarrow \text{LC}_1$ $\text{Poss}_2 \Leftrightarrow \text{LC}_1/\text{LC}_2$
Nubian, Limbu, Tehit, Tauya, Moskona	Adyghe, Ewe, Lele, Udmurt, Wandala, Maltese, Hungarian Tlingit, Tera, Tawala, Toqabaqita, Ngiyambaa, Hebrew, Mandarin, Q'eqchi, Samoan, Tzutujil, Rapa Nui, Mongsen Ao, Kayardild

Table 2.4: Fixed and flexible strategies; an overview

Now that "fixed" and "flexible" marking strategies are defined, we can turn to the meaning contribution of the possessive markers. A possessive construction consists of a possessor (either nominal or pronominal), a possessed noun and possibly some morphological material marking possession. An analysis should be able to show how the meaning of the whole possessive phrase is determined by the meanings of the parts. In (10), I schematically show a possessive construction with a flexible strategy. As can be seen in the schema, (10a) and (10b) receive different interpretations. Both the possessor and the

[4]In the corresponding chapter of WALS, Nichols and Bickel (2013b) list 94 languages with two "possessive classes". At first sight, two "possessive classes" correspond to what I call two "fixed strategies". However, it turns out that Nichols and Bickel's (2013b) definition of "possessive class" is much broader: it is not contingent on the shape of morphological markers. For example, if a language has a class of nouns that require the possessor to be expressed in a certain environment, Nichols and Bickel (2013b) classify this language as having two "possessive classes"; consider Wembawemba, Ossetic, etc.

possessed are kept constant; the only variable is the possessive marker, which is Poss_1 in one case and Poss_2 in the other. The difference in interpretation can be attributed to the semantics of the possessive marker.

(10) a. Possessor+Possessed+$\mathbf{Poss}_1$ = Interpretation_1
b. Possessor+Possessed+$\mathbf{Poss}_2$ = Interpretation_2
The difference in the resulting interpretation comes from the difference in the possessive markers

In case possessive markers are in complementary distribution, as we see, for instance, in languages with two fixed strategies, there is no direct evidence that Poss_1 has a different meaning from Poss_2. It is a non-trivial task to evaluate the semantic contribution of the possessive markers, as one can only use indirect evidence to locate various meaning parts. It represents an equation with two variables. The possessor is kept constant, while both the possessed noun and the possessive marker alternate. Hypothetically, the source of difference in the interpretation of the whole can either be the possessed noun: $[\![\text{Possessed}_1]\!] \neq [\![\text{Possessed}_2]\!]$, or the possessive marker $\text{Poss}_1 \neq \text{Poss}_2$. It might also be that both variables contribute to the difference in the resulting interpretation: $[\![\text{Possessed}_1]\!] \neq [\![\text{Possessed}_2]\!]$ and $[\![\text{Poss}_1]\!] \neq [\![\text{Poss}_2]\!]$.

(11) a. Possessor+$\mathbf{Possessed}_1$+$\mathbf{Poss}_1$ = Interpretation_1
b. Possessor+$\mathbf{Possessed}_2$+$\mathbf{Poss}_2$ = Interpretation_2

In chapter 3 and chapter 4, I return to the two possible scenarios behind (11). There is a possibility that the two markers are different in shape, but not in their meaning contribution, which makes them lexically conditioned allomorphs of the same morpheme. This configuration is shown in the scheme in (12). One should think of the resulting interpretation of the two possessive constructions as being essentially similar (the same type of possessive relation).

(12) a. Possessor+$\mathbf{Possessed}_1$+$\mathbf{Poss}_{allomorph1}$ = $\text{Interpretation}_{type1}$
b. Possessor+$\mathbf{Possessed}_2$+$\mathbf{Poss}_{allomorph2}$ = $\text{Interpretation}_{type1}$
Any difference in the resulting interpretation comes from the possessed nouns

If the possessive marker stays constant, represented as **Poss** in (13), but the resulting interpretations are very different, then the source of this difference is the possessed noun. I will talk about this configuration in more detail in chapter 4 when we deal with Movima, Slave and Koyukon.

(13) a. Possessor+$\mathbf{Possessed}_1$+**Poss** = $\text{Interpretation}_{type1}$
b. Possessor+$\mathbf{Possessed}_2$+**Poss** = $\text{Interpretation}_{type2}$

This thesis deals primarily with flexible possessive marking, as shown in (10). In chapter 3 and chapter 4, I will return to cases like (12) and (13) when I discuss languages with multiple morphological markers to express possession.

An overview of languages discussed in chapter 3 and chapter 4 is provided in table 2.5.

Fixed strategies only	Flexible strategies (at least one)
Amele, Wauja, Baure, Toba, Aguaruna	Bororo, Chontal Mayan, Hidatsa, Kayardild, Koyukon, Mussau, Movima, Saliba, Tariana, Tolai, Yaitepec Chatino, Yucatec Mayan, Bardi, Blackfoot, Daaakaka, Guajiro, Maricopa, Nelemwa, Paamese, Panare, Yine (Piro), Slave, Tanacross

Table 2.5: Beyond binary systems; languages with multiple morphological means to express possession

In the following section, I discuss the meaning-based distinction between idiosyncratic and non-idiosyncratic strategies. I introduce the interpretative contrast between the two strategies and discuss the relations that idiosyncratic marking can denote.

2.2 Idiosyncratically marked relations

In this section, I elaborate on the meaning-based distinction between idiosyncratic and non-idiosyncratic possessive marking. In section 2.2.1, I discuss examples that show that alternations between idiosyncratic and non-idiosyncratic marking give rise to a meaning effect. Roughly, given the semantics of the possessed noun P, the idiosyncratic construction is used to mark some specific P-based relation, while the non-idiosyncratic one is used to mark other, less specific relations. In section 2.2.2, I argue that the P-based relation is a stereotypical one. It has to be derived systematically from the lexical semantics of the possessed noun. I discuss the possibilities of lexical decomposition of the possessed nouns and suggest that the most salient semantic features are relevant for stereotypical relation. Finally, section 2.2.3 is a discussion of methodological problems that one encounters while trying to study the semantics of possession typologically.

2.2.1 The meaning effect

In case the idiosyncratic marking is flexible, the possessive markers are dissociable from the members of the idiosyncratic class. Such alternations usually give rise to meaning effects, schematically shown in (14), repeated from (10). The substitution of an idiosyncratic marker (Poss_1) with a non-idiosyncratic one (Poss_2) results in a change in interpretation of the whole possessive construction (Interpretation_1 vs. Interpretation_2).

(14) a. Possessor+Possessed+**Poss**$_1$ = Interpretation$_1$
b. Possessor+Possessed+**Poss**$_2$ = Interpretation$_2$

To start, I will look at languages with two marking strategies: the idiosyncratic and the non-idiosyncratic one, such as Adyghe (Northwest Caucasian), Wandala (Chadic), Maltese (Afro-Asiatic), etc. The minimal pair from Adyghe in (15) highlights the contrast between a body-part relation between the speaker and his head and an ownership relation between the speaker (a zoologist) and an animal's head.

(15) Adyghe (Gorbunova 2009: 153 - 154)
a. s-**ŝha**
1SG-**head**
'my head'
b. s-jə-**ŝha**
1SG-POSS-**head**
'my head' (said by a zoologist about a dog's head)

In (15a), the possessed (the speaker's head) is inherently connected to the possessor (the speaker). In (15b), the ownership relation between the possessor (the speaker) and the possessed (a dog's head) is determined by the context. Gorbunova (2009) notes a further remark by a native speaker consultant. When asked whether (15a) would be felicitous to describe a relation between a dog's head and a zoologist, the consultant said that this would only be felicitous if the dog's head were a body part of the possessor: "He attached the dog's head instead of his own?"

The ownership relation is a frequent interpretation in case idiosyncratic marking is substituted by non-idiosyncratic marking. However, non-idiosyncratic marking can be used to mark other relations as well. Consider another example that involves a body part, 'blood', in (16). The idiosyncratic marking, in (16a) is used to refer to a body-part relation between 'blood' and its possessor. The use of non-idiosyncratic marking in (16b) describes an ancestor relation between 'blood' and its possessor; the possessor (he) does not own blood that flows in the speaker's veins, nor does he have any control over it. The possessor is connected to the blood by being the speaker's ancestor. Thus the use of non-idiosyncratic marking can give rise to non-ownership as well as non-body-part interpretations.

(16) Adyghe (Gorbunova 2009)
a. Ø-əλ
3SG-**blood**
'his blood' (example found online)
b. se a-š Ø-je-λ s-xe-λ
1SG that-ERG 3SG-POSS-**blood** 1sg-LOC-LIE
'his blood flows in my veins (lit. lies in me)'

A similar contrast is sometimes observed with kinship terms. While the idiosyncratic marking is used to highlight the most specific relation with respect to the lexical meaning of the noun (the actual kinship relation), the non-idiosyncratic marking can receive a variety of other, non-kinship interpretations. For instance, in Wandala (17a) the idiosyncratic marking on the word *ə̀d* is compatible with a 'father' relation, while the non-idiosyncratic marking on the same noun receives the interpretation 'superior, boss'.[5]

(17) Wandala (Frajzyngier 2012)

a. **ə̀d**-rùwà
male.superior-1sg
my father

b. **ə̀dd**-á-rwà
male.superior-gen-1sg
my boss, my superior

Another pair of examples that involve a kinship term is shown for Maltese in (18). The idiosyncratic marking with the possessed noun 'children' in (18a) is interpreted as a stereotypical relation (family), even though the parents in this example are non-human (stars). The non-idiosyncratic marking in (18b) is employed to describe a different kind of relation, the material out of which the children are made.

(18) Maltese (Stolz et al. 2008: 86)

a. **Ulied** il-Kwiekeb
child.PL DET-star.PL
'Children of (born by) the stars'

b. **Ulied** ta' l-Azzar
child.PL of DET-steel
'Children (made) of steel'

Lichtenberk (2008: 395) provides an example of a similar meaning effect in Toqabaqita. The possessed noun is 'name'. In (19a), the speaker uses idiosyncratic marking to refer to his/her own name. In (19b), the speaker uses a non-idiosyncratic construction to refer to a namesake, someone with the same name. Thus while saying 'my name' in (19b), the speaker refers to a different relation than in (19a); namely, a name identical to mine.[6]

(19) Toqabaqita (Lichtenberk 2008: 395)

a. **Thata**-ku tha Maeli
name-1SG PERSMKR Maeli
'My name is Maeli.'

[5] Further discussion of this example can be found in section 2.2.3.

[6] Compare it to the speaker pointing towards a car in traffic: "our car"; to show that the car is identical to the one the speaker has.

b. **Thata** nau
name 1SG
'My namesake.'

Adyghe, Wandala, Maltese and Toqabaqita make use of two marking strategies to mark possession. As can be seen from the examples above, the idiosyncratic strategy requires less morphological material than the non-idiosyncratic one. At first sight, it might seem somewhat surprising that a special relation like body part requires less morphological marking than other possessive relations which represent, so to speak, the more general case. However, this asymmetry is quite common. In section 2.1.2, I introduced this asymmetry as the criterion: morphological markedness. In case there is a difference in the amount of morphological marking, the idiosyncratic strategy is typically the less marked.

Below, I present some examples to show that the same meaning effect can be found beyond morphological markedness. Semantic markedness does not correspond to morphological markedness one to one. Consider the meaning effect in the Udmurt example in (20). In (20a) the relation between the possessor and 'tail' is body part. In (20b), a fairy-tale example, the relation between the possessor (speaker-goat) and 'tail' (baby-goat) is actually kinship. As already discussed for Udmurt in 2.1.2, the distinction between the two marking strategies is not in the amount of the morphological marking, but in the quality of the vowel *i* vs. *e*. Despite the lack of contrast with respect to the amount of morphological marking, the semantic contrast discussed above is present.

(20) Udmurt (Edygarova 2010: 119-125)

a. **biž-i**z
tale-3sg
'his tail'

b. kuz' **biž-e**
long tail-1sg
'(you), my long tail'

Typically, the idiosyncratic strategy is restricted in its range of application. Both in Adyghe and Wandala, the range of application of the idiosyncratic strategy is restricted to a small group of nouns. In Maltese, the use of idiosyncratic marking is somewhat more productive; see Stolz et al. (2008: 86), but nevertheless, it is much more restricted than the use of non-idiosyncratic marking. In principle, the meaning effect does not have to be limited to a closed class of nouns. As I mentioned in section 2.1.2, we also expect to find it in languages that make use of possessive marking productively. Anticipating my later discussion in chapter 4, I show such an example from Daakaka in (35).

(21) Daakaka (von Prince 2016)

a. **bura**=ne vyanten en=te
blood=TRANS person DEM=MED
'this person's blood'

b. **bura** ∅-e vyanten en=te
blood CL2-LINK person DEM=MED
'this person's (animal) blood'

In (35), the contrast is between a body-part relation with 'blood' in (37a) and an ownership relation with blood in (37b). As discussed in detail in von Prince (2016) and von Prince (2012b), both marking strategies shown in (37a) and (37b) are used productively in Daakaka. Neither of them corresponds to a closed class of nouns.

In this section, I provided several examples to show that the alternation of possessive marking can give rise to a meaning effect. The meaning effect can be described as a change in the relation between the possessor and the possessed. Idiosyncratic marking seems to be used to mark specific relations, such as body part, kinship, inherent part, etc. The non-idiosyncratic marking marks a whole variety of relations that are less specific: ownership, social superiority, relation of origin, abstract relations, etc. Typically, the idiosyncratic strategy is less morphologically marked and has a more limited distribution than the non-idiosyncratic one. However, the meaning effect can be found beyond morphological markedness and restricted distribution. In the following section, 2.2.2, I will argue that in the case of idiosyncratic marking, possessive relations are be systematically derived from the semantics of the possessed noun. I assume that this process has its roots in lexical semantics of the possessed nouns. In order to account for this derivation, I will examine the members of the idiosyncratic class in more detail. The final analysis will be proposed in section 2.3.

2.2.2 Deriving the relation from the possessed noun

In section 2.2.1, I made the following observation: idiosyncratic marking is employed to encode specific possessive relations. An important question is how these specific relations come to be and what the crucial difference is between them and other less specific relations. The problem of how to derive such relations systematically is relevant for any account of possessive marking. In this section, I show that there is a weak link between idiosyncratic nouns and prototypical relational nouns. Importantly, an idiosyncratic class is usually not semantically homogenous. It is not possible to predict for a given noun if it will receive idiosyncratic marking or not. As I will discuss in section 2.3.2, the possibility to select for the idiosyncratic marking results from the interplay of the morphosyntactic properties and the semantic properties of a class of nouns. In this section, however, I will only be concerned with the semantic side of the question.

As I discussed in chapter 1, it has been observed in numerous studies that some relations within possessive constructions appear to have a privileged status. Barker (1995) uses the example in (22) to show a striking contrast between a part-whole relation and its inverse (whole-to-part). While (22a) is immediately interpreted as part-whole, (22b) requires very strong contextual support.

(22) (Barker 1995: 2)
a. the table's leg
b. *the leg's table

Parts of wholes, including body parts, and kinship terms are prototypical representatives of relational nouns (see Barker 1995). Relational nouns are assumed to denote relations, while sortal nouns denote sets. What is called a relational noun heavily depends on the theory. In fact, some theories allow almost any sortal noun to have a relational reading as well. See, for instance, Löbner (2011). Note, however, that this flexibility does not help us to account for the idiosyncratic classes of nouns cross-linguistically, as it doesn't provide any independent criteria to distinguish a sortal noun from a relational one. There is no independent test to make sure that a noun such as 'ring' is relational in Blackfoot but sortal, for instance, in Adyghe. In general, 'relational noun' represents a syntacto-semantic criterion. A relational noun, in contrast to a sortal noun, has further argument(s) in addition to the referential argument (Löbner 2011): 'father' always entails another individual that is a child. In cross-linguistic studies, good candidates for relational nouns are nouns that require that the possessor be realized within the same nominal phrase (obligatorily possessed nouns) and not appear "unpossessed" without additional morphological modifications (see, for instance, Löbner 2011). Those nouns are syntactically relational.

If we consider obligatorily possession a reliable criterion to determine the class of relational nouns cross-linguistically, we can immediately state that it only partially overlaps with idiosyncratic marking. For languages that only make use of two strategies to express possession, consider table 2.6, a slightly modified version of table 2.4. In table 2.6, YES indicates that in the given language nouns that receive idiosyncratic marking are also obligatorily possessed. These nouns can't form a noun phrase without an overly expressed possessor; one can think of them as bound roots that require an overtly expressed possessor or corresponding person-number inflection.[7] For instance, in Amele (Trans-New Guinea), more than 100 nouns can't form a noun phrase without a clitic that encodes person and number of the possessor (Roberts 1987, 2015). Thus, a noun *hoh* can be used to refer to 'back', but a noun stem **gogodo* 'back' can only appear with a person-number marker of a corresponding possessor, as in *gogdo-h* 'his back' or *gogodo-mi* 'my back' (Roberts 1987: 382).[8]

[7] As I discuss in more detail in chapter 4, the exact mechanisms that allow a noun to form a nominal phrase might vary from language to language.

[8] For Yine (Piro), I found examples of some nouns without an overtly marked possessor but with distributive marker. See *meçi* 'feather' below.

(i) kl̶i̶ meçi-kaka p-hanika sos̶i̶
what+SGM feather.of-DISTR 2-carry brother-in-law
'What (kinds of) feathers did you bring, brother-in-law?' (Hanson 2010)

The Yine noun *meçi* 'feather-of' is supposed to be obligatorily possessed. However, examples like that above where such nouns don't seem to have an overtly expressed possessor make the status of obligatorily possessed nouns questionable.

2 fixed strategies	1 fixed 1 flexible strategy
$Poss_1 \Leftrightarrow LC_1$ $Poss_2 \Leftrightarrow LC_2$	$Poss_1 \Leftrightarrow LC_1$ $Poss_2 \Leftrightarrow LC_1/LC_2$
Limbu – NO	Adyghe – NO
Tehit – PRT[9]	Lele – PRT
Tauya – YES	Udmurt – NO
Moskona - YES	Wandala – NO
Nubian – YES	Tlingit – YES
	Tawala – NO
	Toqabaqita – NO
	Tera – NO
	Hungarian – NO
	Ngiyambaa – NO(?)
	Yine - YES(?)
	Samoan – NO
	Rapa Nui – NO
	Hebrew – NO
	Mandarin – NO
	Q'eqchi – PRT
	Tzutujil – PRT
	Maltese – NO
	Kayardild – NO
	Ewe – NO

Table 2.6: Fixed and flexible strategies; an overview with obligatorily possessed nouns

As can be seen in table 2.6, the obligatorily possessed nouns do not correspond one to one with the idiosyncratic noun class in every language. NO indicates that in the given language, nouns that receive idiosyncratic marking can constitute a nominal phrase without an overtly expressed possessor. For instance, in Toqabaqita, *qaba* 'hand' belongs to the idiosyncratic class; the corresponding possessive marking is shown in (23a). However, it can also form a nominal phrase without an overtly expressed possessor, as shown in (23b).

(23) Toqabaqita (Lichtenberk 2008: 399-400)

a. **qaba**-na
hand-3SG.PERS
'his hand'

b. **qaba** suukwaqi-a
hand be.strong-DVN

[9]In Tehit, according to Flassy and Stockhof (1979: 74), the use of the possessor prefix is phonologically conditioned.

'strong arm'

Finally, for several languages in table 2.6, I used a PRT (partially) notation. The grammars of these languages show that there is no one-to-one correspondence between possessive marking and obligatory expression of the possessor. For example, in Tzutujil, some of the nouns that take idiosyncratic marking, have to take an additional suffix, *-aaj* (*-iij* or *-eej*), if they appear unpossessed. Other nouns from the idiosyncratic class don't undergo any morphological modifications in order to appear unpossessed. Compare the examples with 'louse' in (24a) and 'tooth' in (24b).[10]

(24) Tzutujil (Dayley 1985: 143-144)

a. uk' w'-uk
louse 1sg-louse
'louse' 'my louse'

b. eey-**aaj** w'-eey
tooth-abs 1sg-tooth
'tooth' 'my tooth'

Not every noun that is prototypically relational becomes a member of an idiosyncratic class. For example, all kinship terms are expected to be "systematically relational" (Barker 1995), as they always denote relations between individuals. Indeed, kinship terms appear in the grammatical descriptions quite frequently. Usually, however, the class of kinship terms is divided across multiple marking strategies. For instance, the grammar of Wandala (Frajzyngier 2012) informs us that the idiosyncratic strategy is only used for some kinship terms, like 'father', 'father-in-law' or 'son-in-law' and social terms like 'buddy'. However, kinship terms like 'husband' or 'wife' can only appear possessed with the genitive particle *-á-* (non-idiosyncratic strategy). Compare the nouns 'friend' and 'wife' in (25).[11]

(25) Wandala (Frajzyngier 2012)

a. łàkàt ŋàrà
fellow 3SG
'his buddy'

b. mùks-á-rà
woman-GEN-3SG
'his wife'

[10] I return to the examples from Mayan languages in chapter 3.

[11] The noun 'buddy' *łàkàt* appears with the non-idiosyncratic marker *à* if the possessor is third-person plural:

(i) łàkàt-á-trè
fellow-GEN-3PL
'their buddy'

As it is not turns out, it is not necessary for a noun to be prototypically relational in order to receive idiosyncratic marking. Consider the example from Toqabaqita in (26). The noun *wane* 'people' takes idiosyncratic marking, even though it does not denote a relation; it is not a kinship term. In contrast, Toqabaqita nouns like *ruana* 'trading partner, friend' appear with non-idiosyncratic marking even though they denote relations.

(26) Toqabaqita (Lichtenberk 2008)

a. wane-na Malaqita
person-3.PERS Malaita
'the people of Malaita'

b. ruana nau
friend/trading.partner 1SG
'my friend' or 'my trading partner'

As another example, consider Blackfoot in (27).[12] Gruber (2013) shows that nouns like 'ring' and 'bracelet', which one could expect to be sortal, pattern differently with respect to possessive marking. While 'ring' is in the idiosyncratic class, 'bracelet' is not. Similarly, 'horse' is marked as possessed idiosyncratically, but another domestic animal, 'cow', is not. From the perspective of an English speaker, this distribution is surprising. In English, neither 'horse' nor 'ring' are relational and there is no significant difference between those nouns and 'bracelet' and 'cow' with respect to relationality.

(27) Blackfoot (Gruber 2013)

a. n'-ota'sa n-is'apiikitsoohsa'tsisa n'-ooma
1-horse 1-ring 1-husband
'my horse' 'my ring' 'my husband'

b. nit-'a'apotskinaama nit-ohp'o'nna nit-'o'otoyoomi
1-cow 1-bracelet 1-brother-in-law
'my cow' 'my bracelet' 'my brother in law'

In many languages, nouns that one would expect to be sortal receive idiosyncratic marking. In general, we observe three possible configurations of prototypically relational nouns with respect to an idiosyncratic class.

Type 1: the *idiosyncratic* class is a proper subset of relational nouns. In Wandala, Lele and some other languages, the realm of application of the idiosyncratic strategy is restricted by a class of nouns which one would expect to be relational. In Wandala the class includes some kinship terms. In Lele, the class includes kinship terms, body parts, relational nouns like 'remnants' and spatial concepts like 'behind' that probably describe relations. Thus, the *idiosyncratic* class in these languages can be described as a proper subset of

[12] Blackfoot has more than two morphological means to mark possession; it is discussed, among other languages, in chapter 4.

relational nouns.

Type 2: relational nouns form a considerable part/the majority of the *idiosyncratic* class. In Blackfoot, the idiosyncratic class includes kinship terms like 'husband', body parts like 'hand', parts of wholes like 'branch' and 'leaf', etc. It also includes sortal nouns like 'ring' and 'horse', already mentioned above. We often find languages in which a subset of relational nouns forms a large part of the *idiosyncratic* class, but with some sortal nouns appearing with the *idiosyncratic* marking as well. Consider for instance, Tawala (Austronesian) which I discuss in more detail below. The idiosyncratic class in Tawala, next to prototypically relational nouns like kinship terms and body parts, includes nouns like 'fruit', 'egg' and 'garden', 'book', 'person' and 'money' which are not prototypically relational. By contrast, one might expect that nouns like 'desire', 'thought', 'custom' and 'life' would be relational in Tawala. Each of these nouns entails the existence of another entity. For instance, in order for something to be considered a 'desire', there must be someone who 'desires'. However, these nouns don't appear with idiosyncratic marking in Tawala (Ezard 1997).

Type 3: productive marking. Relational nouns do not form the majority of the *idiosyncratic* class. This configuration is expected to be found when possessive marking is relatively productive. This means that the majority of nouns in the language are compatible with both morphosyntactic strategies used to mark possession. I discuss an example of such a language in chapter 4 when I discuss possessive marking in Daakaka.

Thus, it is **neither necessary nor sufficient** for a noun to be prototypically relational in order to receive idiosyncratic marking. We only observe a loose correspondence between morphological marking and relationality. An idiosyncratic class can consist both of nouns traditionally classified as relational and nouns traditionally classified as sortal.[13] This distribution suggests that *both relational and sortal nouns come with similar properties that allow for the identification of a relation.* The intuition is that provided a possessed noun P, idiosyncratic marking is employed to express some stereotypical P-based relation between the possessor and the possessed. Both the speaker and hearer are able to identify stereotypical relations without any help from the context, at least for nouns that belong to the idiosyncratic class. It should be possible for a native speaker of a given language to derive such a relation from the semantics of the possessed noun in a systematic way. Such a relation should be closely connected to the lexical semantics of the possessed noun. Below, I provide a definition of a stereotypical relation.

In lexical semantics, a distinction is made between the intension and the extension of a noun. The intension is the information that the language conveys. An intensional approach to meaning correlates words with some kinds of mental

[13] In chapter 4, I return to syntactically relational nouns and show that they can also play a role in determining possessive marking in a given language.

representations. An extensional approach to meaning correlates expressions in language with aspects of the world. Knowing the meaning of the word is usually understood as knowing the intension of this word (see, for instance, Cruse 2004). It seems plausible that a stereotypical possessive relation follows from the intension of a given noun. A stereotypical relation must be closely connected with the word meaning available to the speaker.

How much a speaker actually knows about word meanings is a non-trivial philosophical question. The speaker might be able to use the word without knowing what it means exactly. In his famous paper, Putnam (1973) claims that he does not know the difference between an elm and a beech tree. In terms of lexical semantics, this means that he doesn't have access to the extensions of these words. In the presence of an elm, Putnam would have been unable to determine the truth-value of the sentence, *This is an elm.* Nevertheless, Putnam (1973) claims that the extension of *elm* is his idiolect is the same as the extension of *elm* in another speaker's idiolect. How is this possible? Erk (2016) points out that in the described scenario Putnam does know at least something about elms and beech trees; he knows some of their properties. For instance, he knows that both an elm and a beech tree are trees. Knowing properties of the word such that these properties apply to all extensions of the word allows the speaker to use the word successfully in various contexts. Following this logic, a word meaning can be presented as a large collection of salient properties (conditions or features), such as form, function, purpose, etc. Jackendoff (1983) divides these features into **necessary** and **typical**. In the elm example above, [tree] is a necessary feature of both *elm* and *beech tree*. A necessary feature is fulfilled by every extension of a given noun. Every *elm* or *beech tree* is a tree. Typical features might be salient, for instance, [can-fly] is a typical feature of *bird*. However, [can-fly] is not a necessary feature of *bird*, as it does not apply to all extensions of this word. There are kinds of birds that can't fly, such as ostriches. An individual bird with a damaged wing is still a *bird* even though it can't fly.

Returning to the question of how to derive a stereotypical relation from the lexical meaning of a noun, we can suggest that such a relation should be derived from the set of features available to the speaker. A following question would be whether a stereotypical relation for a given noun is connected to **typical** features (like [can-fly] for *bird*) or **necessary** features (like [tree] for *elm*). Putnam (1973) points out that with respect to some words, the linguistic labor within a community might be divided. Not every member of the community is expected to have the same knowledge. For instance, *gold* is important in our community for multiple reasons. Nevertheless, only few people actually know what gold is and how to tell gold from a different metal. These "experts" know the necessary features of *gold* that the other members of the community don't know. Nevertheless, the whole community can talk about gold, buy and sell gold, and wear golden jewelry.

I claim that the distinction between **typical** and **necessary** features is not crucial for deriving a stereotypical relation; what matters most is that given

features be **salient** in the given culture. In order to show why this is the case, I will make use of a very simplified version of lexical decomposition, breaking down the words meaning into simpler semantic components. In principle, in order to access this process one would need to access the lexical space of a given language. This would hardly be possible with the understudied languages in the sample, but we can make predictions about what kind of lexical features, hypothetically, might be relevant to deriving possessive relations.

Let's first consider some examples of the nouns that belong to the idiosyncratic class in Tawala (Austronesian). The idiosyncratic class in Tawala includes nouns like *tano* 'garden', *gali* 'fence', *buka* 'book', etc. I hypothesize that idiosyncratic marking in Tawala corresponds to the stereotypical relation for a given noun, while the non-idiosyncratic marking can correspond to any other relation. Following this hypothesis, we expect the contrast in possessive marking to highlight the contrast between the stereotypical relation and the rest.

For example, for the noun *tano* 'garden', in (43), we can see a contrast between two possessive relations. If the possessor refers to a plant, the idiosyncratic marking is used. If the possessor is a human, the marking is non-idiosyncratic. This example suggests that the stereotypical relation between the possessor and the garden is based on the lexical feature [content=plant], but not, for instance, on the lexical feature [produced by].

(28) Tawala (Ezard 1997: 151)

a. woida **tano**-na
yam garden-3sg
'yam garden'

b. keduluma a **tano**
woman 3sg garden
'woman's garden'

In (29), the idiosyncratic strategy is used to mark the relation between the owner and *gali* 'fence'. The non-idiosyncratic strategy is used to refer to a relation with between an animal a fence is meant to keep in place and the fence. This contrast suggests that *tano* and *gali* are conceptualized differently in Tawala. For *tano* 'garden' , the feature that gives rise to the stereotypical relation is its [content=plant]; for 'fence' *gali* it is [produced by] but not [content=animal]. Note that at least in our culture both 'fence' and 'garden' are necessarily created by someone. Thus, from the European perspective one would expect [produced by] to be a necessary features of 'garden' or 'fence' because it applies to every extension.

(29) Tawala (Ezard 1997: 152)

a. tam gali-m
you fence-2sg
'your fence (can mean 'things belonging to you')

b. poo banei-na a gali
pig big-3sg 3sg fence
'the big pig's fence'

The example in (30) again shows a contrast between the feature [content=language] and the feature [produced by]. This time, the possessed noun is *buka* 'book'. Here, it might be that both features are necessary. Any book is necessarily produced by someone; one would expect [produced by] to be a necessary feature. However, the author of the book receives non-idiosyncratic marking, as shown in (30b). But any book also has some content, so the feature [content=language] that determines the idiosyncratic possessive marking in (30a) is probably also necessary.

(30) Tawala (Ezard 1997: 300)
a. pona Tawala buka-na
language Tawala book-3sg
'a Tawala(n) book'
b. u buka
my book
'my book (I wrote it)'

A feature [purpose/use] seems to be relevant for nouns like 'medicine/magic', 'work' and 'money', as shown by the idiosyncratic marking in (31). In (31a), the idiosyncratic strategy marks the one who benefits from the magic. In (31b), the one who benefits from the work is idiosyncratically marked. By contrast, in (31c), the one who does the work is marked non-idiosyncratically. As I discussed above, my expectation is that [produced by] is a necessary feature for 'work'. Work simply can't take place without someone who does it. However, this feature does not seem to be relevant for deriving the stereotypical relation in Tawala.

(31) Tawala (Ezard 1997: 103,151)
a. wawine mulamula-na
female medicine-3sg
'his magic for (attracting females)' (they gave my friend magic for attracting females)
b. bada bagibagi-na
man work-3sg
'the man's work' (=work done for the man)
c. bada a bagibagi
man his work
'the man's work' (=work done by the man)

I provide some more examples of the members of the idiosyncratic class in Tawala in table 2.7. Table 2.7 is meant to show which features of a given noun correspond to idiosyncratic marking and thus to the stereotypical relation.

In line with the discussion above, I divide the features into **necessary** and **typical**. With bold, I mark those features that end up being relevant for the stereotypical relation. Note that I define salient features of nouns in such a way that they correspond to relations between sets: [part-whole], [produced-by], etc. The aim of the table 2.7 is to show that within the idiosyncratic class, both nouns traditionally classified as relational and nouns traditionally classified as sortal share some meaning component. For instance, nouns like 'fruit' probably share a [part-whole] feature with body-part nouns like 'tail' or nouns referring to parts of a whole like 'trunk'. Several nouns seem to share a feature like [content]: 'book', 'garden', 'preaching'. Nouns like 'fence' or 'egg' seem to share a feature [produced by]. Even a prototypically sortal noun like 'person' seems to share a [part-whole] feature with prototypically relational nouns like body parts. Compare the example in (3), in which the relation between a person and a village the person is part of is marked idiosyncratically.

(32) Tawala (Ezard 1997: 98)
meyagi **lawa**-hi
village person-3pl
'people of the village'

noun	necessary feature	typical feature
child	**kinship**	
...		
tail	**part-whole**	
blood	**part-whole**	
trunk	**part-whole**	
fruit	**part-whole**	result-of
...		
egg	**produced-by**	edible
...		
preaching	**content**	produced-by
work	produced-by	**purpose/use**
garden	**content = plant**	produced-by
fence	**produced-by**	purpose/use=animal
book	**content**	
	produced-by	
person		**part-whole = village**
medicine		**purpose**
money		**purpose/use**

Table 2.7: Idiosyncratic class in Tawala, based on Ezard (1997)

Of course, as I discuss in much more detail in section 2.2.3, there is a serious methodological problem with this representation. The main challenge

is translatability; I don't have access to information on how the speakers of the languages I studied conceptualize the world around them; therefore, I don't know whether or not the nouns in the given languages actually possess these features. The representations are thus largely hypothetical. Nevertheless, the representations such as those in table 2.7 are helpful in illustrating what an idiosyncratic class might look like and what the differences might be between various languages in this respect. One might argue that the necessary features in Tawala are different from what we expect in European cultures. Artifacts like 'book' or things like 'garden' can't exist without being produced, but this might be different in the Tawala conceptualisation of the world. However, with the examples provided so far I don't want to commit to the claim that the stereotypical relation is based on the necessary feature of a given noun. I define the stereotypical relation as based on the most salient feature of the possessed noun. This creates an expectation that non-idiosyncratic morphology will be employed to mark some other relations, such that they are not derived from the salient features.

The notion of stereotypical that I am using is tied to a specific culture. In my definition, derivation of a stereotypical P-based possessive relation from a possessed noun P, relates to conceptualization of the world by the speakers of a given language. A stereotypical relation conforms most to default cultural expectations. A relation is stereotypical if it is conceptualised as such in the mental space of a speaker of a given language. Below I show that languages differ in the way they conceptualise different relations. Note that my take on what is stereotypical is different, for instance, from the approach to stereotypes in Levinson (2000). For Levinson (2000: 115), stereotypes are "connotations associated with meanings, but not part of them". My notion of stereotypical relation is tied to a word's meaning, to its intension. The similarity between both approaches to stereotypicality is that a stereotype doesn't have to be strictly based on the reality or statistical tendency. Stereotypes are not objective; they are culture specific relations, available to speakers of a given language. Thus, we can talk about "absent-minded professors" as stereotypes even though it is not necessarily the case in reality that most or all professors are absent-minded. Similarly, one could think of a culture in which an ostrich would be a stereotypical bird, even though an ostrich, in contrast to most birds, cannot fly and thus is not a good representative of birds, statistically speaking.

In order to show the culture-specific nature of the stereotypical relation, we can compare the idiosyncratic class in Tawala with the idiosyncratic class in another language. I chose an example from Hidatsa (Siouan), one of the languages from chapter 3.[14] As one can quickly observe, in Hidatsa, the idiosyncratic class includes a large number of artifacts, such as 'arrow' and 'kettle'. As these nouns imply possession by a human, I expect that they have a feature [use/purpose] in their lexical semantics. It is probably the necessary feature shared by all

[14]In chapter 3 and 4, I explain in detail the idiosyncratic class in languages that have more than two morphological means of marking possession.

extensions of these nouns. Artifacts are not created without a purpose, even if they can exist on their own, without being actually used by people. The same applies to clothing and food. Thus, at least one feature [use/purpose] is shared by a large group of nouns in Hidatsa. Two other groups of the idiosyncratic nouns in Hidatsa consist of body parts and kinship terms. For these nouns, it is likely that the stereotypical relation is derived from their necessary features, [part-of] for body parts and [kinship] for nouns. It is not clear whether prototypically relational nouns in Hidatsa share relevant features with prototypically sortal nouns. For body parts and nouns like 'pants', 'earrings' and 'eyeglasses', this feature might be [located=body]. For more examples from Hidatsa, see table 2.8.

noun	necessary feature	necessary feature	typical feature
friend	[kinship]		
father	[kinship]		
...			
wing	[part-of]	[located=body]	
teeth	[part-of]	[located=body]	
head	[part-of]	[located=body]	
...			
food	[purpose = human consumption]		
pants	[purpose = wear]		[located=body]
earrings	[purpose = wear]		[located=body]
arrow	[purpose = hunting]		
kettle	[purpose = cooking]		
gun	[purpose = hunting]		
house	[purpose = living]		
eyeglasses	[purpose = wear]		[located=body]

Table 2.8: Idiosyncratic class in Hidatsa, based on Park (2012)

As the stereotypical relation is tied to cultural knowledge of the speakers, it is important to see that languages can pattern differently with respect to the difference in relations that they highlight. An interesting contrast concerns the relation between the possessor and its body parts. In some languages, a

body part receives idiosyncratic marking only if it still functions as a body part of the possessor. Once it is severed, even if the possessor is unchanged, the non-idiosyncratic marking has to be used. For instance, in Maltese (8) 'Basil's head' receives non-idiosyncratic marking if the head is detached from Basil.

(33) Maltese (Fabri 1993: 162)

a. ras Basilju
head Basil
'Basil's head'

b. ir-ras ta' Basilju
DF-head of Basil
'Basil's head (detached)'

Crippen (2010: 270) makes a similar observation for Tlingit. In both examples (34a) and (34b), the bear is the possessor of the head. However, only in (34a) does the head still function as the body part of the bear.

(34) Tlingit (Crippen 2010: 270)

a. xoots shá
brown.bear head
'head of a (living) brown bear'

b. xoots shá-yi
brown.bear head-poss
'severed head of a brown bear'

To emphasize this difference, I will make use of an example from chapter 4. Haude (2006) explicitly mentions that idiosyncratic marking in Movima can be used to mark the relation with body parts, either detached or not. Compare (35) below with (34) above.

(35) Movima (Haude 2006)

ba<kwa∼>kwa=a
head<RED∼>=n
'its head (also when detached)'

Thus, the stereotypical relation between a possessor and its body part is different in Maltese and Tlingit on the one hand, and in Movima on the other. The way the stereotypical relation is defined, one would expect this difference to follow from the lexical semantics of body parts. For example, one could think of a salient feature for body parts like <[located-on]> that restricts stereotypical relations to non-detached body parts. This feature would be used to derive the stereotypical relation in Maltese and Tlingit, but not in Movima. The feature [located-on=body] also unites body parts and items of clothing in Hidatsa, as shown in table 2.8. I take the examples with the noun 'head' in (8) and (34) to show that the stereotypical relation derived from the possessed noun can be different in different cultures even if the intensions of the noun appear to be

very similar.

To conclude this section, I want to point out that the improvised semantic features I am describing are very much reminiscent of qualia roles in Vikner and Jensen's (2002) work (see also Pustejovsky 1996). Indeed, [used-by] can be seen as a representative of the *telic role*, which deals with purpose and functions; [part-whole] naturally falls under the *constitutive* role. The feature [produced-by] ('chicken egg') would be representative of the *agentive* qualia role. Based on these qualia roles, one could reformulate the notion of stereotypical relation. For a given noun, the stereotypical relation would be derived with the help of a certain qualia role. The exact qualia roles that are relevant for the derivation would have to be culture specific. One would have to specify them for every noun in the same way I showed above with salient features. There is no particular reason not to use qualia roles in this study. I decided to follow a more descriptive approach simply listing the salient features because it makes the connection to the data a bit more transparent. I wouldn't know, for instance, how to refer to the contrast between detached body parts and body parts connected to their possessor in terms of qualia structure.

I believe that the culture-specific notion of stereotypical relation can also explain the famous implicational hierarchy of "inalienable possession" shown in (36); this hierarchy was proposed by Nichols (1988). If reformulated in terms of idiosyncratic marking, this hierarchy shows that the most common members of the idiosyncratic class are body parts and/or kinship terms. It seems to me that this kind of overlap between different languages is not unexpected. While stereotypical relations derived from "culturally basic possessed items" will vary from language to language as I showed for Tavala and Movima above, the stereotypical relations derived from nouns that denote body parts or kinship terms are much more predictable. Thus, body parts commonly give rise to part-whole relations, unless in the given culture, the specific body part doesn't have a more salient feature like [purpose/use=food] or [purpose/use=material]. For instance, body parts that often give rise to non-part-whole relations are 'meat', 'bone' and 'skin'.

(36) Nichols (1988): "semantic membership of the 'inalienable' (closed) class"
1. Kin terms **and/or** body parts
2. Part-whole **and/or** spatial relations
3. Culturally basic possessed items

In this section, I discussed the relations that correspond to idiosyncratic marking. I argue that these are culture-specific stereotypical relations. Given a possessed noun, it should be possible to derive such relations systematically. I tried to model this process with the help of salient lexical features. I also showed a weak link between idiosyncratic nouns and nouns traditionally described as relational. As both relational and sortal nous often appear together within the idiosyncratic class, it is likely that they have some salient features in common. In the next section, I will discuss some methodological problems that my

analysis encounters.

2.2.3 Methodological problems

This section addresses some methodological problems that my cross-linguistic study of meaning runs into. The more general methodological problems related to data collection and the lack of negative evidence are discussed in chapter 1. Here, I only mention potential homonymy or polysemy, the role of methodology in the studies of lexical semantics studies and the danger of using vacuous argumentation in the semantic discussion.

Homonymy and Polysemy. The question of which relations can be systematically derived from the intension of a noun touches upon the question of polysemy. In linguistic descriptions, authors often observe that the presence of a certain possessive marker "disambiguates" the interpretation of a noun. For instance, Lichtenberk (2008) shows for Toqabaqita that the same noun *gona* can denote 'heart' or a species of tree, Burckella. The fruit of this tree is said to resemble a heart. As shown in (37), the possessive marking differs for the two uses of *gona*.[15] The organ is marked idiosyncratically, while the natural object receives non-idiosyncratic marking.

(37) Toqabaqita (Lichtenberk 2008)
   a. gona-ku
      heart-1SG.PERS
      'my heart'
   b. gona nau
      Burckella.spp 1SG
      'my Burckella tree'

Similar observations are made for many languages; for instance, Overall (2007: 207) mentions that in Aguaruna, distinct possessive marking helps to disambiguate between two very different readings: a body part and a natural object. The examples he provides involve the nouns *duka*, which has two readings: 'leaf' and 'labia', and *tsuntsu*, which can mean either 'snail' or 'vulva of an animal'. According to Overall (2007: 207), the speakers use inflection as in (38a) for the body part reading and a separate pronoun as in (38b) when they talk about leaves and snails, as shown in (38).

(38) Aguaruna (Overall 2007: 207)
   a. duka-hu
      labia-1SG
      'my labia'

[15] Lichtenberk (2008) provides another example of this kind with the noun *keekene* 'breadfruit (tree and fruit)' or 'stomach' (Stomachs are said to look like breadfruit fruit.).

b. duka mi-nau
leaf 1SG-POSS
'my leaf'

I believe that such examples are instances of systematic polysemy. Systematic polysemy can be modelled in different ways; on some accounts, systematically polysemous lexical items, in contrast to homonymous ones, can have multiple interpretations simultaneously. Kemperson (1980) provides such an example for the noun *book* in (39). A book has a physical representation as well as a representation through its content. Sentences like (39) show that the speaker can access these properties at the same time and that they are not mutually exclusive.

(39) My book is three hundred pages long and quite incomprehensible. (Kemperson 1980: 9)

The examples in (37) and (38) are different because the context and the possessive marking clearly disambiguate between different readings of the possessed noun. It is unlikely that the speakers of Toqabaqita would consider one entity a heart and a tree simultaneously. However, these examples are on the border between polysemy and monosemy. Pure homonymy seems unlikely as the interpretations are related to each other. It might be instructive to see how the idiosyncratic and non-idiosyncratic marking is used in such examples, in particular how the "stereotypical" interpretations can be derived. Unfortunately, there are too few data to draw conclusions, but I discuss a few examples below.

Consider the examples from Lele in (40). In both constructions, the possessed noun is *kùb*. The only formal difference between (40a) and (40b) is in the shape of the possessive marker. However, the interpretation differs; (40a) refers to her mouth, and (40b) to her language. Thus, *kùb* is interpreted either as 'mouth' or as 'language'. Note that a similar contrast can be observed in English with the noun *tongue*: *She ran her* ***tongue*** *around her lips.* vs. *The French feel passionately about their native* ***tongue****.*

(40) Lele (Frajzyngier 2001: 70)
a. kùb-rò
mouth-3sg.f
'her mouth'
b. kùb kò-rò
mouth DET.GEN-3sg.f
'her language'

In case all the lexical features of *kùb* are available to the speaker at the same time, it is probably a conjunction consisting of [part-whole = body], [function = speaking], [similar across community members]. The feature [part-whole = body] is probably the most salient one; the idiosyncratic relation body part is derived from it. The example from Wandala in (41) is somewhat different.

Frajzyngier (2012) points out that substitution of possessive marking on the noun *ə̀d* 'father' gives rise to the interpretation 'my boss', as shown in (41).

(41) Wandala (Frajzyngier 2012: 132)

a. **ə̀d**-rùwà
male.superior-1sg
'my father'

b. **ə̀dd**-á-rwà
male.superior-gen-1sg
'my boss, my superior'[16]

In English, 'father' and 'boss' represent very distinct meanings. However, it is not uncommon cross-linguistically for the same nouns that refer to parents to also refer to hierarchically superior individuals. For example, Coupe (2007: 272) describes a similar meaning flexibility for the word 'mother' in Mongsen Ao (Asian). The noun 'mother', according to Coupe (2007), does not only describe a relation between two individuals; it can also describe a set of individuals who are 'principal' or 'major'. Coupe (2007: 272) points out that in the languages of East Asia, South-East Asia and beyond, the noun 'mother' is often a lexical source for an augmentative morpheme, while 'child' is a source for a diminutive. I believe that the noun 'father' in Wandala can similarly describe a set of 'superior', 'principal' or 'major' individuals. It is likely to be a cultural criterion. My hypothesis would be that *ə̀d* in Wandala has a general meaning 'male-superior'.

An interesting question then would be how the 'father' interpretation in (41a) comes about. The idiosyncratic marking gives rise to a kinship/family relation. How is this relation derived from 'male-superior' if it doesn't come with a necessary [family] feature? One possibility would be that [family] is a typical feature and due to its high salience, the idiosyncratic marking gives rise to the 'father' interpretation. The two examples in (40) and (41) differ with respect to the direction of entailment. Using a language, or being able to talk, entails, so to say (having) 'a mouth'. A 'father superior' entails a more general 'male superior'. The father can be seen as a hierarchically superior figure in the smallest possible social unit, i.e. the family. In the Lele example, the more general meaning corresponds to idiosyncratic marking; in Wandala, a more specific meaning corresponds to idiosyncratic marking.

The two meanings can be represented as an ordered set, where the first member (the hyponym) entails the second one ⟨family-superior, superior⟩. Note that we can have a similar ordering for the two readings of *finger* in English. ⟨not-thumb-finger, finger⟩. *Thumb* is a kind of finger, but *finger* is normally not used to denote *thumb*. As Kemperson (1980: 16) points out, this is a common pattern if there is a general term, like *finger* and a narrowly specified

[16]The same contrast is observed with the noun 'oldest brother'; it can be used to describe a superior as well (Frajzyngier 2012: 132): *mál-rùwà* 'my oldest brother' *mál-á-rwà* 'my superior' (*màlé* 'old').

lexical item that covers a sub-part part of the same lexical field, like *thumb*.[17] Levinson (2000: 102) suggests that "Diachronically, implicated autohyponymy leads to systematic polysemy". Although I don't have this information, it is quite plausible that there is a narrowly-specified noun in Wandala to refer to 'boss' as superior at work. Then *ə̀d* has a broad male-superior reading and a narrowly-specified family-related one.

Examples like 'male-superior' in Wandala can be described as *autohyponymy*; a word has a general sense and a contextually restricted sense that denotes a subvariety of the general sense. Some other examples resemble what Cruse (2004: 109) calls *automeronymy*. In those cases, one reading denotes a sub-part of what the general reading denotes. Consider the Movima example in (42). The same noun *bo:sa* can be used to refer to an arm or to a sleeve. On someone wearing clothes, a sleeve can be perceived as a sub-part of an arm. However, we can't know for sure if this is indeed a systematic connection for Movima speakers. As I already mentioned, we don't have access to their lexical space.

(42) Movima (Haude 2006: 242)

a. as-∅ bo:sa
ART.n-1sg arm
'my arm'

b. as-∅ bosa:-neɬ
ART.n-1sg arm-neɬ
'my sleeve'

Examples like (38) and (37) are probably instances of *metaphor*. One of the uses of a noun is figurative; it is based on resemblance. For example, in (43) 'fruit' is interpreted as a part of a plant or as the result of human actions.

(43) Tawala (Ezard 1997: 151)

a. mayau **gou**-na
yam garden-3sg
'tree's fruit'

b. lawa a **gou**
person 3sg fruit
'a person's responsibility/fault'

The aim of this section was to show that polysemy interacts with idiosyncratic marking in intriguing ways. The limitations of available data make it impossible to describe any clear tendencies, but it might be an interesting question for future research. For now, I can only say that polysemy presents a methodological problem. One has to be critical with various instances of marking alternations; it is important to make sure that the lexical meaning of the possessed noun stays the same. Unfortunately, in many cases it is almost impossible to prove.

[17] Another famous example is 'dog'. *Dog* can be used to denote 'male dog', in contrast to *bitch*. Thus, *bitch* is narrowly-specified compared to *dog*.

Methodology and study of semantic features. Depending on the methodology one uses, one might reveal different types of information about the lexical space of the speakers. Semantic features play a major role in the most prominent theories of concept categorization. Because of this, there are many attempts to derive semantic features empirically. Some lists of features collected experimentally have been made freely available, for instance, McRae et al. (2005) for English. I checked to what extent the features derived for the English nouns match the features I suggest for Tawala and Hidatsa. Neither body parts nor kinship terms are represented in McRae et al.'s (2005) list, but there are many artifacts such as *fence*, *book*, *pants*, *kettle* or *gun*. Functionality or purpose of an artifact seems to play an important role for English speakers. For instance, for *fence* McRae et al. (2005) list [used-for-keeping-out-intruders] and [used-for-privacy]; for *pants* [worn-by-men], [worn-by-women], [worn-for-covering-legs], etc. Note that 'fence' in Tawala (29b) seemed to have a function of keeping someone inside (the big pig), but in general functionality seems to be relevant cross-linguistically. Interestingly, *book* is more salient for English speakers through its material representation. The list of features contains its parts [has-a-hard-cover] and functions [used-by-reading], [used-for-learning], but there are no features highlighting the content, as we saw in Tawala (30a). *House* has functional features as well; a house is [used-for-living-in] and [used-for-shelter]. In general, a striking fact about feature production is that speakers eagerly list parts of an object, such as [has-a-roof], [has-doors], [has-windows] for *house*. However, the speakers never mention that the object itself can be a part of a whole. For example, the list of features for *door* includes: [has-a-handle], [has-a-knob], [has-a-lock], [has-hinges], [is-rectangular], [made-of-metal], [made-of-wood]. However, there is no feature like [part-of-a-house]. It is commonly assumed that in English possessive constructions, part-whole relations play an important role (see Barker and Dowty 1992); it might be that this feature is not very salient for *door*, but in general, we would expect it to be salient for many nouns. The explanation of why [part-whole] does not appear among the salient features during the feature-production task might be in the methodology. McRae et al. (2005: 549) points out that speakers are biased towards information that distinguishes between similar concepts. Thus [part-whole] might be not considered distinctive between *door* and other door-like concepts.

The danger of circularity My hypothesis is that stereotypical relations should be systematically derived from the lexical semantics of the possessed nouns. There is a danger of circularity in this kind of study. I discuss the relations between the possessor and the possessed that are expressed by means of idiosyncratic marking. Although I argue that those are stereotypical relations, I don't have an underlying theory of what stereotypical relations are. The differences in the morphological marking serve as my primary cues for the possible meaning differences between two possessive constructions. Following the differ-

ence in the morphological marking, I try to make judgments about the nature of the meaning differences. As I don't have access to the lexical space of the speakers, I can't know whether the meaning differences I propose correspond to their intuitions. Except for the morphology, there is little independent evidence that the differences are there.

In order to study lexical semantics one would need to access the lexical space of the speakers. Given the dimensions of a typological study, it is impossible to conduct extensive fieldwork on all the languages in the sample. I can only rely on the secondary sources and the lists of nouns provided there. As a result, my theory is tied to lexical semantics, but the lexical semantics of understudied languages is difficult to access. I can't prove my theory without information on the lexical space of the languages. I can't say for sure what the exact representation of 'honey' or 'arrow' is in a given language.

2.3 Idiosyncratic strategies: an analysis

In this section, I propose an analysis for idiosyncratic marking of adnominal possession. I first develop it for languages that only employ two strategies to mark possession. In chapters 3 and 4, I show how it can be extended to more complex systems of possessive marking. On my account, the two marking strategies are in competition. In section 2.3.1, I sketch a blocking principle that regulates this competition. I propose that the principle should be formulated in pragmatic terms as an instance of a general pragmatic principle: *Maximize presupposition* (Heim 1991). In section 2.3.2, I discuss other components of my analysis. Based on this discussion and on the principle *Maximize presupposition*, I develop a pragmatic account of possessive marking. In section 2.3.3, I demonstrate the analysis at work with the help of a case study from Adyghe.

2.3.1 Competition between two lexical items

In this section, I show that the relation between two morphosyntactic strategies to mark possession can be presented in the form of a competition. In this competition, the use of a less specific strategy is blocked by the availability of the more specified one. I propose that this blocking principle is an instance of a general pragmatic principle, known as *Maximize presupposition* (Heim 1991).

A blocking principle. In section 2.2, I discussed the meaning effect which results from the substitution of possessive markers in a given language. I argued that the idiosyncratic strategy is used to express stereotypical relations between the possessor and the possessed; the relations expressed by non-idiosyncratic marking are more general and less predictable. I proposed that stereotypical relations should be derived systematically from the lexical semantics of the possessed nouns.

In the system I develop, there is a mapping between certain relations and certain structures. In some languages, one observes a clear between the idiosyncratic and the non-idiosycnratic strategies with respect to the amount of morphological marking. For instance, in Adyghe and Wandala we see that the idiosyncratic possessive construction is expressed by juxtaposition of the possessed and the possessor, without any additional morphology. In other languages, for instance in Udmurt, the contrast between two morphosyntactic strategies is not in the amount of morphological marking, but in the exact nature of the markers. Schematically we can represent these two patterns as shown in table 2.9.[18]

	Type1 Adyghe, Wandala...	Type 2 Bardi, Udmurt, Rapa Nui... Daakaka
Idiosyncratic	Poss-ed $\emptyset_{Poss1}$ Poss-or	Poss-ed **Poss1** Poss-or
Non-idiosyncratic	Poss-ed **Poss2** Poss-or	Poss-ed **Poss2** Poss-or

Table 2.9: The complexity of the morphological marking

In order to model the mapping between the relations and the possessive marking, I introduce two variables over relations: *Rp* and *Rfree*. *Rp* is a variable which ranges over a set of stereotypical relations. As described in section 2.2.2, a stereotypical relation *Rp* is systematically derived from the most salient lexical feature of the possessed noun P. *Rfree* is a variable which can have other, arbitrary relations as its value. Note that under this definition of the variables, their possible values (relations between the possessor and the possessed) stand in a subset relation, as shown in figure 2.2. These variables are very similar to R and R_i introduced in Partee (1983/1997) for *inherent* and *free* relations. A variable that ranges over relations is commonly assumed in the analysis of possessive constructions. See, for instance, R for *extrinsic possession* in Barker (1995). The approaches differ with respect to how the relation is contributed into the structure. I return to this question in section 2.3.2.

We can now model the correspondence between the semantics involved in the strategy and the morphological marking. The idiosyncratic marker is only compatible with *Rp* relations; it can never be used to express other, arbitrary *Rfree*-relations. The non-idiosyncratic marker is compatible with *Rfree* relations, which means that it is compatible with any relation whatsoever, including the *Rp* relations.

First, let's consider languages from the first column of table 2.9. They are labelled Type 1. I will return to languages of Type 2 later. In Type 1 languages, like Adyghe, Wandala and Maltese, in order to express *Rfree*, additional mor-

[18] For more complex morphological patterns, see the discussion of multiple formal exponents of one strategy in chapter 4.

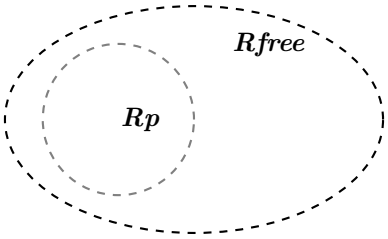


Figure 2.2: The values of *Rp* and *Rfree*

phological material is required. The first column of table 2.9 schematically shows that the non-idiosyncratic marking involves an additional morpheme, labeled Poss2. For the idiosyncratic class of nouns, it is possible to express *Rp* without additional morphology. In Type 1 languages, the idiosyncratic strategy involves a smaller amount of morphological marking than the non-idiosyncratic one. The non-idiosyncratic marking is compatible with any relation whatsoever, including *Rp* relations. However, the existence of the "simple" idiosyncratic strategy to express the stereotypical relations blocks the use of the non-idiosyncratic strategy in order to express the same relation. The non-idiosyncratic strategy, which involves additional affixation, is only used if there is a meaning contrast between the two forms; thus, it is used for *Rfree* relations different from *Rp*.[19]

This asymmetry between the idiosyncratic and the non-idiosyncratic strategies resembles instances of blocking that have been described for inflectional as well as for derivational morphology. For instance, Aronoff (1976: 43) showed that existence of a simple lexical item can block the derivation of an affixal lexical item otherwise synonymous with it. In derivational morphology, there are often several derivational routes competing with each other. As discussed in Kiparsky (1982) and Levinson (2000), while multiple nouns can be derived from the same verb, they always pick up different intensions and extensions. For instance, the verb *to cook* is a source of the noun *cook*, meaning the one who cooks. The existence of this form does not allow the noun *cooker* to receive the same extension. Instead, *cooker* is interpreted as 'thing that cooks'. As Levinson (2000: 139) points out, the simpler, unmarked formation usually picks up "the stereotypical extension, often narrowed in the typical way". There is

[19]This is a simplification of the facts. In some cases, non-idiosyncratic possessive marking is compatible with stereotypical relations. For example, in Maltese, for a subclass of kinship terms both types of marking are available. Fabri (1993) points out that alternation of possessive marking on kinship terms does not give rise to the meaning effect discussed above. There are various reasons why the non-idiosyncratic strategy might be used in order to express a stereotypical relation. For instance, as discussed in Stolz et al. (2008), the distribution of possessive marking in Maltese is not solely determined by the relation between the possessor and the possessed. In chapter 5, I will discuss more cases in which possessive marking is the result of an interplay of multiple factors.

thus a division of labor in word formation such that simpler formations receive stereotypical meanings while the more complex ones receive more specialized meanings.

The general idea of blocking, as formulated by Aronoff (1976: 43) is "the nonoccurrence of one form due to the simple existence of another". The gist of the idea of blocking or the so-called *Elsewhere Principle*, according to Kiparsky (1973: 94) goes back as far as Panini's grammar: "A rule which is given [in reference to a particular case or particular cases to which or to all of which] another [rule] cannot but apply [or in other words, which all already fall under some other rule] supersedes the latter".

For the languages of Type 1 in table 2.9, one can formulate the following generalization about possessive making (first approximation).

(44) The use of a marking strategy that involves an additional Poss1 affix to express a stereotypical relation *Rp* is blocked if there is a marking strategy that can express the relation *Rp* without an additional morpheme.

The blocking principle in (44) represents the gist of the analysis that I will pursue. However, I want my analysis to be general enough to be applicable to both Type 1 and Type 2 languages in table 2.9. In Type 2 languages, the contrast between the two marking strategies is not in the amount of morphological marking, but in the exact form of the possessive marker. Thus, the account to be developed should not depend strictly on the amount of morphological marking. Furthermore, in my account I want to be able to incorporate the semantics of idiosyncratic and non-idiosyncratic strategies as discussed in section 2.2.2. The blocking principle as sketched above, can be seen as a special case of the very general pragmatic principle *Maximize Presupposition*, which I discuss in the next section.

Maximize presupposition. In semantics and pragmatics, the general observation is that if there is competition between two lexical items, one with a specific meaning and one underspecified, the choice of the underspecified lexical item gives rise to an inference that the more specific meaning does not hold. An example of an informal discussion can be found, for instance, in von Fintel and Matthewson (2008) for Japanese. At first sight, Japanese seems to lack a counterpart of the English word 'water'. Although Japanese has two words, *mizu* and *yu* which can be used to talk about water; *yu* is specified as meaning 'hot water'. The word *mizu* is usually used to refer to cold water; for instance, it is unnatural if combined with the adjective 'hot'. According to von Fintel and Matthewson (2008), the neutral word for 'water' is *mizu*. Von Fintel & Matthewson (2008) argue that 'cold' is not a part of the meaning of the word *mizu*. The two lexical items look approximately like this: {*yu* 'hot water', *mizu* 'water'} The reason *mizu* is normally not used to refer to hot water is pragmatic. There is a specific lexical item *yu* available to refer to hot water. If the

speaker chooses to use the underspecified lexical item *mizu*, an inference arises that *yu* is not applicable; that the property 'hot' does not hold. Note that this discussion is a semantic interpretation of the Elsewhere Principle; the existence of the more specific lexical item ends up "blocking" the less specific one. The pragmatic reasoning relies on the Gricean maxims (Grice 1975). The maxim in (45) makes a speaker select the most informative assertion possible.

(45) Make your contribution the most informative one of those you believe to be true.

In order to determine which assertions compete with respect to their informativeness it is assumed that some lexical items have sets of alternatives, such as, for instance, {some, all} and {or, and}. If the assertion is true with *all*, it will also be true with its alternative *some*. In a context in which both lexical items are applicable, using *all* is more informative. If the speaker utters a sentence with *some*, as in (46), an implicature arises that the speaker does not believe the more informative alternative with *all*.

(46) The Philharmonic played some of Beethoven's symphonies. (Sauerland 2008)

However, the difference between the two assertions does not always amount to their informativeness. A very famous example is the use of the determiners *a* and *the*, as discussed in Heim (1991). Heim (1991) takes definiteness (existence and uniqueness) to be the presupposition, not the lexical meaning of *the*. The presupposition is separated from the truth-conditional contribution of a word; it should be seen as a condition on usage. If a word triggers a presupposition, the lexical entry of such a word consists of two parts: the truth-conditional contribution and the content of the presupposition. The conditions on the use of *the* are thus existence and uniqueness. The determiner *the* can only be used if those conditions are satisfied. The determiner *a* is not assumed to have any presuppositional component. There doesn't seem to be anything that prevents *a* from being used under the same conditions as *the*. The two utterances should be equally informative with respect to their asserted, truth-functional content. Heim (1991) shows, however, that if *a* is used instead of *the* as in (47), some differences in interpretation arise.

(47) #I interviewed a father of the victim. (Heim 1991)

If we consider a sentence like (47), we observe that the use of *a* instead of *the* gives rise to an inference that the victim has multiple fathers, the so-called non-singularity effect. Fathers are usually assumed to be unique; the non-singularity effect makes the utterance in (47) sound odd. An important property of the non-singularity meaning effect is that it is not always present when the indefinite *a* is used. For instance, in (48), there is no inference that there are other 20 ft. long catfish available in the area.

(48) Robert caught a 20 ft. long catfish. (Heim 1991)

Heim (1991) argued that it is competition between the definite and the indefinite determiner that gives rise to a meaning inference that the victim in (47) has multiple fathers. The non-singularity meaning effect with the use of *a* only arises in a context in which the conditions on the use of *the* are satisfied. In (48), the uniqueness condition on the use of *the* is not satisfied; thus the non-singularity effect does not arise with the use of *a*. As definiteness is assumed to be part of the presupposition, Heim (1991) suggested a modified version of the Gricean maxim, in (49).

(49) Make your contribution presuppose as much as possible!

This principle *Maximize presupposition* tells the speaker to choose the expression with the strongest presupposition possible. Once the conditions on the use of *the* are satisfied, the speaker has no choice but to use *the*. An indefinite is weaker because it lacks the conditions on usage associated with the definite determiner. If it is part of the common ground that people have unique fathers; the speaker should choose the definite determiner, as the definite determiner has a stronger presupposition than the indefinite one and this presupposition (uniqueness) is compatible with the common ground. The non-singularity meaning effect that comes with the use of the indefinite determiner resembles the uniqueness presupposition of the definite one. This kind of effect is sometimes described as *antipresupposition* (Percus 2006).

As I will argue below, *Maximize presupposition* can help us to successfully account for the choice of possessive marking as well. To my knowledge, it has not been applied to possessive constructions before.

2.3.2 The components of the analysis

In section 2.3.1, I proposed that the relation between two morphosyntactic strategies expressing possession, the idiosyncratic and the non-idiosyncratic one, should be seen as a competition between two lexical items. I proposed to account for this competition as an instance of a general pragmatic principle known as *Maximize Presupposition*. In this section, I finalize this proposal. First, I discuss all the components of the analysis, such as the nature of the idiosyncratic noun class, the underlying syntactic structure of the possessive constructions and the corresponding lexical entries. Then, I show how these components and the *Maximize Presupposition* principle interact with each other in my account of possessive marking.

Idiosyncratic nouns as a morphosyntactic class. First, as already mentioned in section 2.2.2, it is impossible to determine which nouns are excluded from the idiosyncratic class on semantic grounds. Despite an expectation that differential possessive marking might reveal the class of relational nouns cross-linguistically, one only finds a loose correspondence between morphology and

the lexical meaning of a noun. Membership in the idiosyncratic class should be seen as a **morphosyntactic property** of nouns, not a semantic property. A noun P is a member of the idiosyncratic class if it can select for the idiosyncratic marking. This morphosyntactic property might change for some nouns over time. While some nouns retain the idiosyncratic marking, other nouns, through the course of language development, can no longer select for this strategy. This diachronic change is described in detail, for instance, for Adyghe. According to Kumachov (1971) and Kumachov (1989), Adyghe has acquired its idiosyncratic class of nouns as a result of historical development. The idiosyncratic (short) possessive prefixes can be traced back to the West-Caucasian proto-language. The non-idiosyncratic markers containing *-j* are an innovation of Adygh languages (Kumachov 1971). Kumachov (1989) shows that the use of the idiosyncratic marking is shrinking, while the newer forms are overgeneralized for most possessive constructions. Gorbunova (2009: 149) points out that, in the case of Adyghe, we are looking at the "remains" of a once productive system. Given that morphological marking undergoes such developments, it is not surprising that not only semantics, but also factors like frequency determine the membership in the idiosyncratic class. The distribution of the marker seems to be partially affected by morphophonemic similarities between nouns. Thus, in the discussion of the parts of plants, Gorbunova (2009: 149) argues that words like 'leaves' receive the idiosyncratic possessive marking because morphophonemically they resemble nouns denoting body parts. For instance, the word for 'root' resembles the word for 'foot' and ends up being in the same class on the basis of morphophonemic similarities. In (50), a tree is talking about its branches and its roots. Here, the roots are marked for possession idiosyncratically by *s-*, but the branches are marked with *s-j-*.

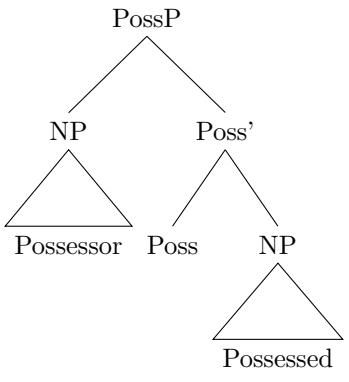
(50) **s-jə**-q$_W$ətame-xe-r ž'əbʁə-m ze-p-je-č̣'ə-ʁe-x.
1SG-POSS-branch-PL-ABS wind-ERG REC-LOC-3SG-break-PST-PL
s-λapse-xe-r š'tə-ʁe-x.
1SG-root-PL-ABS freeze-PST-PL
'My branches are broken by the wind. My roots are frozen.'
(Adyghe, Gorbunova 2009: 157)

Similar discussions of diachronic processes can be found, for instance for Bardi (Bowern 2012), Toqabaqita (Lichtenberk 2008) and many other languages. Even though there is a link between relational nouns and idiosyncratically marked nouns, it is impossible to predict on the basis of the noun which marking it will require. Idiosyncratic nouns do not form a coherent semantic class.

Underlying syntactic structure. For my analysis, I assume a very underspecified structure of adnominal possessive constructions, shown in (51); see also Karvovskaya and Schoorlemmer (2017). As I mention in chapter 1 my syntactic structures are primarily type-driven. The literature (Barker 1995, Myler 2014, Dékány 2011, etc.) seems to agree that, at least for sortal nouns, the

possessor is introduced by a functional head. I label this functional head Poss, following Myler (2014), among others. PossP appears right above the NP in the functional sequence.

(51)



In some studies (Partee and Borschev 2003; Storto 2003), it is assumed that PossP first combines with the possessor. This is done in order to account for the fact that the possessor is often morphologically marked, while the possessed is not. Compare, for example genitive *'s* in *John's book* and *It is John's*. However, I follow Barker (1995) in assuming that the morpheme that attaches to the possessor, like the genitive *'s* does not have to be the direct representation of the semantic element Poss. For Barker (1995), the genitive *'s* is "just a syntactic marker". The morphemes one sees on the surface could be instances of agreement triggered by the presence of the actual Poss. In a similar way, the plural morphology on nouns is often assumed to be agreement with an abstract head, just like number marking on verbs, see for instance Sauerland (2003).

Lexical entries. I assume that both the idiosyncratic and the non-idiosyncratic class have one-place predicates of the general type $\langle e, t\rangle$ as their members. Uniform treatment of nouns in possessive constructions has been proposed, for instance in Hellan (1980); see also Peters and Westerståhl (2013). Thus, I assume the same lexical entries for 'hand', a hypothetical member of the idiosyncratic class and for 'bottle', a hypothetical member of the non-idiosyncratic class as shown in (52). On my account, nouns are assumed to have uniform semantics independently of their membership in the idiosyncratic class. I assume a unified treatment of nouns as one-place predicates.

(52) a. $\lambda x.hand(x)$
b. $\lambda x.bottle(x)$

This step is not uncontroversial in the semantics of possessive constructions. As I discussed in chapter 1 and in section 2.2.2, in the semantics of possessives,

an important distinction is usually drawn between sortal and relational nouns. While sortal nouns like 'bottle' are assumed to be one-place predicates and describe sets of entities, relational nouns are usually assumed to be two-place predicates that describe relations between two entities. On many accounts, 'hand' is treated as a relational noun that describes a hand relation between an individual and the individual's hand, type $\langle e\langle e,t\rangle\rangle$, as is done, for instance in Barker (1995) or Partee and Borschev (2003). However, Peters and Westerståhl (2013: 754) explicitly argue against the two-place treatment of relational nouns in possessive constructions. In section 2.2.2, I showed that there is no one-to-one match between obligatorily possessed nouns and nouns that appear possessed with idiosyncratic marking; there is only a partial overlap between those categories. I also showed that being a prototypically relational noun is neither a sufficient nor a necessary criterion for a noun to become a member of an idiosyncratic class. Therefore, I assume uniform lexical entries for nouns, as shown in (52).

As I assume a uniform semantics for the nouns, the meaning differences between strategies, as described in section 2.1.3, have to come from the differences in possessive marking. For now, there are two cases to be distinguished; the corresponding lexical for the possessive morphemes are shown in (53). The morpheme involved in the idiosyncratic strategy is presented in (53a) and is labeled *MaxSpec*, which stands for *maximally specific*. The lexical entry for the morpheme involved in non-idiosyncratic strategy is in (53b) under the name *MinSpec* (*minimally specific*).

(53) a. $[\![\text{MaxSpec}_i]\!]^g = \lambda P\lambda x\lambda y.g(i)(x,y)\&P(y)$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = \lambda P\lambda x\lambda y.g(i)(x,y)\&P(y)$ where g(i) is a relation

Both lexical entries involve a variable over two-place relations. The value of this variable is supplied by the context. The proposed variable over relations is very similar to R_i introduced in Partee (1983/1997) and to R in Barker (1995).[20] The use of the index $_i$ in (53) captures the intuition that the relation between the possessor and the possessed, encoded by the possessive marker, is sometimes subject to constraints. However, it is not hard-wired in the lexical entry of the possessive marker. In the case of the idiosyncratic strategy, the exact relation depends on the possessed noun. The range of the assignment function g is restricted by the presupposition to stereotypical relations derivable from the intension of the possessed noun. In a similar way, restrictions on personal pronouns are formulated in the form of presuppositions in Büring (2005: 28). In the case of the non-idiosyncratic strategy, the range of the assignment function g is not restricted.

[20]Barker (2008) points out that it is not uncontroversial to assume a variable that ranges over relations, not over individuals. There have been proposals against variables higher than type $\langle e\rangle$; see, for instance, Martí (2003) and Landman (2006). However, in the literature on possessive constructions, the traditional treatment is to introduce relation between the possessor and the possessed as a variable.

Another way of spelling out this intuition would be to say that *MaxSpec* and *MinSpec* have internal structure. In (54) I provide a preview to how I will implement the analysis of idiosyncratic and non-idiosyncratic strategies in chapter 3. As I will discuss later, the extra structure within possessive markers will be motivated by the insights from possessive modifiers. On this analysis, for instance, *MaxSpec*, in (54a), consists of a possessive marker, *PossSpec*, and a covert variable over relations *Rp*.

(54) a. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The possessive marker *PossSpec* only expresses possession; the relation is provided by the variable. The difference between the two interpretive strategies amounts to a difference in the relational pro-form: *Rp* in one case and *Rfree* in the other. The covert *R*-variable is similar to the empty *C*-variable restricting the alternative set of focus-sensitive particles (Rooth 1992: 79) or variables restricting the adverbs of quantification von Fintel (1994).

In section 2.2.2, I argued that stereotypical relations should be the stereotypical relation given the lexical semantics of the possessed noun, *P*. As I explain in detail in section 2.2.2, this means that this relation is derived from the most salient features of the possessed noun, *P*. The presupposition that comes with the idiosyncratic strategy should constrain the relations it is compatible with to those that follow from the intension of the possessed noun. In case of a non-idiosyncratic strategy, in (53b) the range of the assignment function g is totally unrestricted.

For example, let's consider the Tawala noun *tano* 'garden'; its two possessive constructions with it are repeated in (55). In (55) the possessor is *woida* 'yam' that grows in the garden. The idiosyncratic marker for *tano* is thus only compatible with a [content] - based relation. I suggest that the stereotypical relation for *tano* is [content = plants], as shown in (55c). In case the intended relation is different from the stereotypical one, as we see with ownership/creation in (55), the non-idiosyncratic strategy is used.

(55) Tawala (Ezard 1997: 151) repeated from (43)

a. woida **tano**-na
yam garden-3sg
'yam's garden'

b. keduluma a **tano**
woman 3sg garden
'woman's garden'

c. $[\![\text{MaxSpec}_i]\!]^g([\![\text{tano}]\!]) = \lambda x \lambda y.R_{content}(\text{x,y}) \;\&\; \text{garden(y)}$

In figure 2.3, it is visualized that *MinSpec* can express exactly the same relations as *MaxSpec*. In principle, there is no relation that can be expressed by

MinSpec but cannot be expressed by *MaxSpec*. One could say that *MinSpec* is the general case, while *MaxSpec* is the specific one.

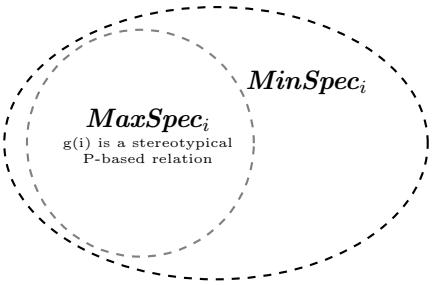


Figure 2.3: Relations encoded by *MaxSpec* and *MinSpec*

According to the lexical entries that I provide in (53), *MaxSpec*, the idiosyncratic marker, is specified for a stereotypical relation. By contrast, the non-idiosyncratic strategy *MinSpec* is underspecified. *MinSpec* is compatible with any relation whatsoever, either lexically or contextually determined. *MaxSpec* thus has a stronger presupposition than *MinSpec*. Thus the choice between *MaxSpec* and *MinSpec* is a choice of a stronger or weaker (no) presupposition. If the conditions on the use of MaxSpec are satisfied, the speaker is obliged to use this marker by the principle *Maximize Presupposition*. If the speaker uses *MinSpec* with the same noun, the hearer can infer that the conditions were not satisfied; the stereotypical relation *g(n)*, normally covered by *MaxSpec* does not hold. The hearer can determine the relation between the possessor and the possessed from the context. The relation provided by *MaxSpec* is never contextually determined; it can be seen as an instruction to the hearer: don't search in the context for the relation between the possessor and the possessed, use the stereotypical relation for the provided possessed.

Idiosyncratic strategy as semantically marked. Finally, I can provide a definition of an idiosyncratic strategy that is neither contingent on the amount of the morphological marking nor on the restricted lexical class. The range of application of an idiosyncratic strategy is restricted by the relations it can express. The condition on use of an idiosyncratic strategy is that the relation between the possessor and the possessed be the stereotypical relation. Based on the definition developed in section 2.2.2, the stereotypical relation for a given noun is systematically derived from the most salient feature of this noun.

(56) The idiosyncratic possessive marker for a noun P presupposes that a relation, *g(i)*, between the possessor and the possessed is a stereotypical relation given the possessed noun, P.

The idiosyncratic strategy is semantically restricted; it is only compatible with

those relations that follow from the intension of the possessed noun. The idiosyncratic possessive relation is never determined by the context. Usually, the idiosyncratic strategies are in competition with semantically unrestricted, underspecified non-idiosyncratic strategies.

The proposed analysis of an idiosyncratic strategy as semantically marked makes one clear prediction. The non-idiosyncratic strategy should show interpretational flexibility; it should be compatible with various relations. As a hypothetical example, let's consider the two possessive constructions with 'blood' in Adyghe. The example in (57) is repeated from (16). As I discussed above, the idiosyncratic strategy in (57a) corresponds to a body-part relation between the possessor and blood. The prediction I make is that the non-idiosyncratic strategy in (57b) should be compatible with various relations. In the provided example, the relation between the possessor and 'blood' is something abstract, like 'ancestor'. If my prediction is correct, it should be possible to use (57b) to express other relations as well. As a hypothetical context, one could think of blood of an animal being in the possession of the possessor. Unfortunately, I am unable to test this prediction.

(57) Adyghe (Gorbunova 2009)

a. Ø-ə**λ**
3SG-**blood**
'his blood' (example found online)

b. se a-š Ø-je-**λ** s-xe-**λ**
1SG that-ERG 3SG-POSS-**blood** 1SG-LOC-lie
'his blood flows in my veins (lit. lies in me)'

I was able to obtain some data that points in this direction for Blackfoot[21].In Blackfoot, an idiosyncratic strategy involves a short prefix, while the non-idiosyncratic strategy involves a long prefix and sometimes an additional suffix *-m*. Most nouns that denote animals appear possessed with the long prefix. The prediction is that such possessive constructions allow interpretative flexibility with respect to the relation between the possessor and the animal. This prediction seems to be borne out. Heather Bliss (p.c.) provides an example where the relation between the possessor and the possessed animal is 'pet'. Heather Bliss noted that the speakers preferred to use a relative clause ' that I took' when referring to pet relations with animals. I assume that the speakers preferred the relative clause because it allowed them to disambiguate between the multiple possible interpretations. Other interpretations are, thus, available. In (58b), the context is rabbit hunting, so the relation between the rabbit and the possessor is probably 'game'. Finally, with the noun 'horse' the long prefix can be used to refer to a betting relation, but it does not involve an interpretation as pet.

[21]More can be found on Blackfoot in chapter 4

(58) a. om-wa nit-omitaa-m-wa a-yissksimaa
DEM-PROX 1-dog-POSS-PROX IMPF-transport.load.AI
nit-it-omaa-o'to-a-hp-yi
1-LOC-yet-take.TA-DIR-CN-INAN
'Lit: That dog of mine that I took hauled things' (Bliss, p.c.)
pet

b. sa-inakoyiim-wa om-wa nit-aaattsistaa-m-wa
NEG-appear.AI-PROX DEM-PROX 1-rabbit-POSS-PROX
'My rabbit disappeared.' (lit: 'My rabbit did not appear') (Bliss 2013: 230)
game

c. om-wa nit-ponokaomitaa-m-wa a-yaak-ikiiki-wa
DEM-PROX 1-horse-PROX IMPF-FUT-win.AI-PROX
'My horse is going to win.' Context: I am at the racetrack and I've bet on a horse (that I do not own) (Bliss 2013: 191)
bet

For Mongsen Ao (Sino-Tibetan), Coupe (2007) notes a contrast between the use of the non-idiosyncratic strategy with body parts and with artifacts. The use of the non-idiosyncratic strategy with a body part is commonly translated as the body part being detached from its original possessor. This difference in interpretation is shown by the minimal pair in (59). The non-idiosyncratic strategy involves an additional suffix *-əɪ*. With artifacts, the use of the non-idiosyncratic strategy is often interpreted as the artifact being used not exclusively by the possessor, but by an associated group of people. This meaning effect is shown by the minimal pair in (60).

(59) Mongsen Ao (Coupe 2007: 253)

a. a-miʔ khót
A-person hand
'person's hand'

b. muwa-páʔ-**əɪ** khót
Moaba-M-ANOM hand'
'Moaba's hand' (war trophy)

(60) Mongsen Ao (Coupe 2007: 254-255)

a. tusi-páʔ nuk
Toshiba-M machete
'Toshiba's (personal) machete'

b. tusi-páʔ-**əɪ** nuk
Toshiba-M-ANOM machete
'Toshiba's (family's/gang's) machete'

The examples from Mongsen Ao suggest that there is a lot of freedom in how the non-idiosyncratic strategy can be interpreted. If the stereotypical relation between the possessor and an artifact is exclusive use by one person, the non-

idiosyncratic strategy can be used for a relation of group possession, as we see in (60b).

The definition of an idiosyncratic strategy based on semantic markedness is applicable to various languages. It is no longer contingent on the amount of morphological marking; the distinction between the two strategies is meaning based. As the definition of the idiosyncratic strategy is not directly bound to the amount of morphological marking, it can also be applied to the languages of Type 2 in the second column of table 2.9, such as Bardi, Udmurt and Rapa Nui.

In the following section, I provide two case studies to show in more detail how the proposed system can be applied to language data. The language in the first case study is Adyghe. As discussed above, the idiosyncratic class in Adyghe is lexically restricted and the idiosyncratic marking involves a smaller amount of morphology. The second case study shows how the proposed analysis can be applied to Samoan, which has two productive marking strategies of equal structural complexity.

2.3.3 Case studies

In this section, I show my analysis at work with help of two case studies. One case study examines Adyghe, the other, Rapa Nui. The two languages represent two different types, illustrated in table 2.9. Adyghe shows a contrast in the amount of morphological marking between idiosyncratic and non-idiosyncratic strategies. In Rapa Nui, the contrast between idiosyncratic and non-idiosyncratic strategies is not in the amount of morphological marking but in the markers themselves.

Adyghe To demonstrate my proposal at work, I will use an example from Adyghe in (2), repeated from (15). This is a minimal pair with the noun 'head'.

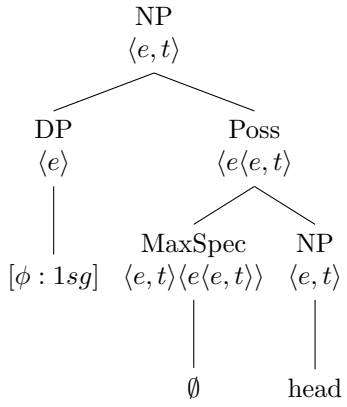
(61) Adyghe (Gorbunova 2009: 153-154)

a. s-ŝha
   1SG-head
   'my head'

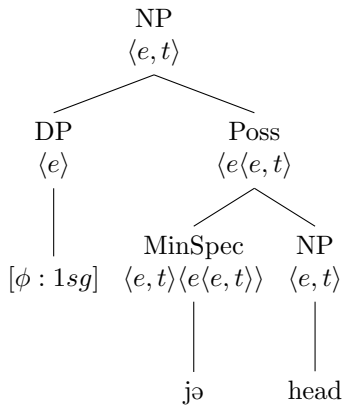
b. s-jə-ŝha
   1SG-POSS-head
   'my head' (said zoologist about a dog's head)

As I specified in section 2.3.2, I assume that the members of the idiosyncratic class can select for an idiosyncratic possessive strategy due to their morphosyntactic properties. Nouns from the non-idiosyncratic class do not have this option. For both possessive constructions, I assume the general structures in (62) and (63). The exact match between the morphosyntax and semantics of possessive constructions in Adyghe is a subject to further research. The abstract representations I assume will be enough to illustrate the proposal.

(62)



(63)



The derivations for the two possessive constructions are provided in (64) and (65).

(64) a. $[\![\text{MaxSpec}_i]\!]^g([\![\hat{\text{s}}\text{ha}]\!]) = \lambda P \lambda x \lambda y.g(i)(x,y)\&P(y)(\lambda z.head(z))$ defined iff g(i) is a stereotypical P-based relation

b. $\lambda x \lambda y.g(1)(x,y)\&head(y)$

c. $[\![\text{MaxSpec}_i]\!]^g([\![\hat{\text{s}}\text{ha}]\!])(\text{s}) = \lambda x \lambda y.R_{body-part}(x,y)\&head(y)(s) = \lambda y.R_{body-part}(s,y)\&head(y)$

As spelled out in (64), the notation for *MaxSpec* first applies to the predicate *head*. The result is a conjunct consisting of two parts: a set of heads and a set of pairs such that there is a 'head'-based stereotypical relation between the members of these pairs. Given the lexical semantics of the possessed noun *ŝha* 'head' in Adyghe, *g(i)* is the stereotypical relation. As I discuss in section 2.2.2, it is derived from the most salient feature of the possessed noun. I will

assume that this relation in Adyghe is body part. This notation applies to the individual denoted by the speaker, notated *s*. The resulting conjunction is a set of heads in a body-part relation with the speaker; type $\langle e, t\rangle$. In principle, this conjunction should combine with a determiner to yield a generalized quantifier type of denotation. In Adyghe, determiners are not obligatorily realized as a part of noun phrases. If no determiner is overtly realized, a null determiner might be postulated, as is done in Barker (1995). I leave the exact semantic analysis of Adyghe noun phrases for further investigation. For now, my goal is to show how the stereotypical possessive relation is established. It is sufficient to know that the difference between idiosyncratic and non-idiosyncratic marking is not connected to the presence of a determiner.

(65) a. $[\![\text{MinSpec}_i]\!]^g([\![\hat{\text{s}}\text{ha}]\!]) = \lambda P\lambda x\lambda y.g(i)(x,y)\&P(y)(\lambda z.head(z))$
b. $\lambda x\lambda y.g(2)(x,y)\&head(y) = \lambda x\lambda y.R_{own}(x,y)\&head(y)$
c. $[\![\text{MinSpec}_i]\!]^g([\![\hat{\text{s}}\text{ha}]\!])(\text{s}) = \lambda x\lambda y.R_{own}(x,y)\&head(y)(s) = \lambda y.R_{own}(s,y)\&head(y)$

The derivation in (65) is very similar to the derivation in (64). The only important difference is that there are no restrictions on the relation between the possessor and the possessed; it can either be derived from 'head', or the hearer can derive *g(i)* from the context.

Applying *MinSpec* to the predicate *head* and the individual denoted by the speaker we arrive at a set of heads in some (underspecified) relation with the speaker. In both cases, the possessive construction asserts that the speaker stands in some relation with a head. The idiosyncratic possessive construction with *MaxSpec* involves a presupposition that the relation between the possessor and the possessed follows from the intension of the possessed. The non-idiosyncratic possessive construction does not have this specification; the relation between the speaker and the head can be contextually determined. If the speaker does not employ *MaxSpec*, but uses *MinSpec* instead, the hearer can infer that the intended relation is not the idiosyncratic one; in this particular case, it is not body part. This meaning effect is due to the pragmatic principle Maximize presupposition. The speaker is expected to use the marker with the strongest presupposition. The use of *MinSpec* comes with an inference that the presuppositional requirements are not satisfied; the speaker has some reason not to choose the marker with the strongest presupposition. In the example from Adyghe, the hearer assumes the relation to be like ownership; the head of a dog is the speaker's possession.

Rapa Nui and Samoan In the rest of the section, I show how the proposed pragmatic account can be extended to Rapa Nui (Austronesian). Possessive marking in Rapa Nui involves one of the two morphemes *a-* or *o-*. The availability of these two markers is a feature shared by most Polynesian languages (see Clark 2000). As I show below, we also find these markers in Samoan. As can be seen from the minimal pair in (66), repeated from (2), there is no ob-

vious difference between the two marking strategies with respect to structural complexity.

(66) Rapa Nui (Kieviet 2017: 299-301)

a. **tō'oku** karone
poss.1sg.O necklace
'my necklace (the one I wear)

b. **tā'aku** karone
poss.1sg.A necklace
'my necklace (the one I am making)'

According to Kieviet (2017: 295), the choice of the possessive marker in Rapa Nui depends on the relation between the possessor and the possessed. "The choice between *a-* or *o-*possession, then, is not an inherent property of the noun; it is determined by the relation between the possessor and the possessee, not by the nature of the possessee as such. If many nouns are always *'a-*possessed or *o-*possessed, this is because they always stand in the same relationship to the possessor." Due to the limited examples with minimal pairs, it is not easy to point out which marker is idiosyncratic in Rapa Nui. In what follows, I argue that the *o-* strategy is the idiosyncratic one as it seems to encode stereotypical relations. I first discuss the examples to explain my reasoning for doing this and then I move to the analysis.

Most kinship terms appear with the marker *o-* when possessed. Compare the examples with 'uncle' and 'mother' in (67a). However, some kinship terms and social relations appear with *a-*. The corresponding examples with 'wife' and 'child' are provided in (67b).

(67) Rapa Nui (Kieviet 2017: 296-297)

a. **tō'oku** pāpātio/māmā
poss.1sg.O uncle/mother
'my uncle/mother'

b. **tā'aku** vi'e/poki
poss.1sg.A wife/child
'my wife/child'

The marker *o-* is also frequent with body-parts and parts of wholes, as well as objects like clothes that belong to the personal domain of the possessor. The corresponding examples are provided in (68).

(68) Rapa Nui (Kieviet 2017: 300-302)

a. **tō'oku** hakari
poss.1sg.O body
'my body'

b. **tō'na** raupā
poss.3sg.O leaves
'its leaves (of a tree)'

c. **t$\bar{o}$'na** hi'o
poss.3sg.O glasses
'her glasses'

All together, the examples in (67a) and (68) seem to indicate that *o-* is used when the relation between the possessor and the possessed can be easily derived from the semantics of the possessed noun. This description corresponds to the description of a stereotypical relation as developed in section 2.2.2. By contrast, *a-* is commonly used to express more abstract relations, such as that with a plant in (69).

(69) **t$\bar{a}$'na** hauhau
poss.3sg.A hauhau.tree
'his hauhau tree' (Kieviet 2017: 299)

Kieviet (2017: 295) shows that alternation of the possessive marking can give rise to a meaning effect that can be described as a change in the relation. In (70) (original example from Englert 1978), the relation between the possessor and the clothes she wears is marked with *a-*, while the more abstract relation between the possessor and the clothes entrusted to her is marked with *o-*.

(70) Rapa Nui (Kieviet 2017: 295)

a. He to'o **t$\bar{o}$'na** **kahu** mo tata
NTR take poss.3sg.O clothes for wash
'She took her clothes to wash' (the clothes she wears)

b. He to'o **t$\bar{a}$'na** **kahu** mo tata
NTR take poss.3sg.A clothes for wash
'She took her clothes to wash' (the clothes that were given to her as a laundress)

Compare also the example with *karone* 'necklace' in (66). The marker *o-* is used when the possessor is wearing the necklace, but the marker *a-* has to be used if the possessor is an author/creator of the necklace. With a noun like *māmari* 'egg', which can be seen as naturally produced by birds, the marking is different. Kieviet (2017: 306) claims that *māmari* 'egg' is marked for possession by *o-* if the relation between the possessor and the egg is production; for instance, the possessor is a hen. If the possession is marked with *a-*, the relation can be, for instance, food (the actual minimal pairs are not provided).

On the basis of these examples and the discussion, I propose that the marker *o-* in Rapa Nui corresponds to the idiosyncratic strategy *MaxSpec*. Due to its presuppositional requirements, the marker *o-* can only express stereotypical relations, which are systematically derived from the lexical meaning of the possessed noun. For nouns like 'necklace' or 'clothes', for instance, such a relation could be [function]. I assume that only some nouns combine with *o-* due to their selectional requirements. For instance, this marking is unavailable for 'wife' or 'child' in (67b). The lexical entry for the *o*-strategy will be exactly the same

as *MaxSpec*, discussed above, see (71).

(71) $[\![\text{o-}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(x,y) \& P(y)$ defined iff g(i) is a stereotypical P-based relation

The *a*-strategy has the completely underspecified semantics of *MinSpec*. It comes with a relation *g(i)* between the possessor and the possessed; this relation can be derived from the properties of the possessed noun or from the context.

(72) $[\![\text{a-}]\!]^g = [\![\text{MinSpec}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(x,y) \& P(y)$ where g(i) is a relation

The principle *Maximize presupposition* (Heim 1991) tells the speaker to use the strongest presupposition possible; thus, marker *o-* should always be chosen if the stereotypical relation holds. If the speaker chooses the *a*-strategy with a noun that normally selects the *o*-strategy, the hearer can infer that the relation described by *o-* does not hold. For instance, in the example with *karone* 'necklace' in (66), the speaker would use the morpheme *o-* to mark the function relation. If the speaker uses the morpheme *a-*, this alternation can be interpreted by the hearer as a change in relations; the hearer will use the context to figure out which relation is intended. For instance, the relation might be creation of the necklace, as in (66b). The prediction this analysis makes is that *a-*, in principle, is compatible with any relation whatsoever. This prediction implies that *a-* is more productive than *o-*; while only some nouns can appear possessed with the marker *o-*, all nouns should be able to appear possessed with *a-* if the context is adjusted accordingly. However, I don't have access to Rapa Nui data to test this prediction. Kieviet (2017: 296) shows that possessive marking can alternate for nouns like *vārua* 'dream' or *makupuna* 'grandchild', but there is no explanation of whether this alternation is connected with a meaning effect. Compare the examples in (73).

(73) Rapa Nui(Kieviet 2017: 296)

a. **tō'na** makupuna
poss.3sg.O grandchild
'his grandchild'

b. **tā'na** ŋā makupuna
poss.3sg.A pl grandchild
'her grandchildren'

As Rapa Nui is structurally very similar to Samoan, I want to briefly introduce some Samoan data as well. From the description in Mosel and Hovdhaugen (1992: 289), one gets the impression that Samoan has a very similar semantic opposition between the two possessive markers *o* and *a* to that of Rapa Nui. Mosel and Hovdhaugen (1992: 289) provide examples in which alternations of the two possessive markers *o* and *a* give rise to meaning effects.[22] If these

[22] Vera Hohaus (p.c.) has tested some of these examples in the field and reports that

examples are correct, the analysis suggested for Rapa Nui could be extended to the Samoan data as well.

The alternation between *o* and *a* is shown in (74). In (74a) the possessor inhabits the house, which one can expect to be a stereotypical relation provided by the noun 'house'; the marker is *o*-. In (74b), the possessor is the creator of the house, and the possessive marker is *a*-.

(74) Samoan (Mosel and Hovdhaugen 1992: 282)

a. le fale **o** Lafai
ART house POSS Lafai
'Lafai's house (the one he lives in)'

b. le fale **a** Lafai
ART house POSS Lafai
'Lafai's house (the one he has built)'

An example from Churchward (1951), shown in (75), shows a similar contrast between various relations for the possessed noun *lenu'u* 'town'. In (75a), *o* is used for the 'live-in' relation; in (75b), *a* is used for a contextual 'pastor of' relation between the possessor and the town.

(75) Samoan (Churchward 1951: 26)

a. 'o lenu'u **o** Ioane
PRES town poss Ioane
'the town to which Ioane belongs'

b. 'o lenu'u **a** Ioane
PRES town poss Ioane
'the town of which Ioane is a pastor'

Mosel and Hovdhaugen (1992: 282) claim that in general *a* refers to relations "initiated and controlled" by the possessor. By contrast, *o* "signifies that the relationship of the two related entities is understood as naturally or socially given... or that the possessor referent is considered as constituting some inherent part or characteristic of the possessor". Translated into my framework, it can be interpreted as *o* being compatible with stereotypical relations between

---

the marking strategies do not seem to be flexible. It was not possible to alternate possessive marking despite the context manipulation. The reason for the difference in the data is unclear. It might be that Samoan has undergone some language change since 1992, when Mosel and Hovdhaugen (1992: 282) published their grammar. A minimal pair that could be reproduced involves the noun 'picture'.

(i) Samoan (elicited by Vera Hohaus, October 2017)

a. O le ata **o** Sina
This ART picture POSS Sina
This is a picture of Sina (Sina is depicted in it)

b. O le ata **a** Sina
This ART picture POSS Sina
This is Sina's picture (Sina is its owner)

the possessor and the possessed. For example, in (76a), the possessed noun is *lanu* 'color'. It is likely that the relation 'property' is a stereotypical relation derived from this noun; thus, it is not unexpected that the marker *o* is used. By contrast, (76b) refers to a non-stereotypical relation with the color; the color is such that the possessor is able to see it, and the marker is *a*.

(76) Samoan (Mosel and Hovdhaugen 1992: 284)

a. le **lanu o** le ta'avale
art color poss.O str car
'the color of the car'

b. l=**a**=na **lanu**
art=poss.A=3sg color
'his color (about a blind man: his color is only darkness)'

Based on the Samoan examples in Mosel and Hovdhaugen (1992: 284), one could propose that the same analysis as for Rapa Nui applies. The possessive marker *o* corresponds to a relation, systematically derived from the lexical entry of the possessed noun. In contrast, no generalizations are possible about the relation that corresponds to *a*. This relation is not restricted; it can be acquired from the context, as in (75b) or (76b). Depending on the context, the relation expressed by *a* can be interpreted as 'construct', 'be pastor of', 'be able to see', etc. Those interpretations are connected to the lexical meaning of the possessed nouns, but they are less systematic than the relations associated with the strategy *o*.

To summarize, in this section, I proposed that there is a semantic opposition between an idiosyncratic and a non-idiosyncratic strategy to mark possession. I argue that one can account for the competition between the two strategies with the help of the pragmatic principle *Maximize Presuppositon* (Heim 1991). I showed how the proposed account can be applied to languages like Adyghe and Rapa Nui. In the next section, I conclude this chapter.

2.4 Conclusion

In this chapter, I introduced my general approach to possessive marking, focussing on languages that use distinct morphosyntactic means to mark adnominal possession. The underlying idea is that possessive markers differ with respect to relations they can convey. I argued that there is a meaning-based distinction between idiosyncratic and non-idiosyncratic strategies to mark possession. I showed that an idiosyncratic strategy typically involves less morphological material and is typically restricted in its range of application. Only a limited class of nouns can select for an idiosyncratic strategy. I argued that these two criteria are not necessary for identifying the idiosyncratic class and introduced the main criterion that I will rely on: semantic markedness.

An idiosyncratic strategy is argued to involve a presuppositional restriction

on the relations it can express. The relation is stereotypical given the semantics of the possessed noun. My definition of a stereotypical relation is that it is derived from the most salient feature of the possessed noun in the given language. In contrast, a non-idiosyncratic strategy is not restricted with respect to the relations it can express. It allows for a variety of interpretations and, crucially, it allows the relation to be derived from the context. Thus, for possessive constructions with the same noun that receive different interpretations, I locate the source of the different interpretations in the possessive marker itself.

The empirical part of the chapter is based on languages that make use only of only two morphological means to mark possession. I model the choice between the two strategies as a pragmatic competition. If the presuppositional requirements of the idiosyncratic strategy are satisfied, the speaker is forced to use the idiosyncratic strategy by the way of the *Maximize Presupposition* principle. If the speaker chooses a non-idiosyncratic strategy, the hearer can infer that the stereotypical relation between the possessor and the possessed does not hold. I show this system at work with the help of two case studies of Adyghe and Rapa Nui.

The question that remains unanswered so far is that of how applicable this system is to languages that make use of more than two morphological means to mark possession. In chapter 3, I will discuss how the proposed analysis can be extended beyond binary systems of possessive marking.

CHAPTER 3

Extending the proposal: possessive modifiers

3.1 Introduction

In the previous chapter, I discussed languages that have two main morphological means to express possession. For these languages, I argued that we see competition between two possessive markers. While one marker has a specific meaning, the other is underspecified. I describe such systems as the opposition between an **idiosyncratic** and a **non-idiosyncratic** strategy. In this chapter, as well as in chapter 4, I discuss languages that have multiple morphological means to express possession. At first sight, these systems of encoding possession are more complex that those discussed in chapter 2. However, on the basis of several case-studies, I show that the system I proposed in chapter 2 can be successfully extended to some of the languages that have multiple morphological means to express possession. The focus of this chapter are languages with **possessive modifiers**, better known from the typological literature as "possessive classifiers". I explain my choice of terminology below.

In section 3.1, I introduce the notion of possessive modifiers that I will use in the rest of the chapter. This section is a general discussion of how a system of adnominal possession might look beyond binary oppositions. In section 3.2, I discuss the first type of languages with possessive modifiers. I call this type uniform as it doesn't involve an opposition between idiosyncratic and non-idiosyncratic strategies. In section 3.3, I discuss the second type of languages, those that make use of possessive modifiers and also show an opposition between idiosyncratic and non-idiosyncratic strategies.

3.1.1 The proposal: a brief summary

As the basis of this chapter is the analysis developed in chapter 2, I first provide a brief summary. In chapter 2, I introduced a **meaning-based** distinction between marking strategies to express possession. For a number of languages, I argued that the choice of a marking strategy was semantically conditioned. The distinction was to be made between idiosyncratic and non-idiosyncratic strategies. I proposed that the idiosyncratic strategy is semantically marked; it is only compatible with those relations that are systematically derived from the semantics of the possessed noun. These cases have to be distinguished, for instance, from lexically conditioned allomorphy, where the choice of the marker does not contribute to a meaning difference between various possessive constructions[1].

The preliminary lexical entries for the two strategies are provided in (2). The idiosyncratic strategy involving the semantics of *MaxSpec* is shown in (1a); it has a presuppositional requirement on the range of the assignment function g. In this case, the assignment function g is restricted to output stereotypical relations as values for *g(i)*. As I discuss in chapter 2, for a given possessed noun P a stereotypical relation can be derived from a salient lexical feature of *P*. The non-idiosyncratic strategy involving the semantics *MinSpec* is shown in (1b). It is compatible with any relation whatsoever. There are no restrictions on the assignment function.

(1) a. $[\![\text{MaxSpec}_i]\!]^g = \lambda P \lambda x \lambda y.\text{g(i)(x,y)\&P(y)}$ g(i) defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = \lambda P \lambda x \lambda y.$ g(i)(x,y) &P(y) where g(i) is a relation

The idiosyncratic strategy and the non-idiosyncratic strategy are in pragmatic competition. If the speaker chooses the non-idiosyncratic strategy for a noun that normally selects for the idiosyncratic marker, the hearer can infer that the relation typically expressed by the idiosyncratic marker does not hold. The intended relation can then be derived from the context. The range of application of the idiosyncratic strategy is determined by the selectional requirements of the possessed nouns. Typically, an idiosyncratic strategy requires less morphological material than the non-idiosyncratic strategy. Typically, an idiosyncratic strategy has a very restricted range of application; it is only available for a closed class of nouns (the idiosyncratic class). However, morphological markedness and restricted range of application are not the necessary property of an idiosyncratic strategy.

After the discussion of the **meaning-based** binary distinctions in the formal marking of possessive constructions in chapter 2, a natural question would be whether the semantic opposition between idiosyncratic and non-idiosyncratic marking has to be binary. Are more fine-grained systems possible? As I show

[1]See chapter 4 for further discussion of lexically conditioned allomorphy and multiple formal markers of possession.

below, systems that I discuss in this chapter are, in a way, more fine-grained. In order to avoid confusion between meaning and form of morphological elements, I will use the term **marking strategies**, as introduced in chapter 1, to refer to various morphosyntactic means a language might have to encode possession. In the rest of the section, I discuss a **marking strategy** commonly known under the name of "possessive classifier".

In section 3.1.2, I start by providing the general discussion of "possessive classifier", as can be found, for instance, in Aikhenvald (2000) or Grinevald (2000). I show that there is a problem with this term; it is very general and does not tell much about the meaning contribution of the lexical item in question. As a more concrete object of study, I define a special instance of what is commonly called a "possessive classifier" that involves a meaning-based distinction. I call this lexical item a "possessive modifier". In the rest of the chapter, I provide a general analysis for those languages that make use of possessive modifiers. I show that the system introduced in chapter 2 can be successfully extended to these languages. In particular, I discuss two ways in which the semantic opposition between the idiosyncratic and non-idiosyncratic strategies can come around in these languages.

3.1.2 Possessive classifiers; a general overview

Many grammars use the term "possessive classifier", even though there doesn't seem to be a consensus on what exactly the term means. One approach to possessive classifiers is purely structural. Such an approach to possessive classification can be found, for instance, in Grinevald (2000: 66). According to her, a classifier is a noun-like element; the mediation of such elements is necessary in some languages to express possession for a class of nouns: "This classifier system selects a limited set of nouns of the language for classification: they are nouns that appear to have high cultural significance and constitute a class akin to "alienable nouns" to be determined for each language". An example of such a noun-like classifier is shown for Baure in (2). In (2a), the possessor clitic *ni* '1sg' attaches directly to the possessed noun *hačkis* 'glasses'. By contrast, in (2b), the possessor clitic *ni* '1sg' attaches to the possessive classifier 'domestic animal', while the possessed noun 'dog' does not receive any specific marking. The whole complex is understood as describing possession of a dog, something like 'my pet-dog'.

(2) Baure (Danielsen 2007)

a. **ni**=hačkis
1SG=glasses
'my glasses'

b. **ni-per** kove'
1SG=dom.animal dog
'my dog'

This definition of a possessive classifier is broad enough to capture certain possessive constructions from the perspective of the structure. However, it does not help to distinguish between various lexical items that fall under the notion of "possessive classifiers" based on their semantic contribution. A semantic typology of classifiers is suggested, for instance, in Aikhenvald (2000: 125). Aikhenvald distinguishes three types of possessive classifiers based on their semantic contribution.

- (1) Categorizing the possessor
- (2) Categorizing the semantic nature of a relation between the possessee and the possessor
- (3) Categorizing the possessed noun

Not everybody agrees that the three types of morphemes described by Aikhenvald (2000) should be labelled "classifiers". For example, Passer (2016: 31) argues that only the morphemes in (3) should be considered true classifiers. The reason for treating the morphemes of type (3) differently is that these morphemes are similar to the markers of noun classes (or even gender). As formulated by Aikhenvald (2000: 125), the morphemes of type (3) are lexically predetermined by the possessed noun: "The choice of classifiers in possessive constructions can be determined by the nature of the referent of the possessed noun in terms of its animacy, shape, form, etc.". A discussion along these lines can be found, for instance, in Lynch (1974: 90). Lynch (1974) points out that there is a difference between classification based on the lexical features of the possessed noun and classification based on the type of possession (the relation between the possessor and the possessed); while the first is what we know from gender systems, the second is special for possessive constructions.[2]

As an example of type (3) classifiers, we can consider classifiers in Daakaka. Von Prince (2012b) and Franjieh and von Prince (2011) discuss in detail that the system of possessive classifiers in Daakaka (as well as in the closely related languages, Dalkalaen and North Ambrym) differs significantly from the system of possessive classifiers in many other Oceanic languages. In Daakaka, the choice of the classifier is solely determined by the possessed noun, not by the relation between the possessor and the possessed[3], as commonly happens in Austronesian languages. There are only three classifiers in Daakaka, *m-*, ∅- and *s-*, which are all shown in (3).

(3) Daakaka (von Prince 2012b)

a. em **m**-e Buwu
house CL1-LINK Buwu

[2]It is not uncommon to use a term different from "classification"; Crowley (1996: 388), for instance, uses the term "possessive constituents"; Palmer (2008: 137) uses the term "indirect marker".

[3]"The phrase 'my dog' will always be expressed as ∅-*ok kuli*, using the edible classifier, whether I have any intention to eat my dog or not" (von Prince 2012b)

'Buwu's house'

b. ∅-ok kuli
CL2-LINK.1POSS dog
'my dog'

c. atuwo **s**-e Baeluk
basket CL3-LINK Baeluk
'Baeluk's basket'

The three lexical items *m-*, ∅- and *s-* are in complementary distribution. The choice of the classifier in Daakaka is fully determined by the possessed noun. As the classifiers are in complementary distribution, it is impossible to argue that they contribute different meaning to the semantics of the possessive construction. Therefore, the classifiers in Daakaka, and classifiers of type (3) in general, are best analyzed as three allomorphs of a single strategy; see the schematic representation in table 3.1. In table 3.1, the correspondence between a classifier and a noun is schematically shown as a correspondence between a possessive marker (Poss) and a lexical class (LC). I discuss the Daakaka data in more detail in chapter 4 and show that the classifiers are allomorphs of the non-idiosyncratic strategy.

Classifier	Poss → lexical class correspondence
m-	$\text{Poss}_1 \rightarrow \text{LC}_1$ (house, ...)
∅-	$\text{Poss}_2 \rightarrow \text{LC}_2$ (dog, ...)
s-	$\text{Poss}_3 \rightarrow \text{LC}_3$ (basket, ...)

Table 3.1: Possessive classifiers in Daakaka: lexically determined allomorphy.

While examples such as Daakaka are clear, I want to point out that the classification of semantic contribution proposed by Aikhenvald (2000) is not always easy to apply. The distinction between the classifiers of type (2) and (3) is not a straightforward one. As we see in more detail below, most classifiers simultaneously convey some information about the relation between the possessor and the possessed as well as some information about the possessed item. The two types of information are simply contingent on each other. The relations between the possessor and the possessed logically depend on the nature of the possessed object, such as [+/-animate], [+/-edible], [+/-liquid] etc. Consider, for instance, the examples from Panare (Venezuelan Cariban) in (4a) and (4b). The possessed noun in both cases is 'manioc' *uto'*. The relation between the possessor and the possessed, the manioc, is different in the two examples. In (4a), the not-yet-prepared manioc is probably owned by the possessor. In (4b) the prepared manioc is determined to be the possessor's food. The possessive classifier changes in the two constructions; in (4a), the possessive classifier is *uto'* 'manioc'. In (4b), the possessive classifier is *u* 'soft food'.

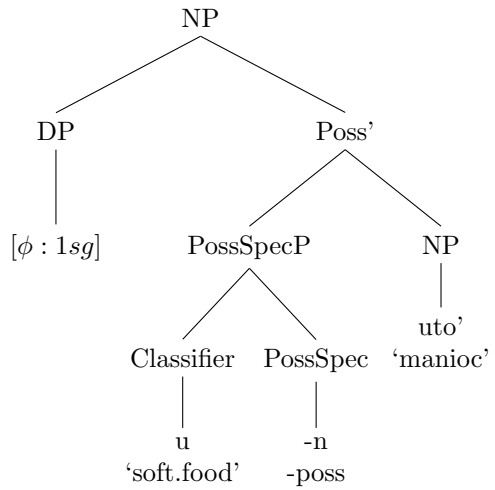
(4) Panare (Payne and Payne 2013: 82-84)

a. yu **wúto**-n uto'
1sg 1sg.cl.manioc-poss manioc
'my manioc (not yet prepared)'
b. **y-u**-n uto'
1sg-cl.soft.food-poss manioc
'my manioc (prepared for eating)'

On the one hand, the classifier in (4) contributes information about the relation between the possessor and 'manioc'. But on the other hand, in both examples (4a) and (4b), the possessive classifier also contributes some information about the possessed noun. The consistency of the manioc is different; in (4a), the manioc is uncooked and hard; in (4b), the manioc has a soft consistency and is edible. Aikhenvald (2000: 127) herself says about Panare that "classifiers characterize the possessed noun in terms of its shape, structure and consistency". This description gives the impression that Panare should be classified as type (3) in Aikhenvald's (2000) terms. As I explain below, I treat Panare differently.

The examples from Panare in (4) are also important because they provide insights into the structure of a possessive construction that involves a classifier. In (4), one can see that the classifier first combines with the possessive morpheme *-n*. Only then does the classifier phrase combine with the possessed noun *uto'* 'manioc'. The underspecified syntactic structure I assume for possessive classifiers is shown in (5).

(5) Possessive classifiers in Panare (4b)



In order to achieve terminological clarity, the next section, I introduce my own notion: "possessive modifier", which I use in order to distinguish the possessive constructions that are relevant for this chapter.

3.1.3 Possessive modifiers: a special case of possessive classifiers

The focus of this thesis is a meaning-based distinction between marking strategies; therefore, it is important to distinguish various possessive classifiers with respect to their meaning contribution. The distinction I want to make is between lexically predetermined possessive classifiers (Daakaka) and "flexible" possessive modifiers (Panare). As I discuss in more detail below, this distinction is reminiscent of the distinction between flexible marking strategies and lexically determined allomorphy, as discussed in chapter 2.

As I discussed above, in Daakaka, the use of the possessive classifier is fully predetermined by the lexical class of the noun. Variation of the classifier for the same possessed noun is not possible. A different example was shown for the classifiers in Panare, in (4). In both Panare examples, (4a) and (4b), the possessed noun is *uto'* 'manioc'. However, there is flexibility with respect to the choice of the possessive classifier. Alternation between the two possessive classifiers *uto'* and *u* gives rise to a meaning effect, which can be described as a change in the relation between the possessor and the possessed. In (4a), the possessed is not considered the food of the possessor, while in (4b), the food relation is made explicit. In this chapter, I focus on lexical items such as those seen in Panare. From now on, I refer to them as "possessive modifiers".

In order to illustrate the contrast between lexically predetermined possessive classifiers and possessive modifiers further, we can compare the classifier constructions in two languages: Baure (Arawak) and Chontal (Mayan). From a purely structural perspective, the examples from the two languages are very similar. The relevant examples are shown in (6) and (7). Baure example (6a), repeated from (2), illustrates a possessive construction with the noun 'glasses' *hačkis* which does not require a classifier. The possessor *ni=* attaches to the possessed noun directly. In (6b), a possessive construction with the noun 'dog' *kove'* is shown. This noun, in order to appear as the possessed, requires the mediation of the classifier *per* meaning 'domestic animal'.

(6) Baure (Danielsen 2007), repeated from (2)

a. **ni**=hačkis
1SG=glasses
'my glasses'

b. **ni-per** kove'
1SG=dom.animal dog
'my dog'

In (7a), a Chontal possessive construction with the noun *uč* 'fox' is shown. The possessor *u* combines with the possessed noun directly. In (7b), the same noun *uč* 'fox' appears as the possessed through mediation of the possessive modifier *paʔ*, which means 'something edible', 'food'.

(7) Chontal (Knowles 1984: 195)

a. **ʔu** [ʔah uč]
A3 MG fox
'?his (domestic) fox'[4]
b. **ʔa paʔ** [ʔah uč]
A2 edible MG fox
'your fox for eating'

The difference between the two examples I want to highlight is that in Baure, the use of a possessive classifier is predetermined by the lexical class of the possessed noun. It is not possible to express possession of *kove'* 'dog' with the structure in (6a): **ni=kove'*. According to Danielsen (2007), there is only one possibility to express possession of a domestic animal, such as *kove'* 'dog' in (6b). The possessive classifier *per* 'domestic animal' has to be used. The speakers never use other marking strategies to talk about domestic animals.[5] According to the description and as confirmed in my personal discussion with Swintha Danielsen, the distinction between the marking strategy without a classifier, as in (6a), and the morphological strategy with a classifier, as in (6b), is not determined by the relation between the possessor and the possessed; it is fully predetermined by the lexical class. "...for domesticate animals, there is no other option...A speaker may vary, but rather not" (Swintha Danielsen, p.c.) By contrast, in Chontal (Mayan), as I discuss in section 3.3, the use of the possessive modifier *paʔ* 'edible/food' does not seem to be predetermined by the noun class. The possessed noun, *učʼ* 'fox' is the same, both in (7a) and (7b). Only the choice of the marking strategy differs. The whole possessive construction in both cases is understood as describing a relation with a fox, a pet relation in (7a) and a food relation in (7b). The two Chontal examples in (7) show that alternation of the marking strategy for the same possessed noun is possible.

In case the use of a possessive classifier is fixed, as we see in Baure in (6) or Daakaka in (3), there is no evidence that the presence of the classifier involves an additional meaning component. Similarly to the two pattern of distribution introduced for possessive marking in chapter 2, we can consider two patterns of distribution for possessive classifiers. Compare the schematic representation in (8). PD1 is lexically determined. The choice of the possessive classifier is predetermined by the lexical class of the possessed noun. There is no alternation possible. Any change in the interpretation cannot be attributed to the presence of a classifier.

(8) PD1 - **lexically predetermined possessive classifiers**
a. $\text{Possessor}+\text{Possessed}_1+\text{Poss}_{classifier1} = \text{Interpretation}_{type1}$

[4]The question mark in Knowles (1984: 195) indicates that foxes are usually not kept as domestic animals. Thus, the interpretation is strange. However, the example is not ungrammatical.

[5]Similar restrictions on the range of application of a possessive modifier have been described for other Arawak languages as well.

b. Possessor+Possessed$_2$+Poss$_{classifier2}$ = Interpretation$_{type1}$
Any difference in the resulting interpretation comes from the possessed nouns

By contrast, from the examples from Panare in (4) and Chontal in (7) one can conclude that there is a meaning-based distinction between various marking strategies. The meaning difference in the resulting possessive construction can be attributed to the presence and the choice of the possessive modifier. The schematic representation is shown in (9). PD2 is flexible; the possessor and the possessed stay unchanged, while the interpretation of the whole construction changes with the (presence) of a certain possessive modifier. Importantly, the expectation is that 'my fox for eating' in the Chontal example in (7b) should never mean 'my fox for eating that became my pet', where the relation between the possessor and the possessed ('fox') is determined by the context.

(9) PD2 - **possessive modifiers**

a. Possessor + Possessed + classifier$_1$ = Interpretation$_1$
b. Possessor + Possessed + classifier$_2$ = Interpretation$_2$
c. Possessor + Possessed + $\emptyset_{classifier}$ = Interpretation$_3$

The distinction between lexically predetermined classifiers and **possessive modifiers** is also shown in table 3.2.

possessive classifier - determined by a lexical class	**possessive modifier** - determined by the relation between the possessor and the possessed
$Poss_1 \rightarrow LC_1$ $Poss_2 \rightarrow LC_2$	$Poss_1/Poss_2/\ldots Poss_n \rightarrow LC_1$
Daakaka Baure ...	Panare Mussau Saliba ...

Table 3.2: Lexically predetermined elements vs possessive modifiers

In the second row of the table, in the first column, I schematically show that a possessive classifier ($Poss_1/Poss_2$) is predetermined by a lexical class (LC_1/LC_2). By contrast, in the second column, I show that the choice of the possessive modifier ($Poss_1$) is not lexically predetermined. It is visualized as a correspondence between multiple possessive modifiers ($Poss_1/Poss_2/\ldots Poss_n$) and nouns from one lexical class (LC_1).

As the focus of this thesis is the semantic contribution of the possessive markers, this chapter deals primarily with possessive modifiers (languages from the second column of table 3.2). Above, I defined possessive modifiers as a spe-

cial case of possessive classifiers. Most languages that I discuss in this chapter have multiple possessive modifiers that can alternate. Depending on the relation between the possessor and the possessed, the speaker can use one modifier or the other. In the rest of the chapter, I show that the split between idiosyncratic and non-idiosyncratic strategies that I discussed in chapter 2 is also found in languages that make use of possessive modifiers.

3.1.4 Possessive modifiers and possible systems of possessive marking

In this chapter, I show how the analysis of the idiosyncratic and non-idiosyncratic strategies that I proposed in chapter 2 can be extended to languages that make use of possessive modifiers. I start with a general discussion of how the semantic opposition between idiosyncratic and non-idiosyncratic strategies introduced in chapter 2 can possibly be mapped on languages that make use of possessive modifiers.

In section 3.1.1, I asked a very general question about possessive marking. Do systems that involve a semantic opposition between idiosyncratic and non-idiosyncratic strategies have to be binary? Are more fine-grained systems possible? We can hypothesize what such systems might look like. First of all, we expect more fine-grained systems to have more than just two marking strategies to express possession. A follow-up question is whether a language can have multiple idiosyncratic or multiple non-idiosyncratic strategies to express possession. In order to answer this question, we need to return to the distinction between two patterns of distribution with respect to possessive classifiers, PD1 and PD2, shown above in (8) and (9). In general, I described PD1 as the choice between marking strategies that is predetermined by the lexical class of the possessed noun. PD1 is comparable to lexically conditioned allomorphy. I described PD2 as a meaning-based distinction between marking strategies. PD2 is a pattern of distribution such that there is a correspondence between the possessive markers and the different relations expressed.

If we think about the semantic opposition between idiosyncratic and non-idiosyncratic strategies, it is easy to imagine multiple marking strategies that follow PD1. In such a system, there are multiple marking strategies that correspond either to the idiosyncratic or the non-idiosyncratic strategy, and their distribution is predetermined by the lexical class of the possessed noun. In fact, we are dealing with lexically conditioned allomorphy of either the idiosyncratic or the non-idiosyncratic strategy. I discuss systems like this in more detail in chapter 4.

If we consider PD2, it is difficult to think of a language with multiple non-idiosyncratic strategies that follow such a pattern of distribution. In chapter 2, I argued that non-idiosyncratic strategies have the underspecified semantics of MinSpec, as in (10). This means that non-idiosyncratic marking can correspond to any relation between the possessor and the possessed whatsoever. By contrast, PD2 requires the presence of meaning differences that can be attributed

to the possessive markers.

(10) $[\![\text{MinSpec}_i]\!]^g = \lambda P \lambda x \lambda y.$ g(i)(x,y) &P(y) where g(i) is a relation

It is unlikely that there exists a language with multiple non-idiosyncratic markers such that they are, on the one hand, completely underspecified, and that they have, on the other hand, different meanings with respect to one other. However, we can easily imagine multiple idiosyncratic markers that follow PD2. A hypothetical example of such a distribution is shown in (11). Both markers Poss_1 and Poss_2 are idiosyncratic. Poss_1, if combined with a possessed noun with a salient lexical feature [kinship], will yield a kinship relation. Poss_2, if combined with a possessed noun with a salient lexical feature [part-whole], will yield a part-whole relation. In addition, both markers presumably have selectional restrictions on the possessed nouns with which they can combine.

(11) a. $\text{Poss}_1 = \ldots$ iff R_P1 is derived from the [kinship] feature of P, undefined otherwise
b. $\text{Poss}_2 = \ldots$ iff R_P2 is derived from [part-whole] feature of P, undefined otherwise

If a language has multiple idiosyncratic strategies as in (11), one would expect that they correspond to multiple marking strategies. As I discuss in this chapter, languages with possessive modifiers bring us relatively close to the system shown in (11). The difference between possessive modifiers and the schematic description in (11) is how the possessive relation is computed. In the system described in chapter 2, the relations that an idiosyncratic marker can express are restricted by a presupposition. As I show in detail below, in the case of a possessive modifier, the relation does not come about as a part of the presupposition of the possessive marker. The relation is explicated by a special lexical element, the possessive modifier. Thus, possession is established in a compositional way; languages that make use of possessive modifiers don't coin possessive markers for every relation. Possessive modifiers compositionally provide information on relevant meaning domains.

In chapter 2, I provided distinct lexical entries for the possessive morphemes, *MaxSpec* and *MinSpec*. The data from the languages that make use of possessive modifiers seem to show that possessive markers involve more structure than first meets the eye. One way to incorporate the relation provided by the possessive modifier is to assume a uniform lexical entry for possessive markers. I will call it *PossSpec*. The lexical entry for *PossSpec* is shown in (12).

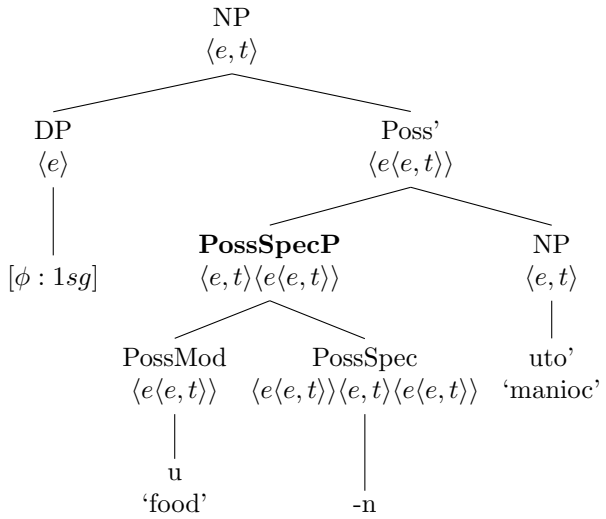
(12) $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y. R(x, y) \& P(y)$

The possessive marker *PossSpec* takes as its argument a relation, R. This relation can be provided explicitly by the possessive modifier. A lexical entry for an arbitrary possessive modifier that provides a food relation is shown in (13).

(13) $[\![\text{modifier}_{food}]\!] = \lambda x \lambda y.$ R_{food}(x, y)

If PossSpec in (12) is applied to the modifier in (13), the resulting semantic object has the same type as *MaxSpec* or *MinSpec* in chapter 2. The structure is shown in (14). As an example, I use the Panare possessive construction in (4b).

(14) $[\![\text{PossSpec}]\!]([\![\text{modifier}_{food}]\!]) = \lambda P \lambda x \lambda y . R_{food}(x, y) \& P(y)$



The structure in (14) brings us to a unified analysis for possessive constructions with and without possessive modifiers. Such a unified analysis of possessive markers will always involve a relational variable. This relational variable can be provided explicitly by the modifier, as shown in (14). If there is no possessive modifier, as in those languages discussed in chapter 2, the *R*-argument slot is filled by an empty relational pro-form. The empty R-variable of the possessive marker is similar to the empty C-variable restricting the alternative set of focus-sensitive particles (Rooth 1992: 79) or variables restricting adverbs of quantification in von Fintel (1994). The corresponding lexical entries are shown in (15).

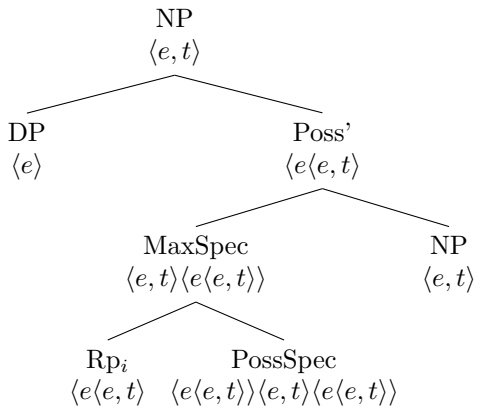
(15) a. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y . g(i)(\text{x,y}) \& \text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y . g(i)(\text{x,y}) \& \text{P(y)}$ where g(i) is a relation

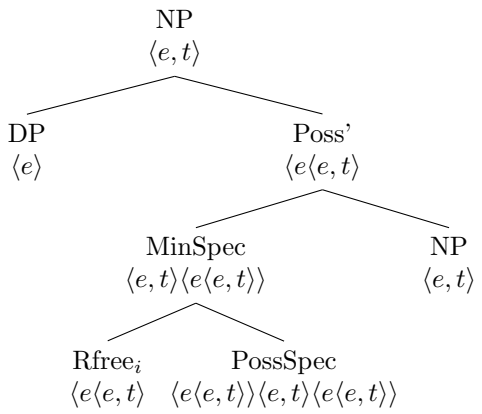
In the case of idiosyncratic possessive marking, the relational pro-form is Rp_i; it carries a presupposition that restricts the range of the assignment function g to stereotypical relations provided by the possessed noun P. In the case of non-idiosyncratic possessive marking, the relational pro-form is $Rfree_i$ and there are

no restrictions on the assignment function. The corresponding structures are shown in (16) and (17) respectively.

(16) $[\![\text{PossSpec Rp}_i]\!]$



(17) $[\![\text{PossSpec Rfree}_i]\!]$



The advantage of the unified analysis of possessive construction sketched in (12) and (15) involves only one lexical entry for a possessive marker, *PossSpec*. The R-argument slot is either filled overtly by a possessive modifier, or it is filled by a covert variable over a relation. The value for the covert variable can be systematically derived from the possessed noun or it can be provided by the context.

As I explain in more detail below, I divide languages that make use of possessive modifiers into two groups, depending on how the possessive modi-

fiers correspond to the distinction between idiosyncratic and non-idiosyncratic strategies. As I showed above, languages that make use of possessive modifiers have multiple marking strategies to express possession. Importantly, the availability of multiple marking strategies does not yet mean that there is a semantic opposition between idiosyncratic and non-idiosyncratic strategies, as discussed in chapter 2. The typology of possessive modifiers that I propose in this chapter depends on the presence of this semantic opposition.

Languages that I discuss in section 3.2 don't show a semantic opposition between idiosyncratic and non-idiosyncratic strategies; they have multiple modifiers, but only one strategy to mark possession. The possessive marker attaches either directly to the possessed noun or to the possessive modifier, but the possessive marker itself is always the same. Interestingly, as I show below, in the case of uniform marking strategies to express possession, the modifiers themselves might resemble variables over relations. As a parallel to a semantic opposition between an idiosyncratic and a non-idiosyncratic strategy, I show pragmatic competition between two possessive modifiers in Saliba and Tolai. While one modifier seems to be restricted to the relations derived from the possessed noun, the other allows more freedom with respect to the relation it can express. Thus, the semantic opposition seen in chapter 2 might be reflected even in languages with uniform marking strategies to express possession. The second type of languages, discussed in section 3.3, in addition to possessive modifiers, shows a semantic opposition between idiosyncratic and non-idiosyncratic strategies; they appear to be in competition. For this group of languages, three logical options are available. As I show in section 3.3.1, the possessive modifiers can pattern together with idiosyncratic marking. The two other logical options are that the possessive modifiers pattern with non-idiosycnratic marking or that they correspond to a distinct morphosyntactic strategy. I was unable to find languages of these two types; they are not represented in my sample. Therefore, I present these types as hypothetical in section 3.3.2, and I discuss in more detail why such languages may be rare.

3.2 Uniform marking strategies with possessive modifiers

In this section, I discuss languages that don't show an opposition between idiosyncratic and non-idiosyncratic strategies in terms of marking. Within a single language, some nouns appear possessed directly and some always require a modifier; however, the formal marking is always the same. Because of the absence of the opposition, I call this marking "uniform". The languages under discussion are Panare, Bororo, Mussau, Paamse, Saliba and Tolai. In section 3.2.1, I introduce the system of uniform marking strategies. I propose an analysis for possessive modifiers as overt realizations of a possessive relation. In section 3.2.2, I show that possessive modifiers can correspond to concrete rela-

tions (like 'food'), as well as to relatively abstract relations which are difficult to define. In section 3.2.3, I show for Saliba and Tolai that possessive modifiers may resemble variables over relations. This resemblance between modifiers and variables over relations can be seen as a parallel between the languages that make use of possessive modifiers and the languages discussed in chapter 2. It appears that in some languages, the covert variable over relations proposed in chapter 2 can be spelled out as a distinct morpheme.

3.2.1 Specific relations

In this section, I introduce the system composed of what I call uniform marking strategies. I begin the discussion with the examples from Panare and Bororo. As indicated by the title of the section, in these examples, the modifiers seem to correspond to maximally specific relations such as 'food', 'drink' or 'instrument'. In this section, I propose a general analysis for the languages that make use of possessive modifiers and mark adnominal possession in a uniform way. I analyze possessive modifiers as overt realizations of possessive relations.

Panare. As an example of a system that involves only one kind of possessive marker, consider Panare (Venezuelan Cariban) in (18). In Panare, a small class of nouns combines with a possessor directly, as shown for 'nose' in (18a). Most nouns in the language have to appear with a possessive modifier. Payne and Payne (2013) list 21 possessive modifiers (classifiers) for Panare. Above, I discussed a minimal pair with the possessed noun 'manioc' in (4). Another example with the possessive modifier *úku* 'liquid' is shown in (18b).

(18) Panare (Payne and Payne 2013: 74-82)

a. y-ewa-n
1sg-nose-POSS
'my nose'

b. y-úku-n wanë
1SG-CL.liquid-POSS honey
'my honey'

As I discuss in more detail below, the examples in (18) show that there is no opposition with respect to the shape of the possessive marker in Panare. Both direct possession in (18a) and modification in (18b) involve the same possessor person-number prefix and the morpheme *-n*[6]. In (18a), *-n* attaches to the possessed noun *ewa* 'nose'; in (18b), *-n* attaches to the possessive modifier, *úku* 'liquid'.

The system of marking strategies in Panare is schematically depicted in table 3.3. Poss is the abbreviation for a marking strategy, while LC stands

[6]Payne and Payne (2013: 74) mention that there are two allomorphs of *-n*, but their distribution is lexically predetermined

for lexical class. Many nouns (LC_2) can't combine with the non-idiosyncratic strategy due directly to their selectional requirements.

Possessive marker	Correspondence: possessive marking/lexical class
-n	Poss→ LC_1
u-n	modifier$_1$ + Poss → $LC_{1/2}$
...	
uto-n	modifier$_{21}$ + Poss → $LC_{1/2}$

Table 3.3: Possessive modifiers in Panare

Bororo. Bororo (Borôroan) is a language with a very similar system to the one shown in 3.3. In Bororo, the set of possessive modifiers is limited; however, they seem to have very specific meanings. According to the description in Nonato (2008), Bororo has four possessive modifiers: *-ke*, *-aku*, *-imo*, and *-o*. The modifier *-ke* is used to mark possession of food, *-aku* of domestic animals, *-imo* of ornaments/decorations and *-o* of ownership. Compare the two relations with 'fish', as expressed in (19a) and (19b).

(19) Bororo (Nonato 2008: 61-63)

a. ta **ke** karo
2P food fish
'your fish (to eat)'

b. in **agu** karo
1S pet fish
'my domestic fish'

c. ik eno
1S nose
'my nose'

A group of nouns in Bororo can appear possessed directly, as shown for 'nose' in (19c); see also Crowell (1979: 214-217). Similarly to what we see in Pananre, the marking strategy to express possession in Bororo is uniform; it involves juxtaposition of the possessor and the possessed; *ik* and *in* are allomorphs of the same 1st person pronoun. The only difference between the direct possession construction in (19c) and constructions in (19a) and (19b) is the presence of the possessive modifier.

On the way to an analysis. I assume that in languages like Panare and Bororo, the possessive marker does not contribute to the difference in meaning. It is not the locus of semantic opposition, as we saw, for instance, in chapter

2. The possessive marker has a uniform meaning both in direct possession constructions, as in (19c) and in possessive constructions that involve a modifier, as in (19a) or (19b). Given the semantics in (20), the possessive marker *PossSpec* is compatible with any relation whatsoever.

(20) $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y.\text{R(x,y)\&P(y)}$

The difference in relation between the possessor and the possessed can be expressed with the help of a modifier. The presence of the possessive modifier provides an additional meaning component that allows the overt expression of some relations, such as 'food' in (21).

(21) Panare (Payne and Payne 2013)

y-**u**-n uto'
1sg-food-poss manioc
'my manioc (for eating)'

However, there is no principled difference between the marking strategy that involves direct possession and the marking strategy that involves a modifier. The constraints on the use of direct possession seem to be selectional requirements of nouns; they are not semantically motivated. At least, no semantic generalization can explain why 'nose' or 'manioc' can appear possessed directly, but 'honey' or 'shirt', for instance, can't.

For the possessive modifier, I assume that it introduces the corresponding possessive relation overtly, as shown in (22a). In this case, the R-argument of the possessive marker in (24) can be fed in directly, as shown in (21).

(22) a. $[\![\text{modifier}_{food}]\!] = \lambda x \lambda y.\ \text{R}_{food}\text{(x,y)}$
b. $[\![\text{PossSpec}]\!]([\![\text{modifier}_{food}]\!]) = \lambda P \lambda x \lambda y.\ \text{P(y)} \ \&\ \text{R}_{food}\text{(x,y)}$

The question to the systems with uniform possessive marker is what happens in the case that there is no possessive modifier present. As I showed above, both in Panare in Bororo there is a class of nouns that can appear possessed directly, such as 'nose' in (23).

(23) Panare (Payne and Payne 2013)

y-ewa-n
1sg-nose-poss
'my nose'

In the analysis I outlined above, the R-argument of the possessive marker is then filled by a covert variable over relations. The value for the variable is assigned by the context - by assignment function *g*. There are two logical options: either the range of the assignment function is totally unrestricted, or else it is restricted to stereotypical P-based relations.

If we follow the first option, it will mean that the possessive marker in this type of languages always gives rise to a free relation, as shown in (24). The

relational variable *Rfree* in (24) can be filled from the context. In principle, it can take any value.

(24) $[\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation.

Note that in this analysis the simple use of the possessive marker *-n* along with the possessed noun 'manioc' should be compatible with the interpretation 'food' as well. One might wonder why the speaker in example (21) uses the possessive modifier instead of marking 'manioc' as possessed. As already discussed in chapter 2, we commonly observe that the use of different forms to express the same meaning is blocked. The existence of a more specific lexical item blocks the speaker from using the underspecified one. Thus, in chapter 2 I showed that the availability of an idiosyncratic marker to express a certain relation blocks the use of the non-idiosyncratic marker to express the same meaning. By contrast, the co-existence of multiple forms is usually motivated by a difference in the interpretation. The prediction for a system that involves possessive modifiers is that those relations that can be expressed overtly (with help of corresponding modifiers), will always be expressed by means of a modifier and not by means a possessive marker.

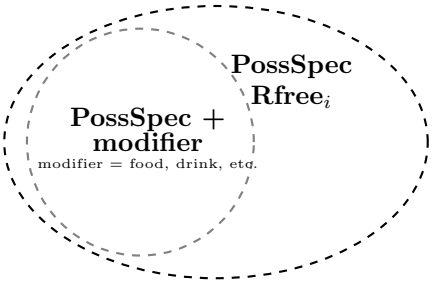


Figure 3.1: Possessive modifiers and uniform markers

The prediction is that the use of the underspecified strategy to express possession of 'manioc' in (21) is blocked by the existence of the corresponding possessive modifier *u* 'food'. This modifier is the most specific way to mark the relation in question. Direct possession is a more general form semantically, and its use for the same meaning is blocked. Another prediction is that if the relation between the possessor and a possessed noun like *uto'* 'manioc' in (21) cannot be encoded by any of the available modifiers, it should be possible to mark possession on 'manioc' directly. Unfortunately, I was unable to test whether or not this is the case.

Another possible analysis for the languages with uniform marking is to assume that direct marking of possession always involves a restriction on the range of possible assignment, as shown in (25).

(25) $[\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ de- fined iff g(i) is a stereotypical P-based relation

Intuitively, this analysis is appealing because direct marking of possession in languages that make use of possessive modifiers superficially resembles idiosyncratic strategies, discussed in chapter 2. The class of nouns that can appear marked as possessed is a closed class, LC_1 in table 3.3; the amount of morphological material involved in the case of direct marking of possession is smaller than the amount of the morphological material involved in the construction involving the possessive modifier. This analysis predicts that the range of interpretations available for the direct marking of possession is limited. For instance, for 'my nose' in (23), one would expect that ad-hoc interpretations under which the nose is not the possessor's body part are unavailable. An interesting question is, which relation is the stereotypical one for the possessed noun 'manioc'? If this relation is possession of not-yet-prepared manioc, as the example in (26) suggests, then it is unclear why the presence of the possessive modifier 'manioc' is required.

(26) Panare (Payne and Payne 2013)

yu	**wúto**-n	uto'
1sg	1sg.cl.manioc-poss	manioc

'my manioc (not yet prepared)'

The general question regarding the systems like the one in Panare is how contextually determined interpretations can be expressed. Even if we assume free interpretation for the direct possession constructions, the question remains as to how ad-hoc relations can be expressed for the nouns from LC_2, which don't combine with the possessive marker directly; see table 3.3. It might be that there are too many modifiers available in Panare; Payne and Payne (2013) list 21 modifiers. If the system of possessive modifiers is productive, it could be that the language can express any relation between the possessor and the possessed by means of a modifier. One might notice that possessive modifiers are very much directed towards animate possessors. Possessive modifiers we have seen so far seem to presuppose that the possessor is human. This is not surprising from a cross-linguistic perspective, as human possessors are the most stereotypical ones. Similarly to agents in the verbal domain that show volitional involvement in the event, human possessors, in contrast to other possessors, can be volitionally involved in the possessive relations. A natural question would be how the relations between inanimate entities are expressed. I return to this question in section 3.2.2, when I discuss the expression of possession in Paamese.

In the following section, I show that in some languages possessive modifiers are somewhat underspecified with respect to the relations they can express. This underspecification suggests that at least in some languages the possessive modifiers themselves can function as variables over relations.

3.2.2 Underspecified relations

In section 3.2.1, I proposed a general analysis for the languages of type 1. The possessive modifiers we had considered so far seemed to correspond to maximally specific relations between a possessor and the possessed, such as 'liquid' in Panare example (18). In this section, I show that a single possessive modifier can correspond to multiple relations. The fact that a single possessive modifier might give rise to a number of interpretations has been discussed in the literature on Oceanic languages, for example in Lynch (1974: 92). Special attention has been payed to those interpretations under which the possessor is being acted on by the possessed; as discussed in detail in Palmer (2008) these interpretations are often compatible with the possessive modifier being "used prototypically to mark items intended for consumption".

Below, I show examples of multiple relations corresponding to a single possessive modifier for two languages, Mussau and Paamese. For the system of expressing possession that I develop in this chapter, these examples show that at least some possessive modifiers function as variables over relations, not just overt realizations of concrete relations. This is a parallel between underspecified possessive modifiers and underspecified possessive markers, as discussed in chapter 2. In section 3.2.3, I make this parallel more precise, as I argue that some possessive modifiers should be seen as variables over relations. This section also sheds some light on how relations between inanimate entities can be expressed.

Mussau. I have limited data from Mussau, but there is at least one possessive modifier in this language that corresponds to a range of relations. As discussed in Brownie and Brownie (2007) and Ross (2002), the possessive modifier *ane* in Mussau, which is normally used for food, can be used for some non-food relations as well. Altogether, Brownie and Brownie (2007) list 14 possessive modifiers for Mussau.

Compare the examples in (27a) and (27b). In (27a), the relation between the possessor '1sg' and the possessed *paolo* 'chicken' is food. In (27b), the relation between the possessor '3sg' and the possessed *kapa* 'metal' is part-whole or material. The possessive modifier *ane-* is the same in both examples.

(27) Mussau (Brownie and Brownie 2007: 78,82)

a. ane-ghi paolo ateva
PCL-1sP chicken SG:I
'my chicken (to eat)'

b. anna tuku kapa ateva
PCL:3sP piece metal SG:I
'this piece of metal'

In (28), a minimal pair from Mussau with the possessed noun *ai* 'tree/stick' is shown. In (28a), the relation between the possessor '1sg' and the possessed *ai*

'stick' is probably ownership. The possessive modifier used in this example is identical to the possessed noun; it is *ai* 'tree'.[7] In (28b), the possessor ,'1sg', and the possessed, *ai* 'stick', is the same as in (28a). The difference is the use of the possessive modifier *ane-*. This is the same possessive modifier as in (27a) and (27b). However, in (28b), the relation between the possessor and the possessed is not 'food'; the stick is not meant to be eaten. In (28b), the possessor can be described as target or an undergoer; he is being hit by the 'stick'. Ross (2002: 157) calls this relation between the possessor and the stick "cause of suffering".

(28) Mussau (Ross 2002: 157)

a. ai-qi ai
PCL-1sg tree
'my (tall) tree'

b. ane-qi ai etea
PCL-1sg tree SG:II
'the stick that hit me'

Thus, in Mussau, at least one possessive modifier, *ane-*, is compatible with various relations, including 'food', 'target' and 'part-whole'.

Paamese. In Paamese (Austronesian), there are only four possessive modifiers. Compared to Panare, discussed in section 3.2.1, and to Mussau, discussed above, Paamese shows a limited set of possessive modifiers. Only a small number of nouns can appear possessed directly, as shown in (29a). Most nouns require the presence of a modifier, as can be seen in (29b) – (29e). According to Crowley (1982), possessive modifiers are nouns; at least it can be easily shown from which nouns they are derived. Roughly, they can be translated as 'instrument' *ono-*, 'drink' *mo-*, 'possession by traditional law' *so-* and 'determined to be eaten' *aa-*.

(29) Paamese (Crowley 1982: 210-215)

a. vatu-k
head-1sg
'my head'

b. vakili **ona**-k
canoe poss.man-1sg
'my canoe'

c. anii **ma**-ku
green.coconut poss.pot-1sg
'my green coconut (to drink)'

d. aut **sa**-ku
place poss.leg-1sg
'my place (according to the law)'

[7] See a similar example with 'manioc' in Panare example in (4a)

e. auhu **aa**-ku
yam poss.ed-1sg
'my yams (to eat, probably cooked)'

Other examples from Paamese show that the correspondence between the possessive modifier and the relation it expresses might not be as straightforward as one would expect. For example, according to Crowley (1982), the relation between the possessor and 'sore' is usually expressed by a 'manipulate' modifier, *ona*, as in (30a). Interestingly, if the sore is somehow characteristic of the possessor, for instance, very large, it is possessed with an 'edible' modifier *aa*, as shown in (30b).[8].

(30) Paamese (Crowley 1982: 215-217)
a. manu **ona**-ku
sore poss.man-1sg
'my sore'
b. manu **aa**-ku
sore poss.part-1sg
'my (unusually large or numerous) sore(s)'

Examples like (29e) and (30) show that the range of relations expressed by a single possessive modifier *ona* or *aa* go beyond 'manipulative' or 'edible' relations. Similarly, the possessive modifier *mo*, shown in (29c), can be used to express two types of relations, a consumption relation between a drink and its possessor and a somewhat abstract 'intimate' or 'domestic' relation. Compare the examples in (31a) and (31b), both of them involving the possessive modifier *mo*.[9].

(31) Paamese (Crowley 1982: 212-213)
a. oai **ma**-ku
water poss.pot-1sg
'my water (to drink)'
b. ai-sinu **ma**-ku
inst.dress poss.dom-1sg
'my clothes'

Thus, in Paamese, we see that at least some possessive modifiers can be underspecified with respect to the relations they can express. One modifier can correspond to multiple relations. Below I discuss similar examples of semantically non-transparent possessive modifiers in Mussau. The main point of this section is to show the transition between possessive modifiers that have very

[8]Crowley (1982) uses two different glosses for the possessive modifier *aa*, to show that it can mark two types of relations between the possessor and the possessed: 'edible' and 'particularising'.

[9]Crowley (1982) uses two different glosses for the possessive modifier *mo* to highlight its polysemy.

specific meanings, as discussed in section 3.2.1, and possessive modifiers that resemble variables over relations, which will be discussed in section 3.2.3 . The modifiers I discuss for Paamese and Mussau are in between; these languages have multiple possessive modifiers, some corresponding to concrete relations, but some being compatible with multiple relations.

A final piece of data from Paamese concerns inanimate possessors. As I mentioned earlier, while possessive modifiers are oriented towards animate possessors[10], Paamese has a productive way to express possession between two nouns by means of a preposition, *ten*. Most relations between inanimate entities can be expressed in this way, as show in (32a). Some nouns in Paamese are bound stems; they can't form an NP on their own and necessarily appear as parts of a compound. For instance, *aroe* 'handle' in (32b) can never appear on its own.

(32) Paamese (Crowley 1991: 22, 28)

a. metareh ten eim
door of house
'door of house'

b. aroe-teai
handle-axe
'axe handle'

Thus, in Paamese the pronominal system of adnominal possession is specified to express relations between animate possessors and their possessed. In contrast, possession between two nouns is commonly used to refer to relations between inanimate entities, such as 'part-whole' in (32a) and (32b). I believe that this opposition between nominal and pronominal possession can be found in many languages that employ possessive modifiers, as discussed above.

The examples from Paamese and Mussau suggest that the semantics of some possessive modifiers is underspecified in such a way that they are compatible with various relations. These possessive modifiers resemble the possessive morphemes discussed in chapter 2; such morpheme do not correspond to concrete

[10]Palmer (2008: 128) points out that if a language has a possessive modifier that can be used to express multiple relations, this modifier can also be used to express relations between inanimate possessors and the possessed. Compare the minimal pair from Standard Fijian (cited from Palmer 2008: 128) in (i). In (ia), the possessor is animate and the person-number marker attaches to the morpheme *no*; in (ib), the possessor is inanimate and the possessive modifier *ke*, glossed as 'food', is used.

(i) Standard Fijian (Schütz 1985: 459-460), cited from Palmer (2008: 128)

a. no-na yaga
GENP-3SFP usefulness
'his/her usefulness'

b. ke-na yaga
FOOD-3SFP usefulness
'its usefulness'

Examples with inanimate possessors in Tolai will be discussed in section 3.2.3.

relations, but involve a variable that ranges over several relations. This observation is important because it provides additional motivation for the internal structure of *MaxSpec* and *MinSpec* as proposed in section 3.1.4, repeated (33).

(33) a. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!] = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation
b. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!] = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The idea would be that in some languages the R-variables are spelled out as distinct morphemes, possessive modifiers. In section 3.2.3, I discuss this analysis of possessive modifiers as variables ranging over relations in more detail for Saliba and Tolai.

3.2.3 Possessive modifier as a variable over relations

In this section, I discuss languages that only make use of two possessive modifiers (Saliba and Tolai, both Austronesian).[11] Note that in the course of the chapter we have moved from languages with a maximal set of modifiers like Panare to languages with a very limited set of modifiers, like Saliba and Tolai. In section 3.2.1 and section 3.2.2, I showed that there is a gradation between possessive modifiers that express very specific relations like 'soft food' or 'drink' in Panare and Bororo and possessive modifiers that correspond to more abstract, underspecified relations, 'food/ characteristic property of the possessor' in Paamese or Mussau. I argue that Saliba and Tolai present extreme cases of such underspecification. In contrast to what we see in Panare and Bororo, possessive modifiers in Saliba and Tolai are used to refer not to a concrete relation, but to a range of relations. As I show below, one of the possessive modifiers in both languages resembles the idiosyncratic strategy from chapter 2. It is used to refer to lexically predetermined stereotypical relations such as function or purpose. The second possessive modifier is compatible with relations of ownership and control. It is clearly oriented towards a human possessor. I take this to mean that possessive modifiers in Saliba and Tolai function almost like the relational variables discussed in chapter 2. Some confirming evidence comes from the discussion of diachronic language development in Mosel (1984). Mosel (1984) shows that a grammaticalization process is taking place in modern Tolai that is changing this possessive modifier into a productive possessive marker. This development seems to indicate that a system involving possessive modifiers can transform over the time into a system involving idiosyncratic and non-idiosyncratic possessive markers as discussed in chapter 2.

Saliba. According to Mosel (1994), there are two possessive modifiers in Saliba (Austronesian), *yo-* and *ka-*. As shown in (34), some nouns in Saliba, for

[11] Saliba and Tolai should not be seen as exceptional cases. Systems with only two possessive modifiers are often found among Oceanic languages.

instance 'egg', can appear with three different marking strategies. In (34a) the person-number clitic attaches directly to the possessed noun *pou* 'egg'. In (34c) and (34b), the person-number clitic attaches to an additional morpheme, the possessive modifier *yo-* or *ka-*.

(34) Saliba (Mosel 1994: 24)

a. pou-na
egg-3.SG
'her egg (hen's)'

b. **ka**-na pou
POSS-3.SG egg
'his/her egg (the one he/she is going to eat)'

c. **yo**-na pou
POSS-3.SG egg
'his/her egg (he/she owns it, sells on the market, etc.)'

Mosel (1994) points out that the choice of the possessive construction corresponds to a difference in interpretation. Thus, attachment of the possessor clitic in (34a) will result in the interpretation of a producer relation between the possessor (hen) and an egg. The modifier *ka-* in (34b) is used if the possessed (the egg) is somehow predetermined for the possessor (for instance, as food). The modifier *yo-* in (34c) is used to describe an ownership relation between the possessor and the possessed.

In table 3.4, I show the three marking strategies in Saliba. I assume that the (covert) possessive morpheme in Saliba -$\emptyset_{Poss}$ is underspecified; it is compatible with any relation whatsoever. Morphosyntactic selectional requirements do not allow some nouns to appear possessed directly in Saliba, similarly to what we saw for other languages in this section.

Marking strategy	Correspondence: marking/lexical class
-$\emptyset_{Poss}$-*na*	Poss $\rightarrow$ LC_1
ka-$\emptyset_{Poss}$-*na*	modifier$_{ka}$ + Poss $\rightarrow$ $LC_{1/2}$
yo-$\emptyset_{Poss}$-*na*	modifier$_{yo}$ + Poss $\rightarrow$ $LC_{1/2}$

Table 3.4: Marking strategies in Saliba

A logical question about the system depicted in table 3.4 is what kind of relations the possessive modifiers *ka-* and *yo-* correspond to. It turns out to be a non-trivial task to provide an exact description of those relations. In contrast to the Panare and Bororo examples we saw above, *ka-* and *yo-* do not have concrete meanings like 'food' or 'drink'. They correspond to a range of interpretations.

The relations that correspond to the possessive modifier *ka-* can be described as purpose, determination or area of application. They also include various

properties, such as appearance (35a), habit (35b), illness, food, clothes and even the weather the possessor is exposed to, such as 'rain' in (35d).

(35) Saliba (Mosel 1994: 22-25)

a. **ka**-na kao
ka-3.SG appearance
'his appearance'

b. aoao-wa **ka**-na paisoa
crow-DET POSS-3.SG habbit
'the habit of the crow'

c. **ka**-na siga
POSS-3.SG boundary
'its boundary (of a garden)'

d. aoao-wa **ka**-na nabu
crow-det POSS-3.SG rain
'crow's rain (the rain the crow was exposed to)'

These examples suggest that the possessive modifier *ka-* is compatible with lexically predetermined relations that are systematically derived from the semantics of the possessed nouns. It appears that the possessive modifier *ka-* has a meaning close to the one proposed for the idiosyncratic possessive strategy in chapter 2.

By contrast, the possessive modifier *yo-* is commonly used to encode a relation of ownership between the possessor and the possessed, as we saw in (34c). Compare the examples with *tautau* 'photo' in (36). In (36a), direct possession is used to express a relation between a photograph and the one depicted in it. In contrast, the use of *yo-* in (36b) is interpreted as an ownership relation between the possessor and the photograph.

(36) Saliba (Mosel 1994: 24)

a. tautau-gu
photo-1.SG
'my photo (photo depicting me)'

b. **yo**-gu tautau
POSS-1.SG photo
'my photo (photo I own)'

One example of the competition between *yo-* and *ka-* is provided in (37). In (37a), the noun 'gift' can be interpreted as intended for the possessor; (37b) receives the interpretation 'the gift I give away'.

(37) Saliba (Mosel 1994: 24)

a. ka-gu kainaoya
POSS-1.SG gift
'my gift (that I receive)'

b. yo-gu kainaoya
POSS-1.SG gift
'my gift (that I give away)'

In general, *yo-* seems to be used for those relations that can be initiated or finished by the possessor, such as the relation between the possessor and the village in (38a).

(38) Saliba (Mosel 1994: 22)
a. hevali-wa **yo**-na magai
young.man-DET POSS-3.SG village
'young man's village'

Thus, while *ka-* is used to encode relations like purpose that are probably closely connected to the semantics of the possessed noun, *yo-* seems to function like an 'elsewhere case' oriented towards animate possessors. There is a parallel between the system of possessive marking discussed in chapter 2 and the system of possessive marking in Saliba. In chapter 2, I proposed that the semantics of possessive constructions involves a covert variable over relations. It appears that in Saliba, the relational pro-forms are overtly spelled out as morphemes, *ka-* and *yo-*.

There are two possible ways to analyze the system in Saliba. One way is to attribute the direct possessive construction the semantics of a non-idiosyncratic strategy, as proposed in section 3.2.1 for Panare. In this analysis, the possessive morpheme -$\emptyset_{Poss}$ with the semantics of *PossSpec* takes a contextually determined relation R_{free} as its argument. There are no restrictions on the relations compatible with *Rfree*. The possessive modifiers *ka-* and *yo-* are overt realizations of two relational pro-forms *Rp1* and *Rp2*. *yo-* and *ka-* range over relations systematically derived from the possessed noun. In (39), I model how the pragmatic competition could work, for instance in the case of 'egg' in (34). In (42), the covert possessive marker PossSpec takes an implicit relational variable *Rfree* as its argument. There are no restrictions on the relations compatible with *Rfree*. In (39b), the possessive modifier *ka-* contributes a stereotypical relation derived from the possessed noun; *ka-* can be seen as an overt spell-out of the relational pro-form *Rp1*. In the case of 'egg', this relation is 'food'. In (39c), the possessive modifier *yo-* contributes a relation of ownership with an animate possessor; *yo-* can be seen as an overt spell-out of the relational pro-form *Rp2*. As the possessive modifier *yo-* in (39c) is specified for human possessors, the speaker will not use the direct possessive construction in (42) to express the relation of ownership or control. For other relations, especially relations with non-human possessors such as the producer relation in 'chicken egg', the speaker will use a direct possessive construction.

(39) a. $[\![\text{pou-na}]\!] = [\![\text{PossSpec Rfree}_i]\!]^g([\![\text{egg}]\!])(\text{j}) =$
$= \lambda P \lambda x \lambda y.g(1)(x,y) \& P(y)([\![\text{egg}]\!])(\text{j}) =$
$= \lambda y.R_{produce}(j,y) \& egg(y)$

b. $[\![$ **ka**-na pou$]\!]$ = $[\![$PossSpec$]\!]([\![$ka$]\!]^g)([\![$egg$]\!])$(j) =
= $\lambda R \lambda P \lambda x \lambda y.R(x,y)\&P(y)(\lambda x.\lambda y.R_{food}(x,y))(\lambda x.egg(x))(j) =$
$\lambda y.R_{food}(j,y)\&egg(y)$

c. $[\![$ **yo**-na pou$]\!]$ = $[\![$PossSpec$]\!]([\![$yo$]\!]^g)([\![$egg$]\!])$(j) =
= $\lambda R \lambda P \lambda x \lambda y.R(x,y)\&P(y)(\lambda x.\lambda y.R_{own}(x,y))(\lambda x.egg(x))(j) =$
$\lambda y.R_{own}(j,y)\&egg(y)$

An important test for this analysis is the availability of contextually determined interpretations. If the system of possessive marking in Saliba is indeed as shown in (39), the prediction is that (34a), for instance, can have more interpretations than just 'chicken-produced egg'. The following examples from Mosel (1994) seem to show that relations expressed by the direct possessive construction are quite diverse. The direct possessive construction can be used, among others, to describe a relation between a container and its content and with quantifier-like nouns like 'whole'. Compare (34a), (40a) and (40b).

(40) Saliba (Mosel 1994: 24-25)

a. waila kaputi-na
water cup-3.SG
'a cup of water'

b. maydai maudoi-na
day whole-3.SG
'the whole day ("wholeness" of the day)'

However, these examples are not sufficient to show that the direct possessive construction is really compatible with contextually determined interpretations. According to the analysis in (39), the reason we only find some relations expressed by means of direct attachment of the clitic is the availability of the two possessive modifiers *ka* and *yo* to mark some relations overtly. Pragmatic blocking prevents the use of the underspecified marker to express the same meaning. If direct marking of possession as in (42) does not allow for vagueness in interpretation, it would be an argument against the covert free relational variable.

Somewhat problematic examples for this analysis come from kinship terms in Saliba. As it turns out, the kinship terms are distributed among the three possessive constructions, as shown in (41). Thus, some kinship terms appear in the direct possessive construction, some require the possessive modifier *ka-* and some require the possessive modifier *yo-*. If *yo-* has specific semantics expressing 'ownership, control', an example like (41c) is unexpected because an uncle relation should not be in the control of the possessor.

(41) Saliba (Mosel 1994)

a. sia-na
mother-3.SG
'his/her mother'

b. **ka**-gu bogao
POSS-1.SG family
'my family'
c. **yo**-gu badalendia
POSS-1.SG uncle
'my uncle'

An alternative analysis of possession marking in Saliba is to analyze direct marking of possession as involving a covert variable over relations with restrictions on the possible assignment *Rp1*. This means that the relation between 'egg' and 'hen' is systematically derived from the semantics of the possessed noun *pou* 'egg'.

(42) $[\![\text{pou-na}]\!] = [\![\text{PossSpec Rp1}_i]\!]^g([\![\text{egg}]\!])(\text{j}) =$
$= \lambda y.R_{produce}(j, y)\&egg(y)$

The possessive modifier *ka* will be a spell-out of the variable *Rp2* that ranges over relations systematically derived from the semantics of the possessed noun, as shown in (43a). The possessive modifier *yo* will be an overt relational proform *Rfree*, as shown in (43b). This analysis is attractive because it provides additional motivation for the internal structure of *MaxSpec* and *MinSpec* as proposed in chapter 2. It allows us to model the choice of the possessive modifier in Saliba in the same way as the competition between idiosyncratic and non-idiosyncratic strategies in chapter 2.

(43) a. $[\![\text{ka}]\!]^g = [\![\text{Rp2}_i]\!]^g = \lambda P\lambda x\lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a P-based relation
b. $[\![\text{yo}]\!]^g = [\![\text{Rfree}_i]\!]^g = \lambda P\lambda x\lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

On this account, the possessive modifiers *ka-* and *yo-* are in the same kind of competition as *MaxSpec* and *MinSpec* in chapter 2. If the speaker chooses the modifier *yo* for a noun like *pou* 'egg', the hearer can infer that the relation between the egg and its possessor does not hold normally expressed by *ka* does not hold. This would be a parallel between the languages discussed in chapter 2 and the languages that make use of possessive modifiers. The examples like (41), in which kinship terms are split across three marking strategies, seem to show that the distribution of the possessive modifiers is partially determined by selectional requirements of the possessed noun. While some nouns, like *sia* 'mother' select for direct marking, other nouns like *bogao* 'family' can select for *ka*. Some nouns, for instance, *badalendia* 'uncle' can only select for *yo*.

The analysis on which the possessive modifier *yo* correspond to a free variable over relations and the possessive modifier *ka* corresponds to a restricted variable over relations makes the analysis of Saliba parallel to chapter 2. It also highlights the similarity between Saliba and another Oceanic language Daakaka which I discuss in section 4.3.2, chapter 4. As I discuss in chapter 4, the opposition between somewhat abstract relations and ownership/control

relations is very prominent in Daakaka's system of adnominal possession. Looking ahead, I can show that the idiosyncratic strategy (transitiviser morpheme in Daakaka (44)) covers a similar set of relations as the marker *ka-* in Saliba. It appears that relations like 'area of operation' and 'purpose/determination' are very prominent in Oceanic cultures. Lynch (1974) and Palmer (2008) describe these relations under general notion of "passive possession".

(44) Daakaka

a. vis=ane tes
bow=TRANS sea
'harpoon' (lit. 'bow of the sea')

b. mees=ane padó=an
food=TRANS fish=NOM
'food for fishing'

As I explained above, the test case in order to decide between the two possible analyses is the availability of contextually determined relations either for direct marking of possession or for the constructions that involve the possessive modifier *yo*. Somewhat indirect evidence in favour of analyzing *yo* as an overt realization of the free variable comes from the diachronic data from Tolai, as discussed below. Mosel (1984) shows that in Tolai, a language that makes use of two possessive modifiers, similarly to Saliba, one of the possessive modifiers has broadened its range of application with time, becoming more and more productive. This development could be expected for the non-idiosyncratic strategy.

Tolai. Marking strategies in traditional Tolai are somewhat similar to what we find in Saliba. Mosel (1984: 48) mentions that modern Tolai has undergone a number of innovations; I will discuss them below. Similarly to Saliba, Tolai has three strategies to express possession: direct attachment of the possessor clitic to the possessed and two possessive modifiers, *a-* and *ka-*. As I couldn't find an example of a single noun that can appear possessed with the three strategies, I can only provide minimal pairs, but no triples. In (45), I show two possessive constructions with the noun 'egg': direct attachment of the possessor clitic in (45a) and use of the possessive modifier *a-* in (45b).

(45) Tolai (Mosel 1984: 45)

a. ra kiau=i=diat
ART egg=(poss)=their
'their (ant's) eggs'

b. r**a**=mamur kiau
POSS.CLFR=your egg
'your eggs (to eat)'

In (46), I show two possessive constructions with the noun *vudu* 'banana'; in (46a), the possessive modifier is *a-* and in (46b), the possessive modifier is *ka-*.

(46) Tolai (Mosel 1984: 37)

a. **a**=na vudu
POSS.CLFR=his banana
'his banana' (determined for him, not necessarily owned by him)

b. **kau**=gu vudu
POSS.CLFR=my banana
'my banana' (ownership: "Who is eating MY banana?")

Note that in (46a) the relation between the possessor and the banana is determination, probably derived from the lexical feature [food]. In (46b), the possessor is interpreted as the owner of the banana. The possessive modifier *a-* can also describe a relation between a weapon and its victim and emotions of which the possessor is the object. Compare the pair in (47). In (47a), the possessive modifier *a-* (*ra-*) is used to refer to a relation between a club and its victim (the pig its meant to hit); in (47b) the possessive modifier is *ka-* is used to refer to an ownership relation between the possessor and the spear.

(47) Tolai (Mosel 1984: 38)

a. ma dir rapu ia ma **ra**=na ram
and they hit it with POSS.CLFR=its club
'and they hit it (the pig) with its club'

b. ma dia ga mar **ka**=dia rumu
and they TA decorated POSS.CLFR=their spear
'and they decorated their spear'

It appears that the two possessive modifiers in Tolai cover a similar range of relations as possessive modifiers in Saliba. While *a-* is compatible with lexically predetermined relations derived from the lexical semantics of the possessed noun, *ka-* is compatible with relations of ownership. Mosel (1984: 35-37) points out that the choice of *ka-* is often interpreted as the possessor having control over the relation with the possessed; it might be ownership, as (45b); it might be authorship (a name given by me) or the choice to live somewhere (my village). For instance, in (48a), the relation between the possessor and the name is such that the possessor has control over it. In (48b), the direct attachment of the possessor clitic to *iang* 'name' is shown.

(48) Tolai (Mosel 1984: 35-44)

a. **ka**u=gu iang
POSS.CLFR=my name
'my name (given by me)'

b. a iang=i=gu
art name-(poss)=my
'my name'

According to Mosel (1984: 34-37), in traditional Tolai, the possessor in *ka-* constructions is always animate. The possessive modifier *a-* is often used to

mark possession of body parts and kinship terms. With inanimate possessors, the relation between the possessor and the possessed can be one of function, as show in (49) for 'nail' and 'key'.

(49) Tolai (Mosel 1984: 38)

a. a ot e ra bok
art nail POSS.CLFR+POSS.M art box
'a nail for (nailing) the box'

b. a ki e ra pal
art key POSS.CLFR+POSS.M art house
'a key for (unlocking) the house'

The examples from traditional Tolai resemble the examples in Saliba and can probably be analyzed in the same way. The examples from Tolai are interesting because they seem to provide some insights into a historical development of marking strategies. Mosel (1984: 46) points out that the system of traditional Tolai has undergone considerable changes; in modern Tolai, the distribution of the possessive modifiers is different from the system described above. The major difference, according to Mosel (1984: 46), is that in modern Tolai, the possessive modifier *ka-* has broadened its range of applications. The modifier *ka-* seems to be becoming a productive marker of possession. For instance, English loanwords usually appear possessed with the possessive modifier *ka-*, independently of their semantics; compare (50).

(50) Tolai (Mosel 1984: 48)

a. **kau**=gu cousin
POSS.CLFR=my cousin
'my cousin'

b. a provincial minister **ka**-i education
dem provincial minister POSS.CLFR-poss.m education
'a provincial minister of education'

According to Mosel (1984: 48), another change in the distribution of *ka* is that it is used with inanimate possessors, like 'stone' in (51).

(51) Tolai (Mosel 1984: 49)

a mamat **ka**-i ra vat
art weight POSS.CLFR-poss.m art stone
'the weight of the stone'

It appears that that the possessive modifier *ka-* in modern Tolai is on the path of grammaticalization to becoming an underspecified possessive marker. The plausible analysis then is to attribute *ka-* the semantics of a relational variable without presuppositional restrictions. In (52a), I analyze *ka-* as an overt realization of a free relational variable.

(52) a. **kau**=gu vudu
POSS.CLFR=my banana
'my banana (ownership: "Who is eating MY banana?")'
b. $[\![\text{ka}]\!]^g = [\![\text{Rfree}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The possessive modifier *a-* in (53) corresponds to those relations that are systematically derived from the possessed noun and thus resembles the idiosyncratic strategy from chapter 2.

(53) a. **a**=na vudu
POSS.CLFR=his banana
'his banana (determined for him, not necessarily owned by him)'
b. $[\![\text{a}]\!]^g = [\![\text{Rp2}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a P-based relation
c. $[\![\text{PossSpec}]\!]([\![\text{a}]\!]^g)([\![banana]\!]) = \lambda x \lambda y.banana(y)\&R_{food}(x,y)$

The analysis I propose for Tolai is schematically shown in table 3.5.

Marking strategy	Interpretive strategy	Semantic composition	Relation
$\emptyset_{Poss}$	Idiosyncratic_1	$\text{PossSpec(Rp1}_i\text{)}$ *Rp1* is an empty pro-form	stereotypical P-based relation
$\emptyset_{Poss}$+ *a*	Idiosyncratic_2	$\text{PossSpec(Rp2}_i\text{)}$ *Rp2* is spelled-out as *a*	P-based relation (derived from a different feature than *Rp1*)
$\emptyset_{Poss}$ + *ka*	Non-idiosyncratic	$\text{PossSpec(Rfree}_i\text{)}$ *Rfree* is spelled-out as *ka*	contextually provided relation

Table 3.5: Marking strategies in Tolai

It might be that the system of adnominal possession in Rapa Nui discussed in chapter 2 is the next stage of such development; the direct possessive construction disappears and the two possessive modifiers occur in semantic opposition as an idiosyncratic and a non-idiosyncratic strategy to mark possession. An interesting empirical question is what will become of direct attachment of the possessor as in (45a) and how this strategy will participate in the pragmatic competition.

3.2.4 Conclusion

In this section, I discussed languages that make use of possessive modifiers. The languages under discussion were Panare, Bororo, Paamese, Mussau, Saliba and

Tolai.[12]

I grouped these languages under the label of uniform marking strategies. By uniform, I mean that there is no semantic opposition between idiosyncratic and non-idiosyncratic strategies as discussed in chapter 2. However, the selectional requirements of various nouns within one language differ. While some nouns can appear possessed directly, most require the mediation of a possessive modifier.

I proposed a general analysis for this group of languages as involving a uniform possessive marker *PossSpec* that takes a relation as its argument. For the possessive modifiers, I proposed that the possessive modifiers are overt realizations of the relations between the possessor and the possessed. In addition, I discussed a gradation between possessive modifiers that correspond to specific relations and modifiers that correspond to more abstract underspecifed relations. On the basis of Saliba and Tolai examples, I argued that in some languages variables that range over relations can be spelled out overtly as distinct morphemes. In this sense, Saliba and Tolai resemble languages with the (non)idiosyncratic split, as discussed in chapter 2. It is plausible that over time, possessive modifiers might develop into possessive markers, so that the semantics of such markers would involve variables over relations.

3.3 Combining (non)-idiosyncratic marking and modifiers

In this section, I discuss a different type of system from that in section 3.2. The languages in this group show semantic opposition between idiosyncratic and non-idiosyncratic strategies. Next to this opposition, the languages have a system of possessive modifiers. Thus, this group of languages shows features of both the systems discussed in chapter 2 and the systems discussed in section 3.2.

[12]There is one language that resembles type 1 structurally, but I did not include it in the discussion. Tariana (Arawak) has a rich system of possessive classifiers, as described in Aikhenvald (2003: 133-137) and Aikhenvald (2000: 131-132). However, it is not quite clear from the description whether they function in the same way as modifiers in the other languages described in this section. The morphemes in Tariana seem to classify the possessed noun, but not the relation between the possessor and the possessed. As shown in (i), the classifier morpheme provides information about the category of objects to which the possessed belongs (house, round thing). In both cases, according to Aikhenvald (2003), the possessed noun can even be omitted, as it is recoverable from the context.

(i) Tariana (Aikhenvald 2003: 134)

a. nu-ya-dapana (panisi)
lsg-POSS-CL:HOUSE (home)
'my home'

b. nu-ya-da (nhuwi-da)
lsg-POSS-CL:ROUND (head-CL:ROUND)
'my head (lit. my round one)'

Therefore, I did not include Tariana in the discussion of type 1 languages.

Theoretically, there are three options for possessive modifiers. They could either form a subclass of idiosyncratic possessive marking or they could pattern with non-idiosyncratic possessive marking. The third option is that possessive modifiers not pattern with either of the strategies. Only the first option is empirically supported by the data in my sample. In section 3.3.1, I discuss several languages in which possessive modifiers present a subpart of the idiosyncratic strategy. These languages are Chontal (Mayan), Yucatec (Mayan), Nêlêmwa, and Hidatsa. I was unable to find convincing examples of the second logical type, possessive modifiers that pattern with non-idiosyncratic marking; however, in section 3.3.2 I discuss some potential candidates for this type. The third logical type, possessive modifiers that do not pattern with either idiosyncratic or non-idiosyncratic strategies, was not attested either. It remains a question for further research whether this interaction between possessive modifiers and the idiosyncratic strategy are systematic or if they should be seen as a coincidence resulting from the limitations of my data sampling.

3.3.1 Possessive modifiers as part of idiosyncratic marking

In this section, I discuss marking strategies in Chontal, Yucatec, Nêlêmwa and Hidatsa. Because possession in Mayan languages is described in detail, I first discuss possessive modifiers in two Mayan languages, Yucatec and Chontal. I show my analysis at work through the example of Yucatec Mayan. Then I show that we find similar systems in Chontal, Hidatsa (Siouan) and Nêlêmwa (Austronesian).

As I mentioned above, languages in this section not only make use of possessive modifiers, but also show semantic opposition between idiosyncratic and non-idiosyncratic strategies. Morphologically, possessive modifiers pattern together with the idiosyncratic strategy. As I show below, this results in the broadening of the idiosyncratic domain. The idiosyncratic marking becomes compatible not only with those relations that are systematically derived from the salient features of the possessed nouns, as we saw in chapter 2, but also with those relations that can be overtly expressed by the possessive modifiers. As a result, the non-idiosyncratic domain shrinks. As we see, for instance, in Yucatec, non-idiosyncratic marking is used primarily for inanimate possessors.

Yucatec. [13] There are two main marking strategies in Yucatec. One involves juxtaposition of the possessor and the possessed, and the other involves an additional suffix, *-il/-el* (Lehmann 2002: 49). Alternation of the marking strategy

[13]The proposed analysis for Yucatec and Chontal is extremely simplified. In the studies of Mayan languages, an important role is attributed to syntactically relational nouns (the obligatorily possessed nouns). As the focus of this section are possessive modifiers, I do not take this contrast into account. However, see my remarks about a possible alternative analysis of Mayan in the footnotes to section 3.3.2.

gives rise to a meaning effect, as shown in in (54). In (54a), the relation between the possessor and *xba'y* 'bag' is ownership, and in (54b), the relation is 'determined-for/container'.

(54) Yucatec (Lehmann 2002)
a. in xba'y
poss.1sg bag
'my bag'
b. u xba'y-**il**
poss.3 bag-REL
'its (for clothes) bag'

This asymmetry between the two strategies, the one without an overt morpheme and the one with the suffix *-il/-el*, resembles morphological markedness discussed in chapter 2. I analyzed the juxtaposition in (54a) as an idiosyncratic strategy involving a covert possessive morpheme -$\emptyset_{Poss}$. The suffix *-il/-el* in (54b) is analyzed as a non-idiosyncratic morpheme. The strategies are schematically shown in (55). Below, I elaborate in more detail on the relations that the two strategies can express.

(55) a. 1sg-[bag-$\emptyset_{Poss}$]
b. 1sg-[bag-[$\emptyset_{Poss}$-**il/-el**]]

The idiosyncratic strategy in Yucatec is quite productive. It is used to express possession with various nouns, including some body parts, kinship terms, and parts of wholes, as shown in (56). Some nouns that make use of this strategy are obligatorily possessed, while some can appear on their own.[14]

(56) Yucatec (Lehmann 2002)
a. in tàatah
poss.1sg father
'my father'
b. in chi'
poss.1sg mouth
'my mouth'
c. in k'áat
poss.1sg wish
'my wish'
d. in xba'y
poss.1sg bag
'my bag'

[14]In the studies of Mayan languages, such as (Lehmann 2002), an important role is attributed to the obligatorily possessed nouns, as syntactically relational. However, I do not discuss relational nouns in this chapter. The role of relational nouns in possessive marking will be discussed in detail in chapter 4.

e. u ba's-o'b
poss.3sg suitcase-PL
'his/their suitcase(es)'

The idiosyncratically marked possessor in Yucatec does not have to be animate, as show in (57) for parts of wholes.

(57) Yucatec (Lehmann 2002: 84,61)
a. u y-òokom
poss.3 0-pillar
'its (house) pillar'
b. u y-ìits
poss.3 0-resin
'its (tree) resin'

Not every noun in Yucatec can appear possessed with idiosyncratic marking. For instance, the word 'house', according to Lehmann (2002), always appears possessed with the additional suffix *-il*; see more examples of such nouns in (58). I interpret this observation as showing that some nouns cannot select for the idiosyncratic strategy due to their morphosyntactic specifications. This is an assumption I make throughout the thesis for those nouns that cannot combine with idiosyncratic possessive marking.

(58) Yucatec (Lehmann 2002: 59, 61,70)
a. in nah-*(il)
1POSS.1.SG house-rel
'my house'
b. u ha'-*(il)
poss.3 water-rel
'its (ice) water'
c. u y-àak'-*(il)
poss.3 0-liana
'its (house) liana'

The general lexical entry for the possessive marker I assume for Yucatec is the same *PossSpec* as in section 3.1.1. It is repeated in (59).

(59) $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y.\text{R(x,y)\&P(y)}$

As Yucatec has semantic opposition between idiosyncratic and non-idiosyncratic strategies, there are three possibilities for filling the R-argument of the possessive marker. If the R-argument of *PossSpec* is not provided overtly, it is filled by an empty relational proform *Rp* or *Rfree*. The values of the relational proform are determined by the assignment function *g*. For the covert possessive morpheme $\emptyset_{Poss}$, I assume the same lexical entry as *MaxSpec*. This is the idiosyncratic strategy in which the values of the relational proform *Rp* are re-

stricted by a presupposition. The relation has to be derived from the possessed noun P.

(60) $[\![\emptyset_{Poss}]\!] = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(x,y)\&P(y)$ defined iff g(i) is a stereotypical P-based relation

For the suffix *-il/-el*, I assume that the possible values of the relational proform *Rfree* are not restricted; (61) shows a lexical entry for *MinSpec*.

(61) $[\![\emptyset_{Poss}\text{-il/-el}]\!] = [\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(x,y)\&P(y)$ where g(i) is a relation

The corresponding derivations for the minimal pair with the possessed noun *xba'y* 'bag' in (54) are shown in (62). In (62a), I assume that the P-based relation for the noun *xba'y* 'bag' is 'own'. In (62b), the relation between *xba'y* 'bag' and the speaker (the possessor) can be derived from the context.

(62) a. $[\![\text{in xba'y-}\emptyset_{Poss}]\!] = [\![\emptyset_{Poss}]\!]([\![\text{xba'y}]\!])(\text{s}) =$
$\lambda P \lambda x \lambda y.\text{g(i)}_n\text{(x,y)}\&\text{P(y)}\ ([\![\text{xba'y}]\!])(\text{s}) =$
$\lambda x \lambda y$ bag'(y) $\&R_{own}(x,y)$

b. $[\![\text{in xba'y-}\mathbf{il}]\!] = [\![\emptyset_{Poss}\text{-il/-el}]\!]([\![\text{xba'y}]\!])(\text{s}) =$
$\lambda P \lambda x \lambda y.$ g(i)(x,y) $\&$P(y)$([\![$xba'y$]\!])(s) =$
$\lambda x \lambda y$ bag'(y)$\&R_{free}(x,y)$

The third possibility for filling the R-argument of the possessive marker in (59) is doing it overtly; the relation is then directly provided by a possessive modifier. It is not quite clear how many possessive modifiers Yucatec has; therefore, for the discussion, I will concentrate on the following three: *wo'ch* 'food', *àalak'* 'domestic animal' and *man* 'bought thing' (see Lehmann 2002: 66). As for the possessive modifier, I assume that it provides a relation for the R-argument of the possessive morpheme:

(63) $[\![\text{wo'ch}]\!] = \lambda x \lambda y R_{food}(x,y)$

As can be seen in the examples below, a possessive modifier can overwrite the stereotypical relation that would normally be derived by the idiosyncratic possessive marker. Compare the examples with the noun 'egg' in (64). The stereotypical relation for the noun 'egg' encoded by juxtaposition is creation, as in (64a). Therefore, as Lehmann (2002) points out, the use of the 1st person singular pronoun is only felicitous if the speaker is a hen; such a construction uttered by a human is considered funny. In order to express an ownership relation with an egg, the possessive modifier *wo'ch* 'food' can be used, as shown in (64b).

(64) Yucatec

a. u he'
poss.3 egg

'its egg' (the possessor is a hen)

b. in **wo'ch** he'
POSS.1.SG food egg
'my (food) egg'

If *PossSpec* combines with the possessive modifier, the R-argument is filled overtly, as shown in (65). Thus in my analysis, both *PossSpec* and *MaxSpec* correspond to a covert possessive morpheme, $\emptyset_{Poss}$. In one case, the R-argument is provided overtly; in the other case, it is filled by an empty relational proform *Rp*. The possible values of Rp are restricted by a presupposiiton.

(65) $[\![\emptyset_{PossSpec}]\!]([\![\text{wo'ch}]\!]) = \lambda P \lambda x \lambda y P(y) \& R_{food}(x, y)$

The full system of adnominal possession in Yucatec is schematically shown in table 3.6. The stereotypical relations are expressed by a covert possessive morpheme $\emptyset_{Poss}$; the combination of $\emptyset_{Poss}$ with a possessive modifier gives rise to specific relations like 'food' or 'domestic animal' encoded by the modifier. The suffix *-il* marks contextually determined free relations.

Marking strategy	Interpretive strategy	Semantic composition	Relation
$\emptyset_{Poss}$	Idiosyncratic	PossSpec(Rp_i)	stereotypical P-based relation
$\emptyset_{Poss}$+ *wo'ch*		PossSpec(R_{food})	food relation
$\emptyset_{Poss}$ + *àalak*		PossSpec($\text{R}_{dom.}$)	domestic animal relation
$\emptyset_{Poss}$ + *man*		PossSpec(R_{buy})	purchase relation
...			
$\emptyset_{Poss}$ + -il/-el	Non-idiosyncratic	PossSpec(Rfree_i)	contextually provided relation

Table 3.6: Marking strategies in Yucatec

In the system shown in table 3.6, idiosyncratic marking and non-idiosyncratic marking illustrate an interesting relationship. Yucatec has a rich system of possessive modifiers (food, domestic animals, things bought, etc.). Morphologically, these modifiers pattern with the idiosyncratic possessive marking. As the result, the idiosyncratic possessive marking covers a larger meaning space than what we saw in various languages in chapter 2. By contrast, the meaning space of the non-idiosyncratic marking in Yucatec is quite narrow. As there are morphological means to express various relations overtly, the semantic domain of underspecified non-idiosyncratic marking shrinks. As the result of this shrinking, the most prominent interpretations of the suffix *-il* involve relations with

inanimate possessors, shown, for instance, in (54b).

Below, I provide some examples of the relations that can be expressed by means of non-idiosyncratic marking. In (54b), I showed that the suffix *-il* can express relations like location. A similar example is shown in (66). In (66a), the relation between the possessor and the possessed *ùuk'* 'louse' is parasite-on. The possessor is an animate entity that suffers from the parasite. This relation is probably derived by the use of the idiosyncratic marking with the possessed noun *ùuk'*. In (66b), the relation between the possessor and the louse is different. The possessor *ho'l* 'head' is inanimate. It is probably not a sufferer of the parasite, but an exact location of the parasite on the sufferer's body (the child's head is the location of the lice). Therefore, the non-idiosyncratic marking is used for this relation.

(66) Yucatec

a. u y-ùuk'
poss.3 0-louse
'his (child's) lice'

b. [u y-ùuk'-**il**] u ho'l le pàal-o'
poss.3 0-lice poss.3 head def child-D2
'its lice, the lice of that child's head'

In (67), the contrast is between ownership and a part-whole relation. In (67a), the idiosyncratic marking is used to mark an ownership relation between an animate possessor and water. In (67b), the non-idiosyncratic marking is used to mark a relation between the sea and its water.

(67) Yucatec

a. in **w-o'ch** ha'
poss.1sg 0-CL.food water
'my water'

b. u ha'-**il** k'a'náab
poss.3 water-rel sea
'water of the sea'

In (68), a hierarchical relation between two humans is contrasted with an ownership relation. The idiosyncratic marking in (68a) derives the subordination relation from the possessed noun *yùum*, 'lord'. In (68b), however, the possessor is not a human, but a horse. Thus, the non-idiosyncratic marking is used for this relation between an animal possessor and its master.

(68) Yucatec

a. in yùum
poss.1sg master
'my lord'

b. u yùum-**il** le tsíimn-e'
poss.3 master-REL DEF horse-D3

'the owner of the horse'

In chapter 2, I already mentioned that what counts as a stereotypical relation is culture specific and might vary from language to language. It appears that nouns like 'meat', 'blood', 'skin' and 'bone' might pattern in various ways cross-linguistically, depending on which feature is the more salient one: [body part] or [material]. In Yucatec, as in other Mayan languages, the idiosyncratic marking seems to favour the [material] feature. In (69), the idiosyncratic strategy is used to express ownership; in (69b), the non-idiosyncratic marking receives a body-part interpretation.

(69) Yucatec

a. in bak'
poss.1sg flesh
'my meat' (which I possess)

b. in bak'-**el**
poss.1sg flesh-rel
'my flesh' (of my body)

The examples in (66), (67), (68) and (69) show that there is some diversity with respect to the relations that the non-idiosyncratic marking (*-il*) can express. At the same time, the range of these relations is not as broad as we saw, for instance, in chapter 2. To a large extent they are limited to relations with inanimate possessors, such as location or part-whole. I argue that the reason for this shrinking of the semantic domain of the non-idiosyncratic marking lies in the availability of the rich system of possessive modifiers. The possessive modifiers that pattern with the idiosyncratic marking allow for a large number of relations to be expressed overtly. This broadening of the idiosyncratic domain especially concerns those relations that involve animate possessors.

In a way, the system of possessive marking in Yucatec is very close to a system with multiple idiosyncratic markers shown schematically in (3) in section 3.1.4. The scheme is repeated in (70). If a language has multiple idiosyncratic strategies, one would expect that differences in relations expressed come from the markers. The relations should be constrained by the presuppositional restrictions of the markers.

(70) a. $\text{Poss}_1 = \ldots$ iff R_P is derived from the [kinship] feature of P, undefined otherwise

b. $\text{Poss}_2 = \ldots$ iff R_P is derived from [part-whole] feature of P, undefined otherwise

However, in Yucatec possessive modifier constructions, the differences in the relations come neither from the possessive markers nor from the possessed nouns. They are established compositionally. Instead of using multiple markers with various forms, Yucatec makes use of one idiosyncratic possessive marker and several possessive modifiers. The difference in the relation is thus expressed

overtly.

To summarize, in my analysis, adnominal possession in Yucatec involves semantic opposition between an idiosyncratic and non-idiosyncratic strategy. In addition, Yucatec has possessive modifiers which pattern with idiosyncratic marking. Because of the availability of the possessive modifiers, the idiosyncratic component in Yucatec can express various relations with fine-grained distinctions. As the result, there is a narrow range of meanings left for the non-idiosyncratic suffix *-il*. It is mostly used for location and part-whole relations. The possessor is commonly inanimate.

Chontal. The system of adnominal possession in Chontal (Mayan) seems to be very similar to what we find in Yucatec. As the available description of Chontal is much more limited than the description of Yucatec, I provide only a brief sketch below. For Chontal, Knowles (1984) mentions two morphosyntactic strategies to express possession, illustrated in (71). In (71a) we see juxtaposition of a possessive pronoun and the possessed noun; in (71b) there is an additional suffix, *-i(l)* (*-a(l)* or *-e(l)*), which attaches to the possessed noun. While in (71a), the relation between the possessor and the bed is probably derived from the lexical semantics of the possessed noun *č'en*, in (71a), the relation between the possessor 'corn' and the possessed noun 'bed' is more abstract. It is probably contextually determined.

(71) Chontal (Knowles 1984: 196-197)

a. kä č'en
A1 bed
'my bed'

b. [ʔu č'en-**a**] ʔišim
A3 bed-REL corn
'a bed (platform) for corn'

In addition, Knowles (1984) mentions the classifier *paʔ*, which I will call a possessive modifier. Consider the two examples with the noun 'fox' in (72). In (72a), there is a pet relation between the possessor and the possessed. In (72b), the relation between the possessor and the possessed is game, meant to be eaten. The construction in (72) involves the possessive modifier *paʔ* 'edible'. Note that (72) involves exactly the same morphology as the construction in (71a). The noun 'fox' is juxtaposed to the possessive pronoun, and there is no additional suffix *-i(l)*, either on the possessive modifier, or on the possessed noun 'fox'.

(72) Chontal (Knowles 1984: 195)

a. ʔu ʔah uč
A3 MG fox
'?his (domestic) fox'[15]

[15]Knowles (1984: 195) note that using a possessive construction as in (72a) in case of 'fox'

b. ʔa **paʔ** ʔah uč
A2 edible MG fox
'your fox for eating'

According to Knowles (1984: 195), the default interpretation derived for an animal in a possessive construction is a pet relation. The reason is probably the salient [animate] feature of the possessed noun. I hypothesise, that in Chontal the idiosyncratic strategy would derive a 'pet' relation from the [spirit] or [animate] feature of a noun denoting an animal. The minimal pair in (72) shows that in order to express a different relation than pet, a possessive modifier like *paʔ* can be used. As Chontal has an overt lexical item to mark edible relations, one would expect those relations not be expressed by means of non-idiosyncratic marking, as in (71b).

The system of adnominal possession in Chontal is summarized in table 3.7. It is very similar to the system that discussed above for Yucatec.

Marking strategy	Interpretive strategy	Semantic composition	Relation
$\emptyset_{Poss}$	Idiosyncratic	PossSpec(Rp_i)	stereotypical P-based relation
$\emptyset_{Poss}$ + **paʔ**		PossSpec(R_{food})	food relation
$\emptyset_{Poss}$ + *-i(l)/-a(l)/-e(l)*	Non-idiosyncratic	PossSpec(Rfree_i)	contextually provided relation

Table 3.7: Marking strategies in Chontal

Yucatec and Chontal are not the only languages in which possessive modifiers pattern with the idiosyncratic strategy. Below, I show that we find the same system of adnominal possession in Hidatsa and Nêlêmwa.

Hidatsa (Siouan). Marking strategies in Hidatsa resemble what we saw in Chontal Mayan; there is one possessive modifier specified to mark relations with food. There are two main strategies to mark possession, shown in (73a) and (73b). The strategy in (73a) involves a short form of the possessor prefix *m-/mii-*; the strategy in (73b) involves the long form *mada-*, which can probably be decomposed further. The only possessive modifier is *e'*, as shown in (73c); it is used to express a relation with food.

(73) Hidatsa (Park 2012: 339)
a. **mii**-sîba
1POS-intestine
'my intestine (inside my body)'

is somewhat strange, because 'fox' is usually undomesticated animal.

b. **mada**-sîba
1POS-intestie 'my intestine (that I am holding in my hand)'
c. **m-e'**-sîba
1POS-food-intestine
'my intestine / my sausage (that I am eating)'

According to Park (2012: 339), the possessive modifier *e'* 'food' seen in (73c) has been grammaticalized from the lexical verb *é* 'to own something'. As a possessed noun it means 'food'; compare (74). In order to mark *e'* 'food' as possessed, the short form of the possessor prefix is used, same as in (73a).

(74) Hidatsa (Park 2012: 344)
a. **m**-é'
1POS-food
'my food'
b. ∅-é
3POS-food
'his food'

The marking strategies in (73a) and (73c) are identical; they involve juxtaposition of the short possessor prefix and the possessed noun or the possessive modifier *e'* 'food'. In (73b), instead of the short prefix *m-/mii-*, the long form *mada-* is used to express possession. I assume that (73a) is an example of the idiosyncratic strategy, while (73b) is an example of the non-idiosyncratic one. Thus the strategy used to mark possession of food in (74) patterns with the idiosyncratic strategy. In Hidatsa, similarly to the languages discussed above, the idiosyncratic strategy involves a covert possessive morpheme, $\emptyset_{Poss}$-. As far as the non-idiosyncratic strategy is concerned, the possessive morpheme is probably a part of the long prefix *mada-*. I don't have enough data about the exact decomposition. The system of adnominal possession that I assume for Hidatsa is shown in table 3.8.

Marking strategy	Interpretive strategy	Semantic composition	Relation
$\emptyset_{Poss}$	Idiosyncratic	PossSpec(Rp_i)	stereotypical P-based relation
$\emptyset_{Poss}$ + é'		PossSpec(R_{food})	food relation
$\emptyset_{Poss}$ . . . *da-* (long form of the possessor prefix)	Non-idiosyncratic	PossSpec(Rfree_i)	contextually provided relation

Table 3.8: Marking strategies in Hidatsa

As there are not so many examples of alternations of marking strategies in

Hidatsa, it is difficult to say anything about the meaning of non-idiosyncratic marking. The prediction is that it won't be used to express relations with food, but it should be used productively for various relations between the possessor and the possessed, determined by the context.

Nêlêmwa. As shown in (75), in Nêlêmwa (Austronesian), there is competition between two marking strategies. One involves direct affixation of the possessor, as shown for *fwâhuk* 'tale, story' in (75a). The other involves an additional linker morpheme to express possession, as shown in (75b).[16]

(75) Nêlêmwa (Bril 2013: 81)
   a. fwâhuxa-**ny**
      story-1sg
      'my story' (of what I am)'
   b. fwâhuux-**i na**
      story-link 1sg
      'my story (that I know)'

[16]The presentation of the system of possessive marking is an oversimplification. Bril (2013) also mentions a construct state construction to express possession, as shown for *baex* 'bag' in (ia). The minimal pair in (i) shows semantic opposition between the construct state and the linker variant in (ib).

(i) Nêlêmwa (Bril 2013: 79)
   a. baex-a shuka
      bag-CONST sugar
      'a bag of sugar'
   b. baex-**i** na
      bag-LINK 1sg
      'my bag'

From the description provided in (Bril 2013), it is not quite clear whether the construct state and the juxtaposition construction in (75a) are in complementary distribution. I assume that it is the case and take the two strategies to be lexically determined allomorphs of each other; allomorphy is discussed in more detail in chapter 4. If the semantic contribution of the two strategies is not the same, Nêlêmwa might be a language with two idiosyncratic strategies with two different presuppositions, as discussed in section 3.1.4.

For the use of construct state and a possessive modifier, Bril (2013) shows the minimal pair in (ii). The same noun *miit* 'meat' receives two types of marking. In (iia), the relation between the possessor and the possessed is part-whole, while in (iib), the relation between the possessor and the possessed is food. According to my analysis of Nêlêmwa, the relation in (iia) is a stereotypical relation based on the semantics of the possessed noun 'meat'; in (iib), the relation is overtly provided by the possessive modifier *khoo* 'food'.

(ii) Nêlêmwa (Bril 2013: 79)
   a. **miir**-a puaxa
      meat-CONST pork
      'pork meat'
   b. khoo-ny **miit**
      food-1sg meat
      'my meat'

In addition, Nêlêmwa has 10 possessive modifiers which pertain to such domains as food, drinks, plants, baskets, animals, and weapons. Possessive modifiers can mark the relation between the possessor and the possessed overtly. Compare the example with the possessive modifiers *hoo* 'food' in (76a) and *kêâ* 'drink' and (76b).

(76) Nêlêmwa (Bril 2013: 67-78)

a. **hoo-ny** nok
food-1sg fish
'my fish (to eat)'

b. **kêâ-ny** wi
drink-1sg water
'my (drinking) water'

I assume that direct affixation of the possessor, as shown in (75a), corresponds to an idiosyncratic strategy. By contrast, the construction with a linker variant in (75b) corresponds to non-idiosyncratic marking. The possessive modifiers morphologically pattern with the idiosyncratic strategy, as shown in (76). Unfortunately, the data I have on Nêlêmwa does not include minimal pairs in which the same noun would appear possessed by a linker as well as in a possessive modifier construction. The prediction is that a linker construction with a noun like 'fish' or 'water' in (76) will give rise to a contextually provided relation, such that it cannot be expressed by one of the ten available modifiers. Although I can't test this prediction with Nêlêmwa, the expectation is that the linker is not used to express those relations that can be marked overtly by a possessive modifier. Thus, we don't expect to find the linker marking relations between the possessor and food. The system of adnominal possession I assume for Nêlêmwa is schematically shown in table 3.9.

Marking strategy	Interpretive strategy	Semantic composition	Relation
$\emptyset_{Poss}$	Idiosyncratic	PossSpec(Rp_i)	stereotypical P-based relation
$\emptyset_{Poss}$ + mod_1 ... $\emptyset_{Poss}$ + mod_{10}		PossSpec(R_{food}) ... PossSpec(R_{drink})	food relation ... drink relation
$\emptyset_{Poss}$+-*i* (linker)	Non-idiosyncratic	PossSpec(Rfree_i)	contextually provided relation

Table 3.9: Marking strategies in Nêlêmwa

Concluding remarks. In this section, I discussed languages that make use of possessive modifiers but also have semantic opposition between idiosyncratic

and non-idiosyncratic marking. In the four languages I discussed, the possessive modifiers pattern together with non-idiosyncratic marking. As the most detailed description I had available was for Yucatec Mayan, I discussed adnominal possession in Yucatec Mayan in most detail and provided an analysis for it. The examples from other languages seem to correspond to this analysis. However, in most cases, the data are scarce and more detailed studies are needed.

In section 3.2.3, where I discussed languages with uniform marking strategies, I showed for Saliba and Tolai that some possessive modifiers resemble variables over relations. In this section, I was unable to show any similar examples for possessive modifiers that pattern with the idiosyncratic strategy. The possessive modifiers discussed so far correspond to specific relations such as 'food', 'drink', etc. A logical question to ask is whether the reason that I was unable to provide other examples lies in my sampling. There may be a deeper reason for that as well. The fact that possessive modifiers discussed above pattern with the idiosyncratic strategy morphologically gives rise to the expectation that there are some systematic interactions between PossSpec and MaxSpec. The way the idiosyncratic strategy MaxSpec is defined, it contributes a stereotypical relation which is derived given the semantics of the possessed noun. One would expect the same principle to apply to possessive modifiers if they pattern with the idiosyncratic strategy morphologically. Underspecified, variable-like modifiers compatible with multiple relations are less expected.

3.3.2 Some residual cases

In section 3.2, I discussed languages that make use of single morphosyntactic strategy to encode possession; there is no semantic opposition between idiosyncratic and non-idiosyncratic marking. In section 3.3.1, I discussed languages of another type; these languages have semantic opposition between idiosyncratic and non-idiosyncratic strategies and make use of possessive modifiers as well. These modifiers are marked as idiosyncratically possessed nouns. A logical question would be whether there is a third group of languages, which make use of the non-idiosyncratic strategy when possessive modifiers are involved. Such a hypothetical system of possessive modifiers is shown in table 3.10.

We can compare this system, for instance, with the one I propose for Nêlêmwa in table 3.9. While in Nêlêmwa possessive modifiers morphologically pattern with idiosyncratic marking, table 3.10 presents a system in which possessive modifiers pattern with non-idiosyncratic marking.

So far, I have not encountered a system like this, although purely on structural grounds we see a marking pattern that resembles this system in a few languages.

For instance, a system that superficially looks like what is depicted in table 3.10 can be found in Maricopa (Hokan). As described in Gordon (1986), some Maricopa nouns are only marked for possession by juxtaposition with the possessor, while some nouns require an additional prefix, *-ny*. Compare the two

Marking strategy	Interpretive strategy	Semantic composition	Relation
Marker_1	Idiosyncratic	$\text{PossSpec}(\text{Rp}_i)$	stereotypical P-based relation
Marker_2+ mod_1	Non-idiosyncratic	$\text{PossSpec}(\text{R}_1)$	relation provided by modifier_1
Marker_2+ mod_2		$\text{PossSpec}(\text{R}_2)$	relation provided by modifier_2
Marker_2+ mod_3		$\text{PossSpec}(\text{R}_3)$	relation provided by modifier_3
Marker_2		$\text{PossSpec}(\text{Rfree}_i)$	contextually provided relation

Table 3.10: A hypothetical possessive modifier language

examples in (77) and in (78).

(77) Maricopa (Gordon 1986: 30-31)
   a. '-iishaaly
      1-hand
      'my hand'
   b. '-haav
      1-shirt
      'my shirt'

(78) Maricopa (Gordon 1986: 32)
   a. '-**ny**-va
      1-poss-house
      'my house'
   b. m-**ny**-kwr'ak
      2-poss-old.man
      'your husband'

There are two possessive modifiers in Maricopa. One, *hat* 'dog' is specified to relations with domestic animals, the other; *wish* is underspecified, it can be used to describe possession of any noun, especially those that can't appear possessed directly. Both possessive modifiers are marked with *-ny* as shown in (79).

(79) Maricopa (Gordon 1986: 33)

a. qwaqt '-**ny-hat**
horse 1-poss-dog
'my horse'
b. kwnho '-**ny-wish**
knife 1-poss-do
'your knife'[17]

Purely structurally, we have the system of encoding possession shown in table 3.10. Unfortunately, I don't have data to check the semantic contributions of the marking strategies. Gordon (1986) provides an example of the noun 'money' being possessed by means of the three strategies, as shown in (80). However, there is no discussion of the meaning differences between (80a), (80b) and (80c). If *wish* in (80c) is a possessive modifier like those discussed in this chapter, the prediction would be that there is pragmatic competition between the three strategies. One would expect that the same relations are not being expressed by distinct marking strategies. For instance, (80a) could be used to refer to money as one's 'salary' or 'price', while (80b) and (80c) would refer to money in someone's possession. However, I can't test any of those predictions.

(80) Maricopa (Gordon 1986: 33-34)
a. '-**shiyaal**
1-money
'my money'
b. '-ny-**shiyaal**
1-poss-money
'my money'
c. **shiyaal** m-ny-wish
money 1-poss-do
'my money'

A logical question to ask is why systems in which possessive modifiers pattern with non-idiosyncratic marking are rare. Is it a coincidence that my database does not include those languages or is there some deeper reason behind it? It seems to me that such systems are expected to be rare. The reason I think so is that the languages in question already make a distinction between idiosyncratic and non-idiosyncratic marking. The idiosyncratic marking corresponds to a set of stereotypical relations that are systematically derived from the lexical semantics of the possessed noun. The non-idiosyncratic marking, by contrast, is compatible with any relations whatsoever, including contextually provided relations. As I discussed above, the contribution of a possessive modifier is to make the relation between the possessor and the possessed explicit. It would be surprising if a language would make use of the non-idiosyncratic marker for this purpose.

[17]Gordon (1986: 34-35) treats *nywish* as one lexical item; it is a nominalized form of the verb 'to do'. Historically, it clearly includes the same prefix *ny-*.

In all of the languages seen in section 3.3.1, possessive modifiers are oriented towards human possessors. The relations they mark are usually very concrete, such as relations with domestic animals, relations with food, etc. Such concrete relations are expected to be found with idiosyncratic marking. By contrast, non-idiosyncratic marking is expected to be underspecified so that the relations between the possessor and the possessed can be derived from the context. Thus, if a language has semantic opposition between idiosyncratic and non-idiosyncratic strategies, possessive modifiers that pattern together with non-idiosyncratic marking are less expected than possessive modifiers that pattern with idiosyncratic marking.[18]

Another hypothetical system of possessive marking is shown in table 3.11. In this system, there are three distinct markers of possession; each of them corresponds to a distinct strategy: the idiosyncratic one, the non-idiosyncratic one and the one involving a possessive modifier respectively. Thus, the possessive modifier neither patterns with the idiosyncratic strategy nor with the non-idiosyncratic one.

Again, this kind of system remains unattested in my sample. Purely on structural grounds, a system that is somewhat close to what is shown in table 3.11 can be seen in Daakaka (Austronesian); see (3), repeated in (81). As I argue in chapter 4, the classifiers in Daaakaka are only compatible with the non-idiosyncratic strategy (linker). The three examples in (81) are instances of non-idiosyncratic marking.

(81) Daakaka (von Prince 2012b)

a. ∅-ok kuli
CL2-LINK.1POSS dog
'my dog'

b. em **m**-e Buwu
house CL1-LINK Buwu
'Buwu's house'

c. atuwo **s**-e Baeluk
basket CL3-LINK Baeluk
'Baeluk's basket'

In (82), I show the same noun (*atuwo* 'basket') as in (81c) with idiosyncratic marking *=ne*.

[18] There is a way to look at possessive marking in Mayan, such that possessive modifiers would correspond to non-idiosyncratic marking. This analysis would be similar to the one I propose for Movima in chapter 4. The main idea is to divide nouns into two classes, syntactically relational nouns that combine with the possessor directly and sortal nouns that combine with the possessor through mediation of a covert morpheme $\emptyset_{Possfree}$. The semantic opposition between the idiosyncratic and the non-idiosyncratic strategies would only involve the morpheme -$\emptyset_{Possfree}$ and the suffix *-il/el*. In addition, one would have to postulate a covert morpheme -$\emptyset_{PossSpec}$ that combines with a possessive modifier. More data is needed in order to see which morpheme in this case corresponds to a stereotypical relation and which corresponds to a free one. I leave this possible analysis as a question for further research.

Marking strategy	Interpretive strategy	Semantic composition	Relation
Marker_1	Idiosyncratic	$\text{PossSpec}(\text{Rp}_i)$	stereotypical P-based relation
Marker_2+ mod_1		$\text{PossSpec}(\text{R}_1)$	relation provided by modifier_1
Marker_2+ mod_2		$\text{PossSpec}(\text{R}_2)$	relation provided by modifier_2
Marker_2+ mod_3		$\text{PossSpec}(\text{R}_3)$	relation provided by modifier_3
Marker_3	Non-idiosyncratic	$\text{PossSpec}(\text{Rfree}_i)$	contextually provided relation

Table 3.11: Hypothetical possessive modifier language with three types of marking

(82) Daakaka (von Prince 2012a: 137)

atuwo=ne deli es swa
basket=TRANS egg black.ant one
'one bag of rice' (lit. 'a basket of eggs of the black ant')

However, there are two important differences between the system of possessive marking in Daakaka and the system depicted in table 3.11. First, I already showed in section 3.1.2 that the choice of possessive classifiers in Daakaka is lexically conditioned; the form of the classifier is exclusively determined by the class of the possessed noun and not by the relation between the possessor and the possessed. A noun can only appear possessed with one classifier; thus, for *atuwo* 'basket' it will always be *s-*. This is not what one expects for the system of possessive modifiers. If possessive modifiers mark the relation between the possessor and the possessed overtly, they should allow for alternations. Second, and most importantly, the non-idiosyncratic strategy in Daakaka always involves one of the three classifiers shown in (81). Thus, morphologically the classifier is not opposed to the non-idiosyncratic strategy; it is included in it.

Due to the lack of data I have to leave the question about systematic interactions between possessive modifiers and (non)-idiosyncratic strategies for future research.

3.3.3 Conclusion

In the first part of this section, I discussed several languages that show semantic opposition between idiosyncratic and non-idiosyncratic strategies, similar to what we saw in chapter 2. Next to this opposition, the languages have a system of possessive modifiers. These languages were Chontal, Yucatec, Nêlêmwa and Hidatsa.[19] I showed that in these languages the possessive modifiers pattern with the idiosyncratic strategy. In this case, a system with multiple possessive modifiers resembles a system with multiple idiosyncratic markers. However, this system is compositional: the relation between the possessor and the possessed is overtly expressed by a modifier; it is not a presupposition of a possessive marker. For Yucatec, I showed that due to the presence of the possessive modifiers, the idiosyncratic strategy can encode various fine-grained distinctions. This broadening of the idiosyncratic domain results in the narrowing of the range of application of the non-idiosyncratic strategy. For instance, the relations encoded by non-idiosyncratic marking are mostly those that involve inanimate possessors.

In the second part of the section, I discussed some residual cases. If a language that makes use of possessive modifiers shows semantic opposition between idiosyncratic and non-idiosyncratic strategies, there is a logical option that possessive modifiers pattern together the non-idiosyncratic strategy. However, I was unable to provide examples of such languages. I hypothesized that this is not a coincidence. On the one hand, the non-idiosyncratic marking is expected to be underspecified semantically and compatible with any relations whatsoever. On the other hand, the possessive modifiers are expected to ex-

[19]There is one language in the database that resembles this type structurally, Toba (Guaicuruan), as shown in (i). However, I did not include it in the discussion due to the insufficient data available. From the perspective of morphological markedness, there is a clear contrast between the marking strategies in (ia) and (ic). The marking strategy in (ic) involves an additional morpheme, *-n-*. The possessive modifier *lo* in (ib) does not take this morpheme. One could hypothesise that (ia) and (ib) are instances of idiosyncratic marking.

(i) Toba (Mesineo 2003: 129-138)

a. ya-teʔe
1sg-mother
'my mother'

b. ha-na i-lo wa:ka
fem-D 1pos-Clg cow
'my cow'

c. i-n-adoʔo
1pos-al-sombrero
'my sombrero'

However, Mesineo (2003) does not provide any examples of alternations. There is no evidence that the distinction between the three types of marking is not lexically predetermined allomorphy, similar to what we see in Baure. As the main principle behind the classification I propose is the meaning difference between marking strategies, one needs more data to determine whether Toba should be grouped with the type 2 languages or not. Alternations of marking strategies and possessive modifiers allow the meaning-based diagnostics of an idiosyncratic strategy.

press overtly various fine-grained relations such as 'food', 'instrument', etc. These two properties seem to be contradictory. Therefore, it is not surprising that we don't find possessive modifiers of the second type.

3.4 Conclusion

In this chapter, I showed how the analysis of idiosyncratic and non-idiosyncratic strategies that I proposed in chapter 2 can be extended to languages with more complex systems of marking strategies. In particular, I looked at languages that make use of so-called "possessive classifiers". I discussed some problems with this terminology. For instance, I showed that the choice of the lexical item called "possessive classifier" can be lexically predetermined for a given possessed noun, but it might also depend on the relation between the possessor and the possessed. Only in the second case are we are dealing with a meaning-based distinction. Following this discussion, I suggested looking in more detail at those "possessive classifiers" that allow alternations depending on the meaning of the possessive construction. I assigned the label "possessive modifiers" to them.

In order to extend the account proposed in chapter 2 to the languages that make use of possessive modifiers, I propose that possessive morphemes *MaxSpec* and *MinSpec* introduced in chapter 2 have internal structure. I proposed a uniform lexical entry for a possessive marker as shown in (83a). The *R*-argument slot of the possessive marker can be filled by an empty relational pro-form. The value for *R* is assigned by the context, by assignment function *g*. In the case of *MinSpec* *g*'s range is unrestricted; in the case of f *MaxSpec* it is restircted to certain prototypical relations derivable from the meaning of the possessed noun.

(83) a. $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y \text{R(x,y) \&P(y)}$
b. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!] = \lambda P \lambda x \lambda y . g(i)\text{(x,y)\&P(y)}$ defined iff g(i) is a stereotypical P-based relation
c. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!] = \lambda P \lambda x \lambda y . g(i)\text{(x,y)\&P(y)}$ where g(i) is a relation

In case there is an overt possessive modifier, it provides the relevant relation directly:

(84) $[\![\text{PossSpec}]\!]([\![\text{modifier}_{food}]\!]) = \lambda P \lambda x \lambda y .\ \text{P(y) \& R}_{food}\text{(x,y)}$

Languages that make use of possessive modifiers can be divided into two groups. Languages in the first group do not show a distinction in possessive marking. Despite the presence of possessive modifiers, the marking strategy in these languages is uniform. The possessive modifiers receive the same morphological marking as other nouns. The languages that were attributed to this group are Panare, Bororo, Mussau, Paamese, Saliba and Tolai. I showed that some

possessive modifiers correspond to specific relations, while some function more like variables over multiple relations. Thus, although the marking strategy is uniform, one might be able to see a reflection of the semantic opposition between idiosyncratic and non-idiosyncratic marking, similar to the one discussed in chapter 2. The data from Saliba and Tolai provide support for the analysis of *MaxSpec* and *MinSpec* as involving a covert variable over relations, as proposed in section 3.1.4. As examples from Tolai suggest, it is plausible that such possessive modifiers develop into possessive markers like the ones analyzed in chapter 2.

Languages in the second group display a distinction between idiosyncratic and non-idiosyncratic strategies. I discussed languages in which possessive modifiers morphologically pattern together with the idiosyncratic strategy. The languages in this group were Yucatec, Chontal, Nêlêmwa and Hidatsa. The examples I was able to find show that possessive modifiers in these languages correspond to specific relations. This correspondence is not unexpected given that idiosyncratic possessive marking is supposed to be specific; it derives stereotypical possessive relations from the salient features of the possessed nouns. I was unable to find languages in which possessive modifiers pattern with non-idiosyncratic marking. In my sample, there were also no languages in which possessive modifiers would require distinct morphology and pattern neither with the idiosyncratic nor with the non-idiosyncratic strategy.

As a concluding remark, one can note that the pragmatic competition described in chapter 2 can be seen in languages that make use of possessive modifiers in two ways. In languages that have a uniform marking strategy, pragmatic blocking can take place if there is a specific modifier to express a relation. Then, the underspecified marking strategy which is compatible with any relation whatsoever will be blocked for the same relation. In languages that show semantic opposition between idiosyncratic and non-idiosyncratic strategies, pragmatic competition leads to the narrowing of the non-idiosyncratic strategy. As there are possessive modifiers to express various fine-grained relations and those modifiers pattern with the idiosyncratic strategy, the range of application of the non-idiosyncratic strategy becomes restricted.

In the next chapter, I discuss other languages that make use of multiple marking strategies to express possession. In contrast to the languages discussed in this chapter, they do not make use of possessive modifiers. However, they have morphologically rich systems of possessive marking. I show how the system I proposed in chapter 2 can be extended to languages like Daakaka, Movima, Slave and Koyukon.

CHAPTER 4

Extending the proposal: multiple marking strategies

In chapter 3, I discussed the role of possessive modifiers in various systems of adnominal possession. I showed how the proposal I developed in chapter 2 can be extended to these systems. In this chapter, I illustrate other ways in which differences in expression of possession can come about.

I show that meaning-based distinctions in the expression of possession need to be distinguished from form-based distinctions. The chapter consists of several case studies. The systems discussed below appear to be complex on the surface; the expression of possession involves multiple formal exponents. For a number of cases, I show that despite superficial complexity, the systems can be reduced to a binary opposition, as discussed in chapter 2. The discussion is based on three languages: Yaitepec Chatino, Blackfoot, and Yine. For another set of cases, I show that they are indeed relatively complex. In particular, I discuss the role of relational nouns in the expression of adnominal possession. As I show below, relational nouns can give rise to meaning effects which are often similar to those discussed in chapter 2. The languages under discussion are Daakaka, Movima, Slave and Koyukon.

4.1 Introduction

Before I move on to the case studies, I briefly summarize the proposal I introduced in chapter 2 and chapter 3. I argued for a **meaning-based** distinction between two types of possessive strategies, the idiosyncratic strategy *MaxSpec* and the non-idiosyncratic strategy *MinSpec*. In chapter 3, I proposed a unified analysis for a possessive marker *PossSpec*, as shown in (1).

(1) $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y . R(x, y) \& P(y)$

The possessive marker *PossSpec* takes a relation R as its argument. In chapter 3, I argued, drawing on insights from possessive modifiers, that this relation can be provided explicitly. In case the relation is not provided overtly, the R-argument slot is filled by an empty relational pro-form, *Rp* in the case of *MaxSpec* and *Rfree* in the case of *MinSpec*. The corresponding lexical entries for *MaxSpec* and *MinSpec* are provided in (2).

(2) a. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y . g(i)(\text{x,y}) \& \text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y . g(i)(\text{x,y}) \& \text{P(y)}$ where g(i) is a relation

The values of the variable *Rp* are restricted by a presupposition. It is only compatible with those relations that are systematically derived from the semantics of the possessed noun P; it is thus semantically marked. The range of application of *MaxSpec* is determined by selectional requirements of the possessed nouns. The covert variable *Rfree* is compatible with any relation whatsoever, including relations provided by the context. There is no presupposition restricting its value.

The two strategies, *MaxSpec* and *MinSpec* are in competition with each other. The choice between them is determined by the general pragmatic principle *Maximize Presupposition* (Heim 1991). The speaker is forced to choose the lexical structure with the strongest presupposition if the requirements are satisfied. Thus, *MaxSpec* should be used for stereotypical relations, derived from the typical salient feature of *P*. If the speaker uses *MinSpec* for a noun that normally appears possessed with *MaxSpec*, the hearer can infer that the stereotypical relation does not hold. This semantic opposition between the two strategies corresponds to the intuition that alternation of possessive marking gives rise to a meaning effect which is best described as a change in the relation between the possessor and the possessed. The exact internal structure of *MaxSpec* and *MinSpec* doesn't play an important role in the discussion in this chapter. Therefore, I will sometimes use these labels to describe possessive strategies without referring to the underlying structure.

In chapter 3, I started a broader cross-linguistic investigation of possible systems of possessive marking. The question I asked then was whether semantic opposition between *MaxSpec* and *MinSpec* always has to be binary. Are systems with more fine-grained distinctions possible?

In line with the previous discussion, one might expect that there is a certain correspondence between the number of semantic distinctions and the number of formal exponents of possession. If a language has a more fine-grained distinction than just *MaxSpec* and *MinSpec*, we might expect to find more marking strategies than just two. For instance, if there are multiple idiosyncratic strategies like *MaxSpec* which involve distinct presuppositions on the relation between the possessor and the possessed, one might expect that these strategies correspond

to different morphemes. Consider the hypothetical example from chapter 3 in (3). Poss_1 is restricted to kinship relations, while Poss_2 is restricted to part-whole relations.

(3) a. $\text{Poss}_1 = \ldots$ iff R_P is derived from the [kinship] feature of P, undefined otherwise
b. $\text{Poss}_2 = \ldots$ iff R_P is derived from [part-whole] feature of P, undefined otherwise

However, this correspondence doesn't have to be strict. For instance, Poss_1 and Poss_2 might end up as homonymous morphemes. Similarly, in chapter 3, we saw that possessive modifiers can pattern together with idiosyncratic marking, even though they present different formal objects than possessed nouns. And the other way round, if a language has more than two marking strategies to express adnominal possession, it does not necessarily mean that there are semantic differences between these **marking strategies**. For instance, multiple marking strategies might be allomorphs of the same possessive marker.

As I already discussed in chapter 2 and chapter 3, there are two patterns of distribution that we find which reflect two possible correspondences between a form and a meaning-based distinction.

- Pattern of distribution 1: Lexically conditioned allomorphy. The marking strategies have different forms but their meanings are the same. The choice of the strategy is determined by **lexical restrictions** of the noun.

- Pattern of distribution 2: Differences in possessive relations expressed come from the possessive markers themselves. The semantic differences are lexically coded in possessive markers. The relations are constrained by the **presuppositional restrictions** of the markers.

The two patterns of distribution are schematically shown in table 4.1 as PD1 and PD2. Poss stands for a "possessive marker", while LC stands for "lexical class" of the head noun. Both patterns of distribution were already illustrated in chapter 2.

PD1	PD2
$\text{Poss}_1 \Leftrightarrow \text{LC}_1$ $\text{Poss}_2 \Leftrightarrow \text{LC}_2$	Poss_1/ $\text{Poss}_2 \Leftrightarrow$ LC

Table 4.1: Two patterns of distribution

In principle, nothing prevents a language that will show both patterns of distribution simultaneously. PD1 and PD2 can co-occur within one system. One expects such co-occurrence to result in a larger number of formal exponents, as shown in the hypothetical example in table 4.2.

Morpheme - lexical class	Meaning contribution
$Poss_1 \Leftrightarrow LC_1$	MaxSpec
$Poss_2 \Leftrightarrow LC_2$	MaxSpec
$Poss_3 \Leftrightarrow LC_{1/2}$	MinSpec

Table 4.2: A hypothetical language with both PD1 and PD2

In the first part of this chapter, section 4.2, I look in more detail at PD 1. This pattern is lexically conditioned allomorphy; it is shown schematically in (4). The choice of the possessive marker ($Poss_1$ or $Poss_2$) is predetermined by the lexical class of the possessed noun. Nouns that select for $Poss_1$ cannot appear possessed with $Poss_2$. However, despite the formal differences, the semantic function of the markers is the same. The choice of the strategy is determined by the **lexical restrictions** of the noun, but there are no meaning differences between the possessive markers as such.

(4) PD1

a. Possessor + $Possessed_1$ + $Poss_{Allomorph-1}$ = $Meaning\text{-}type_1$

b. Possessor + $Possessed_2$ + $Poss_{Allomorph-2}$ = $Meaning\text{-}type_1$
Any difference in the resulting interpretation should be attributed to the semantics of the possessed noun, not to the semantics of Poss

Despite the superficial complexity, these systems are relatively simple and can be reduced to an opposition between idiosyncratic and non-idiosyncratic strategies, as discussed in chapter 2, as shown in table 4.2. Consider, for instance, an example from Amele in (5). In (5), we see four different markers of 1sg possession: *-ni, -mi, -li, -i*. However, the use of these markers in Amele is predetermined by the possessed noun. Thus, 'wife' can never appear possessed with a 1sg marker other than *-ni*; no alternations are possible.

(5) Amele (Roberts 1987: 172-175)

a. aide-**ni** 'my wife'

b. ai-**mi** 'my tooth'

c. tana-**li** 'my father-in-law (for a man)'

d. as-**i** 'my grandparent/child'

In the second part of the chapter, section 4.3, I show that more fine-grained systems than those discussed in chapter 2 are indeed possible. As I show in more detail below, these systems can involve distinctions that are orthogonal to the distinction between PD1 and PD2 as discussed above. One of factors that will play an important role in section 4.3 is the distinction between relational and sortal nouns. Relational nouns have been already mentioned in chapter 1 where I discussed the semantics of possessive constructions in general, and

in chapter 2 where I discussed a weak link between relational nouns and the idiosyncratic noun class. For example, in Daakaka, we find at least three types of possessive marking, as shown in (6). As I discuss in detail in section 4.3.2, possessive marking as in (6a) is only available for syntactically relational nouns. By contrast, possessive marking that involves a transitiviser as in (6b) or a linker as in (6c) is only available for sortal nouns. The two strategies in (6b) and (6c) are in competition with each other. However, this competition does not involve the possessive marking in (6a).

(6) Daakaka (von Prince 2016)

a. ebya-**on**
wing.of-3SG.POSS
'its wing (chicken)'

b. **bura**=ne vyanten en=te
blood=TRANS person DEM=MED
'this person's blood'

c. **bura** ∅-e vyanten en=te
blood CL2-LINK person DEM=MED
'this person's (animal) blood'

Thus, in Daakaka, we see three types of possessive marking. Their distribution is determined by at least two factors: a semantic competition between *MaxSpec* and *MinSpec* and the syntactic relationality of the noun. I argue that the reason for the complexity of the systems like the one we see in Daakaka lies not only in the presuppositional restrictions of the markers, as PD 2 would suggest.

In chapter 2, I argued that although some relational nouns are commonly included in the idiosyncratic class, it is the possessive marker itself that contributes a relation between the possessor and the possessed. So far, we have looked at possessive markers which make a specific meaning contribution to sortal and relational nouns alike. For a noun, being relational was not a reliable predictor for idiosyncratic possessive marking. In this chapter, in section 4.3, I show that what looks like a possessive marker can also be a possessor argument that does not contribute a relational meaning on its own. In such cases, the relation is provided by the argument structure of the possessed noun (as is the case in (6a) with 'wing'). Relational nouns enter different kinds of relations with the possessor than sortal nouns. I discuss the meaning effects that we find in such systems. As it turns out, they can be very similar to the meaning effects discussed in chapter 2. The ultimate conclusion of this chapter is that caution is needed in the study of possessive constructions. Superficial structural similarities do not guarantee similarity in meaning, and superficial structural complexity does not entail semantic complexity. The chapter shows the importance of controlling for semantic factors in analyzing the possessive marking systems of languages.

4.2 Multiple marking strategies and allomorphy

In this section, I discuss languages with multiple marking strategies; on the surface, these systems look more complex than those discussed in chapter 2. However, I show that the meaning-based distinction between markers can be reduced to a binary opposition between idiosyncratic and non-idiosyncratic strategies. The multiple marking strategies should be analyzed as lexically conditioned allomorphs of either the idiosyncratic or the non-idiosyncratic strategy. Within each strategy, there is no meaning distinction between those forms. This pattern is described in section 4.1 as **Pattern of distribution 1**. The choice of the strategy is determined by the lexical restrictions of the possessed noun. First, in section 4.2.1, I provide an example of a language with multiple allomorphs of the idiosyncratic strategy, Yaitepec Chatino. In section 4.2.2, I provide a reverse example, a language with multiple allomorphs of the non-idiosyncratic strategy, Blackfoot. Finally, in section 4.2.3, I discuss Yine, a language that has multiple formal exponents of the idiosyncratic strategy as well as of the non-idiosyncratic strategy.

4.2.1 Multiple exponents of the idiosyncratic strategy: Yaitepec Chatino

As type 1, I describe languages in which the idiosyncratic strategy is formally expressed by multiple marking strategies. In other words, multiple formal exponents are lexically conditioned allomorphs of the idiosyncratic (semantically marked) strategy. As an example of this type, we can consider Yaitepec Chatino (Zapotecan branch within the Oto-Manguean family).

General description In Yaitepec Chatino, there are three ways of expressing adnominal possession. One involves juxtaposition of the possessor clitic and the possessed noun; the possessive morpheme is thus =∅. Another involves juxtaposition of the possessor clitic and the additional suffix *s-* on the possessed noun. The third possessive construction involves an inflecting preposition *ʔ...* which takes the person-number marking of the possessor. The juxtaposition strategy is shown for the noun *t7a* 'sibling' in (7). Note that the 3rd person pronoun clitic in Yaitepec is ∅.

(7) Yaitepec Chatino (Rasch 2002: 65)

a. t7a n
sibling 1sg
'my sibling'

b. t7a ∅
sibling 3sg
'his sibling'

Expression of possession with the additional prefix *s-* is shown in (8b) for 'shirt'. If a noun begins with *y*, *s-* changes into *x-*.

(8) Yaitepec Chatino (Rasch 2002: 68)
  a. yka7n
     shirt
  b. x-ka7n ∅
     poss-shirt 3sg
     'his/her shirt'

The third possessive construction with an inflecting preposition *7...*, is shown in (9). Due to the fact that the 3rd person in Yaitepec is ∅-marked, the preposition does not have an inflection in these examples.

(9) Yaitepec Chatino (Rasch 2002: 65)
  a. k7yu 7in ∅
     man of 3sg
     'her man'
  b. kwta 7in Liya
     cow of Maria
     'Maria's cow'

The range of application of the juxtaposition construction in (7), and the prefix *s-*, in (8b), is restricted by two relatively small classes of nouns, LC_1 and LC_2. According to Rasch (2002), nouns that appear possessed juxtaposed to the possessor and nouns that require mediation of *s-* are in complementary distribution. Thus, the LC_1 noun *t7a* 'sibling', can appear possessed by means of juxtaposition, as shown in (7); it doesn't take the prefix *s-* as the LC_2 noun *yka7n* in (8b) does. By contrast, the use of the preposition *7...*, as in (9), is productive. Most Yaitepec nouns require the mediation of the preposition *7...* to appear possessed. For instance, some of the kinship terms, such as 'father' or 'grandmother', can only be marked as possessed by the preposition *7...*. These nouns form a third lexical class, LC_3. Compare the examples of LC_3 in (10) with 'sibling', an example of LC_1, in (7).

(10) Yaitepec Chatino (Rasch 2002: 66)
  a. pa 7yan
     pa of.1sg
     'my father'
  b. na.xu7 7yan
     grandmother of.1sg
     'my grandmother'

While LC_3 nouns like 'father' and 'grandmother' in (10) can't appear possessed by means of juxtaposition or with the prefix *s-*, LC_1 and LC_2 nouns can appear possessed with the preposition *7...*. An example of such marking alternation

is shown for the LC_1 noun *kwten* 'nest' in (11).

(11) Yaitepec Chatino (Rasch 2002: 67)

a. kwten **n**
nest 1sg
'my nest (said by a bird)'

b. kwten 7ya**n**
nest of.1sg
'my nest (said by a child who found a bird's nest)'

Thus, while LC_3 nouns like 'father' or 'grandmother' do not leave the speaker any choice with respect to their possessive marking, LC_1 and LC_2 nouns, in principle, are compatible with two possessive constructions. The three ways of expressing possession are summarized in table 4.3.

Lexical class	Marking strategy + possessor
LC_1	∅ marker + possessor clitic
LC_2	prefix *s-* + possessor clitic
LC_1 + LC_2 + LC_3	preposition *7...* + possessor inflection

Table 4.3: Marking strategies in Yaitepec Chatino

Analysis The gist of the analysis I propose for Yaitepec Chatino is that both the possessor clitic and a combination of the possessor clitic with the prefix *-s* are allomorphic exponents of the idiosyncratic strategy. The preposition *7...* represents the non-idiosyncratic strategy.

This analysis is based on the meaning effect that alternations of possessive marking give rise to. Compare the examples in (12), with the possessed noun 'nest' and (13) with the possessed noun 'clothes'.

(12) Yaitepec Chatino (Rasch 2002: 67)

a. kwten **n**
nest 1sg
'my nest (said by a bird)' (juxtaposition)

b. kwten 7ya**n**
nest of.1sg
'my nest (said by a child who found a bird's nest)' (preposition)

In (12a), the possessor clitic is used for the relation between a bird and the nest. This relation can be described as a stereotypical relation between the nest and its creator. It is plausible that this relation is predetermined by the semantics of the possessed noun. In (12b), the inflecting preposition *7...* is used to mark the relation between a child and the nest. This relation is likely to be contextually determined; the nest was found by its possessor. Thus, the

alternation of possessive marking gives rise to a meaning effect, similar to the one we find for idiosyncratic and non-idiosyncratic strategies in chapter 2. On the basis of this meaning contrast, I suggest that (12a) corresponds to the idiosyncratic interpretation, while (12a) corresponds to the non-idiosyncratic one.

A similar minimal pair is provided for the prefix *s-* and the inflecting preposition in (13). In (13a), according to Rasch (2002: 68), the relation between the possessor and the clothes is "proper" ownership. By contrast, (13b) can be used to describe an accidental relation between the possessor and the possessed. For instance, it can be the clothes the possessor needs to wash. The way I interpret (13b) is that the relation between the possessor and the possessed can be contextually determined.

(13) Yaitepec Chatino (Rasch 2002: 68)

a. ∅ s-te7
3 s-clothes
'their clothes' (possessor clitic + *s-*)

b. te7 7in
clothes of.3sg
'her clothes' (preposition)

Thus, the alternation between possessive marking shown in (13) also gives rise to a meaning effect, similar to the one we find in the case of alternations between idiosyncratic and non-idiosyncratic strategies. There is a semantic opposition between the juxtaposition and the preposition *7...*, on the one hand, and the prefix *s-* and the preposition *7...*, on the other. Alternations between juxtaposition and the prefix *s-* are not possible; they are in complementary distribution. The lexical entries I propose for the possessive markers are shown in (14). For the juxtaposition strategy in (12a) and for the prefix *s-* in (13), I assume identical idiosyncratic semantics; the only difference between them results from the selectional restrictions of the possessed nouns. The prepositional marking strategy is the only truly productive strategy in Yaitepec, I assume that it is the non-idiosyncratic strategy that involves the semantics of *MinSpec*, as shown in (14c).

(14) a. $[\![\emptyset]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$
defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{s-}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$
defined iff g(i) is a stereotypical P-based relation

c. $[\![7\ldots]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The two idiosyncratic strategies come with a presupposition that the relation between the possessor and the possessed is systematically derived from the possessed noun. If the speaker chooses the non-idiosyncratic strategy for a noun

that normally selects for the idiosyncratic one, such as 'clothes' in (13b) or 'nest' in (12b), the hearer can infer that the stereotypical relation does not hold. Thus, in Yaitepec, there are two lexically predetermined allomorphic exponents of the idiosyncratic strategy. Both of them are in competition with the non-idiosyncratic strategy, as shown by the examples (12) and (13). I remain somewhat vague about the exact morphosyntax of the constructions; in particular, I don't make any claims about the correspondence between the morphemes *s-* or *ʔ...* and the internal structure of *MaxSpec* and *MinSpec*. I say nothing about the fact that the prefix *s-* attaches to the possessed noun, while the preposition *ʔ...* inflects for the person and number of the possessor.

As the table 4.4 shows, there is a split between idiosyncratic and non-idiosyncratic strategies in Yaitepec. The inflecting preposition *=ʔ...* is an exponent of the non-idiosyncratic strategy.

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	∅ marker + possessor clitic	idiosyncratic	stereotypical relations
LC_2	prefix *s-* + possessor clitic		
LC_3	preposition ʔ... + possessor inflection	non-idiosyncratic	unrestricted relations
LC_1 + LC_2 + LC_3			

Table 4.4: Opposition between idiosyncratic and non-idiosyncratic strategies in Yaitepec Chatino

An important property of the Yaitepec system of possessive marking that relates to the discussion of the idiosyncratic strategy in chapter 2 is the amount of morphological marking present. There is a clear difference in the amount of morphological marking between the two formal exponents of the idiosyncratic strategy, in (14a) and (14b). However, from the point of view of their semantic contribution, (14a) and (14b) can be seen as allomorphic exponents of each other. If one would try to identify the idiosyncratic strategy in Yaitepec purely by the amount of morphological material, it would have been only (14a). This asymmetry in the amount of morphological marking shows, once again, the importance of systematically controlling for semantic factors in analyzing the possessive marking systems of languages.

In the next section, I discuss a language with multiple allomorphs of the non-idiosyncratic strategy.

4.2.2 Multiple exponents of the non-idiosyncratic strategy: Blackfoot

As I show below, possessive marking in Blackfoot (Algonquian subfamily of the Algic language family) presents a "reverse case" of what we saw in Yaitepec Chatino. While the idiosyncratic strategy has only one formal exponent, the non-idiosyncratic strategy has two formal exponents.

General description. In Blackfoot, there are two forms of a possessor prefix, a short one, and a long one. An example of the short one, *n-* '1sg', is shown in (15a). An example of the long one, *nit-* '1sg', is shown in (15b).

(15) Blackfoot (Frantz 2009: 56, 70)

a. n-itana
1-daughter
'my daughter'

b. nit-sísttokimaatsisi
1-drum
'my drum'

The structure in (15a) is, in fact, a juxtaposition of the possessor prefix and the possessed noun. The long prefix is sometimes analyzed as consisting of two morphemes, the person-number marker and an infix *-it-*, as in Gruber (2013).[1] I will follow this decomposition analysis. Nouns that appear possessed with a short prefix can also appear possessed with the long one, as shown in (16) for the noun *o'tokáán* 'hair'.

(16) Blackfoot

a. amo **n**-o'tokáán
DEM 1-hair
'my hair'

b. amo **nit**-o'tokáán
DEM 1-hair
'my (clipping of) hair'

Some nouns that take a long prefix, in addition, take the suffix *-m*, as shown in (17) for 'rabbit'.

(17) **nit**-aaattsistaa-**m**-wa
1-rabbit-POSS-PROX
'my rabbit'(Bliss 2013: 191)

There are thus three lexical classes in Blackfoot. LC_1 nouns select for a short

[1]Gruber (2013) argues that the function of *-it-* is to restrict the interpretation of the pronominal referent to a specific temporal stage. I do not commit to a temporal interpretation of *-it-* and, for the purposes of this study, attribute it purely to possessive semantics.

prefix, LC_2 nouns select for a long prefix (a combination of the short prefix and *-it*), and LC_3 nouns select for a combination of the long prefix and the suffix *-m*. The distribution is summarized in table 4.5. I could not find minimal pairs that would show an alternation between the short prefix and a combination of the long prefix and the suffix *-m*.

Lexical class	Marking strategy + possessor
LC_1	$\emptyset$ (short prefix)
LC_1 + LC_2 + LC_3	*-it-* (long prefix)/ *-it-* (long prefix) + m

Table 4.5: Marking strategies in Blackfoot

The analysis. I assume that idiosyncratic marking in Blackfoot is realized in the form of the short prefix. The non-idiosyncratic marking involves the long prefix and, in some cases, the suffix *-m*.

Semantic competition between the two strategies is shown in (18). In (18a), the relation between the possessor and the hair is body-part. In (18b), the relation is ownership. Such a meaning effect, which can be described as a change in the relation between the possessor and the possessed, was discussed in detail in chapter 2 to illustrate the alternation between idiosyncratic and non-idiosyncratic strategies.

(18) Blackfoot
  a. amo **n**-o'tokáán
     dem 1-hair
     'my hair'
  b. amo **nit**-o'tokáán
     dem 1-hair
     'my (clipping of) hair'

As I mentioned above, I could not find minimal pairs that would show an alternation between the short prefix and a combination of the long prefix and the suffix *-m*. The reason might be that there are many lexical items with similar meanings but with different selectional requirements, as shown in (19) for two nouns that mean 'horse'.

(19) Blackfoot (Bliss 2013: 191)
  a. n-o'tas-wa
     1-horse-PROX
     'My horse' (that I own)
  b. nit-ponokaomitaa-m-wa
     1-horse-PROX
     'My horse' (that I've bet on)

However, I can rely on the claim in Ritter and Rosen (2011) and Bliss (2013: 195) that there is no meaning difference between the strategies with the long prefix and strategies that make use both of the long prefix and the suffix *-m*. They assume that all nouns that select a long prefix either select the suffix *-m* or a null allomorph of *-m*; thus *-m* is covertly present whenever the long prefix is involved.

I propose the lexical entries for Blackfoot shown in (20). The idiosyncratic strategy involves a short prefix (juxtaposition of the possessor and the possessed). The lexical entries for the non-idiosyncratic strategy in (20b) and (20c) are identical to each other. Following Ritter and Rosen (2011), I assume that the long prefix and the combination of the long prefix and the suffix *-m* are allomorphic exponents of the same (non-idiosyncratic) strategy. The non-idiosyncratic strategy (involving the semantics of *MinSpec*) has two allomorphic exponents, the long prefix, as in (20b), and a combination of the long prefix and the suffix *-m*, as in (20c). The choice between (20b) and (20c) depends on the selectional restrictions of the noun, but not on the marker.

(20) a. $[\![\emptyset\text{-}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g =$
$= \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{-it-}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

c. $[\![\text{-it-}\ldots\text{-m}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The meaning-based opposition in Blackfoot is between underspecified non-idiosyncratic strategies, such as in (20b) and (20c), and a maximally specific idiosyncratic strategy, as in (20a). It is shown in table 4.6.

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	short prefix (*n-*)	idiosyncratic	stereotypical relations
LC_2	long prefix (*nit-*) / long prefix + m (*nit-...-m*)	non-idiosyncratic	unrestricted relations
LC_3			
LC_1 + LC_2 + LC_3			

Table 4.6: Opposition between idiosyncratic and non-idiosyncratic strategies in Yaitepec Chatino

4.2.3 Multiple exponents of both strategies: Yine

Yine (an Arawakan language spoken in Peru) constitutes the most complex case discussed so far. It is an example of a language that has a split between idiosyncratic and non-idiosyncratic strategies as well as multiple allomorphic exponents for either strategy.

General description. Yine has multiple morphological means to express possession. The main distinction should be made between two formal ways of expressing possession, one that only involves a possessor prefix, and another that involves an additional suffix. The alternation is shown, for instance, in (25) for the possessed noun *çe* 'stick'. In (25a), no possessive suffix is used; possession is marked by the prefix *hi-* '3SG.MASC'. In (25b), possession is marked by the prefix *no-* '1SG' and the suffix *-te*.

(21) Yine (Hanson 2010: 110, 127)
   a. hi-**çe**
      3SG.MSC-stick
      'its stick'
   b. no-**çe**-te
      1SG-stick-poss
      'my stick-shaped object (pencil)'

As I argue below, the distinction between the two strategies is meaning based.

Both the possessor prefix and the possessive suffix in Yine have multiple allomorphic exponents. Three examples of the exponents of the 3SG.MASC are shown in (22). The prefixes are in complementary distribution. Thus, the noun *ayiçi* 'spine' selects for *r-* and cannot appear possessed with the possessor prefix *hi-*, etc.

(22) Yine (Hanson 2010: 115)
   a. r-ayiçi
      3SG.MSC-spine
      'his spine'
   b. ∅-palikler̶i̶
      3SG.MSC-nephew
      'his nephew'
   c. hi-yhale
      3SG.MSC-eye
      'his eye'

The full paradigm of the singulat possessor prefixes is shown in table 4.7. The choice of a prefix for a particular noun is conditioned partially phonologically and partially lexically. For instance, kinship terms, as well as nouns that begin with *h-*, commonly select prefixes of class 1. For more details, see Hanson (2010:

115).[2]

	Prefix-class 1	Prefix-class 2	Prefix-class 3
1sg	n-	n-	no-
2 sg	p-	p-	pɨ-
3 sg.masc	r-	∅-	hi-
3sg.fem	t-	t-	to-

Table 4.7: Allomorphs of the possessor prefixes in Yine

The possessive suffix has a number of allomorphic exponents as well; they are *-te, -ne, -re, -e, -le*. These possessive suffixes are in complementary distribution. A noun that selects for *-te* cannot appear possessed with *-ne* and vice versa. According to Hanson (2010: 119) the choice of a suffix is an interplay of semantic and morphophonological factors. The semantic generalizations are listed in table 4.8. The table is modified from Hanson (2010: 120). However, Hanson (2010: 119) notes that these generalizations should be seen more as tendencies than as regular rules. Some markers seem to be more phonologically determined than others, and some don't seem to fit any of the generalizations.

-te	residual class, most loanwords
-ne	human referents; high cultural relevance; utilized in important activities
-re	instrument nominalizations; a few others
-e -lɨ	nominalizations; a few others
-le -waka	nominalizations; at least one other, optionally

Table 4.8: Possessive suffixes in Yine (Piro)

There is no straightforward correspondence between the choice of the possessor prefix and the choice of the possessor suffix. For instance, in (23), I show three nouns that select for the suffix *-te*; however *eptʃi* 'axe' selects for the prefix of class 1, *kanawa* 'boat' for the prefix of class 2 noun and *sotlɨ* 'rock' for the prefix of class 3.

(23) Yine (Hanson 2010: 117-118)

a. r-eptʃi-te
3SG.MSC-axe-PSSD
'his axe'

b. ∅-kanawa-te
3SG.MSC-boat-PSSD
'his boat'

[2]Hanson (2010: 114)"the subclass of noun (alienable, inalienable, or kin) and the phonological shape of the (beginning of the) stem. Neither of these factors is sufficient in itself".

c. ∅-sotl~~i~~-te
3SG.MSC-rock-PSSD
'his rock'

As another example, both *lopiçe* 'smoking rack' and *tʃiç* 'land' select for the prefixes of class 3 (*no-* '1SG'), however they select different suffixes, *-re* and *-ne*, as shown in (24).

(24) Yine (Hanson 2010: 121-122)
a. no-lopiçe-re
1SG-smoking.rack-PSSD
'my smoking rack'
b. no-tʃiç-ne
1SG-land-PSSD
'my land, country'

Thus, a noun in Yine independently selects for a possessor prefix and (in some cases) a possessive suffix. Both prefixes and suffixes have multiple formal exponents; the selection is lexically determined by the possessed noun. If one were to determine lexical classes on the basis of possessor suffixes, there would be three classes, as shown in the upper rows of table 4.10. However, if one used possessive suffixes to determine lexical classes in Yine, the result would be five other classes, as shown in the lower rows of table 4.9.

Lexical class	LC_{x1}	LC_{x2}	LC_{x3}
Possessor prefix	Class 1	Class 2	Class 3
1sg	n-	n-	no-
2 sg	p-	p-	p~~i~~-
3 sg.masc	r-	∅-	hi-
3sg.fem	t-	t-	to-

Lexical class	LC_{y1}	LC_{y2}	LC_{y3}	LC_{y4}	LC_{y5}
Possessive suffix	$Poss_1$	$Poss_2$	$Poss_3$	$Poss_4$	$Poss_5$
	-te	*-ne*	*-re*	*-e*	*-le*

Table 4.9: Summary: possessor prefixes and possessive suffixes in Yine (Piro)

The analysis. This distribution of the possessor prefixes and possessive suffixes discussed above shows that the distinction is purely lexical. There is no difference with respect to the meaning contribution of a particular prefix or suffix; one noun can select only one prefix and suffix. One can conclude that the prefixes in table 4.7 and the suffixes in table 4.8 are lexically conditioned allomorphs of each other.

However, as I pointed out at the beginning of the section, while the choice of the possessive suffix is lexically predetermined, the speaker can decide to use the suffix or not. The use of the suffix gives rise to a meaning effect, as shown, for instance, in (25). In (25a), no possessive suffix is used; possession is marked by the prefix *hi-* '3SG.MASC'; the relation between the possessor and the stick is part-whole. In (25b), possession is marked by the prefix *no-* '1SG' and the suffix *-te*. The relation between the possessor and the possessed is ownership.

(25) Yine (Hanson 2010: 110,127)

a. hi-çe
3SG.MSC-stick
'its stick'

b. no-çe-te
1SG-stick-PSSD
'my stick-shaped object (pencil)'

Similarly, the meaning effect is shown in (26). In (26a), no possessive suffix is used; the relation between the possessor and the possessed is body-part, a special case of part-whole. In (26b), the possessive suffix *-te* is used. The relation between the possessor and the possessed is ownership.

(26) Yine (Hanson 2010: 127, 156)

a. t-meçi
3SG.FEM-feather
'her feather (bird possessor)'[3]

b. to-meçi-te
3SG.FEM-feather-PSSD
'her feather (human possessor)'

I interpret the examples in (25) and (26) as showing that Yine has a split between idiosyncratic and non-idiosyncratic strategies. The idiosyncratic strategy involves a possessor prefix only. As I am not sure about decomposition, I refer to this strategy as juxtaposition (∅) in (27a). The non-idiosyncratic strategy involves one of the possessive suffixes *-te/-ne/-re/-e/-le*. The simplified lexical entries are provided in (27).

(27) a. $[\![\emptyset]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$
defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{-te/-ne/-re/-e/-le}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

[3]It is surprising that the possessor prefix is different in the two examples. In (25), both prefixes *hi-* and *no-* belong to the same class. I believe that there is a typo in (26a); the prefix should be *to-* and not *t-*. According to Hanson's (2010) classification *meçi* is likely to appear with a Class 3 prefix.

Thus, on the one hand, Yine has an extremely rich system of expressing possession. On the other hand, if multiple formal exponents of the same strategy are placed together, one can reduce the Yine system to a split between idiosyncratic and non-idiosyncratic strategies. Although the system looks very complicated superficially, it is not very different from the binary systems discussed in chapter 2. The semantic opposition between the two strategies is schematically shown in table 4.10. The two lexical classes (LC_1 and LC_2) shown in the table correspond to those nouns that can appear possessed without a suffix and those nouns that always require a suffix in a possessive construction.

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	possessor prefix (3 classes)	idiosyncratic	stereotypical relations
LC_2	possessor prefix (3 classes) + suffix (5 classes)	non-idiosyncratic	unrestricted relations
LC_1 + LC_2			

Table 4.10: Semantic opposition between strategies in Yine (Piro)

4.2.4 Conclusion

In this section, I discussed three languages with multiple marking strategies. On the surface, these systems look complex, but taking a closer look, one can reduce them to the binary opposition between idiosyncratic and non-idiosyncratic strategies discussed in chapter 2. I argued that some ways of expressing possession should be viewed as lexically conditioned allomorphy, not as a meaning-based distinction.

In the next section, I discuss languages with multiple marking strategies in which other semantic and formal factors play a role. In particular, an important factor is relationality of the possessed nouns. So far, the object of the study has been possessive markers which make a specific meaning contribution to sortal and relational nouns alike. In the next section, I discuss cases in which there is no possessive marker to contribute a relational meaning. A relation can be provided by the possessed noun itself, while the possessor simply fills the empty argument slot in this relation.

4.3 Multiple marking strategies and relational nouns

So far, starting from chapter 2, I discussed in detail one pattern of possessive marking. This pattern can be described as "same nouns, different possessive markers". I showed that in many languages, there is a semantic opposition between two strategies, an idiosyncratic one and a non-idiosyncratic one. As schematically shown in (28), the alternation of possessive marking gives rise to meaning effects which can be described as a change in relation. In the first part of this chapter, I showed that each of the two strategies might have multiple formal exponents. These formal exponents are best analyzed as lexically conditioned allomorphy. Thus, despite being superficially complex, the systems in the first part of this chapter can be reduced to binary oppositions, as shown in (28).

(28) a. Possessor+$\mathbf{Possessed}_1$+$\mathbf{Poss}_{allomorph1}$ = $\text{Interpretation}_{type1}$
b. Possessor+$\mathbf{Possessed}_2$+$\mathbf{Poss}_{allomorph2}$ = $\text{Interpretation}_{type1}$
Any difference in the resulting interpretation should be attributed to the semantics of the possessed noun, not to the semantics of Poss

The other pattern can be described as "different nouns, same possessive markers"; so far I have not talked about it much. We observe this pattern when a change in the interpretation takes place while the possessive marking stays the same. It is schematically shown in (29). Note that there is no additional marker Poss that contributes a different relation. The source of the meaning effect has to be located in the noun.

(29) a. Possessor + Possessed_1 = Interpretation_1
b. Possessor + Possessed_2 = Interpretation_2

In the second part of this chapter, I show that semantic opposition between the idiosyncratic and non-idiosyncratic strategies is not the only factor behind differential possessive marking. This part provides an important methodological lesson, as it shows that cross-linguistic variation within possessive constructions is deeper than first meets the eye. In order to analyze possessive marking in various languages, one needs to control for various semantic factors systematically.

In chapter 2, I showed that although there is a link between the relationality of nouns and their ability to take idiosyncratic marking, relationality is not a reliable predictor for the distribution of the possessive markers. In this part of the chapter, we see languages in which relational nouns play a more important role. I show that in some languages, for instance in Daakaka, in section 4.3.2, relational nouns do receive differential possessive marking. For Movima, in section 4.3.3, and Tanacross and Koyukon, in sections 4.3.4 and 4.3.5 I show

that although relationality is not an accurate predictor of a certain marking, it does affect the interpretation of a possessive construction.

This part of the chapter consists of four case studies that show that despite superficial structural similarity, the semantic contribution of morphological marking in a possessive construction can vary considerably. In particular, I show that the difference in meaning between two possessive constructions is not always a result of semantic opposition between two possessive morphemes (strategies), as we saw in chapter 2. It is not always the possessive marker that distinguishes one meaning from the other. There is one other important factor that influences the meaning of a possessive construction: the syntacto-semantic structure of the noun itself. For the languages discussed below, I show that we can understand the system of marking better if we make an initial distinction between sortal and relational nouns.

4.3.1 Relational nouns and possessive marking

In this section, I show that due to the interaction of various factors, we can find systems which are more complex than what I originally proposed in chapter 2. The existence of these systems does not undermine the proposed distinction between idiosyncratic and non-idiosyncratic strategies. As I show below, the opposition between the two types of markers can also be found within a complex system of marking strategies.

An important factor for the case studies below is the distinction between relational and sortal nouns. It has been already addressed in chapter 2, where I showed a loose link between idiosyncratic marking and relationality of nouns. Relationality of a noun is a syntacto-semantic criterion. Relational nouns are assumed to denote relations, while sortal nouns denote sets. A relational noun, in contrast to a sortal noun, has (a) further argument(s) in addition to the referential argument (Löbner 2011). Compare, for example, nouns like *sake* and *person*. In order to interpret *sake*, the existence of another object that stands in a specific relation to *sake* is required (*for John's sake*). In contrast, *person* does not entail the existence of an object in a specific relation to *person* (see Barker 2008 for more details). Sortal nouns, in a way, are the complement set of relational nouns and proper names. In cross-linguistic studies, good candidates for relational nouns are obligatorily possessed nouns. These nouns require that the possessor be realized within the same nominal phrase and don't appear "unpossessed" without additional morphological modifications (see, for instance, Löbner 2011).[4] One can see this syntactic property of a noun as a requirement of an overt saturation of an empty argument slot. In the typological literature, such nouns are often described as having bound roots.

[4]In the case of obligatorily possessed nouns, relationality appears to be not only a semantic, but also a syntactic property. In some studies, those properties are treated separately; for instance, Barker (2008) points out that a noun can be conceptually relational but "syntactically intransitive" like *stranger* (**the stranger of John*). Thus, relationality for Barker (2008) is purely semantic, while argument assignment is a separate syntactic criterion.

As a relational noun already denotes a relation, it is expected that by filling an empty argument slot the possessor enters a predetermined relation with the possessed. Thus, possessive constructions with relational nouns do not have to contain a possessive marker contributing a relation. With the help of a toy example, I show below the difference between the system of possessive marking that I developed in chapter 2 with the system that involves relational nouns. While comparing the two systems, I introduce the main formal tools that I use in the rest of the chapter. Before we move to the actual case studies, this toy example will demonstrate how various possessive relations can be expressed in a language that makes a systematic difference between relational and sortal nouns. For ease of comparison between the two systems, let's consider a toy example with a body part, *finger*. Let's assume that *finger*$_1$ is a syntactically relational noun in some language. As a relational noun, it does not denote of a property λy *finger(y)*, but a finger (a part-whole) relation between two entities. The corresponding lexical entry is shown in (30a) to be read as 'y is the finger of x'. In (30b), I show for comparison how the idiosyncratic strategy introduced in chapter 2 establishes a part-whole relation in a language in which *finger*$_2$ is a sortal noun (λy *finger(y)*).

(30) a. $[\![\text{finger}_1]\!] = \lambda x \lambda y.\text{finger-of(x,y)}$ (*finger*$_1$ as a relational noun)

b. $[\![\text{MaxSpec}_i]\!]^g$ ($[\![\text{finger}_2]\!]$) =
$= \lambda P \lambda x \lambda y.g(i)(x,y)\&P(y)$ ($\lambda z.$ finger(z)) defined iff g(i) is a stereotypical P-based relation =
$= \lambda x \lambda y.$ $\text{R}_{part-whole}(x,y)\&finger(y)$ (*finger*$_2$ as a sortal noun)

An important question is whether possessive constructions with relational nouns can also receive "free" interpretations, which are not part of the semantics of the possessed noun. For instance, if a relational noun denotes a part-whole relation, can such a noun enter a relation of ownership? Consider as a hypothetical example a recursive possessive construction with two possessors, like *my John's finger*. The context would be that several doctors, for some reason, are treating John's fingers. The relation between a doctor and the possessed noun *finger*$_1$ is different than the relation between John and his finger. For the part-whole relation between John and the finger, I assume that the relation is encoded in the relational noun *finger*$_1$ itself. For the contextually determined relation between the speaker (s) and the finger, I assume that it is established by the non-idiosyncratic strategy. In the English example, however, the differences between the two ways of establishing a possessive relation are not overtly reflected in the morphology. In (31a), I show that the argument of the relational noun *finger* is first filled by *John*. In (31b), *MinSpec* takes the whole possessive construction *John's finger* as its input. The whole recursive construction in (31c) corresponds to an entity which is a finger of John and which is involved in a contextually determined relation R_{free} with the speaker.

(31) a. $[\![\text{John's finger}_1]\!] = \lambda x \lambda y.\text{finger-of(x,y)(j)} = \lambda y.\text{finger-of(j,y)}$

b. $[\![\text{MinSpec}_i]\!]^g$ ($[\![\text{John's finger}]\!]$) =
$= \lambda P \lambda x \lambda y.g(i)(x,y) \& P(y)$ (λy.finger-of(j,y)) =
$= \lambda x \lambda y.finger-of(j,y) \& Rfree_n(x,y)$ where g(i) is a relation

c. $[\![\text{my John's finger}_1]\!] = [\![\text{MinSpec}_i]\!]^g$ ($[\![\text{John's finger}]\!]$)(s) =
$= \lambda y.finger-of(j,y) \& R_{treat}(s,y)$

It is not the case that the argument slot of a relational noun is always filled overtly. In the context of (31), a doctor could simply say *my finger* referring to John's finger that he is treating. If there is no overt argument of the relational noun present, most accounts seem to converge on the idea that establishing a free relation requires type-shifting. Usually a type-shifter is postulated, so that it shifts relations $\langle e, \langle e, t\rangle\rangle$ to properties $\langle e, t\rangle$. In (32a), the type shifter Ex from Barker (2008) is shown. In (32b), the type-shifting is illustrated for *finger*. Once the argument slot is closed off, as we see in (32b), the relational noun can enter a new possessive relation in a similar way as a sortal noun would. In (32c), MinSpec applies to the type-shifted *finger* and establishes a contextual relation between a possessor and someone's finger. In (32d), the possessor is the speaker.

(32) a. Ex = $\lambda R \lambda x.\exists y$ R(x,y)
b. $[\![\text{Ex}]\!]([\![\text{finger}_1]\!]) = \lambda x \exists y$. finger-of(x,y)
c. $[\![\text{MinSpec}_i]\!]^g([\![\text{Ex}]\!]([\![\text{finger}]\!])) =$
$= \lambda x \lambda y \exists z.finger-of(z,y) \& g(i)(x,y)$
d. $[\![\text{my finger}_1]\!] = [\![\text{MinSpec}_i]\!]^g$ ($[\![\text{Ex}]\!]([\![\text{finger}]\!])$)(s) =
$= \lambda y \exists z.finger-of(z,y) \& R_{treat}(s,y)$

In the cross-linguistic studies, some morphemes are commonly analyzed as being overt representations of the type-shifting operator Ex, illustrated in (32a). For example, we can consider the suffix *-i* in Wauja (Arawakan). In Wauja, *kupona-* 'name-of' is an obligatorily possessed noun, as shown in (33a). It is syntactically relational. A possessive construction containing the noun *kupona-*, as in (33b) can only encode a relation between the possessor and the name that is inherently his. In case a different relation needs to be accessed (possessor's ex-name), a special morpheme, *-i*, can be used, as shown in (33c).

(33) Wauja (Ball 2011: 329)
a. *kupona
intended: 'name'
b. o-kupona
3sg-name
'his name'
c. Kuponan-i iya-kehepeneeeeee kununu
name-UNPOSS 3-go.IRR.RESULT [sung vocalization]
'The name (that used to be yours) is leaving for good'

In line with the analysis shown above, one can argue that *-i* corresponds to

the Ex; it closes off the empty argument slot of 'name'. Thus, for the Wauja example in (33b), one can assume that the morpheme *i* is an overt realization of the type-shifter Ex, as in (32a); the formalization is shown in (61b).

(34) $[\![\text{kuponan-i}]\!] = [\![\text{Ex}]\!]([\![\text{kupona-}]\!]) = \lambda x \exists y.$ name-of(x,y)

Morphemes that are similar to *-i* in Wauja are common cross-linguistically, (see, for instance, Löbner 2011). However, some languages don't make use of such morphemes. In these languages, a relational noun has to appear with an overtly expressed possessor. The only way to establish a free relation with a relational noun in such languages is by using a recursive possessive construction, as shown in (31). A recursive possessive construction involves two overtly expressed possessors; one saturates the argument slot of a relational noun, the other enters a free relation with the possessed. Anticipating my later discussion in section 4.3.2, I show such an example from Daakaka in (35). In (35a), the relation between the possessor and the wing is part-whole. In (35b), the relation between the possessor and the wing that the speaker wants to express is ownership, 'my wing'. Nevertheless, the argument slot of the relational noun *ebya-* needs to be saturated, which is done by the third person possessive inflection *-on*; the result is a recursive construction 'my [its wing]'.

(35) Daakaka (von Prince 2016)

a. ebya-**on**
wing.of-3sg.poss
'its wing'

b. [∅-ok [ebya-**on**$_{pos1}$]$_{pos2}$]
CL2-1SG.POSS wing.of-3sg.poss
'my wing' (lit.: 'my it's wing')

As shown by the example from Daakaka, a recursive construction with a relational noun with a saturated argument slot can give rise to a meaning effect which can be described as a change in the relation. This meaning effect is very similar to the meaning effect I described in chapter 2. In (35a) the relation between the possessor (3S) and the possessed (wing) is part-whole. In (35b), the relation between the possessor (1S) and the possessed (wing) is ownership. However, this effect is achieved in a different way than that seen chapter 2. There is no semantic competition between two possessive markers, which contribute different relations. The argument slot of the possessed noun *ebya* 'wing' is overtly filled and a new relation is established with the whole possessive complex.

In the next sections, I present four case studies of possessive marking and show various ways in which the distinction between relational and sortal nouns can interact with the distinction between idiosyncratic and non-idiosyncratic strategies. The different systems of expressing possession are not incompatible with each other. The syntacto-semantic opposition between relational and sortal nouns can co-exist with the split between idiosyncratic and

non-idiosyncratic strategies, as we see, for instance, in Daakaka in section 4.3.2. I argue that to some extent a semantic opposition between idiosyncratic and non-idiosyncratic strategies can also be found in Movima, as described in section 4.3.3, and in Tanacross (and Slave), as described in section 4.3.4. Finally, for Koyukon, a language closely related to Tanacross and Slave, I argue in section 4.3.5 that there is no opposition between idiosyncratic and non-idiosyncratic strategies at all. Although in Koyukon, we do see meaning effects that can be described as a change in the relation, they are not caused by the alternation of possessive marking. The roots of the meaning effects lie in the syntacto-semantic properties of relational nouns and the mechanisms adopted for type-shifting. These four case studies show the importance of controlling for various semantic factors in cross-linguistic analysis. Despite the fact that we find somewhat similar meanings effects in the four languages, they can't be explained by a single unified analysis.

4.3.2 Distinct marking for relational nouns and (non)-idiosyncratic strategies: Daakaka

Possessive marking in one language can reflect the split between syntactically relational and sortal nouns as well as the split between idiosyncratic and non-idiosyncratic strategies. The two systems are not mutually exclusive; they can also interact with each other. Daakaka (Austronesian) is a good example of a language in which differential possessive marking is sensitive to relationality of nouns as well as to a semantic opposition between idiosyncratic and non-idiosyncratic strategies.

First, I provide a general structural description of the Daakaka system of possessive marking. This description is based on von Prince (2012a). After that, I present my semantic analyses of this system.

The description. According to von Prince (2012a), Daakaka has three major noun classes. I will refer to them as LC_1, LC_2 and LC_3. Those noun classes are primarily determined by the possessive marking. Two classes, LC_1 and LC_2, are relatively small. Nouns that belong to LC_1 and LC_2 are obligatorily possessed; they cannot form a grammatical noun phrase without an overtly expressed possessor. The exact morphological realization of the possessor differs for LC_1 and LC_2. Those nouns that belong to LC_1 ("inflected nouns" in von Prince 2016) require special inflection with a person-number marker of the possessor, as shown in (36a) for 'wing' (repeated from (35a)). Nouns that belong to LC_2 ("uninflected transitive nouns" in von Prince 2016) do not receive inflection. The possessor must be overt, but it can be is either a noun or a free pronoun, juxtaposed to the possessed, as shown in (36b) for 'cocoon'.

(36) Daakaka (von Prince 2016)

a. ebya-**on**
wing.of-3SG.POSS

'its wing (chicken)' (LC_1; possessive inflection)

b. bwee **nge**
shell.of 3SG
'his cocoon' (LC_2; juxtaposition)

The majority of nouns in Daakaka belong to LC_3. Nouns that belong to LC_3 do not require an overtly expressed possessor in order to form a grammatical noun phrase. They can appear on their own. There are two ways of expressing possession for LC_3 nouns. A possessive phrase can either be formed with the help of a "transitiviser" morpheme[5] as in (37a) or with help of a "linker" morpheme[6], as shown in (37b). The minimal pair in (37) with the noun *bura* 'blood' shows that alternations between those two types of marking are possible.

(37) Daakaka (von Prince 2016)

a. **bura**=ne vyanten en=te
blood=TRANS person DEM=MED
'this person's blood'

b. **bura** ∅-e vyanten en=te
blood CL2-LINK person DEM=MED
'this person's (animal) blood'

The LC_1 nouns refer to body parts and feelings; many of the LC_1 nouns are kinship terms. The LC_2 nouns are mostly parts of plants or parts of artifacts or abstract notions like 'end-of'; some of these nouns denote kinship terms and body parts. Note that many of the nouns that belong to LC_1 and LC_2 have counterparts that belong to LC_3. These counterparts have semantic features in common; however, the corresponding lexical roots are different. Compare the two nouns for 'mother' in (38). The noun *yas-* in (38a) belongs to LC_1 and the noun *naana* in (38b) belongs to LC_3.

(38) Daakaka (von Prince 2016)

a. **yas**-en
mother-3SG.POSS
'his mother' (LC_1; possessive inflection)

b. **naana** s-e temeli en=te

[5]The suffix *-(a)ne* is labeled "transitiviser" because the same morpheme is used to increase valency in intransitive verbs. For more details, see von Prince (2012a).

[6]The linker strategy involves a classifier (or a noun gender marker), which I discuss in more detail in chapter 3. Following von Prince (2016), I describe as "linker" constructions both nominal and pronominal strategies to express possession, even though the linker morpheme itself is only present in nominal strategies. In pronominal strategies, the possessive pronoun, such as *-an* '3s.poss' in (i), replaces the linker.

(i) ∅-an bosi
CL2-3SG.POSS bone
'his/ her bone'

mother CL3-LINK child DEM=MED
'the mother of this child' (LC_3; linker)

The information about the three noun classes and the corresponding marking strategies is summarized in the table 4.11. Note that LC_1 and LC_2 nouns do not allow any alternations with respect to their possessive marking. Thus, nouns from LC_1 are obligatorily marked for possession by means of inflection; they can't appear with a juxtaposed possessor, as LC_2 nouns do: **ebya nge*. Similarly, LC_1 can't have their possessor introduced by a linker or transitiviser, as LC_3 nouns: **ebya ∅-e...*, **ebya-ne...*.

Lexical class	LC_1	LC_2	LC_3
Overt possessor?	obligatory	obligatory	optional
Marking strategy + possessor	possessor argument possessor inflection	possessor argument juxtaposition	possessive marker LINK/TRANS
Marking alternations	no alternations possible	no alternations possible	alternations only between LINK and TRANS
Example	ebya-**on** wing.of-3SG.POSS	bwee **nge** shell.of 3SG	bura=**ne** vyanten blood=TRANS person bura **∅-e** vyanten blood CL2-LINK person

Table 4.11: Marking strategies in Daakaka

As LC_3 nouns form the only lexical class that allows for alternation of possessive marking, the distribution of the transitiviser and linker morphemes deserves special attention. In (37), I showed that both markers can apply to the same noun, such as *bura* 'blood'. Both marking strategies are very productive. However, there are a number of asymmetries with respect to their range of application. This asymmetry between the transitiviser and linker variant can be shown, for instance, for kinship terms. Von Prince (2016) points out that only the linker variant can mark possession of LC_3 kinship terms, as shown in (39a) for the noun *naana* 'mother'. It is not possible to use the transitiviser variant with the same noun, as shown in (39b).

(39) Daakaka (von Prince 2016)
a. naana s-e temeli en=te
mother CL3-LINK child DEM=MED

'the mother of this child'

b. *naana=ne temeli en=te
mother=TRANS child DEM=MED
Intended: 'the mother of this child'

Another observation von Prince (2016) makes is that the linker is common with animate possessors while the transitiviser is more common with inanimate ones. However, this generalization is not absolute. As shown in (40), a transitiviser can also be used to mark possession when the possessor is animate: '1sg' in (40a) and 'human' in (40b).

(40) Daakaka (von Prince 2016: 82)

a. syetantan=ane nye
grave=TRANS 1SG
'my grave'

b. ur=ane vyanten
louse=TRANS person
'human louse'

Finally, an asymmetry between the transitiviser and the linker concerns recursive possessive constructions. As shown in (41), it is possible to stack multiple possessors in one possessive phrase. LC_1 and LC_2 nouns like *ebya-* 'wing' or *sini* 'thorn' can appear in recursive possessive constructions. For instance, in (41a), one possessor (chicken), is expressed by the possessor argument *-on* '3sg.poss'. The possessed noun, 'wing' is a body part of this possessor. The second possessor (speaker) is expressed by means of a linker variant *∅-ok* 'CL2-1S.POSS'. The possessed noun, 'wing' is owned by this possessor. The two examples in (41) shows that a linker can be used to mark possession not only on nouns from LC_3, but also on the whole possessive phrase in which the head noun belongs to LC_1 or LC_2. As far as I understand from the description in von Prince (2016), a transitiviser cannot appear in such recursive constructions.

(41) Daakaka (von Prince 2016)

a. ∅-ok **ebya**-on
CL2-1SG.POSS wing.of-3SG.POSS
'my (chicken) wing', lit: 'my its wing' (repeated from (35b))

b. s-am **sini** ye wep
CL3-2SG.POSS thorn.of leaf.of pandanus
'the thorns of your pandanus leaves' (lit. 'your pandanus leaf thorns')

In table 4.12, I summarize some facts about the distribution of the transitiviser and the linker.

The analysis. From the distributional facts discussed above, I draw the following conclusions for my analysis. I follow von Prince (2016: 70) in assuming that both nouns in LC_1 and nouns in LC_2 represent syntactically relational

	LINK	TRANS
LC_3 nouns like 'blood', 'basket', etc.	yes	yes
LC_3 kinship terms	yes	no
animate possessor inanimate possessor	frequent very rare	rare frequent
recursive possessive constructions with LC_1 and LC_2 nouns	yes	no

Table 4.12: Daakaka; asymmetries between transitiviser and linker marking strategies

nouns. Von Prince 2016 shows that these two classes of nouns actually encode relations. Compare the examples with different nouns for 'hole' in (42). The relational noun *b-* 'hole-of' in (42a) can only refer to a relation between the hole and its inhabitant. The relational noun *booli* 'hole-in' denotes a relation between a hole and its location, while the relational noun *bwili* 'hole-left-by' denotes a relation between a stone and an object that created it. Note that the possessor noun *vyor* 'stone' is the same in the two examples; the only source of the difference in interpretation is the possessed noun itself.

(42) Daakaka (von Prince 2012a: 72-74; see also von Prince 2016)
   a. b-on
      hole-3SG
      'his/her hole (the hole he/she lives in)'
   b. booli vyor
      hole.of stone
      'a hole inside a stone, a stone cave'
   c. bwili vyor
      hole.of stone
      'a hole left by a stone'

Daakaka, in my analysis, has two classes of relational nouns, LC_1 and LC_2. These nouns are distinct semantically and morphosyntactically. They always receive distinct possessive marking, as summarized in table 4.12. The lexical entries for 'wing' and 'cocoon' are shown in (43). Note that I assign the same semantics to the nouns in LC_1 and LC_2. I assume that the differences in how the possessor argument is realized are due to the morphosyntactic properties of these nouns, not their semantics.

(43) a. $[\![\text{ebya}]\!] = \lambda x \lambda y.\text{wing-of}(x,y)$
   b. $[\![\text{bwee}]\!] = \lambda x \lambda y.\text{shell-of}(x,y)$

I assume that the nouns in LC_3 are sortal. Example (44), repeated from (37), shows an alternation between two types of marking for the noun *bura* 'blood', which belongs to LC_3. This example also shows that the alternation between the two marking strategies in (44) gives rise to a meaning effect, which can be described as a change in the relation. In (37a), the relation between the possessor and the blood is part-whole. In (37b), the relation is ownership. Such a meaning effect is characteristic of alternations between idiosyncratic and non-idiosyncratic strategies.

(44) Daakaka (von Prince 2016)

a. **bura**=ne vyanten en=te
blood=TRANS person DEM=MED
'this person's blood'

b. **bura** ∅-e vyanten en=te
blood CL2-LINK person DEM=MED
'this person's (animal) blood'

A similar minimal pair with the noun *atuwo* 'basket' is provided in (45). In, (45a), 'basket' is a container of its possessor, rice; the possessive phrase involves a transitiviser. In the linker construction in (45b), the relation between the possessor and the possessed is ownership.[7]

(45) Daakaka (von Prince 2016: 83)

a. **atuwo**=ne raes swa
basket=TRANS rice one
'a basket of rice'

b. **atuwo** s-e Baeluk
basket CL3-LINK Baeluk
'Baeluk's basket (a basket made by Baeluk; a basket owned by Baeluk)'

I argue that the linker and the transitiviser strategies represent the split between idiosyncratic and non-idiosyncratic strategies as discussed in chapter 2. In my analysis, the idiosyncratic strategy in Daakaka is the transitiviser strategy. As can be seen in examples (44a) and (45a), the transitiviser marks a relation between the possessor and the possessed that is more consistent with the semantics of the possessed noun. In (44a), the relation is part-whole (body-part) for 'blood'; in (45a), the relation is a container (for 'basket'). The examples in which the transitiviser appears with an animate possessor, such as (40), repeated in (46), show that the relation between the possessor and the possessed is lexically predetermined. Given the possessed noun 'grave' in (46a), the relation between the grave and the person lying in it is a stereotypical one. Similarly, the relation between a louse and the creature it inhabits in (46b) can

[7]Note that we find almost identical examples in Yucatec Mayan with 'basket' and 'louse'; see chapter 3. However, I assume that in Yucatec it is the ownership relation that is the idiosyncratic one.

be seen as stereotypical. As formulated in von Prince (2016), the constructions in (40) reveal the "essential properties" of the nouns 'grave' and 'louse'.

(46) Daakaka (von Prince 2016: 82)
a. syetantan=ane nye
grave=TRANS 1SG
'my grave'
b. ur=ane vyanten
louse=TRANS person
'human louse'

The corresponding lexical entries for the transitiviser and the linker are provided in (47). These lexical entries correspond to *MaxSpec* and *MinSpec*, as discussed in chapter 2. The transitiviser carries a presupposition; the relation between the possessor and the possessed must be P-based. The linker does not have a presuppositional requirement on the relation.

(47) a. $[\![\text{trans}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g =$
$= \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation
b. $[\![\text{linker}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y . g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

If an LC_3 noun can select for both the transitiviser and the linker, these markers are in semantic competition. The prediction is that the speaker is forced by Maximize Presupposition to use the transitiviser for the stereotypical P-based relations. Those relations are derived from the salient lexical features of the possessed nouns. For the noun 'basket' in (45a), the salient feature appears to be [contain], but not [made] or [owned]. Similarly, the feature [contain] seems to be salient for the noun 'grave'. For the nouns 'blood' and 'bone', it is [body-part]. For 'louse' in (40b), the feature is probably [paraside-on]. The use of the linker gives rise to an inference that the presuppositional requirement are not satisfied; the speaker has some reason not to choose the marker with the strongest presupposition. Thus, the speaker won't use a linker for a container relation with the possessed noun 'basket', but a linker can be used to express the ownership relation, as in (45b).

As I show in table 4.12, not every noun can select for the transitiviser. I assume that this is the case due to the morphosyntactic specifications of nouns. Thus, kinship terms that belong to LC_3 cannot appear possessed with the transitiviser due to their selectional requirements. For the linker, I assume that it can potentially combine with any LC_3 noun. The consequences of this assumption are that for some LC_3 nouns, there is no choice with respect to the marking strategy; it can only be the linker. This means that it should be possible to express any relation by using the linker variant. The inference shown above for the linker strategy does not arise. The hearer does not infer that a stereotypical relation between the possessor and the possessed doesn't hold.

For example, let's consider kinship terms, such as *naana* 'mother' in (39a). The relation between 'mother' and 'child' is not just stereotypical, it is almost encoded in the noun 'mother'. One would expect such a relation to be marked by the idiosyncratic strategy, the transitiviser. However, in case of *naana*, the transitiviser is excluded from the competition due to the selectional requirements of kinship terms. This is not a problem for a possessive interpretation as the variable R_{free} can take any relational value; the relation between 'mother' and 'child', which is probably lexically determined by *naana*, can be expressed by the linker. An additional prediction is that the same possessive construction should be able to express non-stereotypical relations as well. One would expect the interpretation 'a mother which is in a-non-kinship relation with the possessor', as discussed in section 4.3.1. However, I could not test whether or not this is the case.

On the account outlined above, possessive constructions with a linker are predicted to be syntactically and semantically more productive than those with a transitiviser. This prediction seems to be confirmed. For instance, kinship terms can select for the linker but not for the transitiviser. Another piece of evidence comes from recursive possessive constructions with nouns from LC_1 and LC_2. As shown above, it is possible to stack multiple possessors in Daakaka; the examples are repeated in (48). In recursive possessive constructions, there are two overtly expressed possessors that enter two different relations with the possessed noun, such as body-part and ownership in (48a).

(48) Daakaka (von Prince 2016)

a. ∅-ok ebya-on
CL2-1SG.POSS wing.of-3SG.POSS
'my (chicken) wing', lit: 'my its wing'

b. s-am sini ye wep
CL3-2SG.POSS thorn.of leaf.of pandanus
'the thorns of your pandanus leaves' (lit. 'your pandanus leaf thorns')

Example (48) shows that the second possessor, such as the human owner of the wing in (48a), is always expressed by means of the linker strategy, not by means of the transitiviser. The reason for this might be that the P-based relation is already coded in the meaning of the relational noun. It is saturated by an overt possessor argument, such as *-on* in (48a). There isn't any other relation to serve as a value for the R-variable for the transitiviser. However, a linker can be used because it is compatible with contextually provided relations.

The semantic analysis of possessive marking in Daakaka which I argue for is schematically shown in table 4.13. LC_1 and LC_2 consist of relational nouns; possessive constructions only involve a possessor argument, but no possessive marker. LC_3 consists of sortal nouns; for these nouns, a competition between two possessive markers arises, a transitiviser (idiosyncratic strategy) on the one hand, and a linker (non-idiosyncratic strategy), on the other.

I want to point out that the system of adnominal possession in Daakaka

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	possessor	relational noun	relation provided by the noun
LC_2	possessor inflection		
LC_3	possessor + transitiviser	Idiosyncratic	stereotypical relations
	possessor + linker	Non-idiosyncratic	unrestricted relations

Table 4.13: Daakaka: relational nouns and (non)-idiosyncratic marking

is similar to the system of adnominal possession in those Oceanic languages that make use of possessive modifiers, discussed in chapter 3. Paradoxically, this similarity does not come from possessive classifiers in Daakaka. They are lexically determined and do not function the same way as possessive modifiers in other languages. It is the semantic opposition between idiosyncratic strategies that makes Daakaka similar to the Oceanic languages that make use of two possessive modifiers, Saliba and Tolai, described in section 3.2.3. The lexical entries I propose for the transitiviser and the linker involve variables over relations; for Saliba and Tolai that I propose that variables over relations are spelled out as possessive modifiers. As the result, the choice between the two marking strategies is guided by the same principle *Maximize Presupposition*. The exact relations derived from the possessed noun in the case of the idiosyncratic strategy can differ across languages, but we also see an overlap between them. This overlap can be described as relations of determination, such as the relation between the possessor and his grave or the possessor and his louse in (46).

Problems and questions for future work. A potential problem with assigning the transitiviser the semantics of an idiosyncratic strategy is the diversity of interpretations the transitiviser seems to receive. This problem is already addressed in von Prince (2016). The relations we see in Daakaka do not match with qualia roles traditionally assumed for possessive constructions, for instance, in Vikner and Jensen (2002). Indeed, it would be tricky to account for examples such as (49) if one assumed that stereotypical possessive relations were exhausted by the following list: 'authorship', 'purpose', 'part-whole' and 'control'; see table 1.1 in chapter 1.

(49) Daakaka

a. baséé=ne eng
bird=TRANS wind

'hawk' (lit. 'bird of the wind')

b. vis=ane tes
bow=TRANS sea
'harpoon' (lit. 'bow of the sea')

c. vyanten=ane vilye Aneityum
person=TRANS place Aneityum
'someone from Aneityum'

As von Prince (2016) describes it, the possessors in (49) are "abstract" and the relations between them and the possessed nouns are vague, something like 'area of operation' or 'origin'. Sometimes, the same possessed noun might give rise to multiple relations. For instance, the possessor is connected to 'food' in (50a) by the relation 'origin', while in (50b) the relation is 'to be determined for/purpose'.

(50) Daakaka

a. mees=ane vilye yen too
food=TRANS place in garden
'food from the field, crops'

b. mees=ane padó=an
food=TRANS fish=NOM
'food for fishing'

Although one doesn't have to assume that the exact list of qualia roles as suggested in Vikner and Jensen (2002) holds universally for every language, vagueness presents a problem. The main assumption behind my analysis is that, provided the possessed noun, the relations are stereotypical in the culture in which Daakaka is spoken. One wants to be sure that relations of 'origin' and 'purpose' are systematically derived from the possessed noun 'food'. I believe that supporting evidence comes from the similarity between the examples in (50) and (49). For instance, the relation 'origin', can be found both in (50a) and in (49c). I take these examples to show that for the speakers of Daakaka 'origin' and 'the area of operation' are among stereotypical relations. Finally, as I discuss in chapter 3, during the discussion of Saliba and Tolai, somewhat abstract relations and ownership/control seem to be very prominent in Oceanic cultures. For instance, the possessive classifier *ka-* in Saliba is used to encode relations like 'area of operation' and 'purpose/determination'.

Another potential problem for my account is that, according to von Prince (2016), the linker almost never appears in constructions with an inanimate possessor. Von Prince 2016 finds only two examples in her corpus. Those examples are 'duties of ironwood' and 'way for the cars' in (51).

(51) Daakaka

a. gyes=an s-an lewovya mu puo
work=NOM CL3-LINK ironwood.tree REAL be.many
'the ironwood tree has many duties' (lit. 'the tasks of the ironwood

tree are many')
b. seli s-an trak
way CL3-LINK car
'road' (lit. 'the trail of the cars')

This restricted distribution is unexpected given the lexical entry provided for the linker in (47). The linker should be compatible with any relation whatsoever, including relations with inanimate possessors. Unless all the relations that involve inanimate possessors such as purpose, location, etc are covered by the transitiviser, this distribution presents a problem. However, in Austronesian languages in general, animate possessors seem to be much more prominent in possessive constructions than inanimate ones. As I discussed in chapter 3 for Paamese, possessive constructions in some Austronesian languages are primarily used to express relations between human possessors and the possessed. In contrast, relations between inanimate entities are commonly expressed in Paamese by means of compounding. It might be that the preference for animate possessors in the linker constructions in Daakaka is another example of this regional feature. In principle, inanimate possessors are not so common with purely contextually determined interpretations. For instance, it is much easier to imagine a context in which *John's cloud* would be felicitous than a context in which *the table's cloud* would be felicitous.

To summarize, I propose that Daakaka shows semantic opposition between two productive markers, a transitiviser and a linker. I argue that this opposition presents a split between the idiosyncratic and the non-idiosyncratic strategies. However, the possessive marking in Daakaka is more complex than the cases we saw in chapter 2. In addition to the opposition between the idiosyncratic and non-idiosyncratic strategies, there are two classes of syntactically relational nouns that receive distinct morphological marking (inflection and juxtaposition). Thus, the system of possessive marking in Daakaka shows that the two distinctions should be kept apart in the linguistic analysis of possession, as they both might play a role in determining the distribution of the marking strategies.

4.3.3 (Non)-idiosyncratic strategy homophonous with syntactically unconditioned marking: Movima

Movima is a language isolate, spoken in northeastern Bolivia. The main source for my analysis of Movima is a grammatical description by Haude (2006). As I show below, in contrast to Daakaka, relational nouns in Movima do not form a class with respect to possessive marking. Nevertheless, relational nouns play an important role in the expression of possession in Movima. In my analysis, the most productive marking strategy in Movima is morphosyntactically unconstrained. It only involves a possessor argument, which can combine with both relational and sortal nouns. Depending on the semantics of the possessed noun, the semantic effect differs. If the possessed noun is a relational noun,

the possessor argument saturates its argument slot. If the possessed noun is sortal, it undergoes coercion to combine with a possessor argument. In addition, Movima has two dedicated possessive markers. I argue that these two markers correspond to the idiosyncratic and to the non-idiosyncratic strategy. However, these markers are usually not in competition with each other. Below I argue that the reason for that is availability of one more (morphosyntactically unconstrained) marking strategy, which is very productive in Movima.

General description. Most commonly, possession in Movima is marked by a possessor clitic, as shown in (52) for 'name', 'child' and 'stone'. As can be seen in the examples, in all these cases the possessor *=n* '2' clitisizes to the possessed noun; there are no additional possessive morphemes involved.[8]

(52) Movima (Haude 2006: 315, 232)

a. e:ɬ-a=**n**
BR.name-LV=2
'your name'

b. májniwa=**n**
child-of=2
'your child'

c. champa=**n**
stone=2
'your stone'

Although the possessive marking in (52) is identical for 'name', 'child' and 'stone', the three nouns show some differences in their distribution. 'Name' *e:ɬ-* is a bound root. It cannot appear as a word on its own; the reasons for that, according to Haude (2006: 70), are partially phonological and partially semantic.[9] By contrast, *májniwa* 'child' and *champa* 'stone' can form independent noun phrases. If an overt possessor clitic is absent, *májniwa* is always interpreted as being in a 'child-of' relation with a 1sg possessor. Compare the example in (53). Although the possessor is not explicitly mentioned, *májniwa* is interpreted as possessed by a 1st person possessor.

(53) i'neɬ **majni** jaysoń bijaw-kweya
ART.f.1 child.of seem old-woman
'My daughter is like an old woman.' (lit: The (female) child is like an old woman)

By contrast, *champa* 'stone', without an overt possessor, is not interpreted as being in any relation with a 1st person possessor. It simply denotes a stone, not possessed by anyone. Compare the example in (54).

[8] In (52a), *-a* 'LV' is a phonologically conditioned linking vowel; it is not a possessive morpheme.

[9] (Haude 2006: 70): "All monosyllabic noun roots fall in this group, as do some disyllabic roots that denote inalienably possessed entities."

(54) kode:=s **champa** n-is to:mi
DM.nst.n=DET stone obl-ART.pl water
'The stone is in the water.'

Movima thus has three classes of nouns; I label them LC_1, LC_2 and LC_3. These classes are not determined by the possessive marking. As shown in (52), the possessive marking for these nouns is identical. The noun class is determined by the distribution of the root without an overt marker. LC_1 consists of bound roots. These roots can't form a grammatical nominal phrase on their own. LC_1 includes nouns like 'name', 'piece', 'flower', etc. LC_2 includes those nouns that can form a grammatical nominal phrase on their own, but without an overtly expressed possessor, always receive a possessed 1st person interpretation. These nouns include kinship terms like 'child' in (52b), body parts like 'finger' in (56a) and other nouns. LC_3, the largest class, consists of those nouns that can form a grammatical nominal phrase on their own and, without an overtly expressed possessor, denote unpossessed objects, such as 'stone' in (52c).

In order for the nouns from LC_1 to form a nominal phrase, a morphological modification is required. Typically, LC_1 nouns combine with the suffix *-kwa*, as shown in (55) for 'flower'. Such a complex noun phrase is treated by the grammar in the same way as an LC_3 noun. Without an overt possessor, it is interpreted as unpossessed. It can combine with a possessor clitic in order to receive a possessive interpretation, as shown in (55c).

(55) Movima (Haude 2006: 70)
a. *mo:ri
blossom
intended: 'flower'
b. mori-n-kwa
blossom-LN-ABS
'a flower'
c. as mori-n-**kwa=n**
ART.n BR.blossom-LN-ABS=2
'your flower'

LC_2 nouns, when used without an overt possessor, always receive a 1st person possessor interpretation. The same suffix *-kwa* can be used in order to receive an unpossessed interpretation, as shown for 'finger' in (61a).

(56) Movima (Haude 2006: 233, 236)
a. dimpa
finger
'my finger' (lit: finger)
b. dimpa-n-kwa
finger-LN-ABS
'detached finger'

Note that nouns that belong to LC_2 (and probably LC_1) can have counterparts in LC_3. Such counterparts have different lexical roots but share semantic features. Compare the two nouns 'child' *dichi:ye* and *majni* in (57). In the absence of overt possessive markers, *dichi:ye* denotes a child, while *majni* denotes a child relation with a 1sg possessor.

(57) Movima (Haude 2006: 448)

uso' us **dichi:ye** di' al-baycho=kuɬ **majni**
DM.p.n ART.m child REL fellow-MST=ART.m.a.1 child.of
'There was a boy who is a friend of my son's.' (lit: there was a child who is friend of child)

Next to the possessor clitics, there are two more ways to mark adnominal possession in Movima. These constructions are limited to those nouns that belong to LC_3 and to complex noun phrases that have the same distributional properties as LC_3 nouns.[10] In (58a), a reduplicated possessive construction is shown. The possessed noun 'kidney', in order to appear possessed, undergoes a stem modification. The whole complex receives 1st person possessive interpretation without the possessor argument being expressed overtly. Note that 'kidney' belongs to LC_3. As shown in (58b), it is not per default interpreted as possessed.

(58) Movima (Haude 2006: 252)

a. tivij-ni is torin<di:∼>di
ache-PRC ART.pl kidney<INAL∼>
'My kidneys hurt.'[11]

b. kwey iɬ rim-eɬ-na is torindi
IMM 1 trade-APPL-DR ART.pl kidney
'I just bought kidneys.'

In (72c), the suffixed possessive construction construction is shown. The possessive phrase *rada-n-**eɬ**=n* 'your door' involves an additional suffix *-eɬ*. The possessor clitic is *=n* '2', the same as we saw in (52).

(59) a'ko rada-n-**eɬ**=n ulkwań
PRO.n door-LN-CO=2 PRO.2sg
'It is your door.'

Thus, for the nouns of LC_3, there are three potential ways to express adnominal possession. One option is through a possessor clitic, the same as for the nouns of LC_1 and LC_2. Another option is partial reduplication of the stem and a possessor clitic, as in (58a). Finally, the third option is a combination of a

[10] There are some exceptions to this statement; LC_1 and LC_2 nouns can appear possessed with additional morphemes in the case of polysemy. See examples (79) and (81) below.

[11] I couldn't find an example with 2nd person possessor for a minimal pair with (52). However, from the description it is clear that the possessor clitic would have been the same *=n*.

suffix *-eɬ* and a possessor clitic, as in (59). This information is summarized in table 4.14.

Lexical class	LC_1	LC_2	LC_3
No overtly expressed possessor	can't form a noun phrase	1sg possessive interpretation	unpossessed
Marking strategy + possessor	possessor	possessor	possessor
			reduplication + possessor
			-eɬ + possessor
Marking alternations	only in case of polysemy	only in case of polysemy	alternations possible
suffix -kwa	grammatical noun phrase, "unpossessed" interpretation	"unpossessed" interpretation	no instances found
Example	e:ɬ-a=n name-LV=2	májniwa=**n** child-of=2	champa=**n** stone=2
			torin<di:∼>di kidney<INAL∼>
			rada-n-**eɬ**=n door-LN-CO=2

Table 4.14: Marking strategies in Movima

Below, I propose a semantic analysis for Movima and discuss factors that determines the choice of the marking strategy for LC_3 nouns.

Analysis. My interpretation of the distributional facts discussed above is the following. I assume that LC_1 and LC_2 consist of relational nouns. For instance, *majniwa* 'child' in (52b) is a relational noun with the lexical entry shown in (60). The empty argument position has to be filled, which, for LC_2 nouns, can only be done covertly with '1sg'. Therefore, without an overt possessor *majniwa* is interpreted as possessed by the speaker(s).

(60) $[\![\text{majniwa}]\!] = \lambda y.\text{child-of(s)(y)}$

I assume that the suffix *-kwa* has the same semantics as the type-shifter Ex, discussed in section 4.3.1 (see Barker 2008). It can shift a relation into a property, by closing off an empty argument slot, as shown in (61b).[12]

[12] A similar morpheme in Slave is the prefix *ʔe-*; it is used to express an "unknown" or generic possessor. See the examples in (89) in section 4.3.4.

(61) a. dimpa-n-kwa
finger-LN-ABS
'detached finger' (Movima; Haude 2006: 236)
b. ⟦dimpa-n-kwas⟧ = ⟦Ex⟧(⟦dimpa⟧) = $\lambda y \exists x$. finger-of(x,y)

As for the LC_3 nouns, I assume that they are sortal. The possessor clitics in Movima are morpho-syntactically unconditioned. As illustrated by the examples above, they can combine with relational and sortal nouns equally well. This is an important difference between Movima and Daakaka. In Movima, possessive constructions with relational nouns are formally indistinguishable from possessive constructions with sortal nouns. In Daakaka, sortal nouns cannot appear possessed without additional possessive morphology.

While the morphological mark-up of relational and sortal nouns can be identical, the semantic mechanisms behind the possessive interpretations are different. If a possessor clitic combines with a relational noun, the relation is provided by the possessed noun itself. The possessor clitic simply fills an argument slot, as shown in (62).

(62) ⟦child-of⟧ = $\lambda y \lambda x$.child-of(x,y)

If a possessor clitic combines with a sortal noun, the relation is not provided by the noun. Two kinds of analysis are possible. Either we need to assume that the sortal noun is coerced in order to receive a relational interpretation, or we need to postulate a covert possessive marker, Poss, as shown in (63).

(63) [stone-$\emptyset_{Poss}$]-Possessor

The relation between the possessor and the possessed often turns out to be ownership, as we see, for instance, with *tomi* 'water', *rada* 'door', and *ińwa* 'river' in (64). These examples suggests that we are dealing with a contextually determined possessive relation, as, for instance, suggested for the semantics of a non-idiosyncratic strategy.

(64) Movima (Haude 2006: 231, 240)
a. is tomi=sne
ART.pl water=f.a
'her water (e.g., in a jug)'
b. a'ko rada=n n-ulkwań
PRO.n door=2 obl-PRO.2sg
'It is your door.'
c. a'ko=s ińwa=**y'ɬi**
PRO.n=DET river=1pl
'It's our river.'

The two possible semantic mechanisms behind the possessive constructions are schematically shown in (65). I follow Partee and Borschev (2003) in assuming that coercion can be pragmatic. In this case, coercion shifts the noun to a re-

lational reading that incorporates the free relation variable R_{free}, as shown in (65b). Importantly, there is no principle difference between (65b) and (65c); they lead to the same result. In order to keep the discussion of Movima comparable with previously discussed languages, I will adopt the mechanism shown in (65c). Thus, I assume that possessive marking of sortal nouns involves a covert morpheme $\emptyset_{Poss}$ with the semantics of *MinSpec*.

(65) a. $[\![\text{tomi}]\!] = \lambda x$ water(x)
b. $[\![\text{tomi}]\!]_{coercion} = \lambda x \lambda y$ water(y) & $R_{own}(x, y)$
c. $[\![\text{MinSpec}_i]\!]^g([\![\text{tomi}]\!]) = \lambda P \lambda x \lambda y.g(i)$(x,y) & water(y) where g(i) is a relation $= \lambda x \lambda y$ water(y) & $R_{own}(x, y)$

As I show in (55c), complex phrases that involve *-kwa* can appear possessed by combining with a possessor clitic. More examples are shown in (66) and (67). In (66a), the LC_1 noun *mori-* 'blossom' combines with a possessor clitic directly; the resulting interpretation is part-whole, which is encoded in the semantics of *mori-*. In (66b), 'blossom' *mori-* combines with the suffix *-kwa* first. The result is a nominal phrase in which the argument slot of 'flower' is existentially closed. Next, the covert possessive marker $\emptyset_{Poss}$ applies in order to establish a contextually determined relation between 'possessor' and 'flower'. The resulting interpretation of (66b) is an ownership relation between the possessor and the flower, as shown in (66c).

(66) Movima (Haude 2006: 232)
a. as mori-n-a=**as**
ART.n BR.blossom-LN-LV=n.a
'its blossom'
b. as mori-n-**kwa**=**n**
ART.n BR.blossom-LN-ABS=2
'your flower'
c. $[\![\text{MinSpec}]\!]^g([\![\text{morin-}\mathbf{kwa}]\!]) = \lambda x \lambda y \exists z$ flower-of (z,y)&$R_{own}(x, y)$

Similarly, in (67a), the possessor clitic can only be interpreted as a constructor of the bird's nest. This relation is determined by the relational noun *ba∼baɬ* 'nest'.[13] In (67b), the possessor clitic attaches to a complex consisting of 'nest' and the suffix *-kwa*. The resulting interpretation is ownership.

(67) Movima (Haude 2006: 246)
a. as ba∼baɬ-a=**u**
ART.n RED∼BR.cover-LV=m
'his nest' (a nest he has built, like a bird)
b. as ba∼baɬ-**kwa**=**u**
ART.n RED∼BR.cover-ABS=m

[13]Reduplication in *ba∼baɬ* is not part of the possessive marking; it is derivational morphology, required to derive 'nest' from the noun *baɬ* 'cover'; for more details, see Haude (2006: 210).

'his nest' (a nest in his possession)

As I mentioned above, there are two other available ways of expressing possession for sortal nouns. One of them involves reduplication. A characteristic property of the reduplication variant is that it is used to give rise to stereotypical relations, such as the body-part relation for *torindi* 'kidney' in (68a). Similarly, for *tomi* 'water' and *rada* 'door', reduplication gives rise to part-whole relations, as shown respectively in (68b) and in (68c).

(68) Movima

a. tivij-ni is torin<di:∼>di
ache-PRC ART.pl kidney<INAL∼>
'My kidneys hurt.' (Haude 2006: 252)

b. as ra<da∼>da=as ro:ya
ART.n door<INAL∼>=ART.n house
'the door of the house'

c. kis to<mi∼>mi=is
ART.pl.a water<INAL∼>=pl.a
'their water (their serum)'

In (69), reduplication corresponds to products of the possessor: ashes of the fire and honey of the bees.

(69) Movima (Haude 2006: 238)

a. is ve'e<vu∼>vus-a=as ve'e
ART.pl fire<INAL∼>BE.dust-LV=ART.n fire
'its ashes (of the fire)'

b. charaye<lo∼>lo=is
honey<INAL∼>=pl.a
'their honey (of the bees)'

The example in (70) shows that the possessor clitic cannot be used to express the part-whole relation between the possessor and water. In terms of my analysis, it means that $\emptyset_{Poss}$ cannot be used to derive the part-whole relation in the case that reduplication is available.

(70) #kis to:mi=is
ART.pl.a water=pl.a
intended: 'their water (their serum)' (Movima; Haude 2006: 231)

On the basis of the examples above, I conclude that reduplication in Movima is an idiosyncratic strategy; it is only compatible with those relations that are systematically derived from the possessed nouns. I treat reduplication with the same semantics as that proposed for the idiosyncratic strategy in chapter 2.

Thus, in my analysis, sortal nouns in Movima can receive a possessive interpretation in two ways. Either they combine with a covert possessive marker

$\emptyset_{Poss}$, and then with a possessor clitic as we see in (63), or they undergo reduplication and then combine with the possessor clitic.

My analysis requires two different semantic processes behind the possessive construction with the sortal noun 'water' in (64a) and (68c). In (64a), the possessive relation between the possessor and *tomi* 'water' is established by $\emptyset_{Poss}$, which has the semantics of a non-idiosyncratic strategy. In (68c), the possessive relation is derived by reduplication, which has the semantics of an idiosyncratic strategy. For the noun *tomi* 'water', the stereotypical relation turns out to be [part-whole]. The corresponding lexical entries are shown in (71). For simplicity, I use an individual m as possessor in both examples.

(71) a. $[\![\text{RED}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!] =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{tomi-}\emptyset_{Poss}\text{=sne}]\!]^g = [\![\text{MinSpec}_i]\!]^g([\![\text{water}]\!])(\text{m})$
$= \lambda x \lambda y$ water(y) & g(1)(x,y)(m) =
$= \lambda y$ water(y) & R_{own}(m,y)

c. $[\![\text{to<mi}\sim\text{>mi=is}]\!]^g = [\![\text{MaxSpec}_i]\!]^g([\![\text{water}]\!])(\text{m}) =$
$= \lambda x \lambda y$ water(y) & g(2)(x,y)(m) =
$= \lambda y$ water(y) & $\text{R}_{part-whole}$(m,y)

Thus, for a sortal noun in Movima, there is a competition between two strategies to mark possession. Reduplication corresponds to the idiosyncratic strategy, and direct attachment of the possessor clitic to the non-idiosyncratic strategy. For a given noun P, reduplication is compatible with P-based relations derived from the possessed noun. Direct attachment of the possessor clitic is compatible with any relation; the relation can be provided by the context.

Another way of marking possession for sortal nouns involves the suffix *-eɬ*. The meaning effect this marking strategy gives rise to can be seen in the three examples with the possessed noun 'door' in (72). In (72a), the reduplication yields a part-whole relation between a house and door. By contrast, both direct attachment of the possessor clitic in (72b) and the suffix *-eɬ* in (72c) yield broader ownership interpretations.

(72) Movima (Haude 2006: 240)

a. as ra<da∼>da=as ro:ya
ART.n door<INAL∼>=ART.n house
'the door of the house'

b. a'ko rada=n n-ulkwań
PRO.n door=2 obl-PRO.2sg
'It is your door.'

c. a'ko rada-n-**eɬ**=n ulkwań
PRO.n door-LN-CO=2 PRO.2sg
'It is your door.'

I assume that this suffix is specified as a non-idiosyncratic possessive marker; it

is compatible with contextually provided relations. The lexical entry, the same as that of MinSpec in chapter 2, is provided in (73). Note that I assume exactly the same semantics for $\emptyset_{Poss}$. The two markers, $\emptyset_{Poss}$ and *-eɬ*, in my analysis, are allomorphs of each other.

(73) $[\![$-eɬ$]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$
where g(i) is a relation

One might wonder why we find synonymous examples like (72b) and (72c). If *-eɬ* and $\emptyset_{Poss}$ are allomorphs, we expect them to be in complementary distribution. However, it seems that there is a lot of inter-speaker variation involved as far as the use of *-eɬ* is concerned. Compare Haude (2006: 241): "The use of this marker seems to depend on the speaker: some speakers use it consistently in the appropriate context, while others do not use it at all to indicate possession of a geographic entity". It might be that the two examples in (72b) and (72c) were not recorded from the same person. According to Haude (2006: 241), the distribution of the suffix *-eɬ* in Movima is very limited. It is most frequent with abstract geographical relations, such as the relation between the village and *beńʻi-n* 'grassland' in (74a).

(74) Movima

a. as beńʻi-n-**eɬ**-a=as Peru
ART.n grassland-LN-APPL-LV=ART.n Perú
'The grasslands of (the village) Perú'

I believe that the limited range of application of *-eɬ* is the result of the productivity of the direct attachment of the possessor clitic. For sortal nouns, there are two semantic mechanisms that lead to the same result. One involves a covert possessive marker, $\emptyset_{Poss}$, and the other involves the suffix *-eɬ*.

(75) a. $[\![\text{RED}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![$-eɬ$]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

c. $[\![\emptyset_{Poss}]\!]^g = [\![\text{MinSpec}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

My analysis of possessive marking in Movima is summarized in table 4.15.

Problems, polysemy and questions for further research. In the last part of the section, I discuss two pieces of data that are problematic for my analysis. Both data points concern possessive constructions with relational noun.

Above, I argued that suffix *-kwa* is a type shifter that closes off an argument slot of a relational noun. I also argued that reduplication derives a possessive

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1 LC_2	possessor	relational noun	relation provided by the noun
LC_3	possessor + $\emptyset_{Poss}$ possessor + -ɬe	non-idiosyncratic	stereotypical relations
	possessor + reduplication	idiosyncratic	unrestricted relations

Table 4.15: Movima: relational nouns and (non)-idiosyncratic marking

relation from the salient feature of the possessed noun. Interestingly, reduplication seems to apply, at least sometimes, to a combination of a relational noun and the morpheme *-kwa*. See the minimal pair with the LC_1 noun 'flower' in (76). In (76a), the possessor argument fills the argument slot of *mori* 'flower'. In (76b), *-kwa* attaches to the noun *mori* 'flower' and gets reduplicated. Then the possessor argument is added. According to Haude (2006), both (76a) and (76b) can be used to refer to a part-whole relation between a plant and a flower.

(76) Movima

a. as mori-n-a=**as**
ART.n BR.blossom-LN-LV=n.a
'its blossom'

b. as mori-n-<kwa∼>kwa=**as**
ART.n BR.blossom-LN-<INAL∼>ABS=n.a
'its blossom'

The coexistence of examples like (76a) and (76b) is rare. However, another example was found with LC_1 noun 'seed', shown in (77). In (77a) the possessor argument attaches to the noun directly. In (77b), there is additionally a reduplication of the suffix *-kwa*.

(77) Movima (Haude 2006: 248)

a. is di∼di-n-a=as ko'
ART.pl RED∼BR.grain-LN-LV=ART.n tree
'the seeds of the tree'

b. is di∼di-n-<kwa∼>kwa=as ko'
ART.pl RED-BR.grain-LN-<INAL∼>ABS=ART.n tree
'the seeds of the tree'

The problem with examples such as (76b) and (77b) is that according to my

analysis, the relation provided by the relational noun is already closed off by the type-shifter *-kwa*. The corresponding meaning is shown in (78) (see also the derivation in (66c)).

(78) $[\![\text{morin-kwa}]\!] = [\![\text{Ex}]\!]([\![\text{flower}]\!]) = \lambda y \exists x.$ flower-of(x,y)

If reduplication applies to the structure we see in (78) and has the semantics I proposed for the idiosyncratic strategy, it is not clear where the R for the P-based relation is coming from.[14] Even if it is possible to derive a relation from the structure in (78), the prediction for the resulting structure is that the possessed noun is somehow involved in two different possessive relations. One possessor in existentially closed off by *-kwa*, while the other is overtly expressed by *=as*. Thus, for the example in (76b) one would expect an interpretation along the lines of 'a flower of something that is in R_{flower} relation with the possessor'. However, Haude (2006) does not provide any indication that there are multiple possessive relations involved in examples like (76b) and (77b).

For (77), Haude (2006: 245-248) points out that in elicitation context, the speakers might use (77a) to refer to seeds that are still on the tree, while (77b) can be used to describe detached seeds (on the ground). This could be an indication that there are indeed multiple possessive relations involved. However, Haude (2006) also notes that both forms in (77a) and (77b) can be felicitously used to refer to detached parts. Thus, it is not clear how stable the meaning effect is. I have to leave this question for further research.

The second issue I want to address concerns marking strategies available for relational nouns. Above, I say that reduplication and suffixation strategies are only available for sortal nouns; see also table 4.14. However, it is not completely the case. Relational nouns can appear possessed by means of these two strategies if there is a difference in interpretation. To put it differently, the use of the two marking strategies is licensed by polysemy.

Two distinct forms can easily coexist if the noun receives additional, more narrowly specified meanings, as shown for *jeya* 'state' in (79). In (79a), the reduplication construction, *jeya* refers to 'habit'. In (79b), *jeya* refers to 'state'.

(79) Movima Haude (2006: 239, 494)

a. je<ya∼>y-a=u u'ko
   state-of<INAL∼>LV=m PRO.m
   'his vice, bad habit'

b. jeya=us
   state-of=m.a
   'his state'

Normally, however, the reduplication strategy is not available for relational nouns. Haude (2006: 239) mentions that the reduplication form for 'hand' in

[14] Compare these to the Daaakaka examples discussed in (41). The idiosyncratic strategy is not available in recursive possessive constructions because the possessor argument already fills the provided relation.

(80a) was spontaneously produced, but later rejected by the speaker. 'Hand' is an LC_2 noun. The body-part relation is part of its semantics. In order to refer to this relation, the speaker would normally use the possessor clitic, as shown in (80b).

(80) Movima Haude (2006: 118, 239)

a. ???is cho<pa:∼>pa
Art.pl hand<INAL∼>
intended 'my hands'

b. cho:pa=sne
hand=f.a
'her hand'

In a similar way, polysemy can trigger the use of the suffix *-eɬ*. For example, the noun LC_1 noun *kwa:* 'mouth' denotes a relation as shown in (81a). However with the suffix *-eɬ*, the same noun is understood as denoting the top of an object, as shown in (81b).

(81) Movima

a. as kwa-n-a=as bovemo:-ba
ART.n BR.mouth-LN-LV=ART.n basket-BE.round
'the opening of the basket'

b. as kwa-n-**ɬe**=as me:sa
ART.n mouth-LN-CO=ART.n table
'the top of the table'

As another example of polysemy, we can consider the alternation of possessive marking on the possessed noun *wa:ka*, 'meat/cow' in (82). In (82a), reduplication is used to express a part-whole relation between meat and bones. This relation is the stereotypical relation derived from *wa:ka* by the application of the idiosyncratic strategy. Direct attachment of the possessor clitic, as in (82b), gives rise to an ownership interpretation between a possessor and a cow. This is a relation provided by the context. There is also a more specific lexical item, *wa:ka-toda* 'piece of cow', to refer to meat and not to an animal. In (82b), this lexical item is interpreted as being owned by the possessor; the interpretation is probably provided by the context.

(82) Movima (Haude 2006: 125-126)

a. wa:<ka∼>ka=i
cow<INAL∼>=pl
'their meat (of the bones)'

b. as wa:ka=us
ART.n cow=m.a
'his cow'

c. wa:ka-toda=us
cow-piece=m.a

'his meat'

For a broader discussion of polysemy and its interaction with idiosyncratic possessive marking see chapter 2.

Concluding remarks. In this section, I discussed possessive constructions in Movima. I argued that the distinction between relational and sortal nouns plays an important role in establishing a possessive interpretation. In Movima, the most productive marking strategy is a juxtaposed possessor clitic. This marking strategy is syntactically unconditioned; it applies to relational nouns and sortal nouns alike. I assume that there are two different compositional processes involved. If a possessor clitic attaches to a relational noun, the possessor fills the empty argument of this noun. If a possessor clitic attaches to a sortal noun, the possessive interpretation is established by the covert possessive morpheme $\emptyset_{Poss}$. I propose that this marker has the same semantics as a non-idiosyncratic possessive strategy. I argue that $\emptyset_{Poss}$ has an allomorph, the overt suffix *-eɬ*. However, its distribution is heavily restricted. Another strategy that can be used to express possession of sortal nouns is reduplication. I attribute it the semantics of the idiosyncratic strategy. The idiosyncratic strategy and the non-idiosyncratic strategy are in a competition. Whenever the idiosyncratic is available, the speaker is forced to choose it to express a stereotypical relation derived from the possessed noun. Thus, Movima is different from languages discussed in chapter 2, as expression of possession depends on relationality of nouns. In this respect Movima, shows similarities with Daakaka, discussed in section 4.3.2. The main difference between Daakaka and Movima is that in Movima, possessive marking of relational and sortal nouns is superficially uniform. It is not reflected directly in the morphology, as we saw in Daakaka.

4.3.4 Lexically determined (non)-idiosyncratic strategies: Slave and Tanacross

Unfortunately, the data on two Athabaskan languages from Na-Dene family, Tanacross and Slave, are too limited for a detailed analysis. However, I believe that, at least in form of a sketch, it is important to compare the systems of expressing adnominal possession in these two languages to the system of Koyukon, in section 4.3.5. Below, I argue that Tanacross and Slave show opposition between an idiosyncratic and a non-idiosyncratic strategy, while Koyukon doesn't have this opposition. This difference is interesting because Koyukon, Tanacross and Slave are relatively closely related; their structure shows a lot of resemblance. One might expect that possession is expressed in a similar way. The resemblance with Daakaka and Movima, discussed in sections 4.3.2 and 4.3.3, might be less expected, as they are genetically far from Koyukon, Tanacross and Slave. Nevertheless, I argue that Tanacross and Slave do show a split between idiosyncratic and non-idiosyncratic marking and, in this sense, pattern closer to Daakaka and Movima than to Koyukon.

General description. Below, I provide examples from Slave. Given my current insights from Tanacross, the same generalizations apply in this language as well; a small set of examples will be shown below. There are two main noun classes; one, LC_1, consists of obligatorily possessed nouns, while the other, LC_2, consists of optionally possessed nouns. LC_1 nouns cannot form a grammatical noun phrase without an overtly expressed possessor; compare the obligatorily possessed noun 'brother' and the optionally possessed noun 'boat' in (83).

(83) Slave (Rice 1989: 745, 254)
a. *chile
intended: brother
b. ʔelá
boat

A prefix on a possessed noun marks the possessor; the corresponding constructions are shown in (84) for both LC_1 noun *chile* 'brother' and LC_2 noun *mbeh* 'knife'. Note that in these constructions no additional morphology is involved to mark possession.

(84) Slave (Rice 1989: 745, 207)
a. se-chile (*chile)
1-younger.brother
'my younger brother'
b. se-mbeh
1-knife
'my knife'

In addition, there are two suffixes in Slave that can mark a possessive relation. These suffixes are *-'* and *-é*. In (85), I show one LC_1 noun, 'hand', and one LC_2 noun, 'water', that select for *-'*.

(85) Slave (Rice 1989: 13, 214)
a. se-la-' (*la)
1-hand-poss
'my hand'
b. se-tu-'
1-water-poss
'my water (in my body)'

In (86), I show one LC_1 noun,'arm', and one LC_2 noun, 'dog', that select for *-é*.

(86) Slave (Rice 1989: 207)
a. be-gón-é (*gón)
3-arm-poss
'his arm'

b. me-lı̨-é
3-dog-poss
'his/her dog'

From the description of Slave (Rice 1989), I conclude that for LC_1 nouns the choice of the possessive suffix is lexically predetermined. For instance, *la* 'hand' in (85) cannot form a grammatical noun phrase without an overtly expressed possessor and the suffix *-'*. Another LC_1 noun *gón* 'arm' in (86), cannot form a grammatical noun phrase without an overtly expressed possessor and the suffix *-é*.

The choice of the possessive suffix is different for LC_2 nouns than for LC_1 nouns. In case a noun is optionally possessed, it is sometimes possible to alternate between the suffixes *-'* and *-é*, as shown in (92). This alternation gives rise to a meaning effect, which I discuss in more detail below.

(87) Slave (Rice 1989)
a. se-tu-'
1-water-poss
'my water (from body)'
b. se-tu-é
1-water-poss
'my water (my lake)'

Importantly, both suffixes *-'* and *-é* seem to be proper possessive markers. They only appear in possessive constructions when the possessor is expressed by a prefix or by a noun. In (88), the possessor in both constructions is the noun *jíye* 'berry'. Configurations in which a noun appears with a suffix but without an overtly expressed possessor seem to be unattested (**tu-é*, **tu-'*).

(88) Slave (Rice 1989: 188, 204)
a. jíye-tu-'
berry-water-poss
'wine, juice'
b. jíye-tu-é
berry-water-poss
'water from berries'

These are the basic data about the distribution of the suffixes *-'* and *-é*. Below I show how these facts fit into my analysis. Another morpheme that deserves special attention when expression of possession is concerned is the prefix *ʔe-*. This prefix has the same function as the possessor prefixes like *se-* in (92), however, it marks an indefinite possessor, also described as an "unknown" or generic possessor. This prefix resembles the Movima prefix *kwa-*, discussed in section 4.3.3. Compare the LC_1 noun 'skin' and the LC_2 noun 'dog' in (89). In (89a), it is assumed that the skin is from an animal (moose or caribou). However, the possessor is left unspecified. With nouns like 'dog' in (89b), the

possessor is understood as unknown.

(89) Slave (Rice 1989: 209)
a. ʔe-dhéh (*dhéh)
ʔe-skin
'(moose/caribou) hide' (lit: someone's skin)
b. ʔe-lı̨́-e
ʔe-dog-poss
'someone's dog'

A noun phrase containing *ʔe-* can itself appear possessed, as shown in (90) for the noun *dheh* 'hide'. Note that the possessor prefix that attaches to the complex phrase *ʔe-dheh* is the same as the one we see above in (84) *se* '1sg'. There is no additional possessive marking involved.

(90) se-ʔe-dheh
1-ʔe-hide
'my moose, caribou hide' (lit: my someone's hide/skin)

The general information about expression of possession in Slave is summarized in table 4.16.

Lexical class	LC_1	LC_2
overt possessor	obligatory	optional
Marking strategy + possessor	possessor argument possessor argument + -' possessor argument + -*é*	
Marking alternations	no alternations attested	alternations possible for -' and -*é*
prefix *ʔe-*	unmentioned or unknown possessor	
Example	se-chile 1sg-brother	se-mbeh 1sg-knife

Table 4.16: Marking strategies in Slave

Analysis. As LC_1 nouns in Slave are obligatorily possessed, I assume that LC_1 nouns are semantically and syntactically relational. LC_2 nouns are sortal. The corresponding lexical entries are shown in (91).

(91) a. $[\![\text{chile}]\!] = \lambda x \lambda y.$ brother-of(x,y)
b. $[\![\text{mbeh}]\!] = \lambda x.$ knife(x)

In table 4.17, I summarize the configurations that need to be accounted for.

The configuration is schematically shown in the middle column, while on the left the number of the corresponding example is provided.

	configurations	corresponding example
A1	Possessor + $NP_{sortal/relational}$	(84)
A2	Possessor + $NP_{sortal/relational}$ + -'	(85)
	Possessor + $NP_{sortal/relational}$ + -*é*	(86)
	*$NP_{sortal/relational}$ + -*é*/ -'	not attested
B	*ʔe*- + $NP_{sortal/relational}$	(89a)
	ʔe- + $NP_{sortal/relational}$ + -*é*/ -'	(89b)
C	Possessor + ʔe- + $NP_{sortal/relational}$	(90)
	Possessor + ʔe- + $NP_{sortal/relational}$ + -*é*/ -'	(100c)

Table 4.17: Slave: configurations to account for

First, in order to account for the basic configuration A1, in table 4.17, Possessor + $NP_{sortal/relational}$, I assume that the possessor prefix provides a possessor argument. If it combines with a relational noun (LC_1), it fills an argument slot of this noun. In case it combines with a sortal noun (LC_2), the sortal noun undergoes coercion and provides a relation. Another possibility to account for the combination of a sortal noun and a possessor is to assume a covert possessive morpheme, $\emptyset_{Poss}$, as I do, for instance, for Movima. I will discuss this option later in the Problem section.

The basic configuration A2, Possessor + $NP_{sortal/relational}$+ -*é*/ -', is a bit more tricky. I will first only explain how it works with sortal nouns, LC_2. First, as I indicated in the discussion of (92), I assume that both suffixes -*é* and -' are possessive morphemes that provide a relation between the possessor and the possessed. There are two reasons to make this assumption. First, the suffixes do not appear unless the possessor is expressed overtly; $NP_{sortal/relational}$+*suffix* is unattested. Second, the alternation of the suffixes -' and -*é* gives rise to a meaning effect, as shown in (87), repeated in (92). In (92a), the suffix -*é* marks an ownership relation between an animate possessor and water. In (92b), the suffix -' marks a part-whole relation between a possessor and water (liquid).

(92) Slave (Rice 1989)

a. se-tu-'
1-water-poss

'my water' (from body)

b. se-tu-é
1-water-poss
'my water' (my lake)

In (92a), water (or liquid) is interpreted as an intrinsic part of the possessor; it is in a body-part or part-whole relation with the speaker. In (92b), the relation between the possessor and the liquid is less specific; it might be ownership of the lake or some other contextually provided relation. The same meaning effect is found when the possessor is a noun or a nominal phrase; compare (88), which shows different relations between berries and water. In (88a), the water is an inherent part, the juice of the berries. In (88b), the water stands in some contextual relation to berries, but not in a part-whole relation. I propose that this meaning effect is due to an opposition between idiosyncratic and non-idiosyncratic marking, as discussed in chapter 2. I assume that *-'* corresponds to an idiosyncratic strategy involving MaxSpec, while *-é* corresponds to a non-idiosyncratic strategy involving *MinSpec*. The lexical entries are provided in 4.18.

(93) a. $[\![\text{-'}]\!]^g = [\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$
defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{-é}]\!]^g = [\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!]^g =$
$= \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

The two possessive markers allow sortal noun to combine with possessor prefixes by providing an argument slot. The possessor enters a relation with the possessed as provided by the suffix. In case of the idiosyncratic strategy, the available relations are restricted by the presupposition. It can only be a stereotypical relation, given the semantics of the possessed noun (*tu-'* 'water'). In the case of the non-idiosyncratic strategy, the relation is unrestricted. The composition is shown in (94).

(94) a. $[\![\text{se-tu-'}]\!]^g = [\![\text{MaxSpec}_i]\!]^g(\text{water})(\text{s}) =$
$= \lambda P \lambda x \lambda y.g(1)(x,y)\&P(y)(water)(s) =$
$= \lambda y.R_{part-whole}(s,y)\&water(y)$

b. $[\![\text{se-tu-é}]\!]^g = [\![\text{MinSpec}_i]\!]^g(\text{water})(\text{s}) =$
$= \lambda P \lambda x \lambda y.g(2)(x,y)\&P(y)(water)(s) =$
$= \lambda y.R_{own}(s,y)\&water(y)$

The pragmatic principle Maximize Presupposition forces the speaker to choose the expression with the strongest presupposition possible. When the speaker chooses *-é* (the non-idiosyncratic strategy) to mark possession for a noun like 'water' that can also select for *-'* (the idiosyncratic strategy), the hearer infers that the stereotypical relation between the possessor and the possessed doesn't hold.

The semantic opposition between the two suffixes *-'* and *-é* can also be

shown when the possessed noun is a compound, such as *na-tu* 'tears' in (95). In (95a), the relation between the possessor and the tears (water of the eye) is a stereotypical one. In (95b), the relation between the possessor and the tears is contextually determined; the tears are in a dish.

(95) Slave (Rice 1989: 213-214)
   a. se-[na-tu]-'
      1-eye-water-poss
      'my tears' (in my eyes)
   b. se-[na-tu]-é
      1-eye-water-poss
      'my tears' (in a dish)

There is one problem with this analysis, however. It explains how both of the suffixes *-é* and *-'* can combine with sortal nouns. However, the configuration A2 is also attested for relational nouns: Possessor + $\text{NP}_{relational}$+ *-é/ -'*. This configuration can be seen in examples like (85a) and (86a). The lexical entries provided for the suffixes in 4.18 do not explain why the suffixes can combine with relational nouns; the way *MaxSpec* and *MinSpec* are defined, they can only take a property P as their argument. I will return to this question in the Problems section below.

Finally, in order to account for the patterns B and C, I need to provide the semantics for the indefinite possessor prefix *ʔe-*. I analyze the indefinite possessor prefix *ʔe-* as a type-shifter that closes off an empty argument of a relational noun. The same analysis is proposed for the operator Ex in Barker (2008), as discussed in section 4.3.1. Provided this semantics for the indefinite possessor prefix *ʔe-*, I can now explain configuration B.

B *ʔe-* + $\text{NP}_{sortal/relational}$
ʔe- + $\text{NP}_{sortal/relational}$ + *-é/ -'*

The corresponding examples are repeated in (96).

(96) Slave (Rice 1989: 209)
   a. ʔe-dhéh (*dhéh)
      ʔe-hide
      '(moose/caribou) hide'
   b. ʔe-lı̨́e
      ʔe-dog-é
      'someone's dog'

If *ʔe-* combines with a relational noun like 'skin' in (96a), the relation is closed off, as shown in (97a). If *ʔe-* combines with a sortal noun, like 'dog' in (96b), two operations take place. First, a possessive suffix *-é* (the non-idiosyncratic strategy) provides a relation between the possessor and the possessed noun 'dog'. Second, the indefinite possessor prefix *ʔe-* closes off an empty argument

slot of this relation. The corresponding lexical entries are shown in (97).

(97) a. $[\![$ʔe-dhéh$]\!] = [\![\text{Ex}]\!]([\![\text{hide}]\!]) = \lambda y \exists x$ hide-of(x,y)
b. $[\![$ʔe-lı̨ ́ $]\!] = [\![\text{Ex}]\!]([\![\text{MinSpec}_i]\!]^g([\![$lı̨ ́$]\!])) =$
$= [\![\text{Ex}]\!](\lambda x \lambda y.$ dog(y) & R_{own}(x,y)) =
$= \lambda y \exists z.$ dog(y) & R_{own}(z,y)

Finally, we can explain configuration C as well. In this configuration, the possessor prefixes appliy to noun phrases, containing the prefix *ʔe-*.

C Possessor + ʔe- + $\text{NP}_{sortal/relational}$
Possessor + ʔe- + $\text{NP}_{sortal/relational}$ + *-é/ -'*

The example from (96a) is repeated in (98).

(98) Slave (Rice 1989: 228)
a. se-dhéh
1sg-skin
'my skin'
b. ʔe-dhéh
ʔe-skin
'(caribou) hide' (lit: someone's hide)
c. se-ʔe-dhéh
1sg-ʔe-skin
'my caribou hide' (lit: my someone's hide)

I assume that the prefix *ʔe-* closes off the empty argument slot of the relational noun 'hide', as shown in (97a). The resulting construction, meaning something like 'someone's hide', has to combine with a possessor argument. The next step resembles the configuration in A1; the complex containing a relational noun and the prefix *ʔe-* has to combine with the possessor arguement. Following the discussion in A1, I assume that this process either involves coercion or a covert possessive morpheme, $\emptyset_{Poss}$. As the result, a relation is provided for the whole phrase containing suffix *ʔe-*. For example, such a relation can be 'ownership'. The resulting structure in (99) denotes something like someone's hide, owned by the speaker.

(99) $[\![$se-ʔe-dhéh$]\!] = \text{Coers}([\![\text{Ex}]\!]([\![\text{hide}]\!])))(\text{s}) =$
$= \lambda y \exists x.$ hide-of(x,y) & R_{own}(s,y)

In (100c), I show a similar possessive construction that also involves the suffix *-é*.

(100) Slave (Rice 1989: 185,228)
a. **teh**-t'ǫ́
water-leaf
'water lily'

b. **ʔe**-t'ǫ́
ʔe-leaf
'a leaf/flower [of something]'
c. se-[**ʔe**-t'ǫ́]-**é**
1-ʔe-leaf-poss
'my leaf/flower [of something]'

Importantly, the noun *t'ǫ́* 'leaf' does not require this suffix to appear possessed, as shown in (100a) and (100b). However, if the possessed is a nominal phrase with *ʔe-*, as in (100c), the suffix *-é* is used. As shown in 4.18, I attribute this suffix the *MinSpec* semantics of a non-idiosyncratic possessive marker.

Again, I assume that the noun *t'ǫ́* 'leaf' first combines with the indefinite possessor prefix *ʔe-*. This combination, as shown in (100b), denotes a leaf of something. The next step is combination with the suffix *-é* (MinSpec). MinSpec allows a relation to be established between the possessor and the leaf (of something); such a relation can be derived from the context.

(101) $([\![\textbf{ʔe}\text{-t'ǫ́-}\textbf{é}]\!]) = [\![\text{MinSpec}_i]\!]^g([\![\text{Ex}]\!]([\![\text{t'ǫ́}]\!])) =$
$= \lambda x \lambda y \exists z$ leaf-of(z)(y) & $R_{own}(x)(y)$

The corresponding structures are schematically shown in (102). One can compare this structure with the recursive possessive constructions in Daakaka in (48). There, the second possessor is also introduced by means of non-idiosyncratic marking.

(102) a. Possessor-Poss-ed$_{rel}$
plant leaf
b. Possessor-[[Ex(Poss-ed$_{rel}$)]-MinSpec]
my leaf (from something)

I was unable to find any examples of configuration C with sortal nouns. The prediction is that if such configurations are possible, they should also involve recursive possessive relations, something like someone's dog temporally in my possession.

Problems and questions. The main question raised by the proposed analysis is why we find suffixes *-é* and *-'* with relational nouns. This is the configuration A2 in table 4.17.

A2 Possessor + NP$_{sortal/relational}$ + -ˊ
Possessor + NP$_{sortal/relational}$ + *-é*

The semantics I provide for the two suffixes allows them to combine with sortal nouns that denote properties. In this case, the possessive suffixes provide a relation between the possessor and the possessed. However, relational nouns denote a relation already; the attachment of possessive suffixes should be blocked by a type mismatch. Note that the problem does not get resolved even if we

assume flexible syntax, as shown in (103b). If the relational noun first takes a possessor argument and then combines with the suffix, we expect it to denote an additional relation; something like a recursive construction, 'his arm in a contextually provided relation with...'. This semantics is not confirmed by the data. I was unable to find structures like (103b) with recursive multiple possessors (?1sg-[[3sg-arm]-MinSpec]).

(103) a. be-gón-é (*gón)
3-arm-poss
'his arm'
b. [3sg-arm]-MinSpec

Another way of approaching A2 is to postulate two entries for the possessive suffix. One entry, for sortal nouns, gives rise to a possessive relation, as shown in 4.18. The second entry, for relational nouns, is an identity function that takes a relation provided by the possessed noun and returns the same relation, as shown in (104); this identity function can be found, for instance, in Barker (2008).

(104) $[\![\text{-}\acute{}/\text{-é}]\!] = \lambda R \lambda x \lambda y R(x)(y)$

Note that by postulating (104), I make possessive suffixes vacuous in the case that they combine with relational nouns. The choice of the suffix is then purely a lexical requirement of the noun. This also explains why alternations of possessive marking are not possible for relational nouns. If this analysis is on the right track, we expect to find configurations as in (105).

(105) ʔe - [NP_{rel} - ´/-*é*]

I am unable to verify this prediction. Some examples look as if they could contain one of the suffixes (see (106)), but I am not sure about their exact morphological decomposition. As they are syntactically relational nouns, one doesn't encounter them without a possessor.

(106) a. ʔi̧-hk'o̧ 'someone's shadow' (Rice 1989: 166)
b. ʔi̧-htı́ 'someone's bow' (Rice 1989: 166)
c. ʔ-ekwíghǫ́ 'someone's brain' (Rice 1989: 1215)

Due to the scarcity of the data, I cannot say what exact principle lies behind the distribution of the possessive suffixes in Slave. The unpredictable distribution with relational nouns might be an indication that the speakers do not perceive a robust meaning effect. This would be an argument in favour of lexicalization.

Another question that the proposed analysis raises is why we don't find the suffix *-é* in all instances of recursive possessive constructions, as shown in configuration C.

C Possessor + ʔe- + $\text{NP}_{sortal/relational}$

According to my analysis, the suffix *-é* in Slave corresponds to a non-idiosyncratic strategy involving MinSpec. This analysis gives rise to an expectation that *-é* will always be used to encode contextually provided relations between the possessor and the possessed. A question that arises is why we also find recursive examples like (98c), repeated below in (107), without the suffix *-é*. It is unlikely that the relation between the possessor and someone's hide is a stereotypical one; thus, the possessive marker MinSpec is expected.

(107) se-ʔe-dhéh
1-ʔe-skin
'my caribou hide' (lit: my someone's hide)

My tentative answer would be that coercion can give rise to similar relations as the ones that can be expressed by *MinSpec*. Supporting evidence comes from the minimal pairs in (108). In (108a), the relation between the head and the hair is contextually determined. The hair has been severed from the head. There is no possessive suffix to mark this relation. In (108b), the relation between the head and the hair is a stereotypical one; the possessive suffix - ´ is used.

(108) Slave (Rice 1989: 188)
a. fí-gha
head-hair
'hair from the head (on the floor)'
b. fí-gha-´
head-hair-poss
'hair of the head'

Thus, the semantic opposition we see between the idiosyncratic strategy (- ´) and the non-idiosyncratic strategy (*-é*) can also be observed between the coercion and the suffix - ´. This opposition confirms that coercion has a similar semantics to the non-idiosyncratic strategy (MinSpec). As the two marking strategies have similar semantics, it is likely that they end up in competition with each other and eventually block each other. What we see in Slave might be a transition from one stage to another, where the two marking strategies coexist and their application is somewhat arbitrary.

The final question that I touched upon in the discussion of A1 above is how the combination of the possessor prefix and a sortal noun should be analyzed. Does the system involve coercion or the covert morpheme $\emptyset_{Poss}$?

(109) Possessor + $\text{NP}_{sortal/relational}$

In case we assume $\emptyset_{Poss}$, the system becomes more complicated, as $\emptyset_{Poss}$ should be treated as an allomorph of the suffix *-é*, MinxSpec. The suffix *-é* is homonymous between MinSpec (to combine with sortal nouns) and an identity function (to combine with relational nouns). This kind of system is not very elegant. Apart from this esthetic consideration, however, there is no principled reason

to prefer one analysis to the other.

A few examples from Tanacross. For Tanacross, I provide two examples to show that the meaning effect is the same as in Slave. The alternation between the two suffixes *-ˊʔ* and *-ˊɛʔ* can be interpreted as a change in the possessive relation expressed. In (110b), the relation between the possessor and the possessed is part-whole. In (110c), the relation is ownership. This example is parallel to the Slave example with 'water' in (92).

(110) Tanacross (Holton 2000)

a. š-nąˀ
1sg-mother
'my mother'

b. jêg tú-ʔ
berry water-**ˊʔ**
'berry water (wine)'

c. š-tŭ-ˑʔ
1sg-water-**ˊɛʔ**
'my water'

Another example involves the prefix *čˀ-* to express an "unknown" or generic possessor. In (111), *ɛdlí* 'key' is a relational noun. The relation it encodes is between a key and something the key is meant to open. Applying a 1sg possessor prefix as in (111a) would yield an interpretation that the 1st person possessor is a lock. However, once the argument slot is filled with *čˀ-*, as shown in (111b), the possessor prefix can coerce the whole construction into a different relation. (111c) yields an interpretation that the 1st person possessor owns the key.

(111) Tanacross (Holton 2000: 157)

a. #š-ɛdlí-ʔ
1SG-key-**ˊʔ**
'a key to me'

b. čˀ-ɛdlí-ʔ
IND-key-**ˊʔ**
'a key (to something)'

c. š-čˀ-ɛdlí-ʔ
1SG-IND-key-**ˊʔ**
'my key (to something)'

The triple of examples in (111) presents a parallel to the Slave examples in (98).

Conclusion. An overview of the system of possessive marking in Salve is provided in table 4.18; I assume approximately the same structure for Tanacross.

On my analysis, Slave shows a distinction between relational and sortal

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	possessor	relational noun	relation provided by the noun
	possessor + -´	relational noun + identity function	
	possessor + -*é*		
LC_2	possessor	coercion	contextually provided (unrestricted) relations
	possessor + -´	idiosyncratic	stereotypical relations
	possessor + -*é*	non-idiosyncratic	unrestricted relations

Table 4.18: Slave: relational nouns and (non)-idiosyncratic marking

nouns. However, this distinction is not immediately visible from the morphological marking. The three marking strategies are syntactically unconditioned; they apply to relational nouns and sortal nouns alike. The most productive marking strategy in Slave is a possessor prefix. When combined with a relational noun, the possessor prefix fills the argument slot. When combined with a sortal noun, the possessor prefix requires coercion. I argue that for sortal nouns, Slave shows a split between an idiosyncratic and a non-idiosyncratic strategy to mark possession. The suffix -' corresponds to the idiosyncratic strategy, and the suffix -*é* to the non-idiosyncratic strategy. In contrast to what was seen in Movima in section 4.3.3, the possessive suffixes in Slave obligatorily mark possession on some relational nouns. The data are too scarce to provide a good explanation of why this is the case; I propose that we are seeing the results of a lexicalization process; the possessive suffixes are losing their semantic component.

4.3.5 No opposition between idiosyncratic and non-idiosyncratic strategies: Koyukon

In this section, I describe Koyukon, an Athabaskan language from the Na-Dene family. I argue that Koyukon does not show an opposition between idiosyncratic and non-idiosyncratic strategies. Although there are meaning effects that can be described as a change in the relation of possession, they are not caused by alternation of possessive marking. The roots of the meaning effect lie in the syntacto-semantic properties of relational nouns and the mechanisms adopted for type-shifting.

General description. There are three noun classes in Koyukon, one, LC_1 consists of obligatorily possessed nouns; these nouns cannot form a grammatical noun phrase without an overtly expressed possessor. Another class, LC_2, consists of optionally possessed nouns. The third class, LC_3, consists of nouns that cannot appear possessed directly. Many of them are loanwords. I will return to this class later.

Koyukon has two main means of expressing possession. The possessed noun can be juxtaposed to a possessor prefix, as shown in (112a). Note that *lo'* 'hand' is obligatorily possessed and thus belongs to LC_1, while *'oye'* 'snowshoes' is optionally possessed and thus belongs to LC_2. The possessive construction, however, is identical for these two nouns.

(112) Koyukon (Thompson 1996: 660-661)
   a. **be**-lo' (*lo')
      3s-hand
      'his/her hand'
   b. **se**-'oye'
      1s-snowshoes
      'my snowshoes'

The second way of marking possession involves an additional suffix, *-e'*, as shown in (113). The suffix applies to some obligatorily possessed nouns like *tl'en* 'leg' and to some optionally possessed nouns like *ghuɬdl* 'sledge'.

(113) Koyukon (Thompson 1996: 668)
   a. **be**-tl'en-**e'** (*tl'en)
      3s-leg-pos
      'his leg'
   b. **be**-ghuɬdl-**e'**
      3s-sled-pos
      'his/her sled'

The way possession is marked is lexically conditioned. A group of nouns appears possessed only with a possessor prefix, such as 'hand' in (112a); another group of nouns requires both a possessor prefix and a suffix, such as 'leg' in (113a). According to Thompson (1996), it is not possible to predict from the semantics of the noun whether it can form a possessive construction only with a possessor prefix or whether it requires both a prefix and a suffix.[15]

As I mentioned above, LC_3, the third noun class, consists of nouns that cannot select for a possessor prefix or a combination of a possessor prefix and the suffix *-e'* directly. Usually, those nouns are loanwords such as 'bread', 'flash-

[15]Thompson (1996: 661) lists three noun stems that can appear possessed in two ways, shown in (112) and (113); these nouns are 'foot/sole of a boot', 'leg/bone', 'skin/belt'. However, the lexical meaning of the nouns differs depending on the exact way possession is expressed. Therefore, these nouns are likely to be cases of systematic polysemy; see chapter 2 for more details.

light', 'cup' and 'watch'. These nouns can appear possessed through mediation of the prefix *k'e-*, as shown in (114).[16]

(114) **se-k'e**-sookaanee
1s-K'E-bread
'my bread' (Thompson 1996: 663)

The prefix *k'e-* can attach to LC_1 and LC_2 nouns, as shown in (115). Obligatorily possessed LC_1 nouns, if combined with *k'e-*, can form a grammatical noun phrase, as shown in (115a) for *tlee'* 'head'. According to Thompson, *k'e-* is a "bound pronoun", meaning 'something'. As far as I could understand it from the description in Thompson (1991), *k'e-* is commonly used when the referent can be easily figured out from the context or from the common knowledge of the speakers. Thus *k'e-* can be interpreted as a "generic" possessor in the given context. For instance, in (115b), it is a part of the common knowledge that the stump is a part of a tree. However, the possessor, the tree, is not explicitly named.

(115) Koyukon (Thompson 1996: 656)
a. **k'e**-tlee' (*tlee')
K'E-head
'someone's head'
b. **k'e**-ken-e'
K'E-stump-pos
'(tree) stump' (lit. stump of something)

It is important to mention that *k'e-* is not a designated possessive marker. It is a multifunctional morpheme. Other functions of *k'e-* are less understood. It can also appear in the verbal domain. Thompson (1991: 71) mentions that it can also appear in questions, as shown in (116b). Examples like (116b) suggest that, whatever a function of *k'e-* is, it is not a possessive marker. Its use is not restricted to possessive environments.

(116) Koyukon (Thompson 1991: 71)
a. gin meendaaga?
what mittens
'What kind of mittens? Mittens for what purpose?'
b. gin **k'e**-meendaaga?
what K'E-mittens
'What mittens?'[17]

The prefix *k'e-* also appears in recursive possessive constructions, such as 'my

[16] One can think of *k'e-* in this environment as a pronoun, 'someone's', or as a modifier, 'own'.

[17] Thompson (1991: 71) claims that there is a meaning difference between (116a) and (116b). In (116b) "the existence of the mittens is in question, not their identity".

moose head' and 'my rabbit foot' in (117). In these constructions, there are two overt possessors. For instance, in (117a) 'moose' stands in a body-part relation with the possessed noun, 'head', while '1SG' stands in an ownership relation with the possessed noun 'head'.

(117) Koyukon (Thompson 1996: 667-668)
a. se-**k'e**-dineega tlee'
1s-K'E-moose head
'my moose head'
b. ne-**k'e**-gg~~u~~h kkaa'
2s-K'E-rabbit foot
'your rabbit foot'

We also find examples with two occurrences of *k'e-*, as shown in (118b), for the LC_1 noun *tlee'* 'head'. This example resembles the recursive possessive constructions in (117). However, the first possessor is not mentioned explicitly. Instead, we see the recursive prefix *k'e-*.

(118) Koyukon (Thompson 1996: 667)
a. **se**-tlee' (*tlee')
1s-head
'my head'
b. **se-k'e-k'e**-tlee'
1s-K'E-K'E-head
'my (animal) head'

In table 4.19, I summarize the information about possessive marking in Koyukon.

<table>
<tr><td>Lexical class</td><td>LC_1</td><td>LC_2</td><td>LC_3</td></tr>
<tr><td>Overt possessor?</td><td>obligatory</td><td>optional</td><td rowspan="3">adnominal possession cannot be expressed without additional morphological modifications</td></tr>
<tr><td rowspan="2">Marking strategy + possessor</td><td colspan="2">possessor argument</td></tr>
<tr><td colspan="2">possessor argument + -e'</td></tr>
<tr><td>Marking alternations</td><td colspan="2">not attested</td></tr>
<tr><td>Prefix k'e</td><td colspan="2">unmentioned or unknown possessor</td><td>enables attachment of possessor prefix</td></tr>
<tr><td>Example</td><td>**be**-lo'
3s-hand</td><td>**se**-'oye'
1s-snowshoes</td><td>**se-k'e**-sookaanee
1s-K'E-bread</td></tr>
</table>

Table 4.19: Marking strategies in Koyukon

Analysis. I assume that obligatorily possessed nouns in Koyukon (LC_1) are syntactically and semantically relational. A lexical entry for *lo'-* 'hand' is provided in (119). These nouns cannot form a grammatical nominal phrase without an overtly expressed possessor.

(119) $[\![\text{lo'-}]\!] = \lambda x \lambda y.$ hand (x,y)

For LC_2 and LC_3 nouns, I assume that they are sortal. The lexical entries are shown in (120).

(120) a. $[\![\text{'oye'}]\!] = \lambda x.$ snowshoes (x)
b. $[\![\text{sookaanee}]\!] = \lambda x.$ bread (x)

In table 4.20, I summarize the configurations that need to be accounted for. The configuration is schematically shown in the middle column, while on the left the number of the corresponding example is provided. The shaded cells show important differences between Koyukon and Slave (for the Slave data, see table 4.17 in section 4.3.4). One difference that immediately catches the eye is that Koyukon has only one suffix *-e'*, while Slave has two suffixes: *-˝* and *-é*. Another difference relates to the configurations with the prefix *k'e-* in Koyukon in A2, C and D; as I discuss in more detail below, these constructions are quite different from the constructions with the prefix *ʔe-* in Slave. I take this difference in the distribution to show that the functions of the superficially similar prefixes in the two languages are very different. Finally, the recursive constructions with multiply expressed possessors, as shown in D for Koyukon, were not attested in Slave.

The basic pattern A1 is that a group of nouns does not require any designated possessive morphology. Possession is marked by juxtaposing such a noun with a possessor prefix like *se-* '1s'. On the one hand, the application of possessor prefixes seems to be heavily conditioned by lexical restrictions. Thus, possessor prefixes don't attach directly to loanwords, as we saw in (114). Similarly, they cannot select directly for a whole possessive complex with an overtly expressed possessor, as we see in (117). In both cases, additional mediation of *k'e-* is required. On the other hand, there is no evidence that the possessor prefix determines the meaning of the possessive construction. Compare the examples in (121). Despite the fact that the relation between the possessor and the head is different in (121a) and (121b), the prefix *se-* remains the same.

(121) a. **se**-tlee' (*tlee')
1s-head
'my head'
b. se-**k'e**-dineega tlee'
1s-K'E-moose head
'my moose head'

Therefore, I assume that the only function of the possessor prefix is to introduce a possessor argument. This assumption leads to the following conclusion.

	configurations	corresponding example
A1	Possessor + $NP_{sortal/relational}$	(112)
A2	Possessor + $NP_{sortal/relational}$ + *-e'*	(113)
	Possessor + *k'e-* + NP_{sortal}	(114)
	*$NP_{sortal/relational}$ + *-e'*	not attested
B	*k'e-* + $NP_{sortal/relational}$	(115a)
	k'e- + $NP_{sortal/relational}$ + *-e'*	(115b)
C	Possessor + *k'e-* + $NP_{sortal/relational}$	A2 above
	Possessor + *k'e-* + $NP_{sortal/relational}$ + *-e'*	not attested
D	Possessor + *k'e-* + Possessor + $NP_{sortal/relational}$	(117)
	Possessor + *k'e-* + *k'e-* + $NP_{sortal/relational}$	(118b)

Table 4.20: Slave: configurations to account for

Although expression of possession formally looks the same for relational nouns (LC_1) and sortal nouns (LC_2), as shown in (122a) and (122b), there are two different semantic processes behind it.

(122) Koyukon (Thompson 1996: 660-663)
a. **se**-tlee' (*tlee')
1s-head
'my head'
b. **se**-'oye'
1s-snowshoes
'my snowshoes'

If a possessor prefix combines with a relational noun, such as 'head', the possessor prefix fills an argument slot of the relation encoded in the noun. This is shown in (123a) for the '1s' possessor (speaker). In case of a sortal LC_2 noun, such as 'snowshoes', coercion is required in order to combine a possessor prefix with a noun. The sortal noun is coerced into a relation; after that, the possessor prefix fills the argument slot of this relation. For (123b), I assume that the relation between the possessor (speaker) and the snowshoes is ownership, derived by means of coercion.

(123) a. $[\![\text{se-tlee'}]\!] = \lambda y.$ head (s)(y)

b. ⟦se-'oye'⟧ = λy. snowshoes (y) & R_{poss}(s)(y)

There basic configuration A2 corresponds to two constructions, shown in (124). One construction involves a noun (sortal or relational), a possessor prefix and the suffix *-'e*. The other construction involves a sortal noun, a possessor prefix and the prefix *ke-*.

(124) Koyukon (Thompson 1996: 668)
a. **be**-tl'en-**e'** (*tl'en)
3s-leg-pos
'his leg'
b. **se-k'e**-sookaanee
1s-K'E-bread
'my bread'

A deeper study of Koyukon grammar is needed in order to account for the various uses of *k'e-* listed in Thompson (1991). For the purpose of this work, I preliminary suggest that *k'e-* introduces a variable into the argument structure of a noun or a predicate. In the nominal domain, a structural parallel would be pronoun doubling, like *John, his car*, where *his* performs a function similar to *k'e-*. Another parallel is a possessive construction, modified by *own*: *his own car*, where *own* resembles *k'e-*.

The prefix *k'e-* requires a relation, in which it will fill an argument slot. For sortal nouns, like 'bread', 'flashlight', 'cup', 'watch', I assume that attachment of *k'e-* involves coercion. A noun has to type-shift from a property to relation in order to combine with *k'e-*. For example, this relation might be ownership, as shown in (125b). This variable introduced by *k'e-* needs to be bound by a possessor. In (124b), the possessor that binds the variable introduced by *k'e-* is expressed overtly; it is *se-* '1s'.

(125) a. ⟦sookaanee⟧ = λy. bread(y)
b. ⟦k'e_1-sookaanee⟧ = $\lambda x \lambda y$. bread(y) & R_{poss}(x,y)(g(1)) (coercion)
c. $\lambda z.[\lambda x$. bread(y) & R_{poss}(g[1 → z](1))(y)](z) variable binding; modifying the assignment function
d. ⟦se-k'e_1-sookaanee⟧ = λy. bread(y) & R_{poss}(s,y) (binding the variable by a 1st person possessor)

The data on the distribution of the suffix *-e'* are scarce. I will return to this suffix in the Problems section.

Configuration B involves a combination of a noun and the prefix *k'e-*. The examples from (126) are repeated from (115a), There is no overt possessor prefix. The resulting interpretation is indefinite, like 'someone'; the possessor is derivable from the context, but not explicitly mentioned.

(126) **k'e**-tlee' (*tlee')
K'E-head

'someone's head'

I propose that in this kind of example, the variable introduced by *k'e-* is existentially bound. Thus, *k'e-head* in (115a) denotes an object that is a head and is in a part-whole relation with someone. I assume that there is a silent type-shifter Ex (see Barker 2008) that changes a relation into a property by closing off an argument slot of the relational noun (see the discussion in section 4.3.1). Note that in the previous case studies, of Movima and Slave, I assumed that Ex has a morphological representation (*kwa-* and *ʔe-* respectively). However, for Koyukon, I don't assume that *k'e-* is an overt representation of Ex. As I discuss in more detail below, the functions of *k'e-* in Koyukon are quite different. For instance, if *k'e-* were an overt representation of Ex, it would be very puzzling that it obligatorily appears on sortal nouns like *sookaanee* 'bread' in (124b). There is no relation that needs to be closed off and the resulting interpretation is not 'someone's bread in my possession'. According to my analysis, the suffix *k'e-* only introduces a variable. Type-shifting takes place covertly, as shown in (127). Here I need to specify that Ex in Koyukon can only apply to a construction containing *k'e-*, but not to a relational noun itself (**tlee'* as 'someone's head').

(127) a. $[\![\text{tlee'}]\!] = \lambda x \lambda y.\ \text{head(x,y)}$
b. $[\![\text{k'e}_1\text{-tlee'}]\!] = [(\lambda x.\ \text{head(x,y)})(\text{g}(1))=$
$= \lambda x.\ \text{head(g}(1)\text{(y))}$
c. $\lambda z.[\lambda x.\ \text{head(g}[1 \rightarrow \text{z}](1))(\text{x})](\text{z})$ variable binding; modifying the assignment function
d. $[\![\text{Ex}]\!]([\![\text{ke-tlee'}]\!]) = \lambda x.\exists z.\ \text{head(z,x)}$ closing off the argument slot

Thus, the prefix *k'e-* introduces a variable; it is syntactically unconditioned and can apply to both relational and sortal nouns. The variable introduced by *k'e-* needs to get bound. This can be done either by means of existential closure, as in (127d) (B) or by an overtly expressed possessor as in (125d) (A2).

The crucial difference between the variable introduced by *k'e-* and the possessor prefixes in Koyukon is that *k'e-* does not seem to have any selectional restrictions. While possessor prefixes are restricted to a limited class of nouns, *k'e-* seems to be able to combine with any noun or nominal complex whatsoever.

Finally, configuration D involves recursive possessive constructions. As we see in the examples in (128), a possessive complex containing *k'e-* can appear juxtaposed to a possessor prefix. In (128b), we even see two occurrences of *k'e-*. Note that none of these configurations was attested in Slave, which again indicates that the meaning of *k'e-* in Koyukon is very different from the meaning of *ʔe-* in Slave.

(128) a. **se-k'e**-dineega tlee'
1s-K'E-moose head
'my moose head'

b. **se-k'e-k'e**-tlee'
1s-K'E-K'E-head
'my (animal) head'

For recursive possessive constructions such as (128a), I assume that the process is similar to what we see with sortal nouns, for instance in (114). In the presence of *k'e-*, the whole possessive construction 'moose head' is coerced into a relation, where *k'e-* introduces a variable into an argument slot. After that, *k'e-* gets bound by an overtly expressed possessor, *se-* '1s'. The resulting interpretation is 'moose head', with which the speaker is in an ownership relation.

Double occurrence of *k'e-*, as in (128b), involve two variables. The first occurrence of *k'e-* fills the argument slot of a relational noun and gets bound by existential closure (the covert Ex). Then, the second occurrence of *k'e-* forces coercion of the whole possessive construction 'someone's head' into a relation. The second occurrence of *k'e-* gets bound by the '1s' possessor argument. The resulting interpretation is 'someone's head', with which the speaker is in an ownership relation.

Problems, questions for further research. There are two main problems I want to discuss in this section. Both of them relate to a bigger methodological problem of "missing data", already addressed in chapter 1. The analysis I provide relies on the data from secondary sources. Unfortunately, in most cases I cannot get additional examples to check my hypothesis. The fact that a certain construction is unattested can always mean two things: either the relevant data are missing by coincidence, or the construction is ungrammatical.

The first problem I want to address concerns my analysis of the prefix *k'e-*. There is one potential argument against my treatment of the prefix *k'e-* as a variable. Thompson (1996: 666) shows that for a few sortal nouns that can combine with the possessor prefix directly, the presence of *k'e-* can give rise to a meaning effect. As shown in (129), *nelaane'* 'meat', a sortal noun, when combined with a possessor directly, is interpreted as the possessor's flesh. In contrast, the same noun in the presence of *k'e* is interpreted as meat in a possessor's ownership.[18]

(129) Koyukon (Thompson 1996: 666)

[18] A parallel example was found for the noun *kkon'* 'stitches/thread' in (i). Again, the presence of *k'e-* seems to yield a difference in the interpretation; stitches in (ia) and 'thread' in (ib).

(i) Koyukon (Jones and Kwaraceius 1997: 157)
a. **se**-kkon'
1s-thread
'my stitches'
b. **se-k'e**-kkon'
1s-K'E-thread
'my thread'

a. nelaane'
'meat'
b. **be**-nelaane'
3s-meat/flesh
'his flesh'
c. **se-k'e**-nelaane'
1s-K'E-meat/flesh
'my meat (from an animal)

From this example, one gets an impression that the presence of the person-number prefix *be-* '3s' yields a body-part interpretation, while the presence of *k'e-* yields a less stereotypical interpretation of ownership. This effect is very similar to the one we saw with alternation of idiosyncratic and non-idiosyncratic marking in chapter 2. On my analysis, however, both examples in (129b) and (129c) should involve coercion of the sortal noun *nelaane'* 'meat' into something relational. It is unclear how the difference in relation shown in (129) would come about.

One possible (and a very trivial) explanation is that *nelaane'* is a polysemous noun. On one reading 'flesh', it denotes a body part and it can select for the possessive prefix *be-* '3s'. On its other reading, it can't select for a possessor without the mediation of *k'e-*. Another explanation I can suggest relies on the contrast between the presence and absence of *k'e-* in (129). As the possessor prefix in (129b) does not determine a relation, the possessive construction is potentially ambiguous between various relations. If the speaker chooses to use the modifier *k'e-* instead of simple juxtaposition with the possessor, the hearer can infer that the speaker has some reason to do so, for instance, disambiguation. Thus, the presence of *k'e-* in (129c) does not introduce a new relation between the possessor and the possessed but simply makes one of the available relations more salient. A similar effect can be observed with *own* in English; while *my car* is ambiguous, for instance, between 'my company car' and 'my private car', among many other possible interpretations, *my own car* makes the interpretation 'my private car' much more salient. There are too little data for a conclusive analysis of such cases. I can only argue that the meaning effect is different from what we saw in chapter 2; it is not due to the possessive prefix or the prefix *k'e-* introducing a relation of their own.

The second problem, which I already mentioned in the discussion of configuration A2 concerns the role of the suffix *-e'*. There is a group of nouns that require this suffix in order to appear possessed. As shown in (130), repeated from (113), this group includes some relational as well as some sortal nouns.

(130) Koyukon (Thompson 1996: 668)
a. **be**-tl'en-**e'** (*tl'en)
3s-leg-pos
'his leg'

b. **be**-ghu~~u~~dl-**e'**
3s-sled-pos
'his/her sled'

This distribution immediately raises a problem for an analysis of *-e'*. The same problem has already been addressed in the discussion of suffixes in Slave. One could think that *-e'* is a marker of possession and provides a relation for a construction with a sortal noun in (130b). However, this doesn't explain why *-e'* is required in a possessive construction with a relational noun, as in (130a). On the contrary, if *-e'* provides an additional relation between the possessor and the possessed, the expected interpretation for (130a) would be 'a leg that is his body part and stands in a relation with someone'. But this interpretation is not indicated in the description of the data.

Another argument against treating *-e'* as a marker of possession is that we don't find it in recursive possessive constructions which involve multiple possessive relations, such as (131). The fact that these examples are unattested might be a coincidence, but it might also be telling. I assume that it is not possible.

(131) a. **se-k'e**-dineega tlee'
1s-K'E-moose head
'my moose head'
b. **se-k'e-k'e**-tlee'
1s-K'E-K'E-head
'my (animal) head'

As I discuss above, in the examples in (131), the possessed noun *tlee'* is involved in two possessive relations. One relation is provided by the possessed noun *tlee'*; 'head' is a body part of a possessor. The other relation, something like 'ownership' is probably provided by the context. If *-e'* were a marker of possession, one would expect it to help to establish this contextual relation. But we don't find any corresponding examples.

It seems to me that the suffix *-e'* has undergone some semantic bleaching in Koyukon. While selectional requirements of some nouns still urge its presence in basic possessive constructions, its semantic contribution is empty. Compared to Slave, where possessive suffixes give rise to a meaning effect in constructions with sortal nouns, *-e'* in Koyukon does not seem to have this function either.

I am aware of one example of which the interpretation seems to be greatly affected by the presence of *-e'*. This example involves possessive constructions with animals, such as 'rabbit'. According to Thompson (1996: 666), a possessive construction with the noun 'rabbit' and the suffix *-e'*, as shown in (132b), is infelicitous. It can only be used to refer to a rabbit as a possessor's pet, like *leeg* 'dog' in (132a).[19] However, rabbits are usually not kept as pets in Koyukon

[19]Thompson (1996: 666) claims that possessive constructions with animals are special in Koyukon, because the lexical semantics of animal names involves a spirit. It might be that

households.

(132) Koyukon (Thompson 1996: 666)
a. si-leeg-e'
1s-dog
'my dog'
b. ?se-gg~~u~~gfi-**e'**
1s-rabbit-**pos**
'my rabbit (pet)' this example is questionable for cultural reasons

In order to express that the relation between the possessor and the rabbit is not 'pet', the prefix *k'e-* should be used, as shown in (133). Note that the suffix *-e'* is no longer present in this construction.

(133) **se-k'e**-gg~~u~~fi
1s-K'E-rabbit
'my rabbit (game)'

As the data are so scarce, it is very difficult to say what this example actually tells us. In my analysis, the semantic contribution of *k'e-* is not a relation but a variable. The possessive relation is established by means of coercion. If the meaning contribution of the suffix *-e'* is none, as I suggest above, the interpretation of (132b) should also involve coercion and thus should be equivalent to (133). Why do the speakers show a preference for one of the constructions, but not the other? I have to leave this question for further research. One of the explanations might be historical. If there was a stage in the development of Koyukon such that the suffix *-e'* functioned as a possessive marker, the speakers might still associate this meaning with some of the possessive constructions. Thus, we might be dealing with semantic bleaching and some data "in between" the two stages of language change.

Conclusion. The system of possessive marking in Koyukon is schematically shown in table 4.21.

According to my analysis of Koyukon, there is no opposition between idiosyncratic and non-idiosyncratic strategies. In contrast to the other languages discussed in this chapter, Koyukon does not make use of possessive morphemes to introduce a relation between a possessor and a possessed noun. I analyze the suffix *-e'* in Koyukon as semantically empty, probably as the result of bleaching. In my analysis, if Koyukon is compared with Slave, what we observe is a shifted semantic burden. In Slave, suffixes are required to express possession with sortal nouns. In Koyukon, the existing suffix isn't even needed to express possession with sortal nouns. There are other ways of expressing possession with sortal nouns: 1) coercion 2) constructions in which the prefix *k'e-* takes

historically the suffix *-e'* could make use of the lexical feature [has sprit] in order to derive a 'pet' relation, as in (132a) for 'dog'.

Lexical class	Marking strategy + possessor	Interpretative Strategy	Relation
LC_1	possessor possessor + *-é*	relational noun	relation provided by the noun
LC_2	possessor Possessor + *-é*	coercion	contextually provided (unrestricted) relation
LC_3	*k'e-* + possessor	coercion	contextually provided (unrestricted) relation

Table 4.21: Koyukon: relational and sortal nouns

part of the job.

I analyze the prefix *k'e-* in Koyukon as introducing a variable that needs to get bound. This can be done by means of existential closure or by introducing an overt possessor. This accounts for the difference in distribution between *k'e-* and *ʔe-* in Slave.

4.3.6 Conclusion

In this section, I showed that semantic opposition between idiosyncratic and non-idiosyncratic strategies is not the only factor behind differential possessive marking. And vice-versa, the difference in meaning between two possessive constructions is not always a result of a semantic opposition between two possessive morphemes (strategies). Specifically, we see that the distinction between relational and sortal nouns can play an important role in determining possessive marking and establishing possessive interpretation.

The syntacto-semantic opposition between relational and sortal nouns can co-exist with the split between idiosyncratic and non-idiosyncratic strategies, as we see, for instance, in Daakaka, Movima and Slave. At the same time, a language might have no opposition between idiosyncratic and non-idiosyncratic strategies, as we see in Koyukon. The meaning effects can result from the specific mechanisms the language adopts in order to establish a relation between a noun and a possessor. Thus, in Koyukon, the main mechanism behind possessive marking is coercion.

4.4 Conclusion

In this chapter, I discussed languages with multiple marking strategies. I showed how the account I developed in chapter 2 can be extended to more complex systems. Importantly, I showed that the meaning-based distinctions in the expression of possession need to be distinguished from form-based distinctions. There are two patterns of distribution that we find which reflect two possible correspondences between a formal and a meaning-based distinction.

- Pattern of distribution 1: Lexically conditioned allomorphy. The marking strategies have different forms but their meanings are the same. The choice of the strategy is determined by **lexical restrictions** of the noun.
- Pattern of distribution 2: Differences in possessive relations expressed come from the possessive markers themselves. The relations are constrained by the **presuppositional restrictions** of the markers.

Pattern of distribution 2 has been discussed in detail in chapter 2. In the first part of this chapter, I dealt with the form-based distinction that corresponds to Pattern of distribution 1. I showed that one language can have multiple formal exponents of one strategy. In the end, such systems can be successfully reduced to the binary opposition between idiosyncratic and non-idiosyncratic strategies (Pattern of distribution 2). In the second part of the chapter I discussed more complex systems. I showed that semantic competition between idiosyncratic and non-idiosyncratic strategies might coexist with other ways to express possession which can be orthogonal to the first distinction. For instance, the possessive interpretation might be provided by the relational possessed noun or it might arise as the result of coercion. The meaning effects look superficially similar. Therefore, it is important for a cross-linguistic analysis to control for various semantic factors carefully.

In the next, concluding chapter, I discuss questions for further research. I turn to several languages that did not make it into the current study: Hungarian, Mandarin and Hebrew. I hypothesize about other factors that might intervene with possessive marking and possessive interpretations.

CHAPTER 5

Conclusion

This dissertation provides a typologically informed formal (semantic) analysis of adnominal possession. The object of study is the relation between the formal marking of a possessive construction and its possessive interpretation. Focussing on the expression of possession cross-linguistically, I investigate how various semantic types of possession map onto morphosyntactic constructions. I argue that distinct formal marking may correspond to distinct types of relations between the possessor and the possessed. The typological part of the study is done with help of a database of adnominal possession, which was created as a part of my work within the NWO-sponsored project, *Lend me your ears: the grammar of (un)transferable possession*. The current version of the database provides insights about how possession is expressed in 70 genetically diverse languages. For the discussion in the thesis, I made a selection of 54 languages from 28 different language families. Focusing on distinct formal marking of possession, I show that morphosyntactic strategies differ with respect to the relations they can convey. In this chapter, I first discuss some problems that require further investigation. In the second part of the chapter, I sum up the main findings of the dissertation.

5.1 Problems and prospects

In this thesis, I argued for a semantic opposition between possessive markers. The gist of the proposal, developed in chapter 2, is that two morphosyntactic strategies to express possession might differ with respect to their presuppositional requirements. The strategy I call idiosyncratic can only express stereo-

typical relations that are systematically derived from the possessed noun. This restriction is a presuppositional requirement on the values of a relational variable. The non-idiosyncratic strategy is unrestricted. It involves a free variable over relations, which is compatible with any relation between the possessor and the possessed. The values the variable can take are not restricted by a presupposition. In my analysis, the choice between the two strategies is determined by a general pragmatic principle, *Maximize Presupposition* (Heim 1991). In case the speaker chooses a non-idiosyncratic strategy for a noun that can select for an idiosyncratic one, the hearer can infer that the stereotypical relation does not hold. The intended relation can then be derived from the context.

In this section, I discuss several languages for which the proposed analysis was not directly applicable. I argue that this is because external factors affect the distribution of the morphosyntactic strategies to express possession. The relation between the possessor and the possessed only partially determines their distribution. This interaction between the relations that possessive strategies can express and other factors that determine the distribution of the possessive strategies requires further and deeper language-specific study. Such study would be beyond the scope of this dissertation. Therefore, I only provide a number of examples and make some suggestions on what a possible approach to such cases might look like.

This problem can be described in terms of multifunctionality of a single morpheme. I will use examples from Mandarin to illustrate it. While Mandarin commonly appears in the discussion of inalienable possession and kinship terms (Den Dikken 2015, Niu 2016, see also the discussion in Chappell 1996), the system of possessive marking in this language functions differently from that in the languages discussed in chapter 2.

Mandarin. In Mandarin Chinese, possession can be expressed by juxtaposition of the possessor and the possessed, as in (19a), or by an additional marker *de*, as in (19b). It has been noted in many studies (Luo 2013, Dragunov 1952, Egerod 1985, Niu 2016 inter alia) that speakers of Mandarin prefer juxtaposition for kinship terms like *erzi* 'father' or *fúqin* 'brother' in (4b) if these phrases appear out of the blue. However, possessive constructions without *de* are usually rejected if the possessed is not a kinship term, such as *chezi* 'bike' in (19b).

(1) Mandarin Chinese[1]

a. ta erzi/fúqin
   3sg son/father
   'his son/father'

b. ta ?(de) chezi
   3sg de bike

[1]The examples in (19), (3) and (4) are modified from Chappell (1996), verified in Leiden with Y. Yang (p.c.)

'his bike'

At first sight, this opposition between juxtaposition and *de* resembles the semantic opposition between idiosyncratic and non-idiosyncratic strategies described in chapter 2. One could hypothesize that juxtaposition is only compatible with stereotypical relations, such as those of kinship for nouns like *erzi* 'father' or *fúqin* 'brother'. This hypothesis seems to be confirmed by the fact that if the possessed noun is a kinship term, *de* is preferred by Mandarin speakers so long as the relation between the possessor and the possessed is not the stereotypical one. The contrast between a stereotypical and a contextually provided relation is shown in (2). In (2a), the relation between the possessor and *haizi* 'kid' is a stereotypical one: the possessor is the mother. In (2b), the relation between the possessor and *haizi* 'kid' is provided by the context: the possessor is a doctor to whom the baby has been assigned. In the second case, only a construction with *de* can be used felicitously.

(2) Mandarin Chinese

a. wo háizi meiyou ku
my kid not cry
'my baby doesn't cry' (said by said by the child's mother)

b. wo de háizi meiyou ku
my **de** kid not cry
'my baby doesn't cry' (can be said by a doctor assigned to take care of the child to a doctor taking care of another child)

However, as discussed by Chappell (1996), the choice of the morphosyntactic strategy in Mandarin is determined, among other factors, by the information structure of the clause. For instance, the sentences in (3) and (4) show that the contrast between kinship terms and other nouns can be neutralized. In (3a) and (3b), juxtaposition is the preferred option both for a noun like *chezi* 'bike' and for a kinship term like *fúqin* 'father'. These two examples show that it would be wrong to analyze juxtaposition as an idiosyncratic strategy that is only compatible with kinship terms and stereotypical relations.

(3) Mandarin Chinese

a. Tamen ba ta chezi fu-qilai le
They BA 3sg bike support.up LE
'They stood up his bike'

b. Tamen ba ta fúqin zhuā-qilai le
they BA 3sg father arrested LE
'They arrested his father'

By contrast, in (4a) and (4b), *de* is preferred for both possessed nouns *chezi* 'bike' and *fúqin* 'father'. The sentence receives a contrastive interpretation, so that the third person possessor is contrasted with some other contextually provided possessor (HIS bike and not YOURS).

(4) Mandarin Chinese

a. Tamen ba ta **de** chezi fu-qilai le
They BA 3sg GEN bike support.up LE
'They stood up HIS bike'

b. Tamen ba ta **de** fúqin zhuā-qilai le
they BA 3sg de father arrested LE
'They arrested HIS father'

These two examples in (4) show that the use of *de* does not necessarily give rise to an inference that the stereotypical relation between the possessor and the possessed does not hold. In (4b), the relation between the possessor and the father is the stereotypical one; it is kinship. This example can be contrasted with the one in (2b), in which the relation between the possessor and the possessed is provided by the context.

It appears that the use of different morphosyntactic strategies to express possession in Mandarin is complicated by the multi-functionality of the particle *de*. Its use is not only determined by the relation between the possessor and the possessed, but also by the information packaging of the clause. While we do see a semantic opposition between the use of *de* and juxtaposition, we can't access it unless other factors are controlled for.[2]

We encounter similar problems if we look at possessive marking in some other languages. Below, I provide similar examples from Hebrew (Afro-Asiatic), Maltese (Afro-Asiatic) and Kayardild (Tangkic).

Hebrew. Hebrew is another language which often appears in the discussion when the relations between the possessor and the possessed are concerned. Compare Aikhenvald (2000: 138): "'Closer' possession is claimed to be marked by possessive suffixes in Hebrew (according to Berman and Bolozky 1978): *sifri* 'my book; the one I have written'; with a 'less close' possession being marked by possessive pronouns: *sefer šeli* 'my book; the book I own'." In Hebrew, possession can be expressed by nominal inflection, by the construct state or by a construction that involves the preposition *šel* (genitive particle in Berman and Bolozky's (1978) terms).

(5) Hebrew

a. **bgad-av**
clothes.CS-3SG

[2]What complicates the matter even more in the case of Mandarin is that the use of *de* is not restricted to possessive constructions. It appears in nominal phrases between the noun and its modifier (of almost any possible type). Compare the construction with an adjective in (i).

(i) dà **de** yú
big DE fish
'big fish' (Cheng and Sybesma 2009: 234)

'his clothes'

b. ha-**bgadim** šel-o
DEF-clothes of-3SG
'his clothes'

The construction with a preposition shows greater semantic flexibility. Thus, (6a) can only be interpreted as the 'sister' in a kinship relation with the possessor. By contrast, (6b) can be interpreted as the 'sister' in some contextual relation with the possessor, for instance, 'nurse'.

(6) Hebrew (Segal p.c.)

a. **axot-i**
sister-1SG
'my sister'

b. ha-**axot** šel-i
DEF-sister of-1SG
'my nurse' (could also mean 'my sister')

As shown in (7), the use of construct state for a body part separated from the possessor is considered strange.

(7) Hebrew (the example and glosses are modified from Heller 2002)

a. **yedey** ha-mit'amel
hand-PL.CS DEF-gymnast
'The gymnast's hands' (literary form, would be strange to use if the hands were separated from the body)

b. ha-**yad-ayim** šel ha-mit'amel
DEF-hand-PL of DEF-gymnast
'The gymnast's hands' (could be said if the hands were separated from the body)

However, the construction with *šel* is compatible with both stereotypical (body part) and contextually provided (severed body part) interpretations. It does not give rise to an inference that the stereotypical body-part relation between the possessor and their hands does not hold.[3] The choice of the possessive marking is primarily style dependent. Berman and Bolozky (1978: 232) observe that in

[3]Some speakers note that the use of the preposition with some of the kinship terms can give rise to a change in interpretation. For instance, the prepositional construction to talk about the sister in-law, as in (i) can be understood as having negative connotations, as if the speaker is trying to distance herself from the person in question.

(i) Hebrew (Segal p.c.)

a. **gisat-i**
sister.in.law-1SG
'my sister-in-law'

b. ha-**gisa** šel-i
DEF-sister.in.law of-1SG
'my sister-in-law (I don't like her)'

daily language use, strategies involving a preposition "... are preferred over the more formal bound forms - both in expressing the relations of possession and in expressing other relations". On top of that, nominal inflection and construct state are becoming more and more rare in modern Hebrew.

In addition, another semantic factor, namely definiteness, seems to intervene with the use of the construct state in Hebrew. Definiteness can never be marked on the construct state, as we see it marked on the possessed noun in *šel*-constructions. Compare *yedey* 'hands' in (7a) and *ha-yadayim* 'the hands' in (7b). There are various accounts of definiteness in the construct state. According to Heller (2002), for instance, the construct state always denotes a unique individual. These observations show that it is very difficult to control for all the factors that interfere with the expression of possession in Hebrew.

The goal of my discussion of Mandarin and Hebrew is to show that possessive marking can be complicated by various factors other than the relation between the possessor and the possessed. We see that the meaning effect discussed in chapter 2 appears to be there under some circumstances but then disappears because of the interplay with information structure, style and possibly definiteness. The data I have from other languages are scarce and I can only hypothesize that there are similar factors that must be controlled for in order to provide a complete account.

Maltese. In chapter 2, I mentioned possessive constructions in Maltese. Similarly to Hebrew, Maltese makes use of either the construct state or a construction with a preposition to express possession. According to Fabri (1993), the construct state is the preferred option to express relations with a number of body parts. The use of the prepositional construction with these nouns gives rise to a meaning effect that the body part is detached. For instance, in Maltese (8a), 'Basil's head' is a body part of Basil, which is stereotypically possessed. In (8b), a prepositional construction, the interpretation is that the head is detached from Basil.

(8) Maltese (Fabri 1993: 162)

a. **ras** Basilju
head Basil
'Basil's head'

b. ir-**ras** ta' Basilju
DF-head of Basil
'Basil's head (detached)'

If a body part can't appear in the construct state construction, such as *kliewi* 'kidney' in (9), both interpretations are available for the prepositional construction. This semantic flexibility is expected under my analysis of the possessive construction employing the construct state as the idiosyncratic, and that em-

However, I could not replicate this judgement for all the speakers I asked.

ploying the preposition as a non-idiosyncratic. The non-idiosyncratic strategies are compatible with any relation whatsoever.

(9) Maltese (Fabri 1993: 161)
   a. *__kliewi__ Chomsky
      kidney Chomsky
      intended: 'Chomsky's kidneys'
   b. il-__kliewi__ ta Chomsky
      DF-kidney of Chomsky
      'Chomsky's kidneys' (can be inside the body or severed)

There is also a subclass of kinship terms for which both types of marking are available. However, Fabri (1993) points out that alternation between possessive marking on kinship terms does not give rise to the meaning effect discussed above. At least both constructions in (10) are compatible with a stereotypical kinship interpretation.

(10) Maltese (Fabri 1993: 162)
   a. __nannt__ Ganni
      grandmother Hans
      'Hanse's grandmother'
   b. in-__nanna__ ta' Ganni
      DF-grandmother of Hans
      'Hanse's grandmother'

I do not know why the meaning effect in Maltese disappears in possessive constructions like (10). There might be various reasons for it. For instance, Stolz et al. (2008) argue that the distribution of possessive marking in Maltese is not solely determined by the relation between the possessor and the possessed, but also by style, emphasis, phonological properties of the possessed noun, etc. With the limited data available, it is impossible to draw any conclusions. A more detailed study is needed to determine various factors that affect the choice of the possessive marking.

Kayardild. Finally, I want to mention the similar problem of the "disappearing meaning effect" in Kayardild (Tangkic). Very similar patterns have been observed for some other Australian languages, for instance, Wargamay (Dyirbalic) in Dixon (1981: 75-76) and Dyirbal (Dyirbalic) (Dixon 1972: 61-62). The morphological contrast one observes is between juxtaposition and the use of genitive inflection on the possessor.

(11) Kayardild (Evans 1995: 248, 152)
   a. dangkaa thukan-da
      man chin-NOM
      'the man's chin'

b. wanku-**karra** daman-da
shark-GEN tooth-NOM
'(the/a) shark's tooth (detached)'
c. bijarrba-**karra** marl-da nga-rr-a kurri-ja kabara-y
dugong-GEN hand-NOM 1-DU-NOM see-ACT saltpan-LOC
'We saw a dugong's (severed) flipper on the saltpan.'

Evans (1995: 248) points out that the use of the genitive can give rise to an interpretation that the body part is severed from the possessor. Thus, in (11a), *dangkaa* 'chin' is a body part of its possessor. By contrast, in (11b) and (11c) the possessor of the body part is marked genitive; the interpretation is that *daman* 'tooth' and *marl* 'flipper' are severed from their original possessors. However, the meaning effect that the body part is severed is not always present if the possessor is marked genitive. In (12), the hand is not interpreted as severed. Compare it with (11a).

(12) dang-**kakarra** marlda
man-GEN hand
'the man's hand'

Unfortunately, the available data from Kayardild are too scarce to provide an explanation why the meaning effect is sometimes there and sometimes not. I hypothesize that there are multiple factors that need to be controlled for in order to access the meaning differences between the two morphosyntactic strategies to express possession. However, I have to leave this issue for further research.

Hungarian. Another problem, which I touched upon in chapter 2, is language change and lexicalization. As I showed in the case of Samoan (chapter 2, section 2.3.3), what is claimed to be a productive meaning-based distinction might change into a lexically determined distinction over time. It appears that a similar process is taking place with possessive marking in Hungarian. Hungarian is one of the languages that are commonly discussed in terms of inalienability, a morphologically expressed contrast between different relations (Gerland and Ortmann 2014; Den Dikken 2015, and many others). However, I was unable to reproduce the contrast that is reported in most studies.[4]

It is commonly claimed that third person possessive inflection involves an additional *-j-* in case the relation between the possessor and the possessed is alienable. It should be noted that only a small number of nouns allow an alternation between *-j-* containing inflection and inflection without *-j-*. For most nouns, the choice of the inflection is phonologically conditioned. Gerland and Ortmann (2014: 273) describe the opposition in the following way: "Conceptually, the forms in (13a) usually represent inalienable possession, thus, the

[4] I do not exclude that there is dialectal variation and that the pattern can be reproduced in some other varieties of Hungarian.

window standing in a part-whole relation to a house or a door. By contrast, the forms in (13b) with the additional *-j* in the possessor suffix express alienable possession; typically, the possessum is literally possessed by a person in the sense of ownership".

(13) Hungarian (Gerland and Ortmann 2014: 273)
  a. ablak-a
     window-P'OR.3SG
     'its window'
  b. ablak-ja
     window-ALIEN_P'OR.3SG
     'his/her window'

However, when I tested the reported examples that should allow alternations, it turned out that most of these nouns are lexicalized (at least according to Anikó Lipták, p.c.) Speakers seem to have a clear preference for only one of the forms independently of the intended reading. Some of the examples are provided below.

(14) a. ablak-a
     its window (of a house) or 'John's window' (Lipták p.c.)
  b. ?ablak-ja

(15) a. üveg-e
  b. ?üveg-je
     'his glass'

(16) a. jatek-a
     his play (theater)
  b. ?jatek-ja
     his toy

(17) a. anyag-a
  b. ?anyag-ja
     'his fabric'

Note that for those speakers who do report the meaning effect as described by Gerland and Ortmann (2014: 273), a very interesting question arises. Although typically the idiosyncratic strategy is the restricted one while the non-idiosyncratic strategy is productive, it appears to be exactly the other way around in Hungarian. Most Hungarian nouns can only have what is labeled in the literature as "inalienable" inflection, without *-j-*. It is the inflection with *-j-* that is marked. This preference can also be seen in the examples above; the speaker simply prefers the inflection without *-j-* for both readings. As the analysis of Hungarian is not the main object of my study, I leave this puzzling opposition between the two types of inflection for further research.

The problems discussed above do not necessarily undermine the proposal developed in this thesis. However, addressing them requires a deeper study

with fieldwork and data collection. This kind of study is beyond the scope of my dissertation. Therefore, I only discuss these languages briefly as questions for further research. I hypothesize that the semantic opposition between idiosyncratic and non-idiosyncratic marking is also relevant for the languages I discuss above. However, this opposition can only be studied when other intervening factors, such as information structure, style, definiteness, phonological properties of nouns, etc., are carefully controlled for.

In the next section, I sum up the main findings of the dissertation.

5.2 Conclusion

This dissertation is a study of cross-linguistic variation in the expression of possession. Studying the semantics and typology of adnominal possession in various languages of the world, I focused on languages that use distinct morphosyntactic means to mark adnominal possession. In the study of formal marking of possession, it is important to make a distinction between two patterns of distribution.

- Pattern of distribution 1: Lexically conditioned allomorphy. The marking strategies have different forms but their meanings are the same. The choice of the strategy is determined by **lexical restrictions** of the noun.
- Pattern of distribution 2: Differences in possessive relations expressed come from the possessive markers themselves. The relations are constrained by the **presuppositional restrictions** of the markers.

The object of study in this thesis was a meaning-based distinction between morphosyntactic means to mark adnominal possession, and thus, it has been primarily concerned with pattern of distribution 2. The main idea developed in this thesis is that morphosyntactic strategies to express possession differ with respect to the relations they can convey. I introduced a meaning-based distinction between idiosyncratic and non-idiosyncratic strategies to mark possession. An idiosyncratic strategy typically involves less morphological material and is typically restricted in its range of application. Typically, only a limited class of nouns can select for an idiosyncratic strategy. I argued that these two criteria are not necessary for identifying the idiosyncratic class; the main criterion to differentiate an idiosyncratic strategy is semantic markedness.

The difference between idiosyncratic and non-idiosyncratic possessive marking lies in the relation they can express. The idiosyncratic possessive strategy (*MaxSpec*) is only compatible with the stereotypical relation given the semantics of the possessed noun. My definition of the stereotypical relation is that it is derived from the most salient feature of the possessed noun in the given language. By contrast, a non-idiosyncratic strategy (*MinSpec*) is not restricted with respect to the relations it can express. It allows for a variety of interpretations and, crucially, it allows the relation to be derived from the context. The corresponding lexical entries are shown in (18).

(18) a. $[\![\text{MaxSpec}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ defined iff g(i) is a stereotypical P-based relation
b. $[\![\text{MinSpec}_i]\!]^g = \lambda P \lambda x \lambda y.g(i)(\text{x,y})\&\text{P(y)}$ where g(i) is a relation

I modelled the choice between the two strategies as a pragmatic competition. If the presuppositional requirements of the idiosyncratic strategy are satisfied, the speaker is forced to use the idiosyncratic strategy by the *Maximize Presupposition* principle (Heim 1991). If the speaker chooses a non-idiosyncratic strategy, the hearer can infer that the stereotypical relation between the possessor and the possessed does not hold. Thus, for possessive constructions with the same noun that receive different interpretations, I located the source of the different interpretations in the possessive marker itself. First, I showed my proposal at work for the languages that make use of only two morphological means to mark possession. I discussed it with the help of two case studies: Adyghe and Rapa Nui.

Next, I addressed the question of how far this system is applicable to languages that make use of more than two morphological means to mark possession. In chapter 3 of this dissertation, I showed how the analysis of idiosyncratic and non-idiosyncratic strategies that I proposed in chapter 2 could be extended to languages that make use of so-called "possessive classifiers". As the primary interest of this study was the meaning-based distinction between various marking strategies, I suggested looking in more detail at those "possessive classifiers" that allow alternations depending on the meaning of the possessive construction. For convenience, I labeled these constructions "possessive modifiers". An example of a construction that involves a possessive modifier is shown in (5). It is a noun-like element *u* 'food' that combines with the possessive marker *-n* and expresses a food relation between the possessor and the possessed.

(19) Panare (Payne and Payne 2013)
a. y-ewa-n
1sg-nose-poss
'my nose'
b. y-**u**-n uto'
1sg-food-poss manioc
'my manioc (for eating)'

Based on the insights from possessive modifiers, I proposed a uniform analysis of a possessive marker, as shown in (20). The possessive marker takes a relation R and a property P as its arguments; this relation is established between a possessor individual and a possessed individual which instantiates the given property.

(20) $[\![\text{PossSpec}]\!] = \lambda R \lambda P \lambda x \lambda y \text{R(x,y)} \ \&\text{P(y)}$

If the possessive marker combines with a possessive modifier, as in (5) the relation R is provided by the modifier overtly, as shown in (21).

(21) $[\![\text{PossSpec}]\!]([\![\text{modifier}_{food}]\!]) = \lambda P \lambda x \lambda y.\ \text{P(y)}\ \&\ \text{R}_{food}\text{(x,y)}$

If there is no overt relation, the R-argument slot is filled by a covert variable over relation, as shown in (22). The value for R will be assigned by the context, by assignment function g. Either the range of g is unrestricted or else the possible values of the assignment function g are restricted to certain relations. In my analysis, the relational pro-form *Rp* in the case of an idiosyncratic strategy carries a presuppositional restriction on the relations it can express. These relations are stereotypical relations derivable from the intension of the possessed noun. There is no restriction on the relational pro-form *Rfree* in the case of a non-idiosyncratic strategy.

(22) a. $[\![\text{MaxSpec}_i]\!]^g = [\![\text{PossSpec Rp}_i]\!] = \lambda P \lambda x \lambda y.g(i)\text{(x,y)\&P(y)}$ defined iff g(i) is a stereotypical P-based relation

b. $[\![\text{MinSpec}_i]\!]^g = [\![\text{PossSpec Rfree}_i]\!] = \lambda P \lambda x \lambda y.g(i)\text{(x,y)\&P(y)}$ where g(i) is a relation

Languages that make use of possessive modifiers can be divided into two groups. Languages in the first group use uniform marking strategy to express adnominal possession. Possessive modifiers receive the same morphological marking as other nouns when possessed, as can be seen in (19). The possessive marking on 'nose' in (19a) and 'food' in (5) is identical. The languages from my sample that were placed in this group are Panare, Bororo, Mussau, Paamese, Saliba and Tolai. I showed that some possessive modifiers correspond to specific relations, while some function more like variables over multiple relations.

Saliba and Tolai make use of only two possessive modifiers to express adnominal possession. For these languages, I argued that possessive modifiers can be analyzed as overt spell-outs of the relational variables *Rp* and *Rfree*. Thus, the data from Saliba and Tolai provides supports for the internal structures of *MaxSpec* and *MinSpec* proposed in (22). Although the possessive marking is uniform in these languages, one is able to see a the semantic opposition between idiosyncratic and non-idiosyncratic marking, similar to the one discussed in chapter 2.

Languages in the second group show a distinction between idiosyncratic and non-idiosyncratic strategies, in addition to possessive modifiers. The languages in this group are Yucatec, Chontal, Nêlêmwa and Hidatsa. In my sample, possessive modifiers morphologically pattern together with the idiosyncratic strategy. The examples I was able to find show that possessive modifiers in these languages correspond to specific relations. This correspondence is not unexpected given that the idiosyncratic possessive marking is supposed to be specific; it derives stereotypical possessive relations from the salient features of the possessed nouns. One observation I made is that in the languages that show a semantic opposition between idiosyncratic and non-idiosyncratic strategies, pragmatic competition leads to the narrowing of the non-idiosyncratic strategy. As there are possessive modifiers to express various fine-grained relations and

these modifiers pattern with the idiosyncratic strategy, the range of application of the non-idiosyncratic strategy becomes restricted. For instance, in Yucatec, the non-idiosyncratic strategy seems to be most commonly used to express relations with inanimate possessors. I was unable to find languages that show a semantic opposition between idiosyncratic and non-idiosyncratic strategies, in which possessive modifiers pattern with non-idiosyncratic marking. Similarly, I I was unable to find languages in which there are three different types of morphological marking for possessive modifiers, idiosyncratic and non-idiosyncratic strategies.

In chapter 4, I discussed other languages with multiple marking strategies to express possession. I returned to the distinction between the two patterns of distribution discussed above. I argued that the meaning-based distinctions in the expression of possession need to be distinguished from form-based distinctions. In the first part of this chapter, I dealt with the form-based distinction, showing that one language can have multiple formal exponents of one strategy. In the end, however, such systems were successfully reduced to the binary opposition between idiosyncratic and non-idiosyncratic strategies. The languages discussed were Yaitepec Chatino, Blackfoot and Yine. In the second part of the chapter, I discussed more complex systems of possessive marking. I showed that semantic competition between idiosyncratic and non-idiosyncratic strategies might coexist with other ways to express possession, which can be orthogonal to the first distinction. For instance, the possessive interpretation might be provided by the relational possessed noun, not by the marker. The meaning effects look superficially similar. Therefore, I concluded that it is important for a cross-linguistic analysis to control for various semantic factors carefully. I discussed the systems of possessive marking in four languages in detail: Daakaka, Movima, Slave and Koyukon. While Daakaka, Movima and Slave show an opposition between idiosyncratic and non-idiosyncratic strategies, Koyukon doesn't have this opposition.

APPENDIX A

Database description

During my PhD, I created a database of adnominal possessive constructions in various languages. The purpose of this appendix is to give the reader an impression of the structure of this database and the information that can be found there. The final version of the database, with a more detailed description, and the full list of abbreviations will be made available on the website of the Meertens Instituut.[1]

A.1 General considerations behind the database design

It has been noticed that languages reflect a distinction between transferable entities such as *car*, *watch*, or *money* and untransferable entities such as body parts and kinship relations. The goal of the project, "Lend me your ears: the grammar of (un)transferable possession", is to investigate the various ways in which language categorizes possession; how the distinctions between transferable and untransferable entities are morphosyntactically encoded across and within languages, and how this distinction should be represented in a model of the language faculty.

The database was created as a resource that makes it possible to classify different possessive constructions. The purpose of the database is to gain new insights into the morphosyntactic encoding of possession. In particular, it

[1] As can be seen from the description, only a small amount of the information encoded in the database was used in this thesis.

targets semantically determined splits in the expression of possession. While carefully documenting various morphosyntactic structures which languages use to encode possession, I hope to gain insights into how the distinction between transferable and untransferable possession is encoded within language. The database is restricted to adnominal possession. Examples of predicative possession or external possession are not included in the database. The examples of adnominal possession include possessive constructions in which the possessed is elided: *give me yours!* and examples of the possessor used predicatively: *this car is yours!*.

Morphosyntactic marking strategies. Adnominal possession in a given language is encoded into the database with the help of marking **strategies**. A marking strategy stands for one possessive construction, defined by its morphological components: words and morphemes.[2] In the design of the database, I use the following criteria to encode different marking strategies of adnominal possession:

- differences in the expression of the possessor
- additional morphemes involved in the possessive constructions

First, I explain the differences in the expression of the possessor. Any possessive construction involves a possessed entity and a possessor. The possessed entity is expressed by a noun, like *car*, *hand*, etc. As for the possessor, it can either be expressed by a noun e.g. *girl* in *the girl's book* or by a pronoun, like *her* in *her book*. A pronoun can be a separate word, like *her* in the English example. But it can also appear as a bound morpheme, as *ni-* in Baure (1).

(1) Baure (Danielsen 2007)

ni=hačkis
1sg=glasses
'my glasses'

The Baure example in (1) only involves the possessor and the possessed noun. In other languages, the expression of possession might involve additional morphological elements. Consider the example from Amele in (2). Next to a possessor and the possessed, it involves the morpheme *na* glossed as 'of'.

(2) Amele (Roberts 1987)

[2]One might notice that the notion of strategy in my database does not strictly correspond to a "possessive class" in WALS Chapter 59 (Nichols and Bickel 2013b). The classification used in Nichols and Bickel (2013b) relies on several criteria. The most prominent criterion is the number of lexically conditioned allomorphs (see, for instance, the classification of Amele as a language with 32 possessive classes). Another criterion is obligatorily realisation of the possessor within the same noun phrase as the possessed (consider examples from Wembawemba, Ossetic, etc.). By contrast, my database is designed to include a maximal number of flexible marking strategies; allomorphy does not receive as much attention as in Nichols and Bickel (2013b).

ija **na** qa
1SG of dog
'my dog'

Possessive constructions often allow for multiple expression of the possessor. The same possessor might be encoded multiple times by means of multiple pronouns.[3] For instance, compare the examples from Aymara in (3a) and (3b). In, (3a), the 1st person possessor is expressed once, as the pronominal clitic *-ja*. In (3b), the 1st person possessor is expressed twice: both as the pronominal clitic *-ja* and as the free-form pronoun *naya*, which itself is marked for genitive.

(3) Aymara (Hardman 2001: 155,142)

a. uta-**ja**
house-1sg
'my house'

b. **naya-n** uta-**ja**
1sg-poss house-1sg
'my house'

Another possibility of multiple encoding of the possessor involves a pronominal element and a noun. Compare the example from Baure in (4). In this example, the possessor is expressed as the pronominal clitic *ro* '3sgm' and as the noun *kotis* 'lizard'.

(4) Baure (Danielsen 2007)

teč **ro**=wer to **kotis**
dem2m 3sgm=house art lizard
'the house of the lizard'

By contrast, multiple expression of the possessed does not seem to be possible in adnominal possessive constructions, e.g. **the house it of the lizard*.

In the design of the database, I used the difference in the expression of the possessor as a criterion of distinct marking strategies. Thus, constructions that involve a possessor expressed as a pronoun, are encoded as different marking strategies than constructions that involve a possessor expressed as a noun. Expressions of adnominal possession that involve multiple encodings of the possessor are encoded as distinct marking strategies from constructions in which the possessor occurs only once. The underlying thought behind this encoding is that it will allow us to study the asymmetry between nominal and pronominal possession within the same language.

As far as morphological marking is concerned, distinct marking strategies within pronominal or nominal possession differ with respect to the morphemes

[3]It is a matter of a debate, whether in the case of doubling, person-number markers should be considered pronouns or agreement markers; see, for instance, the discussion of "referential markers and agreement markers" in van Rijn (2016: 278). In the database, I treat all person-number markers as pronouns.

involved.[4] Figure A.1 is a simplified decision tree showing whether two ways of marking possession are instances of the same strategy or not. This decision tree can be seen as an algorithm to identify a distinct strategy.

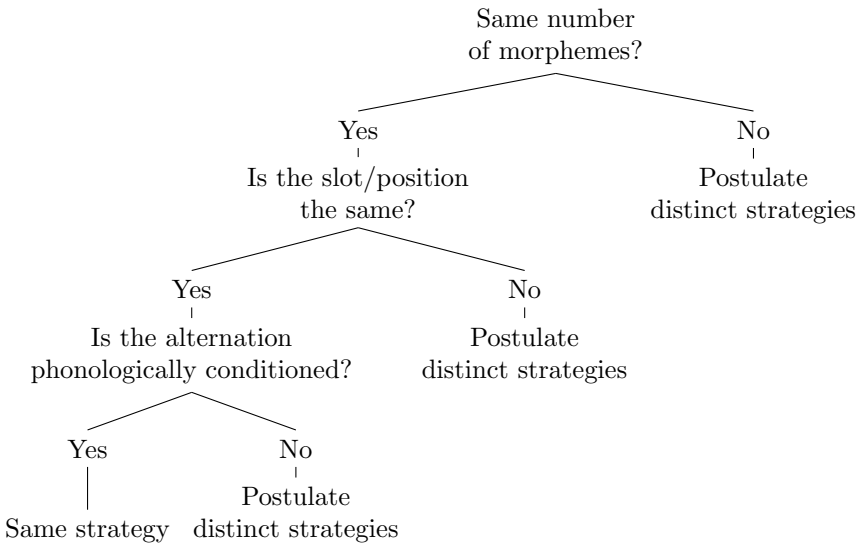


Figure A.1: Decision tree: defining a strategy

According to the morphological criteria described above, English has five marking strategies to express possession. Two of these marking strategies involve a pronominal possessor; they differ in the presence/absence of the morpheme *of* and in the shape of the pronoun: ***my*** *car* vs. *a car* ***of mine***. Three strategies involve a possessor expressed by a noun: ***Lena's*** *car*, *the leg* ***of*** *the* ***table***, *a friend* ***of Lena's***. In the case of English, the question of how many strategies to postulate is relatively easy because *of* and *'s* occupy various slots in the morphological structure. This is especially well shown in the third strategy, *a friend* ***of Lena's***, which involves both morphemes: *'s* and *of*.

Inconsistencies. While creating the database, I tried to impose as little analysis on the data as possible. However, I had to take a few steps in my classification of marking strategies for the convenience of the encoding, which can be seen as inconsistancies. In the case that there is a large homogeneous class of morphological elements, this class might be presented in the database as a single strategy. One such example is lexically conditioned allomorphy in Amele. Consider the three examples from Amele in (5). They correspond to three distinct strategies in the database.

[4]Word order variation within possessive construction are not encoded in the database.

(5) Amele (Roberts 1987)

a. cot-**ug**-ul
brother-3SG-PL
his brothers STRATEGY 1

b. ija **na** qa
1SG of dog
'my dog'
STRATEGY 2

c. **uqa** cot-**ug**-ul
3SG brother-3SG-PL
his brothers
STRATEGY 3

The construction in (5a) involves a possessed noun and a pronominal clitic; the construction in (12) involves a free pronoun and an additional morpheme, *na*. In (5c), the possessor is expressed twice, as a clitic and as a free pronoun. A pronominal clitic can attach directly to words like *cot* 'brother' in (5a), but not to words like *qa* 'dog' in (12). Marking of possession on nouns like *qa* 'dog' necessarily requires the presence of an additional possessive morpheme, *na*. Roberts (1987) shows that the pronominal clitic, as in (5a), might have different forms. For instance, there are 7 allomorphs which can mark 1st person: *-ni*, *-mi*, *-ini -ani*, *-eni*, *-li*, *-isone*. Similarly, multiple forms can be observed for other persons. All possible combinations of various allomorphs, according to Roberts (1987), can be presented as more than 30 different classes. In order to avoid postulating 30 different morphosyntactic strategies for Amele, I chose to present the allomorphs as instances of a single strategy and indicate the presence of multiple allomorphs within a strategy. Thus, the class of allomorph forms ends up described as a single strategy, when contrasted with other possessive constructions in the language.

In a similar way, I present as instances of a single strategy "possessive classifiers" in Mussau and Yucatec Mayan. In (6a), the possessor clitic attaches directly to the possessed noun. In (6b) and (6c), the possessor attaches to a "possessive classifier"; *kie* 'domestic animals' in (6b), and *ane* 'food' in (6c). Brownie and Brownie (2007) list 14 possessive classifiers in Mussau; it is not quite clear if the list is exhaustive. In order to avoid postulating at least 15 marking strategies for one language, I annotate (6b) and (6c) as instances of one and the same strategy.

(6) Mussau Brownie and Brownie (2007: 71-78)

a. tama-ghi
father-1sP
'my father'
STRATEGY 1

b. kie-ghi paolo ateva
PCL-1sP chicken SG:I

'my chicken'
STRATEGY 2 *kie* domestic animals

c. ane-ghi paolo ateva
PCL-1sP chicken SG:I
'my chicken (to eat)'
STRATEGY 2 *ane* food

Thus, the main organizing principle behind the database is the difference in morphosyntactic shape of the possessive constructions. These differences might concern the expression of the possessor, or they might concern other morphemes involved in the construction.

A.2 The structure of the database

This section summarizes the information encoded in the database for every language.

General information. The database is primarily organized by languages; every primary entry in the database is a language with an ISO code, such as: Baure id="brg", Yucatec Mayan id="yua", etc. For each language entry, some general information is provided. This information includes the name of the language, as well as the part of the world and the country where the language is spoken. The country represents either that in which the respective language has an official status or that in which the majority of the speakers live. I also provide information about the language family and basic grammatical/structural properties. This background information is not meant to be detailed. The information about the grammar of the language is restricted to word order and notes on the properties of the nominal phrase, such as the presence of determiners, case system and adjectival modification. An example illustrating the general information section for Toqabaqita is given in Table A.1.

Morphological properties of a strategy. As the primary focus of the database is the expression of adnominal possession, the largest part of every language entry is devoted to possessive constructions. The morphological properties of marking strategies encoded in the database allow one to search for various types of possessors and various morphemes involved in the possessive marking. The way the information about possession is organized is shown in Figure A.2.

As I explained in section A.1, marking strategies are differentiated depending on the properties of the possessor. Depending on the expression of the possessor, the strategies are classified into pronominal and nominal. If the possessor is a pronoun, the strategy is classified as pronominal. If the possessor is a noun, the strategy is classified as nominal. For every instance of a marking strategy, I annotate its morphological components. This annotation includes

Language ID	Toqabaqita	
Location	Oceania	
Country	The Solomon Islands	
Genetic Relation	Austronesian	
Word Order	SVO	
Nominal Phrase	Determiner(s)	Optional demonstrative follows the noun
	Adjectival modification	According to Lichtenberk (2008: 52) there is only one adjective: 'small'
	Case marking	Case is not marked on the noun

Table A.1: General information: Toqabaqita

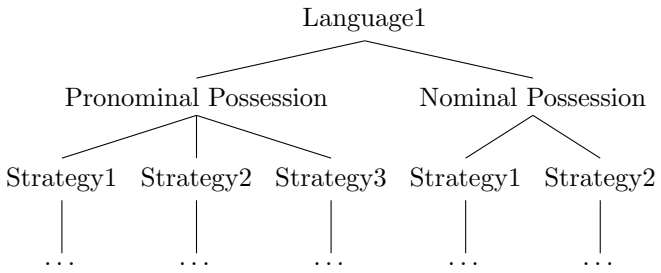


Figure A.2: The structure of the Possession field for one language.

the nature of the morphemes involved in the possessive construction and their placement.

For instance, one can search for languages that allow the possessor to be expressed more than once within one construction. Such an example was shown for Baure in (4) and is repeated in (7). In Baure, the same possessor can appear as a noun and as a pronominal within one possessive construction.

(7) Baure (Danielsen 2007)

teč **ro**-wer to **kotis**
dem2m 3sgm-house art lizard
'the house of the lizard'

The annotation of a pronoun includes its status as a bound or free morpheme, its attachment site, and its dedication to mark possession. A pronoun can be a bound morpheme, as, for instance, *ro* '3sgm' in the Baure example in (7) or *-ja* '1sg' in the Aymara example in (8). It can also be an independent word such as *naya* '1sg', as in (8). If the pronoun is bound, the annotation

includes its attachment site. In (8), the attachment site is the possessed noun. In the example from Mussau in (9), the attachment site of the pronoun is the possessive classifier *kie*.

(8) Aymara (Hardman 2001: 155,142) repeated from (3b)

naya-n uta-**ja**
1sg-poss house-1sg
'my house'

(9) Mussau Brownie and Brownie (2007: 71-78), repeated from (6b)

kie-ghi paolo ateva
PCL-1sP chicken SG:I
'my chicken'

A pronoun can be dedicated to marking possession or it can appear in other constructions as well. Bound pronouns often have the same form as verbal agreement markers. This can be seen, for instance, in Blackfoot: "the person prefixes that function as possessors are the same as the prefixes that appear on verbs" (Bliss 2013: 29). In (10a), the prefix *n-* '1' marks agreement with the subject; in (10b), it marks the possessor as '1'.

(10) Blackfoot (Bliss 2013: 36,187)

a. **n**-ikaa-yo'kaa
1-PERF-sleep.AI
'I have slept.'

b. **n**-iksisst-wa
1-mother-PROX
'my mother'

Another example of a non-dedicated pronoun involved in a possessive construction is shown for Shughni in (11). In Shughni, the same "oblique" form of a pronoun is used in various syntactic environments. Thus *mu* '1sg.obl', an oblique form of the pronoun *wuz*, appears as an adnominal possessor in (11a). The same form appears, among others, in prepositional constructions, as shown for *mu* in (11b).

(11) Shughni (Edelman and Dodykhodoeva 2009: 804,816)

a. **mu** nān
1sg.obl mother
'my mother'

b. yā tar **mu** gāx̌t
3sg to 1sg.obl turned
'she turned to me'

The annotation of other morphemes involved in the possessive construction includes information on the free or bound status of the morpheme, its attachment

site and the label provided for it in the corresponding grammar. For instance, in the Amele example (12), the morpheme *na* is free; it is an independent word. In Roberts (1987), it is labeled as a postposition with the translation 'of'.

(12) Amele (Roberts 1987), repeated from (5b)
ija **na** qa
1SG of dog
'my dog'

Not every marking strategy with a possessor expressed by a noun involves additional morphology. Juxtaposition as possession marking is widespread in the languages of the world (see, for instance, Ultan 1978). Many languages employ it as one of their marking strategies. If a marking strategy involves juxtaposition of two nouns, the annotation includes a test for compounding, allowing us to determine whether we are dealing with a compound or a possessive construction consisting of two separate words. One of the ways to test this is to see if it is possible to place a modifier or any other word between the possessor and the possessed. If it is possible, then we are probably dealing with juxtaposition and not with compounding. For instance, in Ewe example (13), a demonstrative appears between the possessed, 'name' and the possessor, 'child'.

(13) Ewe (Ameka 1991: 171)
nye mé nyá deví **má** ŋkɔ oó
1SG NEG know child DEM name NEG
'I don't know the name of that child'.

Unfortunately, this test will not be applicable for all the languages because it depends on the possessor-possessed and head noun-modifier word orders.

Factors that determine the application of a strategy. The database was created in order to study the semantic and syntactic distinctions that are relevant for the grammar of possession. Whenever possible, I provided information about the meaning distinctions that correspond to distinct marking strategies. Through analyzing various factors behind the use of distinct marking strategies of adnominal possession, I hope to reveal some cues about the building blocks of possession in grammar.

The distribution of some marking strategies is lexically determined. In this case, the database contains information about semantic categories relevant for the marking strategies in question. This information is often presented as a list of the available examples for the given strategy. For a given strategy, I provide a list of lexical items that would require this morphosyntactic marking if they appeared as possessed. Each example is assigned the resource (the grammar reference) from which it comes. There are some additional tags which give preliminary information about semantic categorization, such as 'body', 'animal', 'clothes', 'food', 'kinship', 'location', 'non-possessive context'. For example, in

Samoan, one marking strategy involves the morpheme *a*, whereas another involves the morpheme *o*. The two marking strategies are shown in (14). Mosel and Hovdhaugen (1992) provide lists of nouns that prefer one morpheme or the other. In the database, I encoded the information about the possessed nouns that are found with one or the other morpheme, such as *fale* 'house' and *lana* 'offspring' in (14a) and (14b).

(14) Samoan (Mosel and Hovdhaugen 1992: 286)

a. l=**o**=na fale
art=poss=3sg house
'his house'
STRATEGY 1

b. l=**a**=na lana
art=poss=3sg offspring
'his offspring'
STRATEGY 2

In many languages, the distribution of possessive markers is only partially lexically determined. These languages allow alternations between two strategies. While the possessed noun is the same, the possessive marking differs. If the grammar describes possible alternations, they are encoded in the database along with the description of the factors that appear to be relevant for this alternation. Thus, for Samoan, Mosel and Hovdhaugen (1992) point out that the same noun might appear possessed with both morphemes. The choice seems to depend on the possessive relation. Compare the examples in (15a) and (15b); in both cases the possessed is 'words', however, the relationship between the 'chief' and his words is very different from the relationship between the 'song' and its words. This contrast is reflected in the morphology. The marking strategy in (15a) involves the morpheme *a*, whereas that in (15b) makes use of the morpheme *o*.

(15) Samoan (Mosel and Hovdhaugen 1992: 286)

a. 'o 'upu **a** le ali'i
PRES word POSS ART chief
'The words of the chief'

b. 'o 'upu **o** le pese
PRES word POSS ART song
'The words of the song'

Thus, the choice of possessive marking in Samoan appears to be partially lexically conditioned.[5] On the one hand, the distribution of the morphemes *a* and *o* is determined by the possessed noun; on the other hand, some nouns can

[5]In the thesis, I argue that a distinction should be made between lexically conditioned distribution of possessive marking (form-based distinctions) and the distribution of possessive marking that depends on the relation between the possessor and the possessed (meaning-based distinctions).

appear with both types of marking.

In other languages, possessive marking might be conditioned by non-lexical factors. For example, consider two kinds of alternation of possessive marking in Udmurt (Uralic). In Udmurt, the case marking of the possessor appears to be conditioned by the syntactic function of the whole possessive nominal phrase. As shown in (16), if the possessive nominal phrase is a direct object, the possessor is marked ablative; otherwise genitive case marking is used (for more details, see Winkler 2001; Assmann et al. 2014). These two marking strategies are also encoded in the database.

(16) Udmurt (Winkler 2001: 22)

a. so kolkhoz-**leš** busi-z-e vožmat-i-z
she kolkhoz-abl field-3sg-acc show-pret-3sg
'she showed the kolkhoz field'

b. so kolkhoz-**len** busi-ja-z min-i
she kolkhoz-gen field-ill-3sg go-pret.3sg
'she went to the kolkhoz field'

The database also includes information about obligatory possession marking. Some languages have a group of nouns that require an overt possessor in order to form a nominal phrase. Using them in a neutral, "unpossessed" form would require special morphology. An example of such a language is Qeqchi. Some words in Qeqchi, for instance *na'* 'mother' in (17a), normally form a nominal phrase with an overt possessor. In order to form a nominal phrase without an overtly expressed possessor, the noun *na'* 'mother' has to receive the additional suffix *-bej*, as shown in (17b).

(17) Qeqchi (Kockelman 2007)

a. **in**-na'
1sg-mother
'my mother'

b. na'-**bej**
mother-unposs
'mother'

c. **in**-chiin
1sg-orange
'my orange'

Importantly, the possessive marking on the obligatorily possessed noun *na'* 'mother' is identical to that on optionally possessed nouns, like *chiin* 'orange' in (17c). This is why, in the database, both 'mother' and 'orange' are assigned to the same marking strategy. However, within this marking strategy it is encoded that 'mother' and some other nouns require the additional morpheme *-bej* to appear unpossessed.

Annotation of the factors that determine the application of a given strategy allows us to search for asymmetries between pronominal and nominal possessive

strategies. Some distinctions might be relevant for marking strategies in which the possessor is a pronoun, but not for the marking strategies in which the possessor is a noun, or another way around. In Ewe, only some kinship terms and spatial terms can appear juxtaposed to a possessor expressed by a noun; an example of juxtaposition is shown in (18a) for *srɔ̃* 'spouse'. For other nouns, even for body parts, juxtaposition is not possible; in order to express adnominal possession, the morpheme ɸé is obligatory, as shown in (18b) for *awu* 'dress'. However, this contrast is neutralized if the possessor is a 1st or 2nd person pronoun; any noun can appear juxtaposed to a 1st or 2nd singular possessor, as show in (18c) for *ahuhɔ̃ɛ* 'mirror'.

(18) Ewe (Ameka 1991: 170-175)
   a. kofí srɔ̃
      kofi spouse
      'kofís wife'
   b. Kof'i *(**ɸé**) awu
      Kofi poss dress
      'Kofi's garment'
   c. ahuhɔ̃ɛ-nye ba.
      mirror-1SG break
      'my mirror is broken.'

By contrast, in Mandarin, the choice of the possessive construction is affected by the semantic category of the possessed if the possessor is a pronoun. There is a preference for kinship terms to appear juxtaposed to a pronominal possessor in out-of-the-blue contexts, as shown in (19) for *erzi/fúqin* 'father/son' in contrast to *chezi* 'bike'.

(19) Mandarin Chinese (modified from Chappell 1996)
   a. ta erzi/fúqin
      3sg son/father
      'his son/father'
   b. ta ?(**de**) chezi
      3sg de bike
      'his bike'

This contrast is neutralized if the possessor is a noun. Kinship terms, as well as all other nouns, require the morpheme *de* to appear possessed, as shown in (20a) for *háizi* 'child'. If the possessor is a noun, juxtapositon has a similar function to compounding in English, expressing, for instance, part-whole relations, as shown in (20b).

(20) Mandarin Chinese (Luo 2013: 187,191)
   a. mǔqin **de** háizi
      mother poss child
      'the mother's child/the child of the mother'

b. j$\bar{i}$ ròu
chicken meat
'chicken meat'

This asymmetry between pronominal and nominal possessors might help us understand the building blocks of adnominal possession.

Marking strategies exemplified. A marking strategy is encoded in the database with a corresponding example. Those cases in which a strategy is expected but could not be found are specially marked. In principle, one marking strategy can be accompanied by examples from three different syntactic environments: a canonical example of adnominal possession, an example in which the possessed is elided, and an example of the possessor used predicatively. All three examples belong to the same strategy only if they employ the same morphology. One marking strategy in two different syntactic environments is shown in the Amele examples in (21). In (21a), 'my dog' is shown as a canonical example of adnominal possession; in (21b), the possessor *ija* '1sg' is used predicatively. In both (21a) and (21b), the possessed noun is *qa* 'dog', and both constructions involve the preposition *na* 'of'.

(21) Amele (Roberts 1987)
a. Eu **ija na** qa
that 1sg of dog
'This is my dog'
b. Qa eu **ija na**
dog that 1sg of
'That dog is mine'
The possessed noun used predicatively

Some languages use special morphological marking when the possessed is elided (e.g., *yours is green, mine is blue*). For instance, consider the morpheme *-nd* in example (22a) from Shughni. This morpheme does not appear in the canonical case of adnominal possession, as shown in (22b).

(22) Shughni (own elicitation)
a. Mu-**nd** ric$\bar{u}$st
1sg.obl-poss ran.away
'Mine (donkey) ran away'
Non-canonical possession: elided possessed
b. Mu mark$\bar{a}$b ric$\bar{u}$st
1sg.obl donkey ran.away
'My donkey ran away'
Canonical case, attributive possession

It has been observed in the literature (Partee 2000) that this morphological marking is often the same as in those cases in which the possessor is used

predicatively (*This dog is mine*). A possible explanation is that both of these structures involve ellipsis of the possessed noun (*This dog is mine ~~dog~~* and *Mine ~~dog~~ ran away*). Whenever I find information on the possessor used predicatively, I add it to the database in order to see if the generalization holds. Thus, the database does not only contain marking strategies that exemplify canonical adnominal possession; it also contains marking strategies like that in Shughni (22a) that can only be found in a non-canonical environment, where the possessed noun is elided or the possessor is used predicatively.

The database allows for the formulation of various search requests. Thus, it is possible to search for asymmetries between nominal and pronominal possession, for marking strategies that involve certain types of morphemes (prepositions, classifiers, etc.), for marking strategies that involve doubling of the possessor, for marking strategies that can be used predicatively, and so on.

Bibliography

Aikhenvald, Alexandra Y. 2000. *Classifiers: A typology of noun categorization devices*. Oxford Studies in Typology and Linguistic Theory. Oxford: Oxford University Press.

Aikhenvald, Alexandra Y. 2003. *A grammar of Tariana, from Northwest Amazonia*. Cambridge: Cambridge University Press.

Aikhenvald, Alexandra Y. 2013. Possession and ownership: a cross linguistic perspective. In *Possession and Ownership*, ed. Alexandra Y. Aikhenvald and R. M. W. Dixon, 1–57. Oxford: Oxford University Press.

Ameka, Felix. K. 1991. Ewe: Its grammatical constructions and illocutionary devices. Doctoral Dissertation, Australian National University, Canberra.

Aronoff, Mark. 1976. *Word formation in generative grammar*. Cambridge, MA: MIT Press.

Assmann, Anke, Svetlana Edygarova, Doreen Georgi, Timo Klein, and Philipp Weisser. 2014. Case stacking below the surface: On the possessor case alternation in Udmurt. *The Linguistic Review* 31:447–485.

Baker, Mark C., and Jim McCloskey. 2007. On the relationship of typology to theoretical syntax. *Linguistic Typology* 11:285–296.

Ball, Christopher. 2011. Inalienability in social relations: Language, possession, and exchange in Amazonia. *Language in Society* 40:307–341.

Bally, Charles. 1926/1995. L'expression des idées de sphère personnelle et de solidarité dans les langues indo-européennes; The expression of concepts of the personal domain and indivisibility in Indo-European languages. In *The Grammar of Iinalienability A Typological Perspective on Body Part Terms and the Part-Whole Relation*, ed. Hilary Chappell and William McGregor, 31–62. Berlin: De Gruyter Mouton.

Barker, Chris. 1995. *Possessive descriptions*. Stanford: CSLI Publications.

Barker, Chris. 2008. Possessives and relational nouns. In *Semantics: An International Handbook of Natural Language Meaning*, ed. Maienborn, von Heusinger, and Portner. Berlin: de Gruyter.

Barker, Chris, and David Dowty. 1992. Non-verbal thematic proto-roles. In *Proceedings of North-Eastern Linguistics Conference (NELS-23)*, ed. Amy Schafer. Amherst: GSLA.

Berman, Ruth A., and Shmuel Bolozky. 1978. *Modern Hebrew structure*. Tel-Aviv: University Publishing Projects.

Bliss, Heather Anne. 2013. The Blackfoot Configurationality Conspiracy: Parallels and Differences in Clausal and Nominal Structures. Doctoral Dissertation, The University of British Columbia.

Bowern, Claire Louise. 2012. *A grammar of Bardi*, volume 57 of *Mouton Grammar Library*. Berlin: De Gruyter Mouton.

Bril, Isabelle. 2013. Ownership, part-whole and other possessive-associated relations in Nêlêmwa. In *Possession and ownership*, ed. Alexandra Y. Aikhenvald and R. M. W. Dixon. Oxford: Oxford University Press.

Brownie, John, and Marjo Brownie. 2007. *Mussau grammar essentials*, volume 52 of *Data Papers on Papua New Guinea Languages*. Ukarumpa, Papua New Guinea: SIL-PNG Academic Publications.

Büring, Daniel. 2005. *Binding Theory*. Cambridge: Cambridge University Press.

Chappel, Hilary, and William McGregor, ed. 1996. *The Grammar of Inalienability: A Typological Perspective on Body Part Terms and the Part-Whole Relation*. Berlin: Mouton de Gruyter.

Chappell, Hilary. 1996. Inalienability and the personal domain in mandarin chinese discourse. In *The Grammar of Inalienability: A Typological Perspective on Body Part Terms and the Part-Whole Relation*, ed. Hilary Chappel and William McGregor. Berlin: Mouton de Gruyter.

Chappell, Hilary, and William McGregor. 1996. Alienability, inalienability and nominal classification. In *Proceedings of the Fifteenth Annual Meeting of the Berkley Linguistics Society*, 24–36.

Cheng, Lisa Lai-Shen, and Rint Sybesma. 2009. De as an underspecified classifier: first exploration. *Yŭyánxué Lùncóng* 39:123–156.

Churchward, Spencer. 1951. *A Samoan grammar*. Melbourne, Methodist Church of Australasia: Spectator Publishing Company.

Clark, Ross. 2000. Possessive Markers in Polynesian Languages. *STUF - Language Typology and Universals* 53:258–268.

Coupe, Alec. 2007. *A grammar of Mongsen Ao*, volume 39 of *Mouton Grammar Library*. Berlin: Mouton de Gruyter.

Crippen, James A. 2010. Lingít Yoo X'atángi - a Grammar of the Tlingit Language. Manuscript, April 2010.

Crowell, Thomas Harris. 1979. A grammar of Bororo. Doctoral Dissertation, Cornell University.

Crowley, Terry. 1982. *The Paamese Language of Vanuatu*. Canberra: Australian National University.

Crowley, Terry. 1991. Linked noun in Paamese: grammatical iconicity in part-whole constructions. *Language and Linguistics in Melanesia* 22:21–48.

Crowley, Terry. 1996. Inalienable possession in Paamese grammar. In *The Grammar of Inalienability: A Typological Perspective on Body Part Terms and the Part-Whole Relation*, ed. Hilary Chappell and William McGregor. Berlin: Mouton de Gruyter.

Cruse, Alan. 2004. *Meaning in Language*. Oxford: Oxford University Press, 2 edition.

Danielsen, Swintha. 2007. *Baure: An Arawak language of Bolivia*. Leiden: Leiden University Press.

Dayley, Jon P. 1985. *Tzutujil grammar*. Berkeley: UCPress.

Deal, Amy Rose. 2015. Reasoning about equivalence in semantic fieldwork. In *Methodologies in Semantic Fieldwork*, ed. M. Ryan Bochnak and Lisa Matthewson, 157–174. Oxford: Oxford University Press.

Dékány, Éva Katalin. 2011. A profile of the Hungarian DP. The interaction of lexicalization, agreement and linearization with the functional sequence. Doctoral Dissertation, University of Tromsø.

Den Dikken, Marcel. 2015. On the morphosyntax of (in)alienably possessed noun phrases. In *Approaches to hungarian: Papers from the 2013 piliscsaba conference*, ed. Katalin É. Kiss, Balázs Surányi, and Éva Dékány, volume 14, 121–145. Amsterdam: John Benjamins.

Dixon, Robert M. W. 1972. *The Dyirbal Language of North Queensland*. Cambridge: Cambridge University Press.

Dixon, Robert M.W. 1981. Wargamay. In *Handbook of Australian Languages*, ed. R.M.W. Dixon and Barry J. Blake, volume 2, 25–170. Amsterdam: John Benjamins.

Dragunov, Aleksandr. A. 1952. *Issledovanija po grammatike sovremennogo kitajskogo jazyka*. SSSR Academy of Science.

van Driem, George. 1987. *A grammar of Limbu*, volume 4 of *Mouton Grammar Library*. Berlin: Mouton de Gruyter.

Edelman, Dzhoy, and Leila Dodykhodoeva. 2009. Shughni. In *Iranian Languages*, ed. Windfuhr G. L., 787–825. New York: Routledge.

Edygarova, Svetlana. 2010. Vyrazhenije neotchuzhdajemoj possessii v udmurtskom jazyke. *LINGUISTICA URALICA* XLVI:112–127.

Egerod, Søren. 1985. To have and have not - The category of possession in East Asian languages and the role it plays in the syntactic core. Paper presented at the 18th International Conference on Sino-Tibetan Languages and Linguistics, Bangkok.

Englert, Sebastián. 1978. *Idioma Rapanui: Gramática y diccionario del antiguo idioma de isla de Pascua*. Santiago: Universidad de Chile.

Erk, Katrin. 2016. What do you know about an alligator when you know the company it keeps? *Semantics & Pragmatics* 9:1–63.

Evans, Nicholas D. 1995. *A grammar of Kayardild*, volume 15 of *Mouton Grammar Library*. Berlin: Mouton de Gruyter.

Ezard, Bryan. 1997. *A Grammar of Tawala: An Austronesian language of the Milne Bay area, Papua New Guinea*. Canberra: Australian National Univeristy.

Fabri, Ray. 1993. *Kongruenz und die Grammatik des Maltesischen*. Number 292 in Linguistische Arbeiten. Tübingen: Max Niemeyer Verlag.

von Fintel, Kai. 1994. Restrictions on Quantifier Domains. Doctoral Dissertation, University of Massachusetts, Amherst.

von Fintel, Kai, and Lisa Matthewson. 2008. Universals in semantics. *The Linguistic Review* 25:139–201.

Flassy, Don Agus L., and W. A. L. Stockhof. 1979. A note on Tehit (Bird's Head, Irian Jaya). In *Miscellaneous studies in Indonesian and languages of Indonesia*, ed. A. Halim, volume 4, 35–83. Jakarta: NUSA.

Frajzyngier, Zygmunt. 2001. *A grammar of Lele*. Stanford: CSLI Publications.

Frajzyngier, Zygmunt. 2012. *A grammar of Wandala*, volume 47 of *Mouton Grammar Library*. Mouton de Gruyter.

Franjieh, Michael, and Kilu von Prince. 2011. Classifying nouns vs. classifying relations: a case study from ambrym. In *Proceedings of Conference on Language Documentation & Linguistic Theory 3*, ed. David Nathan Peter K. Austin, Oliver Bond and Lutz Marten. London: SOAS.

Frantz, Donald G. 2009. *Blackfoot Grammar*. Toronto: University of Toronto Press.

Gerland, Doris, and Christian Horn. 2010. Referential properties of nouns across languages. In *Universal grammar and individual languages. Proceedings of SICoL 2010*, ed. D.-H. Choi, J.-S. Hong, H.-K. Kang, Y.-S. Kang, Kim, K.-H., Kim, K.-A., J.-Y. Yoon, S.-H. Rhee, and J.-S. Wu, 133–150. Seoul: Korea University.

Gerland, Doris, and Albert Ortmann. 2014. She loves you, -ja -ja -ja: objective conjugation and pragmatic possession in Hungarian. In *Meaning and grammar of nouns and verbs*, ed. D. Gerland, C. Horn, A. Latrouite, and A. Ortmann, 269–313. Düsseldorf: DUP.

Gorbunova, Irina M. 2009. Possessivnye konstrukcii. In *Aspekty polisintetizma: očerki po grammatike adygejskogo jazyka*, ed. Testelec J. G., 145–165. Moscow: RGGU.

Gordon, Lynn. 1986. *Maricopa morphology and syntax*, volume 108 of *University of California Publications in Linguistics*. Berkeley: University of California Press.

Grice, P. 1975. Logic and conversation. In *Speech acts*, ed. P. Cole and J. L. Morgan, 41–58. New York: Academic Press.

Grinevald, Colette. 2000. A morphosyntactic typology of classifiers. In *Systems of nominal classification*, ed. Gunter Senft, 50–92. Cambridge: Cambridge University Press.

Gruber, Bettina. 2013. *The Spatiotemporal Dimensions of Person*. Utrecht: LOT.

Haiman, John. 1983. Iconic and economic motivation. *Language* 59:781–819.

Hanson, Rebecca. 2010. A grammar of Yine (Piro). Doctoral Dissertation, La Trobe University.

Hardman, Martha J. 2001. *Aymara*. Number 35 in Lincom Studies in Native American Linguistics. München: Lincom Europa.

Hargus, Sharon. 2007. *Witsuwit'en grammar*. Vancouver: UBC Press.

Haspelmath, Martin. 2008. Alienable vs. inalienable possessive constructions. Course handout Leipzig Spring School on Linguistic Diversity, March 2008.

Haude, Katharina. 2006. A grammar of Movima. Doctoral Dissertation, Radboud Universiteit Nijmegen.

Heim, Irene. 1991. Artikel und definitheit. In *Semantik: Ein internationales handbuch der zeitgenössischen forschung*, ed. A. von Stechow and D. Wunderlich, 487–535. Berlin: de Gruyter.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Blackwell Textbooks in Linguistics. Oxford: Wiley-Blackwell.

Heine, Bernd. 1997. *Possession: Cognitive Sources, Forces, and Grammaticalization*. Cambridge: Cambridge University Press.

Hellan, Lars. 1980. Towards an integrated theory of noun phrases. Doctoral Dissertation, University of Trondheim.

Heller, Daphna. 2002. Possession as a Lexical Relation: Evidence from the Hebrew Construct State. In *WCCFL 21 Proceedings*, ed. L. Mikkelsen and C. Potts, 127–140. Somerville MA: Cascadilla Press.

Holton, Gary Michael. 2000. The phonology and morphology of the tanacross athabaskan languages. Doctoral Dissertation, University of California Santa Barbara.

Jackendoff, Ray S. 1983. *Semantics and Cognition*, volume 8 of *Current Studies in Linguistics Series*. Cambridge MA: MIT Press.

Jones, Eliza, and Joe Kwaraceius. 1997. *Denaakkenaage' Koyukon grammar*. Fairbanks: Alaska Native Language Center.

Karvovskaya, Lena, and Erik Schoorlemmer. 2017. The possessor that should have stayed close to home, but ran away. In *A pesky set: Papers for David Pesetsky*, ed. Coppe van Urk Clair Halpert, Hadas Kotek, 291–300. Cambridge MA: MIT Press.

Kemperson, Ruth. 1980. Ambiguity and word meaning. In *Studies in English linguistics for Randolph Quirk*, ed. Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik, 7–16. London: Longman.

Kieviet, Paulus. 2017. *A grammar of Rapa Nui*, volume 12 of *Studies in Diversity Linguistics*. Berlin: Language Science Press.

Kiparsky, Paul. 1973. "Elsewhere" in Phonology. In *A Festschrift for Morris Halle*, ed. Stephen R. Anderson and Paul Kiparsky, 93–107. New York: Holt.

Kiparsky, Paul. 1982. Word-formation and the lexicon. In *Proceedings of 1982 Mid-America Linguistic Coference*, ed. F. Ingemann, 3–32. Kansas: University of Kansas.

Knowles, Susan Marie. 1984. A descriptive grammar of Chontal Maya (San Carlos dialect). Doctoral Dissertation, Tulane University.

Kockelman, Paul. 2007. Inalienable possession and personhood in a Q'eqchi'-Mayan community. *Language in Society* 36:343–369.

Krasnoukhova, Olga. 2012. *The Noun Phrase in the Languages of South America*. Utrecht: LOT.

Kumachov, M.A. 1971. *Slovoizmenenie adygskich jazykov*. Moscow: Nauka.

Kumachov, M.A. 1989. *Sravnitel'no-istoričeskaja grammatika adygskich (čerkesskich) jazykov*. Moscow: Nauka.

Landman, Meredith (2006). 2006. Variables in Natural Language. Doctoral Dissertation, University of Massachusetts, Amherst.

Le Bruyn, Bert, and Erik Schoorlemmer. 2016. Possession: Puzzles in meaning and form. *Lingua* 182:1–11.

Le Bruyn, Bert, Henriëtte de Swart, and Joost Zwarts. 2016. From have to have-verbs: Relations and incorporation. *Lingua* 182:49–68.

Lehmann, Christian. 2002. *Possession in Yucatec Maya*. Münster: E-Learning-Academy, 2 edition.

Levinson, Stephen C. 2000. *Presumptive Meanings : The Theory of Generalized Conversational Implicature Language, Speech, and Communication*. MIT Press.

Lichtenberk, Frantisek. 2008. *A grammar of Toqabaqita*, volume 42 of *Mouton Grammar Library*. Berlin: Mouton de Gruyter.

Löbner, Sebastian. 1985. Definites. *Journal of Semantics* 4:279–326.

Löbner, Sebastian. 2011. Concept Types and Determination. *Journal of Semantics* 28:279–333.

Luo, Yongxian. 2013. Possessive constructions in Mandarin. In *Possession and Ownership*, ed. Alexandra Y. Aikhenvald and R. M. W. Dixon, 186–207. Oxford: Oxford University Press.

Lynch, John. 1974. Verbal Aspects of Possession in Melanesian Languages. *Oceanic Linguistics* 12:69–102.

Martí, Luisa (2003). 2003. Contextual Variables. Doctoral Dissertation, University of Connecticut, Storrs.

Matthewson, Lisa. 2004. On the methodology of semantic fieldwork. *International Journal of American Linguistics* 70:369–415.

McRae, Ken, George S. Cree, Mark S. Seidenberrg, and Chris McNorgan. 2005. Semantic feature production norms for a large set of living and nonliving things. *Behavior Research Methods, Instruments, & Computers* 37:547–559.

Mesineo, Cristina. 2003. *Lengua toba (guaycurú)*. München: Lincom Europa.

Mosel, Ulrike. 1984. *Tolai Syntax and its Historical Development*. Pacific Linguistics. Canberra: Australian National University. Department of Linguistics. Research School of Pacific Studies.

Mosel, Ulrike. 1994. *Saliba*. München: Lincom Europa.

Mosel, Ulrike, and Even Hovdhaugen. 1992. *Samoan Reference Grammar*. Oslo: Scandinavian University Press.

Mulloy, Emily Ross, and Sergio Alejo Rapu. 1977. Possession, Dependence And Responsibility In the Rapanui Language. *Journal of the Polynesian Society* 7–26.

Myler, Neil. 2014. Building and Interpreting Possession Sentences. Doctoral Dissertation, New York University.

Nichols, Johanna. 1988. On alienable and inalienable possession. In *In honor of Mary Haas: From the Haas Festival Conference on Native American linguistics*, ed. William Shipley, 557–609. New York: Mouton de Gruyter.

Nichols, Johanna, and Balthasar Bickel. 2013a. Locus of marking in possessive noun phrases. In *The World Atlas of Language Structures Online*, ed. Matthew S. Dryer and Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. URL `http://wals.info/chapter/24`.

Nichols, Johanna, and Balthasar Bickel. 2013b. Possessive classification. In *The World Atlas of Language Structures Online*, ed. Matthew S. Dryer and Martin Haspelmath. Leipzig: Max Planck Institute for Evolutionary Anthropology. URL `http://wals.info/chapter/59`.

Niu, Fangfang. 2016. Juxtaposed possessives *ta baba* 'her/his father' in Mandarin Chinese. *Lingua* 183:53–85.

Nonato, Rafael Bezerra. 2008. Ainore boe egore: um estudo descritivo da língua bororo e conseqüências para a teoria de caso e concordância. Dissertação de Mestrado, Universidade Estadual de Campinas.

Overall, Simon. 2007. A Grammar of Aguaruna. Doctoral Dissertation, La Trobe University.

Palmer, Bill. 2008. Passive Possession in Oceanic. *Studies in Philippine Languages and Cultures* 18:119–141.

Park, Indrek. 2012. A grammar of Hidatsa. Doctoral Dissertation, Indiana University.

Partee, Barbara H. 1983/1997. Uniformity vs. versatility: The genitive, a case study. Appendix to Theo Janssen (1997), Compositionality. In *The Handbook of Logic and Language*, ed. Johan van Benthem and Alice ter Meulen, 464–470. New York: Elsevier.

Partee, Barbara H. 2000. Some puzzles of predicate possessives. In *Perspectives on Semantics, Pragmatics, and Discourse: Festschrift for Ferenc Kiefer*, ed. R.M. Harnish and István Kenesei, 91–117. Amsterdam: John Benjamins.

Partee, B.H., and V. Borschev. 2003. Genitives, relational nouns and argument-modifier ambiguity. In *Modifying adjuncts*, ed. E. Lang, C. Maienborn, and C. Fabricius-Hansen, 67–112. Berl: Mouton de Gruyter.

Passer, Matthias Benjamin. 2016. *The typology and diachrony of nominal classification*. Utrecht: LOT.

Payne, Thomas E., and Doris L. Payne. 2013. *A typological grammar of Panare*. Leiden: Brill Publishers.

Percus, O. 2006. Antipresuppositions. In *Theoretical and empirical studies of reference and anaphora: Toward the establishment of generative grammar as an empiral science. [Report of the Grant-in-Aid for Scientific Research (B)]*, ed. A. Ueyama, 52–73. Japan Society for the Promotion of Science.

Peters, Stanley, and Dag Westerståhl. 2013. The semantics of possessives. *Language* 89:713–759.

von Prince, Kilu. 2012a. A grammar of Daakaka. Doctoral Dissertation, Humboldt Universität zu Berlin.

von Prince, Kilu. 2012b. Nominal possession in Daakaka: Transitivizing vs. Linking. In *Proceedings of AFLA 18 (Austronesian Formal Linguistics Association)*, ed. Lauren Eby Clemens, Gregory Scontras, and Maria Polinsky, 156–170. Cambridge MA: Harvard University.

von Prince, Kilu. 2016. Alienability as control: the case of Daakaka. *Lingua* 182:69–87.

Pustejovsky, James. 1996. *The generative lexicon*. Cambridge, MA: The MIT Press.

Putnam, Hilary. 1973. Meaning and reference. *The Journal of Philosophy* 70:699–711.

Rasch, Jeffrey Walter. 2002. The basic morpho-syntax of Yaitepec Chatino. Doctoral Dissertation, Rice University, Houston, Texas.

Rice, Keren. 1989. *A grammar of Slave*, volume 5 of *Mouton Grammar Library*. Berlin: Mouton de Gruyter.

van Rijn, Marlou A. 2016. Locus of marking typology in the possessive NP: A new approach. *Folia Linguistica* 50:269–327.

Ritter, Elizabeth, and Sara Thomas Rosen. 2011. Possessors as External Arguments: Evidence from Blackfoot. In *Papers of the 42nd Algonquian Conference*, ed. J. Randolph Valentine and Monica Macaulay, volume 42, 211–229. Albany: SUNY Press.

Roberts, John. 1987. *Amele*. London: Croom Helm.

Roberts, John R. 2015. Inalienable Possession in Amele: A Role and Reference Grammar account. SIL Electronic Working Papers.

Rooryck, Johan. 2017. Reconsidering inalienable possession in French. Advance online publication. http://ling.auf.net/lingbuzz/003721.

Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75–116.

Ross, Malcolm. 2002. Mussau. In *The Oceanic Languages*, 148–166. Richmond: Curzon.

Sauerland, Uli. 2003. A new semantics for number. In *Proceedings of SALT 13*, ed. R. Young and Y. Zhou, 258–275. Ithaca NY: CLC Publications.

Sauerland, Uli. 2008. Implicated presuppositions. In *The discourse potential of underspecified structures*, ed. Anita Steube, 581–600. Berlin: Mouton de Gruyter.

Saxon, Leslie, and Andrea Wilhelm. 2016. The "possessed noun suffix" and possession in two Northern Dene (Athabaskan) languages. *International Journal of American Linguistics* 82:35–70.

Schütz, Albert J. 1985. *The Fijian Language*. Honolulu: University of Hawaii Press.

Stassen, Leon. 2009. *Predicative possession*. Oxford Studies in Typology and Linguistic Theory. Oxford: Oxford University Press.

Stolz, Thomas, Sonja Kettler, Cornelia Stroh, and Aina Urdze. 2008. *Split Possession: An areal-linguistic study of the alienability correlation and related phenomena in the languages of Europe*. Amsterdam: John Benjamins.

Storto, Gianluca. 2003. Possessives in context Issues in the Semantics of Possessive Constructions. Doctoral Dissertation, UCLA.

Thompson, Chad. 1996. On the grammar of body parts in Koyukon Athabaskan. In *The Grammar of Inalienability*. Mouton de Gruyter.

Thompson, Chad L. 1991. Tho low topicality pronoun KI- in Koyukon. *Studies in Language* 15:59–84.

Ultan, Russel. 1978. Towards a typology of substantival possession. In *Universals of Human Language*, ed. Joseph H. Greenberg, volume 4: Syntax, 11–49. Stanford: Stanford University Press.

Vergnaud, Jean-Roger, and Maria Luiza Zubizarreta. 1992. The Definite Determiner and the Inalienable Constructions in French and English. *Linguistic Inquiry* 23:595–652.

Vikner, Carl, and Per Anker Jensen. 2002. A semantic analysis of the English genitive: Interaction of lexical and formal semantics. *Studia Linguistica* 56:191–226.

Winkler, Eberhard. 2001. *Udmurt*, volume 212 of *Languages of the World*. München: Lincom.

English summary

This dissertation is a cross-linguistic study of the semantics of adnominal possession. Languages often use multiple constructions to express adnominal possession. Two such constructions in Dutch are shown in (1).

(1) Le Bruyn and Schoorlemmer (2016: 7)
   a. de auto van Johan
      the car of Johan
      'Johan's car'
   b. Johan z'n auto
      Johan his car
      'Johan's car'

A well-known property of possessive constructions is their interpretative flexibility. A single possessive construction can receive multiple interpretations: the relation between Johan and the car in (1) can be one of ownership, but it can also refer to the racing car on which he made a bet. Still, some interpretations are more easily available than others. Thus, *Leonardo's nose* can, in principle, refer to a nose that Leonardo painted or sculpted, but this reading would require contextual support. By contrast, the reading under which *Leonardo's nose* refers to Leonardo's body part is easily available without any context. The body-part interpretation can therefore be described as the stereotypical relation that holds between a nose and its possessor.

The thesis investigates a large sample of genetically unrelated languages in which there is a correspondence between multiple ways of expressing possession and specific relations between the possessor and the possessed. In chapter 2, I lay out the basic system found in most languages. First, I argue that the meaning-based distinctions in the expression of possession need to be distinguished from the form-based distinctions. In some languages, the choice of a possessive marker is strictly determined by the lexical class of the possessed noun. In this case, the distinction is form based.

In the case that the distinction is meaning based, the same noun can re-

ceive various possessive markings depending on the relation that needs to be expressed between the possessor and the possessed. In order to account for the meaning-based distinction, I define two types of possessive constructions that I call idiosyncratic and non-idiosyncratic strategies. There are three factors that are relevant for this distinction. Idiosyncratic strategies are typically less productive than the non-idiosyncratic strategies. Typically, they involve less morphological material to express possession. Crucially, they correspond to stereotypical relations such as the body-part relation for *nose*.

As an example, consider two possessive constructions in Adyghe in (2). In (2a), an idiosyncratic strategy is used to express a body-part relation between a 1st person possessor and a head. In (2b), the non-idiosyncratic strategy is used to express an ownership relation between a 1st person possessor and a head. The strategy in (2a) is less productive than the strategy in (2b). It is only available for a small class of nouns that include some body parts and some kinship terms. In terms of formal marking, in (2a), possession is marked by *s* '1sg', while in (2b) possession is marked by a combination of *s* '1sg' and *-je* 'poss'. Thus, the idiosyncratic strategy in (2a) involves less morphological material than the non-idiosyncratic strategy in (2b).

(2) Adyghe (Gorbunova 2009: 153-154)
   a. s-ŝha
      1SG-head
      'my head'
   b. s-jə-ŝha
      1SG-POSS-head
      'my head' (said by a zoologist about a dog's head)

As shown in chapter 2, the exact interpretation of a stereotypical relation is culture specific. For instance, in Tawala, the relation between a person and a village the person is part of is marked idiosyncratically, as shown in (3). However, that doesn't mean that this relation will be stereotypical for the noun 'person' in other languages, like Adyghe. For each language, stereotypical relations have to be determined separately, although relations like body-part and kinship commonly occur across languages.

(3) Tawala (Ezard 1997: 98)
      meyagi lawa-hi
      village person-3pl
      'people of the village'

I propose an analysis that is abstract enough to allow for these kinds of language-specific distinctions. If an idiosyncratic and non-idiosyncratic strategy are both available for the same noun, as in, for instance, *ŝha* 'head' in the Adyghe example in (2), the choice between them is determined by a pragmatic principle, Maximize Presupposition (Heim 1991) that is formulated in (4).

(4) Make your contribution presuppose as much as possible!

The intuition behind this principle is that in case there is competition between an expression with a specific meaning and an expression with an underspecified meaning, the choice of the underspecified expression gives rise to an inference that the more specific one does not hold. When there is competition between idiosyncratic and non-idiosyncratic possessive strategies *Maximize Presupposition* predicts that idiosyncratic strategies will be used for stereotypical relations and non-idiosyncratic strategies for other, contextually-determined relations. The use of the non-idiosyncratic strategy for a noun like *ŝha* 'head' in Adyghe example (2) is predicted to give rise to an inference that the relation between the possessor and the possessed is not a body-part relation. The intended relation, such as ownership in (2b), can be derived from the context.

In the rest of the thesis, I address the question of to what extent the proposed analysis is applicable to languages that make use of more than two morphological means to mark possession. In chapter 3, I show how the analysis can be extended to languages that make use of so-called "possessive classifiers". Specifically, I look at "possessive modifiers", that is "possessive classifiers" that modify the relation between the possessor and the possessed. An example is shown in (5); the possessive modifier is a noun-like element, *u*, 'food' which combines with the possessive marker *-n* and expresses a food relation between the '1sg' possessor and the possessed item 'manioc'.

(5) Panare (Payne and Payne 2013)

y-u-n uto'
1sg-food-poss manioc
'my manioc (for eating)'

Some languages only have possessive modifiers, and lack an opposition between idiosyncratic strategies and non-idiosyncratic strategies. In other languages, there is an interaction between possessive modifiers, idiosyncratic and non-idiosyncratic strategies. For instance, there are languages with a three-way distinction, meaning that in addition to the opposition between idiosyncratic- and non-idiosyncratic strategies, some relations are explicitly specified by possessive modifiers.

In chapter 4, I discuss other languages with numerous marking strategies to express possession. I show that the distinction between form-based distinctions and meaning-based distinctions allows some superficially complex systems to reduce to an opposition between an idiosyncratic and a non-idiosyncratic strategy. Finally, I show that an opposition between idiosyncratic and non-idiosyncratic strategies can coexist with other strategies to express possession, which can be orthogonal to the first distinction. For instance, the possessive interpretation can be provided by the relational possessed noun, so that no possessive marker is required. Superficially, the meaning effects look quite similar. Therefore, I conclude that it is important for a cross-linguistic analysis

to carefully control for various semantic factors. Finally, chapter 5 provides an overview of the various results of the dissertation, and a discussion of a number of open cases.

Samenvatting in het Nederlands

Deze dissertatie onderzoekt de semantiek van adnominale bezitsrelaties vanuit een cross-linguïstisch perspectief. Talen hebben vaak meerdere uitdrukkingen tot hun beschikking om adnominaal bezit uit te drukken. Twee van zulke constructies uit het Nederlands worden geïllustreerd in (1).

(1) Le Bruyn and Schoorlemmer (2016: 7)
   a. de auto van Johan
   b. Johan z'n auto

Een bekende eigenschap van bezitsrelaties is hun interpretatieve flexibiliteit. Aan één possessieve uitdrukking kunnen meerdere betekenissen verbonden zijn: de relatie tussen Johan en de auto in (1) kan een eigendomsrelatie zijn, maar het kan ook om een auto gaan waar Johan geld op heeft ingezet bij een weddenschap. Desondanks liggen sommige interpretaties meer voor de hand dan andere. De uitdrukking *Leonardo's neus* kan in principe verwijzen naar een neus die door Leonardo is geschilderd of beeldgehouwd. Een dergelijke interpretatie vereist echter bijkomende context die deze interpretatie ondersteunt. Zonder zo'n specifieke context ligt de betekenis van *Leonardo's neus* als een lichaamsdeel van Leonardo het meest voor de hand. Deze interpretatie kan daarom worden beschreven als de *stereotypische* relatie tussen een *neus* en zijn bezitter.

Dit proefschrift onderzoekt een groot aantal genetisch ongerelateerde talen, waarin er overeenkomsten zijn tussen de verschillende wijzen waarop bezitsrelaties kunnen worden uitgedrukt en de mogelijke relaties tussen bezitter en bezit.

In hoofdstuk 2 presenteer ik het elementaire systeem dat in de meeste talen voorkomt. Ten eerste argumenteer ik dat er een onderscheid moet worden gemaakt tussen uitdrukkingen van bezit die gebaseerd zijn op betekenis enerzijds, en uitdrukkingen van bezit die gebaseerd zijn op de vorm anderzijds. In sommige talen wordt de keuze voor een possessiefmarkeerder uitsluitend gebaseerd op de lexicale klasse van het zelfstandig naamwoord dat het bezit aanduidt. In

zulke gevallen is het onderscheid dus gebaseerd op vorm.

Wanneer het verschil tussen bezitsrelaties gebaseerd is op de semantiek kan hetzelfde zelfstandig naamwoord op verschillende wijzen als bezit gemarkeerd worden, afhankelijk van de bezitsrelatie tussen de bezitter en het bezit die moet worden uitgedrukt. Om de semantische verschillen te verklaren definieer ik twee soorten possessieve uitdrukkingen die ik benoem als *idiosyncratische* en *niet-idiosyncratische* strategieën. Drie factoren zijn relevant voor deze indeling. Allereerst zijn idiosyncratische strategieën minder productief dan niet-idiosyncratische strategieën. Verder bevatten ze meestal minder morfologisch materiaal. Een derde cruciale factor is dat idiosyncratische strategieën stereotypische relaties uitdrukken zoals het bezit van het lichaamsdeel *neus*.

De twee bezitsrelaties uit Adyghe in (2) dienen hier ter illustratie. In (2a) zien we een idiosyncratische strategie die gebruikt wordt om een lichaamsdeel-relatie tussen de eerste persoon (de bezitter) en het hoofd uit te drukken. In (2b) zien we daarentegen een niet-idiosyncratische strategie die gebruikt wordt om een bezitsrelatie tussen de eerste persoon en het hoofd uit te drukken. De strategie in (2) is minder productief dan die in (2b) . De eerste is alleen beschikbaar voor een kleine groep zelfstandige naamwoorden, waaronder een aantal lichaamsdelen en verwantschappen. In formeel opzicht zien we dat de bezitsrelatie in (2a) wordt gemarkeerd door *s-* '1SG', terwijl de bezitsrelatie in (2b) wordt gemarkeerd door een combinatie van *s-* '1SG' en *-je-* 'POSS'. We zien dus dat de idiosyncratische strategie in (2a) minder morfologisch materiaal bevat dan de niet-idiosyncratische strategie in (2b).

(2) Adyghe (Gorbunova 2009: 153-154)
   a. s-ŝha
      1SG-hoofd
      'mijn hoofd'
   b. s-jə-ŝha
      1SG-POSS-hoofd
      'mijn hoofd' (gezegd door een zoloog over het hoofd van een hond)

Zoals wordt aangetoond in hoofdstuk twee is de precieze interpretatie van stereotypische relaties cultuurafhankelijk. In Tawala bijvoorbeeld wordt de relatie tussen een persoon en een dorp waarin hij/zij woont idiosyncratisch gemarkeerd, zoals te zien is in (3). Dit betekent echter niet dat deze relatie stereotypisch is voor het zelfstandig naamwoord 'persoon' in andere talen, zoals Adyghe. In elke taal moeten stereotypische relaties afzonderlijk worden vastgesteld, hoewel een idiosyncratische markering van bezitsrelaties die betrekking hebben op lichaamsdelen en verwantschappen vaak voorkomt in de talen van de wereld.

(3) Tawala (Ezard 1997: 98)

meyagi lawa-hi
village dorp persoon-3PL
'mensen van het dorp'

Ik stel een analyse voor die abstract genoeg is om taalspecifieke variatie toe te staan. Als zowel idiosyncratische als een niet-idiosyncratische strategie beschikbaar zijn voor hetzelfde zelfstandig naamwoord, zoals voor *ŝha* 'hoofd' in het voorbeeld uit Adyghe in (2), dan wordt de keuze tussen de beide strategieën bepaald door het pragmatisch principe *Maximize Presupposition* (Heim 1991) dat geformuleerd is in (4).

(4) Laat je bijdrage zo veel als mogelijk veronderstellen!

De intuïtie achter dit principe is dat, wanneer er competitie tussen twee uitdrukkingen optreedt, waarvan één uitdrukking een specifieke betekenis heeft en één uitdrukking een ondergespecificeerde betekenis, de keuze voor de ondergespedificeerde betekenis impliceert dat de specifieke betekenis niet van toepassing is. In het geval van de competitie tussen idiosyncratische en niet-idiosyncratische strategieën voorspelt *Maximize Presupposition* dat de idiosyncratische strategieën worden gebruikt voor stereotypische relaties en niet-idiosyncratische strategieën voor andere contextueel bepaalde relaties. De voorspelling is dus dat het gebruik van een niet-idiosyncratische strategie in combinatie met een zelfstandig naamwoord, zoals *ŝha* 'hoofd' in het voorbeeld van Adyghe in (2), tot de interpretatieve conclusie leidt dat de relatie tussen de bezitter en het bezit in elk geval niet een lichaamsdeelsrelatie is. De bedoelde interpretatie, zoals die van eigendom in (2b), kan dan worden afgeleid uit de context.

In de rest van dit proefschrift richt ik mij op de vraag in welke mate de voorgestelde analyse kan worden toegepast op talen die gebruik maken van meer dan twee morfologische markeerders voor bezitsrelaties. In hoofdstuk 3 laat ik zien hoe de analyse kan worden toegepast op talen die gebruik maken van zogenaamde possessieve 'classifiers'. Ik bekijk met name possessieve 'modificeerders', dat zijn possessieve classifiers die de relatie tussen de bezitter en het bezit bepalen. Een voorbeeld hiervan is te zien in (5). De possessieve modificeerder *u* 'voedsel', die lijkt op een zelfstandig naamwoord, wordt samengevoegd met de possessief markeerder *-n* om een voedselrelatie tussen de '1SG' bezitter en het bezit 'maniok' uit te drukken.

(5) Panare (Payne and Payne 2013)
y-u-n uto'
1SG-voedsel-POSS maniok
'mijn maniok (om te eten)'

Sommige talen hebben uitsluitend possessieve modificeerders, en vertonen geen verschil tussen idiosyncratische en niet-idiosyncratische strategieën. In andere talen is er een wisselwerking tussen possessieve modificeerders, idiosyncratische,

en niet-idiosyncratische strategieën. Er zijn bijvoorbeeld talen die naast de oppositie tussen idiosyncratische en niet-idiosyncratische strategieën een aantal relaties aanvullend specificeren met possessieve modificeerders.

In hoofdstuk 4 bespreek ik andere talen die verschillende strategieën aanwenden om bezitsrelaties uit te drukken. Ik laat zien dat het onderscheid tussen bezitsrelaties op basis van vorm enerzijds en betekenis anderzijds toestaat om ogenschijnlijke complexe systemen terug te brengen tot een elementair verschil tussen idiosyncratische en niet-idiosyncratische strategieën. Verder laat ik zien dat talen, naast de oppositie tussen idiosyncratische en niet-idiosyncratische strategieën, gebruik kunnen maken van andere manieren om bezitsrelaties uit te drukken die niet afhangen van deze oppositie. De possessieve interpretatie kan bijvoorbeeld worden uitgedrukt door een relationeel zelfstandig naamwoord dat verwijst naar het bezit: in een dergelijk geval is een possessief markeerder niet nodig. Globaal gezien zijn de ontstane betekenisverschillen in zulke gevallen behoorlijk vergelijkbaar. Daarom concludeer ik dat het voor een crosslingustische analyse belangrijk is om semantische factoren in acht te nemen. Tot slot biedt hoofdstuk 5 een overzicht van de uitkomsten van deze dissertatie, en een bespreking van een aantal open vragen.

Curriculum Vitae

Lena Karvovskaya was born on 21st October in Moscow. She started her studies of linguistics in 2003 at Russian State University for Humanities. In 2007, she received a scholarship to spend a semester at Humboldt University in Berlin. After moving to Germany in 2008, she continued her studies in linguistics at the University of Potsdam, and received her master's degree in 2013. During her studies in Russia and Germany, Lena took part in several fieldwork trips to the Caucasus, in Siberia, and in the Kola peninsula, while working as a student assistant in several research projects. She also carried out her own fieldwork on Ishkashimi in the Pamir mountains of Tajikistan. In 2013, she moved to the Netherlands to take up a PhD position in the NWO project "Lend me your ears: the grammar of (un)transferable possession." at Leiden University. In 2015, she spent a semester at MIT as a visiting scholar. This dissertation is the result of her PhD research.