The typology and formal semantic of adnominal possession

Karvovskaya, E.

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.