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Re-assessing the explanatory potential of the alienability contrast

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► **To cite this version:**

An van Linden, Françoise Rose. Re-assessing the explanatory potential of the alienability contrast. *Linguistics*, 61 (6), 2023. halshs-04293097

HAL Id: halshs-04293097

<https://shs.hal.science/halshs-04293097>

Submitted on 29 Nov 2023

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2023 · VOLUME 61 · ISSUE 6

LINGUISTICS

AN INTERDISCIPLINARY JOURNAL
OF THE LANGUAGE SCIENCES

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ISSN 0024-3949 · e-ISSN 1613-396X

All information regarding notes for contributors, subscriptions, Open access, back volumes and orders is available online at <http://www.degruyter.com/view/j/ling>

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PUBLISHER Walter de Gruyter GmbH, Berlin/Boston, Genthiner Straße 13, 10785 Berlin, Germany

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ADVERTISEMENTS e-mail: anzeigen@degruyter.com

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TYPESETTING TNQ Technologies, Chennai, India

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim



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Françoise Rose and An Van linden*

Introduction: the limits of the explanatory potential of the alienability contrast

<https://doi.org/10.1515/ling-2022-0015>

Received February 3, 2022; accepted October 4, 2023; published online November 6, 2023

Abstract: This introductory article outlines the central topic of the present special issue, viz. the contrast between alienable and inalienable possession, and how this contrast is reflected in the grammars and lexicons of natural languages. It sketches the historical background of the alienability contrast in the linguistic literature and points to a number of biases that need to be overcome in order to (1) advance our understanding of the contrast and (2) face the limits of its explanatory potential. Specifically, the present introduction, as well as the contributions to the present issue, proposes to move beyond prototypical possessive relationships (ownership, part-whole, and kinship relations), prototypical possessor categories (human possessors) as well as prototypical possessee categories (artifacts, body-parts and kin). In addition, the issue contains three contributions dealing with Amazonian languages, thus filling in an important gap in previous crosslinguistic studies on possession. The data presented in the special issue show that many morphosyntactic phenomena that have been explained in terms of the alienability contrast – or are amenable to such explanations – cannot be reduced to it, and are sometimes even better described without recourse to alienability at all. The present article thus concludes that the alienability contrast is at best regarded as a heuristic tool in exploring linguistic data, and cautions that, if used as the only explanatory principle, it could actually hamper an adequate description of the data.

Keywords: adnominal possession; alienability; body parts; kinship terms; noun classes

1 Introduction

The present special issue deals with a topic where cognition and grammar intertwine, i.e., the concept of alienability, and hones in on how the contrast between

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inalienable and alienable possession is reflected in grammar and the lexicon. It brings together contributions that, on the basis of first-hand data collected in the field or crosslinguistic sample work, critically address the alienability contrast as a functional explanation for linguistic facts, such as, for example, the different coding strategies in adnominal possessive constructions, i.e., noun phrases consisting of the expression of both a possessor and a possessee (also known as attributive possession). Example (1) from the West Papuan language Abun illustrates a coding split in this grammatical environment. Whereas Abun uses simple juxtaposition of possessor and item possessed (henceforth possessee) for the body-part term ‘arm’ in (1a), it uses a construction with a linker for the term ‘garden’ in (1b).

- (1) a. *ji syim*
 1sg arm
 ‘my arm’
 b. *ji bi nggwe*
 1sg poss garden
 ‘my garden’
 (Abun; Berry and Berry 1999: 77–78)

Berry and Berry (1999: 77–78) explain the difference in morphosyntactic marking between (1a) and (1b) in terms of alienability, with juxtaposition being used for inalienable possession (1a) and the linker construction for alienable possession (1b). They define alienable possession as a type of possessive relationship in which the possessee has “only a temporary or non-essential dependence on the possessor”, whereas inalienable possession involves “a permanent or necessary relationship” between possessee and possessor (Berry and Berry 1999: 77). These definitions illustrate a semantic view of alienability.

While the alienability contrast serves very well to account for the adnominal possession data in Abun, the articles in the current special issue in fact point to the limits of the alienability contrast as a principle motivating lexico-grammatical patterning. Most contributions focus on unrelated individual languages from various parts of the world, often on the basis of first-hand data collected in the field. The languages studied in detail are presented in Table 1. In addition to these language-specific studies, two articles take a crosslinguistic approach. The article by Chousou-Polydouri et al. is based on a sample of 120 genetically and areally diverse languages, and the one by Cristofaro is based on data from about 50 languages.

The remainder of this introductory article is organized as follows. Section 2 will give a (necessarily non-exhaustive) overview of how the alienability contrast entered the linguistic scene as a semantic notion and how it has been invoked as a functional motivation for grammatical organization in a wide variety of languages for more than a century. In some accounts, the alienability contrast has also been interpreted as a binary pattern of linguistic organization, and hence been treated as an explanandum itself rather than as an explanation. Section 3 will discuss the research

Table 1: Individual languages focused on in the special issue.

Language	Glottocode	Family	Macro-area (Hammarström et al. 2023)	Article in the present issue
Mandinka	mand1436	Mande	Africa	Creissels
Negidal	negi1245	Tungusic	Eurasia	Aralova and Pakendorf
Zuanga-Yuanga	yuag1237	Austronesian	Papunesia	Bril
Harakmbut	amar1274	Harakmbut	South America	Van linden
Mojeño Trinitario	trin1274	Arawakan	South America	Rose
Piaroa	piar1243	Jodí-Sáliban	South America	Rosés Labrada

questions addressed by the articles in the issue, and Section 4 details how the articles advance our current understanding of the alienability contrast, among others by taking into account sets of data that have hitherto been overlooked or deemed irrelevant. Specifically, Section 4 will present the collective highlights of the issue (Section 4.1), as well as summarize the individual contributions (Section 4.2).

2 The alienability contrast in the literature

Before discussing the treatment of the distinction between alienable and inalienable possession in the literature, we briefly want to address the concept of possession itself. Possession has been defined extensionally in the literature as comprising three prototypical possessive relations: ownership, kinship, and part/whole relationships (e.g., Haspelmath 2017; Langacker 1995). This goes back to Seiler (1981: 6), whose narrow definition of possession involves “the relationship between a human being and [their] kinsmen, [their] body parts, [their] material belongings, [their] cultural and intellectual products” and whose extended definition also encompasses part/whole relationships. Heine (1997: 39), in turn, defines possession in terms of its prototypical properties: (i) the possessor is a human being; (ii) the possessee is a concrete item; (iii) the possessor has the right to make use of the possessee; (iv) possessor and possessee are in spatial proximity; and (v) possession has no conceivable temporal limit. One attempt to define possession intensionally is Creissels’ (2006: 143): possession relates to “the notion of participation of an entity (commonly referred to as the possessee) in the personal sphere of an individual (commonly referred to as the possessor)”.¹ We adhere to this last definition but extend it even further so as to also include non-human possessors.

¹ This is our translation of the French original: “la notion de participation d’une entité (communément désignée comme possédé) à la sphère personnelle d’un individu (communément désigné comme possesseur)” (Creissels 2006: 143).

The distinction between alienable and inalienable possession dates back to the early twentieth century, when Lévy-Bruhl (1914: 96) observed that structures expressing adnominal possession such as ‘my head’ and ‘my garment’ are coded differently in Oceanic languages, and explained this in terms of the conceptually different types of possession they involve, viz. inalienable possession (‘my head’) versus alienable possession (‘my garment’). On the other side of the world, the distinction had also been noted around the same time in North American languages for the same grammatical environment (e.g., Uhlenbeck [1916], and Sapir’s [1917] review of the latter), but under different labels, e.g., *inherent* versus *accidental* (Dixon 1910; see Nichols [1988: 561] for an overview). Languages were thus found to formally indicate the fact that entities like garments can easily shift possessors, while entities like heads cannot, i.e., to formally encode a semantic distinction between alienable and inalienable possession. Inalienable possession is assumed to involve “either inextricable, essential or unchangeable relations” between possessor and possessee (Chappell and McGregor 1996a: 4). Alienable possession, by contrast, involves associations between possessor and possessee that are of a less permanent and inherent type (Chappell and McGregor 1989: 25).²

In the literature on the alienability contrast, the status of the concept as a semantic notion or as a structural contrast has been variable (cf. Nichols 1988: 561), and at times it is not made explicit. On the one hand, some accounts consider it to be fundamentally a semantic distinction, in line with Lévy-Bruhl (1914).³ Ever since the alienability contrast was put forward, it has been invoked as a semantic explanation for the differences in the morphosyntactic marking of adnominal possession, as illustrated in relation to Example (1). The scope of the explanatory potential of the concept has also widened considerably, not just to other phrase-level phenomena like proprietive markers (Tsunoda 1996), but also to phenomena at the word and

2 Note that the definitions of inalienable versus alienable possession are not symmetrical. Specifically, their conceptualizations differ in terms of scalarity (cf. Paradis 2001). For inalienable possession, the relation between possessor and possessee is conceptualized in terms of ‘either-or’, that is, the relation is unchangeable. Inalienable possession hence is a non-scalar category. While this conceptualization implies a complementary (contradictory) mode of oppositeness with alienable possession, what we note in the definition of the latter is a scalar conceptualization: the relations between possessor and possessee are “of a *less* permanent and inherent type” (Chappell and McGregor 1996a: 4, emphasis ours). The same asymmetry has been noted with respect to inalienable versus alienable noun classes. Nichols (1988) asserts that while inalienable nouns form a closed set and show semantic coherence, alienable ones do neither.

3 Seiler (1981: 8–9) coined the terms ‘inherent’ versus ‘established’ possession to refer to this semantic contrast in order to avoid terminological confusion, as he was aware that within a single language, “a possessive relation to one and the same object (e.g., a kinsman) can be represented as either ‘inalienable’ or ‘alienable’.”

clause levels. Examples of such phenomena are given below (based on Chappell and McGregor 1996a).

- (i) Word level:
 - Noun classes
 - Binominal lexeme constructions
 - Incorporation of (body-part) nouns into adjective roots
- (ii) Phrase level:
 - Adnominal possession
 - Proprietary/privative markers
- (iii) Clause level:
 - External possession
 - Double subject constructions
 - Noun incorporation
 - Predicative possession
 - Double non-subject (object/locative/dative) constructions
 - Quasi-passive

Within these linguistic phenomena, the semantic concept of alienability has mostly served as a functional explanation for adnominal possessive constructions (from Lévy-Bruhl 1914 to Haspelmath 2017), and for external possession (from Bally 1926 to Payne and Barshi 1999), illustrated in the Middle Dutch sentence in (2).

- (2) *Doen querteleerde ic hem ende ondeckte*
 then trepanned I him:ACC and uncovered
hem dat hersenbecken
 him:DAT the cranium:ACC
 ‘Then I trepanned him and uncovered his cranium (lit. uncovered him the cranium).’
 (Middle Dutch; Burridge 1996: 681)

The second clause in (2) features a structure in which a possessive relation is expressed with the possessor (*hem*) and the possessee (*dat hersenbecken*) expressed in different constituents (dative- vs. accusative-marked noun phrases respectively), and the possessor being a core argument of the predicate – all defining properties of external possession. However, some authors have pointed out the limits of such an explanation, such as Burridge (1996) herself, and Mithun (2001: 308), who noted that so-called external possession constructions are not primarily used “to specify possession or even inalienability, but the significant affectedness of a participant.”

On the other hand, alienable/inalienable possession have often been taken as terms expressing a formal distinction. As Nichols (1988: 568) puts it, in that respect, there are two major uses of the terms: either for classes of nouns or for constructions,

the latter also known as alienability splits. Nichols (1988) herself uses the terms as lexical categories for noun classes, which could be taken to be the equivalent of valence on nouns (see also Queixalós 2005, 2016 for this idea). Nichols considers that inalienable nouns always form a closed set, and relates the existence of this formal distinction with head-marking languages. Other common terms for this lexical distinction are (i) relational, bound, and obligatorily possessed for inalienable nouns; and (ii) absolute, free, and optionally possessed for alienable nouns (Haspelmath 2017; Nichols 1988). In relation to adnominal possessive constructions, Dahl and Koptjevskaja-Tamm (1998: 38–39) state that “[t]he choice between inalienable and alienable constructions is seldom predictable from such general definitions” as the ones cited at the beginning of this section, and that in language-specific accounts the alienability distinction often means “that a set of inalienable nouns are singled out for special treatment”, i.e., kin terms and/or body-part terms. They thus argue that the alienability contrast should be regarded as a structural contrast (see also Chappell and McGregor 1989; Nichols 1992: 117). In the same vein, Haspelmath (2017: 198–199) notes that “in general the difference between alienable and inalienable possession [as in (1a) vs. (1b), FR & AVL] is simply a constructional split, with no clear semantic implications, not unlike the split between pronouns in English (which make a nominative/accusative distinction) and nouns (which do not)”. Based on earlier crosslinguistic work, he formulates a number of universals, like the following: “Possessive constructions with inalienable nouns tend to show zero coding, short coding, bound coding, and/or obligatoriness, while possessive constructions with alienable nouns tend to show overt coding, long coding, free coding, and/or impossibility” (Haspelmath 2017: 218).⁴

In addition to notes on the variable use of the term alienability in the literature, some comments are in order with respect to the areal distribution of the manifestations of the alienability contrast. Initially, the alienability contrast was noticed as being particularly significant for the understanding of adnominal possession in Oceanic languages (Lévy-Bruhl 1914; Lichtenberk 2009) and North American languages (Nichols 1988). More recently, Nichols and Bickel (2013) have asserted that the binary pattern of alienable versus inalienable possession is “fairly common everywhere except Eurasia”; however, Koptjevskaja-Tamm (2002) and Stolz et al. (2008) present some examples that contradict this claim. Of course, the alienability contrast in European languages has been discussed more often in relation to predicative possession (see articles in Baron et al. 2001), and dative of involvement constructions

⁴ While the term “impossibility” might be used to refer to the fact that nouns cannot be possessed at all (see Aikhenvald 2012), it is often used for nouns that cannot enter the basic possessive construction of an individual language. To avoid ambiguity, some authors suggest using the term “non-directly possessible” for the latter meaning (see Krasnoukhova [2012: 58] and Rose the present issue).

(Bally 1926) or more generally external possession (Haspelmath 1999; König and Haspelmath 1998), illustrated in (2). But what we found particularly striking in perusing the general linguistics literature on possession and alienability is the little attention given to South American languages – one notable exception is Velázquez Castillo's (1999) article on Spanish and Guarani in Payne and Barshi (1999).⁵ Nevertheless, some area-specific studies on possession have been published recently, like Krasnoukhova (2011, 2012) and van der Voort (2009). In Krasnoukhova's (2011: 96) survey, only a minor subset of the languages under investigation shows an alienability-based constructional split (18/55 languages); in most of these (14/18 languages), predictably, “inalienable possession involves less morphological marking than alienable possession”. Turning to noun classes, Bickel and Nichols (2013) found that South American languages, just like North American ones, commonly show a class of obligatorily possessed nouns. Specifically, either these nouns obligatorily take a pronominal or a lexical possessor, as in Tupi-Guarani languages (Jensen 1999: 162), or they are obligatorily inflected for their possessor (whether they have a lexical possessor or not), as in some Arawakan languages (Rose, in this issue). Another interesting coding strategy attested in South American languages is that of possessive classifiers (Aikhenvald 2012: 165–167, see also Section 3).

Finally, we want to touch on a long-standing debate relating to the possible explanations of alienability phenomena and their diachronic origins. In relation to adnominal possession, there is consensus that the encoding of inalienable possession, which involves less morphosyntactic marking, is generally older than that of alienable possession, which involves more (complex) morphosyntactic machinery (Nichols 1988: 579). Much ink has been spilled over how and why alienability splits arise. Nichols' (1988: 579) original explanation dealt with the relative frequency of occurrence of nouns as possessed: nouns that most often occur as possessed will enter the ‘inalienable’ (i.e., more tightly encoded) possessive construction. By contrast, Haiman offers an explanation in terms of iconicity, i.e., the principle that “[t]he linguistic distance between expressions corresponds to the conceptual distance between them” (Haiman 1983: 782). Applied to adnominal possession, this means that the formal distance between the item denoting the possessor and the item denoting the possessee reflects the conceptual distance between the possessor and the possessee – “there is a closer conceptual link between a possessor and an inalienably possessed object than between a possessor and an alienably possessed

5 Nichols (1988) focuses on North American languages and Stolz et al. (2008) on European languages. In pan-area works on possession, South America is not represented in Chappell and McGregor (1996b) nor in Baron et al. (2001). There is one chapter on Nanti (Michael 2012), a South American language, in Aikhenvald and Dixon (2012), and one on North-Western Amazonian languages (van der Voort 2009) in McGregor (2009), but these do not embrace the alienability concept. Indigenous languages of South America are extremely underrepresented in Heine's (1997) work.

object” (Haiman 1983: 783). Within grammaticalization theory, Heine (1997: 174), in turn, explains the formal characteristics of adnominal possessive constructions on the basis of the cognitive source structures they originate in. New possessive patterns more likely emerge “in contexts where it is least obvious that a possessive relation exists”, i.e., not in contexts of inalienable possession. In the same vein, Dahl and Koptjevskaja-Tamm (1998) speak of a need for ‘disambiguation’ for nouns that can enter multiple relations with other entities. More recently, Haspelmath builds on Nichols’ original explanation that the alienability contrast is best predicted “due to the higher relative frequency of possessed occurrences of inalienable nouns” (2017: 193).

3 Our research questions on the alienability contrast

In relation to the alienability contrast and the distinct levels of analysis listed in Section 2, as well as the topics considered in the existing literature discussed above, the current special issue aims to answer seven research questions, presented in (a) to (f) below.

(a) How does the alienability contrast surface in the lexicon?

Question (a) relates to alienability phenomena surfacing at the word level. It investigates whether the nouns that are grammatically treated in a distinct way from other nouns in a particular grammatical environment, such as adnominal possession, come from a specific semantic domain. For the Pala dialect of Patpatar (Oceanic, Papua New Guinea), for instance, Peekel (1909: 68, cited in Lévy-Bruhl 1914: 101) notes that kinship terms for siblings are treated as inalienable in adnominal possession, whereas terms for husband/wife and in-laws are treated as alienable; in the context of the present issue, these two sets of kinship terms would be analyzed as belonging to distinct possessive (noun) classes (see also Nichols and Bickel 2013 on possessive classification). While Nichols (1988: 572) proposes an implicational hierarchy for membership of the inalienable class (i) kin terms and/or body parts; (ii) part-whole and/or spatial relations [i.e., relational terms]; (iii) culturally basic possessed items [e.g., arrows, domestic animals]), Chappell and McGregor (1989, 1996a) insist that the three core domains of inalienably possessed items, i.e., kinship terms, body-part terms, and spatial relations, are treated so differently in individual languages that any attempt to propose a crosslinguistically valid hierarchy is futile. Interestingly, to the usual suspects listed above, Heine (1997: 10–16) adds less prototypical conceptual domains that are also likely to be treated as inalienable, viz. physical and mental

states, like ‘strength’, or ‘fear’ (cf. Lichtenberk 1985: 105), as well as nominalizations where the possessee is a deverbal noun, for instance ‘her sleeping’ or ‘his catching of fish’. In the current issue, we want to open up these non-prototypical possessives for closer examination. For languages that have noun classes, in turn, this research question urges the analyst to verify whether the members of these classes are semantically homogeneous and motivated by the alienability contrast. For example, Dalabon (non-Pama-Nyungan, Australia) shows six possessive noun classes, which can be identified as more or less inalienable (Ponsonnet 2015). Beyond language description, it would be interesting to learn to what extent it is culture that determines which items are grammatically treated as inalienably possessed. This question bears on the theoretical status of alienability as a purely lexical property of nouns, a universal, or a culturally determined phenomenon.

- (b) What types of semantic relation can be coded by an adnominal possessive construction in the language under study?

This question tackles the definition of the notion of possession, taking as a point of departure a grammatical environment coding the notion ‘par excellence’, i.e., adnominal possession. As mentioned in Section 2, possession has often been defined in terms of ownership, kinship, and part/whole relationships, but in the special issue we aim to broaden the concept to cover any participation of an entity (the possessee) in the personal sphere of an individual (the possessor) (Creissels 2006: 143), with the proviso that the possessor need not be human. The question is best answered on the basis of close analysis of spontaneously produced speech that allows for careful tracking of the referents of the possessor and the possessee featuring in an adnominal possessive construction; the analyst should also take extralinguistic information into account.

- (c) If a language shows a split system in adnominal possession, is it necessarily an alienability split?

This question takes a closer look at differential coding for adnominal possession and investigates whether the pattern observed rates as an alienability split or not. Alienability splits are determined by the possessee, but there are also other possessive splits based on the possessor (possessee-governed vs. possessor-governed splits, cf. Haspelmath 2017). So, if a language shows a possessive split that is determined by the possessee, is it motivated by the conceptual distinction between alienable and inalienable possession (see Section 2)? Or is the split perhaps determined by the animacy of the possessor? And then, within the class of animate possessors, do animal possessors pattern differently from human ones?

In possessee-governed split systems, Bickel and Nichols (2013) also discuss an additional structure found in languages in which some nouns cannot bear any possessive inflection: “most of these languages have nouns conventionalized or grammatically specialized for use in apposition to the possessed noun and bearing the inflectional possessive marking which the head noun cannot bear”. These nouns are called “possessive” nouns. They can be either semantically generic, as *-wa* in (3) from Katukina (Queixalós 2016), or specialized, as *-iba* in (4) from Teko, a Tupi-Guarani language; languages of this family generally make use of a possessive noun for pets (Rose 2011: 164–167). If in a language there is a “small and closed set of nouns grammaticalized for such usage and their semantics amounts to classification of possessive relations”, these can be considered possessive classifiers⁶ (Bickel and Nichols 2013). Example (5) shows the use of four possessive nouns in Paamese (Crowley 1982: 60), classifying in four different manners the possessive relationship involving the same possessee, a coconut, and the same possessor (first person singular).

- (3) *a-wa poako itowun*
 3-GRN paddle DEM
 ‘This is his paddle.’
 (Katukina; Queixalós 2016: 149)

- (4) *o-ekar o-iba pureru*
 3-search 3COREF-pet toad
 ‘He looks for his toad (lit. his pet toad)’
 (Teko; Rose 2011: 166)

- (5) a. *ani ma-k*
 coconut POSS.POT-1SG.POSS
 ‘my green coconut’ (speaker intends to drink the juice)
- b. *ani aa-k*
 coconut POSS.ED-1SG.POSS
 ‘my green coconut’ (speaker intends to eat the meat)
- c. *ani sa-k*
 coconut POSS.LEG-1SG.POSS
 ‘my green coconut’ (e.g., growing in speaker’s plantation)
- d. *ani ona-k*
 coconut POSS.MAN-1SG.POSS

⁶ Possessive classifiers are often called “relational classifiers” in the literature on Oceanic languages (see Lichtenberk 1983). They have also been called “genitive classifiers” by Carlson and Payne (1989) and Grinevald (2000).

‘my green coconut’ (speaker will use it as an implement, e.g., to flatten something) (Paamese; Bickel and Nichols 2013, based on Crowley 1982: 60)

The examples above illustrate that possessive nouns and classifiers also need to be taken into account as coding strategies for adnominal possession. In investigating these strategies, the analyst is also encouraged to verify whether there is an asymmetry in the coding strategies and whether this is in line with the prediction formulated in Haspelmath’s (2017) universal (see Section 2).

- (d) Is the morphosyntactic encoding of the alienability contrast limited to adnominal possession or are there also differences in noun incorporation, binominal lexeme constructions, external possession, or other phenomena?

Question (d) seeks to inventory where the alienability contrast surfaces in the architecture of the grammar of a specific language at different levels of organization (see Section 2). If it is observed to turn up in different grammatical environments, does it do so in a consistent way? These questions push the analyst to investigate whether the different environments show a distinct behavior of the same semantic classes of nouns. If that were the case, this would mean that such a language would show several systems of noun categorization, rather than a two-class system as expected from the alienability contrast. That is, semantically inconsistent distribution of sets of nouns across possession-related phenomena in a single language considerably weakens the explanatory potential of the alienability contrast.

- (e) What can the etymology of possessive markers tell us about how possessive splits arise?

Heine (1997: 182–183) states that “‘inalienability’ refers to a number of different phenomena, and that trying to understand and explain its crosslinguistic meaning without reference to time is unlikely to yield meaningful results: which shape ‘inalienability’ exactly takes in a given language is to a large extent dependent on the pragmatics of its genesis and further evolution.” This is a strong incentive to look for the source construction(s) at the origin of an adnominal possessive construction, as it may explain not only its particular structural aspects but also the semantic type of possessees, possessors, or possessive relationships it associates with.

- (f) How can we compare the manifestations of the alienability contrast across languages? Is the distribution across the languages of the world biased by genealogical and areal factors?

As the alienability contrast potentially has a very wide scope in terms of linguistic domains (see Section 2), and in view of the vast amount of languages in the world, there is little hope that any study will be able to answer the questions in (f) exhaustively. More realistically, new advances could come from either crosslinguistic studies focusing on a particular linguistic domain (on a crosslinguistic worldwide or regional scale) or comprehensive studies on alienability phenomena in a particular language or language family.

4 Contribution of the issue: re-assessing the alienability contrast

4.1 Highlights of the issue

The contributions to the present special issue re-assess the explanatory power of the alienability contrast by pushing the boundaries of the types of possessive situations to be studied, specifically by widening the scope of relevant data in three respects. First, they pay attention to a wider variety of possessive relationships. As mentioned in Section 2, studies on possession traditionally focus on the canonical relations of ownership, part-whole and kinship relations, while possession as a grammatical concept encompasses many more relation types. The articles in the special issue will not limit themselves to these canonical possessive relationships, but also address, among others, associative possession, social relationships, and participants-in-event relations (e.g., the articles by Aralova and Pakendorf, Bril, Creissels, Rose, Van linden). Second, the articles take into account diverse types of possessors, while the literature is often restricted to human possessors only. This bias towards human possessors is apparent from most definitions of possession. Hollmann and Siewierska's (2007: 410) definition is a case in point: "Inalienable possession is generally seen as involving a fairly stable relation over which *possessors have little or no control*, alienable possession as comprising a variety of less permanent, more controlled relationships" (emphasis added). As inanimate possessors do not show variability in terms of more or less control, these have often been overlooked. In their description, the analysts will move beyond this anthropocentric bias in the literature on possession and extend their attention to non-human possessors (e.g., Rose, Rosés Labrada, Van linden). This is actually crucial for having a complete view of the expression of possession in individual languages. Rosés Labrada, for example, shows that in Piaroa inanimate possessors make use of a fully distinct possessive construction from the ones recruited by animate possessors. Third, we are not limiting ourselves to canonical possessors either, and include for example 'intentional parts'

(e.g., ‘soul’), cultural aspects of life (e.g., ‘job’), and event-denoting nouns as possible possessors (e.g., Bril, Creissels, Van linden).

The present special issue also differs from previous studies with a crosslinguistic approach by including three studies on South American languages, one from a major and well-studied family, the Arawakan family (Rose), one from a small family, Jodi-Sáliban (Rosés Labrada) and, third, an unclassified language, Harakmbut (Van linden). In doing so, it fosters further reflection on possessive classifiers, derivation among possessive noun classes (i.e., lexical classes of nouns depending on their behavior regarding possession), and the behavior of various noun classes in compounding and noun incorporation.

The articles in the issue discuss the manifestations of the alienability contrast at different levels: (i) the word level with the question of possessive noun classes (Aralova and Pakendorf, Bril, Chousou-Polydouri et al., Rose, Rosés Labrada, and Van linden), compounding (Van linden), and proprietive markers (Aralova and Pakendorf), (ii) the phrase level with the major question of adnominal possessive constructions (Aralova and Pakendorf, Bril, Chousou-Polydouri et al., Creissels, Rose, Rosés Labrada, and Van linden) but also that of non-possessive adnominal modifiers (Van linden), (iii) the clause level with questions regarding noun incorporation (Van linden), and (iv) the sentence level, with complex sentences featuring possessed modal nouns taking complement clauses (Bril). In fact, several contributions to the issue (Aralova and Pakendorf, Bril, Chousou-Polydouri et al., Rose, Rosés Labrada, and Van linden) build their analyses of the expression of possession on drawing a clear line between possessive noun classes and adnominal possessive constructions (i.e., the word and the phrase level).

One word-level phenomenon that will be addressed in several articles is that of noun classes; common nouns fall into distinct classes depending on how they behave morphosyntactically in adnominal possessive constructions and in unpossessed contexts. Some languages discussed in the present special issue show more than two possessive noun classes, including at least bound nouns, or obligatorily possessed nouns, and two sets of independent nouns, viz. those that are optionally possessed nouns, and those that cannot directly carry possessive personal markers (often called non-possessible or non-directly possessible nouns, see Footnote 4), as in the articles by Aralova and Pakendorf, Bril, Rose, and Rosés Labrada. The binary alienability contrast only sets the first class apart from the remaining ones. This first class typically includes nouns that are – in conceptual terms – inalienably possessed. Interestingly, this class often includes items that have inanimate possessors, like ‘(the tree’s) leaf’, ‘(the landscape’s) river’, and ‘(the path’s) half’. The remaining classes, in turn, typically comprise nouns that are alienably possessed or non-directly possessible, but the alienability contrast leaves the distinctions among them unexplained unless a gradable view of alienability is adopted. As the definition of alienability is highly abstract, semantic analyses in terms of the alienability contrast are difficult to

evaluate, which is further aggravated by the circumstance that variable treatment of individual items as alienable or inalienable is often dismissed as being culturally specific. Overall, the contributions thus tend to support Nichols' (1988: 574) view of alienability as a lexical property of nouns, but at the same time also show that possessive classes need not be limited to two in a single language.

At the phrase level, the articles of the issue illustrate two types of split in adnominal possession, governed by either the possessee or the possessor. Interestingly, in three languages a superficial look at the data suggests an analysis in terms of an alienability split, lexically constrained by the possessee, but the bigger picture points to a split conditioned by the animacy of the possessor (Creissels, Rosés Labrada, and Van linden). In one of these languages, the animacy of the possessor plays a role for one noun class only (Van linden), while in the other two, the possessor-determined split takes precedence over a possessee-determined split (Creissels, and Rosés Labrada).

Focusing on possession-determined coding splits, the articles largely confirm Haspelmath's (2017) universal presented in Section 2, although Cristofaro's article presents counterexamples to it. It should also be noted that languages that show more than two possessive noun classes somewhat spoil the picture. In some such languages, nouns that cannot be directly possessed can nevertheless enter some possessive constructions. These constructions then show more morphological marking than the basic possessive construction (by including for instance derivational marking, generic possessive nouns, possessive classifiers, or non-canonical possession marking). Being more marked morphologically than obligatorily possessed nouns, they thus verify again the alienability contrast when compared to the latter. But at the same time, the alienability contrast does not account for the distinction between the nouns that cannot be directly possessed and those that can (but do not have to), as they both include referents that are semantically possessible but for which possession is marked differently.

Interestingly, the word-level and phrase-level phenomena discussed in the previous paragraphs (possessive noun classes and adnominal possessive constructions) are usually "explained" on the basis of the alienability contrast. What is remarkable is that some languages investigated in the current issue, for example, Piaroa (Rosés Labrada), Zuanga-Yuanga (Bril), Negidal (Aralova and Pakendorf) and Mojeño Trinitario (Rose), require a distinction between the word level (noun classes) and the phrase level (adnominal possession) because there is no one-to-one correspondence between the categorization at these two levels. Consequently, the explanatory power of the alienability contrast is weakened by being used ad hoc for two phenomena that do not coincide. The articles by Aralova and Pakendorf, and Rose even go one step further and propose accounts in which alienability is, at best, epiphenomenal and in any case marginal. These

contributions propose alternative accounts to the traditional analysis of the expression of possession in specific language families, viz. in Arawakan and Tungusic respectively, that could be fruitfully extended to other languages of those families.

As language-specific work on the alienability contrast often deals with various levels of organization, as detailed above, crosslinguistic comparison of adnominal possessive constructions is not straightforward. For instance, one could choose to compare the semantic categories picked out by alienability contrasts, or rather focus on their morphosyntactic patterns. The matter of crosslinguistic comparison is addressed in the issue by Chousou-Polydouri et al. They use a specially designed database to look at alienability phenomena from multiple perspectives, considering noun possession classes and adnominal possessive constructions independently of each other. Their methodology also allows for the inclusion of languages with non-possessible noun classes and multiple non-default possession classes alongside languages with a more traditional inalienable/alienable noun class distinction.

Finally, the present issue approaches the questions of the functional motivation for alienability splits and their emergence. At the synchronic level, the article by Rose offers a quantitative survey of the distribution of Mojeño Trinitario nouns of different possessive noun classes as possessed or not in discourse, following the method used in Haspelmath (2017) for Biblical Hebrew, Ancient Greek, and English (three languages which are known not to show an alienability contrast). Even though there is a general association between possessive noun classes and frequency of use in possessive constructions, the results show that nouns cannot be successfully predicted to belong to one class or another depending on the relative frequency of their possessed occurrences in discourse. At the diachronic level, the articles by Creissels and Cristofaro investigate the semantic distinctions that may have played a role in the constructions at the origin of possessive coding splits, going against explanations in terms of iconicity (Haiman 1983) and predictability or frequency (Haspelmath 2017). All of these articles thus contribute to the special issue's conclusion that possessive splits are a multi-factorial phenomenon and that an all-encompassing explanation is, and will likely remain, elusive.

All the contributions to the present issue therefore concur in showing that the explanatory power of the alienability contrast is not sufficient to explain the complexity of the data. At best, it can be regarded as a heuristic tool for exploring the data. In other words, if used as the only explanatory principle, the alienability contrast could actually hamper an adequate description of the data, which are sometimes even better described without recourse to alienability at all. The data presented in the issue show that noun classes and all morphosyntactic phenomena often explained in terms of the alienability contrast cannot be reduced to it; other factors also come into play, such as specific semantic characteristics of the possessee

(whether it is edible, for example), of the possessor (animacy, for example), or of the possessive relationship (such as different kinship relations), as well as language contact and diachrony. As hinted at in several places above, we believe that some of the limits and problems of the alienability contrast stem from an ill-defined concept of possession. While many accounts focus on some ‘canonical’ possessive situations (very often the possession of a body part by a human possessor), the articles in the issue reveal that the reality of grammatical possession is much wider in the production of speakers of various languages.

4.2 Summaries of the contributions

We start the special issue with a crosslinguistic survey of differential adnominal possession by **Chousou-Polydouri, Inman, Huber and Bickel**. The article first carefully describes the methodology used for the survey, namely a questionnaire forming the structure of a detailed multi-level and relational database. This questionnaire investigates both the word and phrase levels, distinguishing possessive noun classes and adnominal possessive constructions. Each noun class is lexically defined by having a unique way of being possessed and not possessed (i.e., by its noun valency and valency-changing mechanisms). The semantic domains covered by each class in individual languages are also surveyed. The article then offers the first results of this approach applied to an areally and genetically diverse sample of 120 languages. Important results of the survey include that about half of the languages have several possession classes, and these are mostly semantically coherent. Classes of conceptually inalienable nouns are rather frequent (but only about a third consist of obligatorily possessed nouns), while classes of conceptually non-possessible nouns are rare. Furthermore, the findings on the semantics of nouns that make up different possessive noun classes, analyzed as semantic networks, confirm the existence of a universal semantic core for the classes of inalienable nouns (precisely kinship and body parts) and non-possessible ones (essentially animals). However, the existence of lexical possessive classes is not universal, as half of the languages have no possessive noun class distinction.

The next six contributions address the role of the alienability contrast in the analysis of individual languages. **Bril**’s article goes back to the roots of the alienability contrast, studying adnominal possession in a number of Oceanic languages in the footsteps of Lévy-Bruhl (1914). However, the data from Zuanga-Yuanga and other northern Kanak languages of New Caledonia prove too diversified to be meaningfully captured by the binary contrast, both at the word and phrase level. Brill shows that the possessive noun classes are not based on the alienability contrast. For

instance, nouns from a single semantic domain (e.g., kin terms and body parts) are spread across different noun classes. There are four main possessive noun classes (indirectly possessed free nouns, nouns possessed with classifiers, directly possessed bound nouns, and directly possessed free nouns) and a fifth small class of non-possessibles; these classes are determined by their members' access to both possession and non-possession constructions. In addition, there is a set of nouns denoting parts of wholes – not distinguished as a separate noun class by Brill – that behave differently: they have access to three distinct possessive constructions depending on the semantic type of part-whole relation expressed, from more inherent to more temporary or contingent. The article thus also addresses the question of what types of semantic relations can be coded by adnominal possessive constructions. In addition to the prototypical relationships, including different kinds of part-whole relations, the data point to participants-in-event relations for deverbal-noun possessives and to that of modal agents (Verstraete 2005: 1402) for modal-noun possessives like 'duty' or 'will'.

The issue then crosses the Pacific, presenting three contributions on South American languages, which have often been neglected in earlier work on alienability. First, **Rosés Labrada** analyzes the mismatch between possessive noun classes and adnominal possessive constructions in Piaroa (Jodí-Sáliban, Venezuela and Colombia). In this language, there is a possessor-determined split: only animate possessors are indexed on the possessee via affixation; inanimate possessors occur in a juxtaposition construction with their possessee. In constructions with animate possessors, two different possessee-determined splits – and therefore, Rosés Labrada argues, four possessive classes – can be identified in Piaroa. One split relies on a contrast between obligatorily-possessed nouns (kinship and body-part terms) and optionally-possessed ones (other semantic categories), and thus can be said to be motivated by the alienability contrast. The other split is dependent on the type of possessive construction, namely, direct versus indirect possession, a given possessee noun can occur in. All obligatorily-possessed ("inalienable") nouns and some optionally-possessed ("alienable") nouns occur in the direct construction. Other alienable nouns, such as those denoting food and drinks, by contrast, occur in the indirect construction, which features possessive (or genitive) classifiers. Importantly, the alienability contrast cannot account for the distribution of possessee across the different Piaroa possessive constructions: alienability yields two classes that only partially overlap with the two classes that stem from the contrast between direct and indirect possession. Rosés Labrada therefore concludes that two concurrent systems of possessive classification must be posited to account for the data.

The second contribution on South American languages, by **Rose**, focuses on Mojeño Trinitario (Bolivia) but has implications for the whole Arawakan family. While existing accounts propose that the alienability contrast is at work in Arawakan

languages at the word level, distinguishing between alienable and inalienable noun classes, and at the phrase level, through the competition between two adnominal possessive constructions, Rose breaks radically from this tradition, by bringing also a third class of non-(directly) possessible nouns into the picture and by attributing a central role to derivation among noun classes. Applying her account to the whole family would leave most Arawakan languages without a class of optionally possessed (or “alienable”) nouns, as these would be stems derived from non-directly possessible noun roots. With respect to the class of obligatorily prefixed (or “inalienable”) nouns in Mojeño Trinitario, Rose finds that it is a large class, semantically more heterogeneous than the class of optionally prefixed (or “alienable”) nouns and that it is receptive to loans, characteristics that go against Nichols’ (1988) generalizations (see Section 2). More generally, Rose identifies as the main theoretical problem behind investigating the explanatory power of the alienability contrast that it is unclear to which levels of linguistic organization it should apply a priori. At any level considered, its explanatory potential in Mojeño Trinitario – and by extension Arawakan languages – is weak.

The last South American language reported on is Harakmbut (unclassified; Peru). **Van linden** offers a detailed description of two noun classes (independent and bound) and two adnominal possessive constructions (one-word vs. two-word). At the word level, the distinction between bound and independent (or free) nouns is rather well accounted for by the alienability contrast, with most bound nouns being semantically inalienably possessed and independent nouns being construed as alienable. Interestingly, this article also brings into the discussion the behavior of deverbal nouns, which do not neatly behave as either bound or independent nouns. At the phrase level, while at first sight, the distinction between the two adnominal possessive constructions could also look like a perfect illustration of the binary contrast of alienability, the intricate interplay between the noun classes and the possessive constructions leads to a much more complex picture of possession in Harakmbut. Furthermore, the distribution of the two noun classes also differs in contexts other than adnominal possession, such as in noun-noun compounding at the word level, with interrogative, demonstrative, or quantifying modifiers at the phrase level, and noun incorporation at the clause level. The alienability contrast does not satisfactorily explain the distinct morphosyntactic behavior of the two noun classes, neither in adnominal possession nor in the other morphosyntactic contexts.

The next article moves to Eurasia, and is also fieldwork-based; **Aralova and Pakendorf** draw on a large corpus of oral speech of Upper Negidal (Tungusic, Far East of the Russian Federation). Their contribution goes against traditional accounts of differential possession marking in Tungusic, according to which the suffix *-ŋ(V)* marks alienable possession, e.g., on body parts belonging to a non-inherent

possessor. Distinguishing three possessive classes, they argue instead that the suffix *-ŋ(V)* signals non-canonical possession. It is found on members of two classes only, viz. on obligatorily possessed body-part terms (yielding an “alienable” interpretation), and on non-possessible items. The latter class is argued to not only include nouns denoting entities like humans, wild animals, plants and substances, but also non-nominal items (e.g., numerals, demonstratives, adjectives and participles). Importantly, what all of these share is that they require the suffix *-ŋ(V)* to accept possessive suffixes in adnominal possession or the proprietive suffix in predicative possession. The types of semantic relation coded by adnominal possessive constructions, with or without the suffix *-ŋ(V)*, include associative possession, which establishes a relation of salience between two discourse participants. A semantic relation found with *-ŋ(V)*-marked constructions only is that of particularization, which delimits a mass quantity (e.g., ‘your water’ for ‘the water you need in the house for washing and drinking’). Aralova and Pakendorf also extend their analysis to a cognate suffix found only on possessors and build the case that both of them (when formally distinct in individual languages) flag non-canonical possession across the Tungusic family. The alienability account in prior literature, by contrast, would leave the majority of occurrences of *-ŋ(V)* unexplained.

A similar conclusion is arrived at for Mandinka (Mande, Gambia, Senegal, and Guinea Bissau) in **Creissels’** article, which represents the African macro-area in the present issue. The language shows no noun classes but has a coding split in adnominal possession. While the differential possessive marking for body parts, kin terms and artifacts may look as if conditioned by alienability, extending the scope to non-prototypical possessive relations (privileged relationships of any kind) bears out that the split for ordinary nouns is governed by animacy. That is, inanimate possessors by default require the direct possessive construction (juxtaposition), whereas animate possessors require the indirect possessive construction (with linker), except for body parts or (a set of) kin terms. These exceptions are accounted for by the etymology of the possessive marker *lá*, according to which the indirect construction originally meant ‘the Y located near X’, and for kin terms also by specific cultural practices. Extending the scope to non-prototypical possessives, viz. deverbal nouns, the article further argues against an alienability split: the split between the two possessive constructions is determined by the syntactic role of the possessor in the corresponding clause (notional objects use the direct construction, while notional subjects use the indirect one). All in all, the data show that the Mandinka coding split is possessor-governed and that semantic features such as animacy and control may play an important role in the genesis of possessive splits.

The issue concludes with **Cristofaro’s** article, which concentrates on the alienability contrast as an explanandum itself and discusses data on the genesis of possessive splits. By investigating the diachronic development of overt markers

involved in adnominal possession splits in a great variety of languages, this contribution shows that the usual explanation of these splits by the alienability contrast is inconsistent with these diachronic processes. The origin of these markers goes back to some use in constructions for which the alienability contrast was irrelevant, such as localization, for example, as is the case for Mandinka (Creissels, the present issue). Moreover, the synchronic distribution of these markers is best explained by the semantic properties of their source constructions, rather than by some general functional explanation that would apply a posteriori to the result of unrelated historical developments. Cristofaro's conclusions thus seriously challenge the idea that possessive splits reflect general preferences for the use of overt marking for alienable possession.

Acknowledgments: The present special issue originates from a series of talks within the Morphosyntax Workshop of the Dynamique Du Langage (DDL) research unit (CNRS/Université de Lyon) that focused on the alienability contrast in grammar and the lexicon from September 2020 until January 2021, and included non-DDL members as well. Cristofaro's and Bril's articles were added to the collection at a later stage. We thank the audiences of the talks and the contributors to the issue for very stimulating exchanges on the topic. The idea for this series of talks was conceived during Van linden's research stay in Lyon in that same period, and we thank the Collegium de Lyon of the University of Lyon and the Dynamique Du Langage research unit from the LabEx ASLAN for the necessary funding. An Van linden also acknowledges the support of the research council of KU Leuven (grant C14/18/034) and of the Fund for Scientific Research (F.R.S.-FNRS) (grant PDR T.0065.20). We are grateful to the editor of the journal, Volker Gast, for accepting this special issue, and for his comments on an earlier draft of our introduction. For their comments on this introductory article, we also thank Jorge Rosés Labrada, Brigitte Pakendorf, and Denis Creissels.

Author contributions: The authorship of this introductory article is shared jointly by the authors.

Abbreviations

1	first person
ACC	accusative
COREF	coreferential
DEM	demonstrative
ED	edible
GEN	genitive
GRN	generic relational noun
LEG	legally constituted ownership

MAN	manipulable
POSS	possessive marker
POT	potable
SG	singular

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Multi-variate coding for possession: methodology and preliminary results

<https://doi.org/10.1515/ling-2022-0021>

Received February 23, 2022; accepted January 14, 2023; published online November 9, 2023

Abstract: In this work we are presenting a database structure to encode the phenomenon of differential possession across languages, considering noun possession classes and possessive constructions as independent but linked. We show how this structure can be used to study different dimensions of possession: semantics, noun valence, and possessive constructions. We present preliminary survey results from a global sample of 120 languages and show that there is a universal semantic core in both inalienable and non-possessible noun classes. Inalienables are centered on body parts and kinship. Non-possessibles are centered on animals, humans, and natural elements.

Keywords: database; inalienable; methodology; non-possessible; possession

1 Introduction

The phenomenon of possession, and especially differential possession, has a lengthy pedigree of linguistic investigation. One of the earliest mentions of the phenomenon is in Lévy-Bruhl's (1914) description of possession in Melanesian languages, where he associates different possessive strategies with different constructional or lexical semantics. Distinctions among noun possession classes have enjoyed a sustained period of linguistic interest ever since, both in language description and in theoretical and typological studies (Bickel and Nichols 2013; Bugaeva et al. 2021; Chappell and McGregor 1989; Haspelmath 2017; Nichols 1988; Seiler 1983; Stolz et al. 2008). This line of investigation into possessive splits is complemented by more general typologies of possessive morphosyntax (Koptjevskaja-Tamm 2008).

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There is however a descriptive gap in framing differential possession as an issue of (in)alienability, driven especially by data from the Americas, namely the existence in some languages of non-possessible nouns (Bickel and Nichols 2013). For example, in K'iche' (Mayan), in addition to multiple inalienable classes, there is a class of nouns expressing natural elements which cannot be directly possessed, but must be possessed through a metaphorical (and inalienable) kin relation.

- (1) *q-atit* *iik'*
 1_{PL}-grandmother moon
 'our grandmother moon' (our moon)
 (López Ixcoy 1997: 104, glossing added) (K'iche', Mayan)

The addition of a third member to the traditional alienable-versus-inalienable distinction is reason enough to revisit the typologization of possession. It is becoming clear that any full account of differential possession should also include the opposite of inalienables: super-alienables or “non-possessibles” that are in some way syntactically or semantically “difficult” to possess (Haspelmath 2017), the same way that inalienable nouns are “easy” to possess (or “difficult” to unpossess).

Even though alienability distinctions are a highly researched area of linguistic study, we see two issues of comparability when reviewing prior typological work. The first is that researchers often investigate different aspects of possession, and in a way that makes their results not easy to compare or synthesize. The second difficulty, which is less serious on its own but compounds the first, is that researchers often use the same terminology, explicitly or implicitly, to describe different grammatical phenomena.

One way to approach possession is to study the morphosyntactic permissibility and possibility of adnominal possession, i.e., whether particular nouns are *obligatorily possessed*, *optionally possessed*, or *non-possessible* (Bickel and Nichols 2013; Bugaeva et al. 2021). Another approach investigates the syntactic differentiation between a lexically open or default class of nouns and one or more lexically specified classes of nouns (often assumed to involve “inalienable” semantics, as in Seiler 1983). These two views are related, as a category of obligatorily possessed nouns is virtually guaranteed to be a non-default category. However, possession type is not always directly associated with a class being default or non-default. A default class could be non-possessible or optionally possessed. A non-default class, on the other hand, could fall into any of the three morphosyntactic categories.

A typological paper on differential possession which pre-supposes a semantic component to the split (Haspelmath 2017), a paper investigating different morphosyntactic constructions of possession regardless of the presence of an alienability split (Koptjevskaja-Tamm 2008), and a paper investigating the (dis)obligation of adnominal possession (Bugaeva et al. 2021) are intuitively all looking at “the same phenomenon.” However, because they approach it from different angles, it is difficult

to directly compare what these researchers have discovered and to appreciate the typological variation of possession expressions.

The second issue is the implicit definitions present behind terms like “inalienable” and “alienable”. Researchers investigating other aspects of possession often take the meanings of these terms to be already established (Barker 2011; Bickel and Nichols 2013; Bugaeva et al. 2021; Chappell and McGregor 1989). Nichols (1988) makes this explicit, stating that, for her sample, there is “never any doubt as to which member [...] will be called *inalienable* and which will be called *alienable*.” As with concepts like “transitive subject” and “object”, this assumption is made not because it would be impossible to precisely ground them, but because it is not always the most relevant matter in a given research program, and the definitions can be taken as established elsewhere in linguistic science. Most typically for typological work, the inalienable class is implicitly assumed to have both semantic and syntactic features: semantically to include the notion of “inherent” possession, and syntactically to acquire special, non-default possessive marking.

Instead of an implicit definition, Haspelmath (2017) explicitly defines the inalienable category as that which includes kinship terms, body parts, or both. There are still other uses of the terms in which the inalienable nouns are taken to be equivalent to obligatorily possessed nouns, or sometimes to carry a different kind of lexical valence or argument structure (Alexiadou 2003).

This suite of definitions, both implicit and explicit, means that the “alienable” and “inalienable” terminology is used in different ways in different grammars or descriptive traditions. Some writers discuss alienability even when a language lacks any grammatical correlates for the distinction (as one finds occasionally in descriptive work, e.g., McGregor 1990: 253). Other authors make statements such as “no alienable and inalienable distinction is made” (in a particular language) (Walsh 1976: 281). Though not always made clear, there are two possible interpretations of such statements, which we believe are insufficiently distinguished: (1) that conceptual possessive distinctions exist in all languages, but whether they are grammatically encoded or not depends on the particularities of the language; and (2) that the conceptualization of possession itself varies between languages. Though these two views might be practically equivalent when describing a language’s grammar, moving between different notions of (in)alienability can conceal presuppositions about the universality versus particularity of such distinctions. It is worthwhile, in our view, to make explicit the semantic and/or syntactic components of (in)alienability.

1.1 Scope

Though the focus of the present study is differential possession and not possession in a broader sense, we will nevertheless begin with a brief discussion delimiting the

phenomenon of “possession”, an issue at least as vexed in the literature as the definition of “alienable” and “inalienable.” From a strictly semantic perspective, Heine (1997) delimits seven semantic possessive notions. From a much more syntactic perspective, Lehmann (1998) notes that the possession relationship is asymmetric (i.e., $X \text{ poss } Y \neq Y \text{ poss } X$) while being essentially semantically empty, i.e., lacking lexical specification, and thus open to many semantic interpretations.

For our present investigation, we take Lehmann’s definition of possession as an asymmetric relationship between a head and a dependent noun, with the added requirement that both nouns involved be referential. This excludes constructions such as English “palm tree”, where the first noun refers to a kind, not a referent, and also excludes the expression of semantic attribution via a possessive construction.¹ We have not, however, followed Lehmann in requiring an empathy hierarchy for the possessor and possessed noun or the notion of a prototype. We furthermore limit our study to possession constructions in the adnominal domain and possession differences that are lexically constrained by the possessed (or un-possessed) noun.

With the theoretical scope defined, there are still many potential ways to typologically compare adnominal possession. Adnominal possession itself is multi-dimensional, relating a possessor to a possessed noun (sometimes of a particular semantic category) by means of a particular grammatical construction. Our database is structured so that, rather than choosing which point of comparison we would like to make in advance, all of these relationships can be captured at once and multiple comparisons can be made using the same database, following the principle of “late aggregation” (Witzlack-Makarevich et al. 2021). To capture the association between grammatical constructions and (un-) possessed nouns, we use the concept of a (noun) *possession class*, a collection of nouns which share a *constructional profile*, or in other words have access to the exact same set of possession (and un-possession) constructions. Appeal to a *constructional profile* is necessary because it may be the case that two nouns have access to the same possession construction, but are differentiated by their access to a second construction.

A theoretical example is given in Table 1, where two possession constructions can be used for a total of six nouns. In this situation there are three different *constructional profiles* (while only two possessive constructions): one group of nouns (represented by ‘mother’, ‘father’) has access to both constructions, while a second

¹ An example of such a construction can be found in Belhare as in (1), where the grammatical possessor is in fact attributively describing the possessed noun.

(i) *khim u-choïwat* (or *u-choïwat khim*)
 house 3s.POSS-NEW
 ‘(a/the) new house’
 (Bickel 2003: 563)

(Belhare, Sino-Tibetan)

This phenomenon is explored typologically in Rießler (2016).

Table 1: Theoretical example 1.

Construction	Possessed nouns
PSSR-GEN PSSD	mother, father, dog, house
PSSR PSSD	mother, father, hand, foot

Table 2: Theoretical example 2.

Construction	(Un-)possessed nouns
PSSR-GEN PSSD	mother, father, dog, house
PSSR-GEN AGR-PSSD	mother, father, dog, house
PSSR PSSD	hand, foot
NOUN	mother, father, dog, house
<i>ha</i> -NOUN	hand, foot

group ('dog', 'house') only has access to the genitive construction, and a third ('hand', 'foot') only has access to the juxtaposition construction.

In addition to possession constructions, we capture un-possession constructions, or how a noun appears when there is no possessor. In the majority of cases this is simply the bare noun. Another theoretical example is given in Table 2, which includes un-possession constructions (the bare noun and the noun marked by *ha*-) and shows a case where there are fewer possession classes (two) than possession constructions (three). One set of nouns ('hand', 'foot') has access to one possession construction and one un-possession construction, while another set ('mother', 'father', 'dog', 'house') has access to two possession constructions and one un-possession construction.

These examples show a potentially many-to-many relationship between possession constructions and target nouns. Instead of listing every noun affiliated with a possession construction, we construct *noun possession classes*, and for each construction list which possession classes have access to it as a possessed noun. Thus, lexical information about the possession class and morphosyntactic information about the construction are cataloged independently. Though it is possible to define a possession class statistically – that is, a set of nouns may have a demonstrable preference for one construction over another, but be grammatically acceptable for both – we will only consider categorical possession classes in this paper.

1.1.1 Constructions

In our database we list all possessive constructions resulting in a noun phrase, with overt nominal possessors (as opposed to pronominal possessors), and headed by the possessed noun. This excludes predicative possession constructions (like “she owns a house”) and external possession (like “she slapped me on the back”), which can

behave differently from adnominal possession in regard to their splits (Stolz et al. 2008: 483).² Pronominal possession constructions are only included in two cases: (1) if nominal possessive constructions are not described or exemplified in the resources available; or (2) if two or more possession classes are distinguished only through pronominal possession (i.e., the distinction is neutralized in nominal possession).³

The above constraints mean that in English the constructions [PSSR=s PSSD] (e.g., *Mary's car*) and [PSSD of PSSR] (e.g., *the car of Mary*) are within scope for our study. However, the construction [POSS.DET=PSSD] (e.g., *her car*) is out of scope, as the possessor is only indicated by a pronominal determiner. The construction [PSSD COP POSS.PRO] (e.g., *the car is hers*) is also out of scope, since it is predicative and cannot function as an NP. It is not necessarily the case though that the possession must be expressed within one noun phrase. For example, in some languages there are nouns that cannot be possessed directly, but only periphrastically within a subordinate phrase (e.g., *the land which Mary owns*) or using an appositive phrase containing a possessive classifier⁴ (e.g., *the dog, Mary's pet*). In these cases, the end result is still an NP, and therefore is within scope for our study.

In addition to possession constructions, we also code un-possession constructions which are grammatically required when a noun is un-possessed. In some languages, the only difference between possession classes is that one set of nouns have special morphology when they are not possessed. Like the possession constructions, the un-possession constructions available to a noun are part of its constructional profile.

A consequent limitation of our current database is that an (in)alienability distinction is not captured if it is not manifested in NP constructions. In fact, there are languages, where an (in)alienability distinction is only visible in a possession construction that is outside of our scope, such as possessor raising (as can be seen in many Eurasian languages), or predicative possession. Our database design is easily extensible to include such constructions if needed.

2 Other constructions beyond the NP are also out of scope. One example is the possessive locational prefixing of Nakara (Maningrida), in which certain prefixes are only permitted with body parts and indicate both possession and location (thus resulting in an adpositional phrase), as in 'on your head' or 'at (under) her arm' (Eather 2011: 120–121). Another example is Galo (Sino-Tibetan), in which body parts and inalienable properties can enter into a type of topicalization construction where the possessor is the topic and the possessed noun is the subject (Post 2007: 711).

3 For example, in Gooniyandi (Bunaban), all nouns can be possessed either by marking the overt possessor with dative case, or by using an oblique free pronoun. However, kinship terms have access to an additional construction when the possessor is not overt: a set of person suffixes can attach to the kinship term (McGregor 1990). Within our sample of 120 languages we found only three languages apart from Gooniyandi that also have possession classes that can only be distinguished through pronominal possession: Berta (isolate), Bilua (isolate), and Georgian (Kartvelian).

4 Note that in a language with multiple possessive classifiers, we encode a single possessive classifier construction with a classifier slot (as opposed to a separate construction for each classifier).

1.1.2 Possession classes

Possession classes are lexically specified sets of nouns with a unique constructional profile. Because of this definition, we sometimes distinguish more or less possession classes than a traditional linguistic description would provide. Teko (Tupian) is a good example of such a case.⁵ The grammar of Teko recognizes three noun classes: dependent nouns, autonomous nouns, and absolute nouns (Rose 2011). The criterion for this distinction is essentially syntactic valence (something we will return to in Section 1.2.2): dependent nouns are obligatorily possessed, autonomous nouns are optionally possessed, and absolute nouns are non-possessible. However, there are two different constructions to un-possess dependent nouns and each noun seems to have access to either one or the other. At the same time, among absolute nouns, only animals can be possessed through a classifier construction. According to our criterion of a unique constructional profile, we therefore distinguish five possession classes in Teko: two of dependent nouns (differentiated by their un-possession construction), one of autonomous nouns, and two of absolute nouns (one possessible through the classifier construction and the other absolutely non-possessible).

A possession class must also be lexically specified. This means that we do not include possession classes that are phonologically conditioned. However, in our database a possession class may or may not be semantically coherent.⁶ There are of course idiosyncrasies to how languages split up their nouns (e.g., for some languages “house” or “bow” are inalienable, while for others they are alienable), so we consider a class semantically coherent when nearly all members of the class fall within one or a few semantic categories (see Section 2.1.1.1) and those members comprise a substantial number of the lexical items belonging to that semantic category. A small number of additional and exceptional nouns can be included (nouns belonging to the possession class that do not fall within the semantic category). If there are a few members from many semantic categories, we consider the class semantically non-coherent.

Even though in the vast majority of cases semantic generalizations can be made, there are languages with possession classes that are highly arbitrary from a semantic point of view (e.g., see Highland Oaxaca Chontal in the Supplementary Materials).

Another scope limitation regarding possession classes is that we only take into account how nouns are categorized when they are the head of a possessive NP. There are languages where different nouns have access to different constructions when they are the possessor of a possessive NP. Such distinctions are noted in the remarks of the relevant constructions, but we have not explicitly coded for possessor classes, though such an extension of our methodology is possible.

⁵ For another example of our process, see Apurinã in the Supplementary Materials.

⁶ For examples of languages with semantically coherent possession classes, see Negidal and Amaraeri in the Supplementary Materials.

In some languages, it is not the case that different nouns have access to different possessive constructions, but rather that the construction choice changes the meaning of the possessive relationship. In such cases, it is common that the grammar uses “alienable” and “inalienable” to refer to different constructions. An example of such a language is Krongo (Kadugli-Krongo), where e.g., alienably possessed meat (using a possessive marker) means “my meat that I bought” and inalienably possessed meat (using a genitive marker) means “my flesh, meat of my body” (2).

- (2) a. *úudà kà-káaw*
 meat POSS-person
 ‘The person’s meat (bought, to be eaten)’
- b. *úudà má-káaw*
 meat GEN-person
 ‘The person’s flesh (part of their own body)’
 (Reh 1985: 317)
- c. *òofò kà-níŋ*
 grave POSS-3
 ‘his grave (that he owns)’
- d. *òofò m-í’íŋ*
 grave GEN-3
 ‘his grave (in which he lies)’
 (Reh 1985: 317) (Krongo, Kadugli-Krongo)

This is not a difference driven by possession classes (as there are no different constructional profiles across possessed nouns), but a difference in the semantics of the construction. However, a relatively common but restricted distinction of this kind is observed in many languages where body parts are inalienable: if body parts are possessed alienably, it means that they are detached from their inherent possessor. For example, “his inalienable head (still attached)” contrasts with “his alienable head (of the animal that he killed)”. In such cases, where only body parts can be used as both inalienable and alienable with a distinction in meaning,⁷ we have only taken into account the behavior of body parts when possessed by their inherent possessor in terms of construction access, but we have noted the more “exceptional” use as a comment (for an example, see Negidal in the Supplementary Materials). However, in cases where this pattern is broader, as in Krongo, we indicate that both constructions are accessible to all nouns with a difference in meaning, but we do not consider the language as having possession classes.

⁷ We have not encountered a case where such a semantic distinction is present for another restricted semantic category, apart from body parts.

1.2 Different comparanda of possession

We have already illustrated that there is more than one way to approach possession, depending on what one is investigating. A partial list of the grammatical properties one could target for comparison is:

- The construction(s) used to express possession
- The construction(s) used to express un-possession
- The grammatical properties of the possessed noun: definiteness, specificity, gender, mass versus count, etc.
- The grammatical properties of the possessor noun: definiteness, specificity, person, gender, etc.
- The lexical class of the possessed noun
- The semantic class of the possessed noun
- The obligation (or optionality) of expressing a possessor

Using data in the form of separate sets of constructions and possession classes, we can derive most of these comparisons. We illustrate this with a few of the commonest ways of comparing possession.

1.2.1 Possession constructions

It is possible to compare languages based on the structure and type of their possession constructions. There is not a single way to compare these, as a single construction has many components. One point of comparison is the locus of possession marking in the possession construction (in the sense of head- and dependent-marking, Nichols 1986). Looking just at the locus of marking, some languages have possession constructions that work by simple juxtaposition (as in 3), some mark the possessed noun (as in 4), some mark the possessor, sometimes with a genitive case (as in 5), and some mark both the possessor and possessed noun, as in (6).

- (3) *yirtyip natan wanangal ηayi*
 cat brother doctor 1sg
 ‘My doctor’s brother’s cat’
 (Walsh 1976: 282) (Murriny Patha, Southern Daly)

- (4) *Peter ’-tul*
 Peter 3-boat
 ‘Peter’s boat’
 (Leavitt 1996: 7) (Malecite-Passamaquoddy, Algonquian)

- (5) *pali-eno kala*
 garden-POSS fence
 ‘The garden’s fence’
 (Schlatter 2003: 216) (Tabo, isolate)
- (6) *sitti-n tinn-issi-n buru*
 lady-GEN 3.POSS-sister-GEN girl
 ‘The lady’s sister’s daughter’
 (Armbruster 1965: 42) (Kenuzi, Nubian)

One can go into more detail about constructions, such as the presence and type of agreement and the use of different nominal cases (Koptjevskaja-Tamm 2008 gives an in-depth example of this kind of study), or the relative quantity of morphological material in different constructions (as investigated in Nichols 1988).

Further comparisons of constructions can be made by possession class. A claim that inalienable possession involves constructions with less morphological material compares possession constructions by possession classes. However, in this case a definition of alienable and inalienable must first be made using outside criteria.

1.2.2 Syntactic nominal valence

Another way of approaching possession is to ask whether nouns can accept a possessor as a direct modifier. Rather than grouping nouns by constructional profile, this approach is only concerned with the relative obligation of syntactic possession: whether a noun *must*, *may*, or *cannot* have a syntactic possessor.

We will use the term (syntactic) *valence* to describe this approach, keeping it distinct from *lexical* valence or semantic argument structure. By argument structure we mean the lexically specified semantic roles of a verb or noun, while syntactic valence strictly refers to constraints on the syntactic expression of those arguments. In the verbal domain, a word may have a lexically specified semantic role of agent or goal, while having a syntactic expression of subject and object. The semantic argument structure and the syntactic fulfillment of valence have a relationship, but they are not necessarily perfectly aligned (e.g., passivization may change a verb’s valence, but it does not change its semantic arguments).⁸

⁸ All syntactic frameworks make this distinction somehow, but our formulation here is similar to that seen in formalisms like Head-driven Phrase Structure Grammar (HPSG), Lexical-Functional Grammar (LFG), and Role and Reference Grammar (RRG), which have an explicit separation between semantic arguments (a semantic and lexical category) and syntactic valence (a syntactic category) (Bresnan et al. 2015; Pollard and Sag 1994; Van Valin 2005).

Possession from the perspective of argument structure leads to a binary distinction between nouns that have a possessor *as a semantic argument* and those that do not. In this view, nouns that lack a possessor as an argument may still have a syntactic possessor, but in this case it is an adjunct (Alexiadou 2003). This distinction in argument structure may or may not be reflected in the grammar through different possession classes, making it difficult to ascertain, and could be driven only by semantics. We therefore will only deal with syntactic valence, since it is definitionally always visible in syntactic constructions.

We extend and adapt our view from Bugaeva et al. (2021), who describe nominal valence chiefly from the perspective of head-marked possession. They describe nouns which always require marking – either indexing a possessor or signaling that no possessor is present (i.e., a marker of un-possession) – as obligatorily possessed, while they describe nouns that never have direct head marking as non-possessible. For example, while most languages would simply omit the possession or person markers to express that the noun is not possessed, Garifuna (Arawakan) nouns of this class require a special non-possession construction in order to be possessor-free, as in (7).

- (7) a. *n-anága-n*
1.SG-back-POSS
'my back'
- b. *anága-ni*
back-UNPOSS⁹
'back' (Haurholm-Larsen 2016: 54) (Garifuna, Arawakan)

There is good reason to generalize the view in Bugaeva et al. (2021) to dependent marking. Languages such as Amarakaeri (Harakmbut) have obligatorily possessed nouns which receive no direct marking, but must have a genitive possessor (8).¹⁰

9 We use UNPOSS as a gloss for a marker of un-possession.

10 That the marker *-edn* is a genitive and not head-marking on the possessed noun can be seen below, where *ndo?-edn* means 'mine'. Example taken from Van linden (personal communication).

- (i) a. *mbe?-edn yā-tā-ē in kuwa ?*
who-GEN 3SG.DUB-APPL-be PROX dog
'Whose is this dog?'
- b. *ndo?-edn mē-tā-ē-nē*
1SG-GEN 3SG>1/2SG.IND-APPL-be-IND
'It is mine.'
(Van linden, pers. comm.) (Amarakaeri, Harakmbut)

- (8) a. *wa-ndik*
UNPOSS-name
'name'
- b. *ndoʔ-edn-ndik*
1SG-GEN-name
'my name'
(Van linden 2021: 2) (Amarakaeri, Harakmbut)

Similarly, in languages like Teko (Tupian) a juxtaposed (compounded) possessor is required. As in Amarakaeri, this is not a head-marking construction.

- (9) *kunumi-zeburupa am*
Kunumi-friend here
'Kunumi's friend is here.'
(Rose 2011: 186) (Teko, Tupian)

When classifying the valence of nouns, we consider whether they *can*, *must*, or *cannot* take an adnominal possessor, without the addition of an intervening morphosyntactic head. By an adnominal possessor, we mean that the possessor must be a noun phrase which is a direct syntactic sister of the possessed noun. By a morphosyntactic head, we mean morphemes which project their own node in the syntax, either because they trigger or are the target of agreement, or because they clearly exhibit the properties of an independent verb or noun outside of the possession construction. Such elements could also be defined as non-inflectional (in the sense of Bickel and Nichols 2007), i.e., basic building blocks of syntactic phrases rather than mere reflexes of them. Therefore, possession that is expressed by a relative clause lacks an adnominal possessor in our definition because the possessor functions as the syntactic argument of the subordinated verb, i.e., an intervening head. Likewise, possession that is expressed by possessing a stand-in classifier lacks an adnominal possessor if the classifier serves as a nominal head in the syntax.

1.2.2.1 Optionally possessed

Nouns that may optionally have an adnominal possessor can be viewed as having a valence slot for a possessor which is itself optional.¹¹ Empirically, optionally possessed nouns are by far the most common, as can be seen with the noun *ñuwiiqsu* 'father' in Nuuchahnulth (10).

¹¹ It is important to note that this optionality only refers to the availability of an adnominal possessor. It is hypothetically possible for a noun to have an optional valence slot, but to have a grammatical requirement that the possessor is expressed somehow (e.g., in a relative clause).

- (10) a. *čuu waa=!aλ hūwiiqsu=?i*
 okay say-NOW father=ARTL
 “‘Okay,’ said the father.”
 (Inman, fieldwork notes)
- b. *hāmīl-šīλ=!aqλ=s waa=!at ʔiiqhuk hūwiiqsu=?ak=?i*
 try-PF=FUT=1SG.STRG say=PASS tell.DUR father=POSS=ARTL
 “‘I will try,’ he told his father.”
 (Inman, fieldwork notes) (Nuuchahnulth, Wakashan)

1.2.2.2 Obligatorily possessed

Nouns that must have an adnominal possessor are obligatorily possessed. The valence slot of the possessor could be suppressed by the addition of a specific morpheme marking the noun as un-possessed. The noun in this case still has a required valence slot for a possessor, as can be seen by the necessity for overt morphology to suppress it. An example can be seen in Teko, where a prefix *t-* is added when some obligatorily possessed nouns appear without a possessor (11a). Another way for such nouns to appear un-possessed is with a default possessor which does not indicate a specific person. An example can be seen again in Teko, which uses both strategies to unpossess obligatorily possessed nouns (11b).

- (11) a. *kob t-apīāz d̄zuriba-we-ʔe*
 COP UNPOSS-house staircase-also-INTENS
 ‘There is a house and a staircase.’
 (Rose 2011: 189)
- b. *min-a-we zo-ipi o-pa*
 long.ago-REF-too INDET.II-ancestor 3.I-be. finished
 ‘Long time ago, the elderly died.’
 (Rose 2011: 60) (Teko, Tupian)

1.2.2.3 Non-possessible

The third possibility is a noun that *cannot* have an adnominal possessor: there is no valence slot for a possessor. A non-possessible noun can only be possessed within a noun phrase by using a subordinate clause (as in Hokkaido Ainu, 12) or classifier construction (as in Ayoreo, 13), if it is even possible to possess it at all.

- (12) *ku-kor-kur ku-tura Aspet ta arki-as*
 1SG-have-man 1SG-with NAME to go-1PL
 ‘My husband and I went to Ashibetsu.’
 (Shibatani 1999: 36) (Hokkaido Ainu, Ainu)

- (13) *j-a-tēidi* *tamoko*
 1-THEMATIC.VOWEL-CL:PET dog
 ‘my dog’
 (Ciucci and Bertinetto 2017: 286) (Ayoreo, Zamucoan)

As with the other categories (optionally possessed and obligatorily possessed), this is a strictly formal definition, and is not directly related to whether or not it is possible to express ownership. This is only a consideration of the syntactic possibility of adnominal possession.

Syntactic nominal valence is a particular way of interpreting a noun’s constructional profile, but is not the same as a possession class defined by differing constructional profiles. A language may have multiple possession classes which share the same valence type: e.g., a language may have two possessive classes that are both optionally possessed but with different possession constructions (as is the case for Nuuchahnulth), or a language may have multiple possessive classes that are obligatorily possessed but with different un-possession constructions (as is the case for Apurinã). A noun’s valence can always be retrieved from its constructional profile, so long as information about the constructions is sufficiently detailed.

1.2.3 Nominal semantics

Another point of comparison for possession is the *semantics* of nouns that form different possession classes. Possession classes, though defined by their constructional profile, can be compared to each other independently from which constructions they have access to. In the most complete (and in some ways ideal) case, the semantic content of a possession class can be exhaustively defined with a complete list of every noun which belongs to it. These groups can then be abstracted over to various degrees: a set of nouns like ‘father’, ‘mother’, ‘child’, and ‘sibling’ can be collected into an abstract category “nuclear kin”, which could in turn be abstracted into a larger group of “kin”, and so on finally, perhaps, to a category “inalienable”. However, each level of abstraction introduces difficulties for typological comparison. Two languages may differ with respect to whether ‘spouse’ groups together with “nuclear kin” or not. At the highest level, a very abstract “inalienable” class could have radically different (and even non-overlapping) members from one language to another. Every additional semantic abstraction becomes harder to use as a comparandum. However, if there is a universal semantic content behind categories like “inalienable” or “non-possessible” (as suggested in Haspelmath 2017; Nichols 1988), we expect these abstractions to be emergent from finer-grained semantic categories, and ultimately from the entire

collection of nouns in the set. In this case one would expect “inalienable” and “non-possessible” to have fuzzy boundaries and be clustered around prototypes.

These three different comparanda for possession – constructions, valence class (the syntactic obligation of a possessor), and semantic content of possession classes – represent different dimensions or views of the possession phenomenon. By independently tracking constructions and possession classes in sufficient detail, we can reconstruct all of these views from the same database.

2 Data and methodology

2.1 Database overview

Our database contains two distinct types of entries per language: possession classes and constructions. There can be multiple possession classes and multiple constructions for a given language, but we assume that there is always at least one of each (i.e., there is minimally one class of nouns that are all possessed through the same construction). Possession classes and constructions are listed in separate tables with their respective metadata. The two tables are linked with a many-to-many relationship: each construction may be accessible to one or more possession classes, and each possession class may have access to one or more constructions. Each possession class has an ID which is used in the construction table to link an individual construction to the possession class(es) that have access to it. In addition to the possession class table and the construction table, there is also a language table listing the languages and their associated metadata. This language table is linked with the other two tables through a one-to-many relationship using a language ID. The tables and their relationships are described in an associated json file. This database structure follows the CLDF format (Forkel et al. 2018).

2.1.1 Possession Class Table

In the Possession Class Table, each row describes a single possession class of a particular language (see the simplified example in Table 3). The `Possession.Class` column gives a name for the possession class which is unique for each language. It is used to correlate this table with the Construction Table (see Section 2.1.2), and is not used as an otherwise meaningful label. The `Semantic.Categories` column lists the categories of nouns present within that particular class, if the class is semantically coherent. Any additional data is provided in the `Remarks` column, and detailed references are added in the `Source` column (see Table 3).

Table 3: Possession Class Table excerpt.

Glottocode	Possession.Class	Semantic.Categories	Remarks	Source
tomm1242	alienable	default		mcperson2013tommo:203
tomm1242	inalienable	kin	also includes friend and enemy	mcperson2013tommo:209
boro1282	alienable	default		crowell1979bororo:214
boro1282	inalienable	body; kin; intimate-property	Based on examples, the inalienables attested in the grammar are: older brother, wife, knife, food, companion, garment, house, bow, hand, father, chief, kinsman, and maybe name.	crowell1979bororo:214
boro1282	non-possessible	animals	The source claims that this class includes domesticated animals giving the examples of chickens, horses and dogs. However, there is no reason to believe that any other animal would be treated differently.	crowell1979bororo:214
ingu1240	alienable	default	There is only a default possession class in Ingush.	nichols2011ingush:592

2.1.1.1 Semantic categories

Possible semantic categories are drawn from an extensible list, initially populated with the semantic categories present in the AUTOTYP database (Bickel et al. 2021). Though there are more categories in our ontology, the semantic categories currently present in our database, as well as their definitions, are listed in Table 4. All semantic categories except the categories *default* and *mixed* have more or less the same content across languages and are therefore comparable. However, some of the categories have looser memberships than others. An extreme example is *intimate_property*, which may contain articles of clothing (including ornaments), tools (including weapons), and one's own home. The exact set of property terms may differ by language (e.g., whether house or hammer or clothing is included), and so this category is not as narrowly comparable as one like *animals*. The pseudo-categories *default* and *mixed* mark possession classes that are *not* semantically coherent. The category *default* is used for the unique, open, most inclusive possession class of each language. It represents the remainder of the semantic space for a language, when all specially possessed semantic categories have been removed. Its contents can therefore be different across languages. For example, in English, only the category *default* is used, since there is only one class of nouns with regards to possession.¹² In a language with an inalienable class encompassing body parts and kinship terms, the *default* category encompasses all nouns except body parts and kinship terms. The category *mixed* is used for possession classes that are closed, but not semantically coherent. A language may have more than one *mixed* possession class, but only one *default* class.

2.1.2 Construction Table

In the Construction Table, each row describes a construction in a particular language (see the simplified example in Table 5). The Construction.Form column contains a relatively abstract representation of the construction. It has some standard slot representations, such as PSSR and PSSD for “possessor” and “possessed”, as well as language-specific material, such as the form or gloss of specific morphemes. For example, the genitive construction in English could be represented as [PSSR=s PSSD] or [PSSR=GEN PSSD]. The main purpose of the construction form is to facilitate recognition of the construction when consulting

¹² A reviewer points out that there exists literature on possessive differences in English, such as Taylor (1989) and Börjars et al. (2013). However, these observations are dependent on both clinical grammatical acceptability and constructions beyond adnominal possession. Since we restrict ourselves to categorical differences in adnominal possession, we consider English to have a single possession class.

Table 4: Semantic categories used in this study.

Semantic category	Definition
animals ^a	animals, wild or domesticated
wild_animals	wild animals only
body ^b	body parts in a broad sense, possibly including mental faculties, feelings, name, etc., as well as (some) body functions, excreta, footprints, etc.
body_internal	internal body parts only
humans	human or higher animate (divine or supernatural beings, etc.)
kin	a kin relation
blood_kin	a kin related by blood (not marriage)
nature_inanimate	rocks, mountains, celestial objects, etc.
nuclear_kin	only parents, siblings, and children
owner	‘master’, ‘owner’, etc.
part	the part in part-whole relations; spatial relations nouns, locatives, etc.; subsetting terms like ‘group’, ‘part’, etc.
plant_part	plant parts (root, leaf, branch, etc.)
place_rel	native land, village, etc. ^c
plants	whole plants and types of plants
intimate_property	furniture, tools, weapons, clothes, ornaments
names	person and place names
mass_noun	all uncountable nouns
mixed	a lexically specified class with no semantic cohesion
default	the default set of nouns, membership in which is determined once all other semantic categories are subtracted ^d

^aOf the 12 languages that list animals among their non-possessible nouns, only one source for Bororo (Bororoan) specifies that these are domesticated animals (Crowell 1979). However, we do not believe that the non-possibility of domestic animals entails that wild animals are possessible. We think it far more plausible that in Bororo *all* animals are non-possessible, and that possession almost always indicates domestication. This analysis is strengthened with data from Teko (Tupian), where the classifier construction used to possess animals can be used for typically domesticated animals (chickens, dogs) and for wild animals that are exceptionally held as pets (frog, tapir, Rose 2011, Rose p.c.). Similarly in Kakua (Kakua-Nukak), the default possessive construction is acceptable with animals only if raised as pets or captured as prey (Bolaños 2016). We have therefore not considered domesticated animals as one of our semantic categories. However, we have included wild animals as a semantic category, since when grammars specify that wild animals are non-possessible, it is very possible that domesticated animals are treated differently, e.g., according to the default possession strategy.

^bInitially, we had a *body* and a *body_extended* category, but we found essentially no language that didn't have at least some “extended” terms, such as feelings, human attributes, name, spirit, etc., so we ended up merging them. Many grammars do not explicitly describe the behavior of such nouns, so this is a category that could be underrepresented in our study, if it was separate. ^cThe noun “house” is commonly encountered as a member of the inalienable class, and it could be conceptually categorized as *place_rel* or *intimate_property*. We have categorized it on a language-by-language basis depending on what other nouns are present in the same possession class.

^dIn some cases, this category may include a body part possessed not by its inherent possessor.

resources for the language. The construction form abstraction level is not standardized and is not used further in the database or our analyses. The Construction.Type column is a fine-grained classification of possessive constructions and will be described further in Section 2.1.2.1. Any automatic treatment of our

Table 5: Construction Table excerpt.

Glottocode	Construction.Form	Possession.Class	Construction.Type	Remarks	Source
tomm1242	PSSR PSSD{Low Tone NP}	alienable	PSSD	For alienable possessed nouns, low tone is induced in the whole NP including modifiers.	mcperson2013rommo:204
tomm1242	PSSR PSSD{Low Tone N}	inalienable	PSSD	For inalienable possessed nouns, low tone is induced only on the possessed noun, and not on modifiers.	mcperson2013rommo:210
boro1282	PSSR person.set2 PSSD	alienable	PSSD[AGR:PSSR]	This is the 2nd paradigm of possessive markers in the grammar used for all nouns except animals and inalienable nouns. It looks a lot like a classifier construction and historically most likely was, but there is no synchronic evidence that the presumed classifier functions as a noun.	crowell1979bororo:216
boro1282	PSSR person.set1-PSSD	inalienable	PSSD[AGR:PSSR]	This paradigm of possessive markers is the same as that used for verbal indexation.	crowell1979bororo:215
boro1282	PSSR person.set3 PSSD	non-possessible	PSSD[AGR:PSSR]	This is the 3rd paradigm of possessive markers in the grammar used only for animals. It looks a lot like a classifier construction and historically most likely is, but there is no synchronic evidence that the presumed classifier functions as a noun.	crowell1979bororo:216
ingu1240i	PSSR.GEN PSSD	alienable	PSSR[AGR:PSSR]	The possessor is in genitive case. The genitive suffix is not segmented in the grammar, and it is different depending on the number of the possessor.	nichols2011ingush:448, 127

construction data is based on the construction type,¹³ which is highly standardized. The Possession.Class column lists the possession class(es) that have access to the construction as a possessed noun. Finally, there is a Remarks column for additional information, and a Source column with detailed references.

2.1.2.1 Construction Types

Constructions in the Construction Table are assigned to different types according to a combination of criteria: the syntactic relationship between possessor and possessed noun, presence and locus of marking, and presence and patterns of agreement.¹⁴ Excluding agreement, we recognize the following hierarchy of types:

- Aggregate type DIRECT: the possessor is strictly adnominal, i.e., without intervening syntactic heads:
 - Type JUXT: the possessor and the possessed noun are juxtaposed or compounded.¹⁵
 - Type MARKER: there is at least one *inflectional* marker that encodes a possession relationship in addition to the two nouns.
 - Subtype PSSR: marking occurs on the possessor only.
 - Subtype PSSD: marking occurs on the possessed noun only.
 - Subtype PSSR+PSSD: marking occurs on both the possessor and possessed noun.
 - Subtype LINKER: Neither possessor nor possessed noun are marked, but there is an inflectional linker which does not clearly form a syntactic constituent with only the possessor or only the possessed noun.
- Aggregate type INDIRECT: the possessor can be expressed adnominally only by adding an intervening head, i.e., an independent, non-inflectional, and/or open-choice, lexical element to the construction:
 - Type CLASS: there is a nominal classifier as intervening syntactic head and it is necessary for expressing possession.
 - Type CLAUSE: there is a subordinate verb as an intervening head and it is necessary for expressing possession.

These main construction types are refined further with the addition of information about agreement patterns, as in example (14) from Burushaski (isolate). In Burushaski, for inalienable nouns, both possessor and possessed noun are marked. Also, both

¹³ Exceptions here are the special POSSESSION and UNPOSSESSION constructions that have [NULL] for their construction form. See Section 2.1.2.2 for more details.

¹⁴ In this paper, we use the term “agreement” in a loose sense, without necessarily assuming an overt noun with which the morpheme agrees. Our separation of locus of marking and agreement is exactly analogous to the separation of marking and indexing described in Evans and Fenwick (2013).

¹⁵ While juxtaposition and compounding may be distinguishable in principle, this is not always the case and it can be difficult with old sources and underdocumented languages.

markers agree with the possessor: the possessor marker, a genitive, agrees in gender and number,¹⁶ and the possessed marker agrees in person, gender, and number (Munshi 2018). This construction has been assigned the type $\text{PSSR}[\text{AGR:PSSR}] + \text{PSSD}[\text{AGR:PSSR}]$. In order to increase consistency and efficiency in construction type assignment, we are using a detailed key¹⁷ that can be found in the Supplementary Materials. This decision-making tool distinguishes the most common types and allows more complicated or unanticipated cases to be identified and discussed further.

- (14) a. *t^ham-e* *i-riŋ-aŋe* *booza-an* *del-imi*
king-GEN.DEFAULT 3M.SG-hand-on kiss-SG.NDEF hit-PST.3M.SG
‘[...] he kissed the king’s hand.’
(Munshi 2018: 256)
- b. *in-mo* *mu-uyar* *ooyatanas-an* *bai*
3SG-GEN.F.SG 3F.SG-spouse teacher-SG.NDEF be.PRES.3M.SG
‘[...] her husband is a teacher.’
(Munshi 2018: 123) (Burushaski, isolate)

As previously mentioned in Section 1.2.2, our definition of a possessive classifier construction requires that the classifier function as a nominal head in the morphosyntax. In classical phrase-structure grammar, this means that the classifier has a corresponding node in the tree with its own part-of-speech information. Though this determination has to be made holistically, there are a few tests which can signify that an element is a syntactic nominal head. In the absence of evidence of this kind, we do not categorize a construction as belonging to type CLASS and treat the morpheme in question as inflectional. In more detail, these tests are:

1. Lexical independence: If an element can serve as a regular noun outside of a possession construction, then we treat it as projecting a head in the possession construction as well.
2. Lexical choice: If the selection of a classifier is open to speaker choice and not grammatically determined (e.g., a selection between LONG.SKINNY and LARGE), then it carries lexical information and is a nominal head.
3. Agreement: If the classifier triggers agreement (e.g., it causes agreement in adjectives or on the verb) or is the target of agreement (e.g., it receives plural

¹⁶ In Burushaski there is a genitive form for female human singular nouns, and another form for all other nouns.

¹⁷ A key, or more precisely an identification key, is a common tool used in systematic biology to identify organisms. It is usually dichotomous (each question/step in the key has two possible answers/outcomes). It must be noted here that a key is not a claim as to which construction types are more similar to each other. A similar device has been used in children’s literature for stories that have multiple possible evolutions and endings (choose-your-own-adventure).

- marking to agree with the possessed noun), then it is a head. But care must be taken in this case to differentiate the potential classifier from the possessed noun.
4. Verb selection: If the classifier is targeted by verbs to receive case marking or a specific adposition, then it is a head. As with the above, care must be taken to differentiate the classifier from the possessed noun.

As an example of a construction categorized as CLASS, take the possession of non-relational nouns (the default class) in Xavánte (Nuclear-Macro-Je, cf. 15). This construction uses the morpheme *te*, which does not occur elsewhere as a free word. However, it can be shown that *te* functions as a syntactic nominal head, since it, rather than the notionally possessed noun, takes any case marking required by the verb (16). Consequently, we consider this a classifier construction.

- (15) *warazu te ubu wa-te ?madö?ö za?ra mono õ di.*
 white.man RGN face 1PL.ERG-AUX 3.ABS.see PL.DISC ITER NEG EXPL
 ‘We had not seen the white man’s face.’
 (Machado Estevam 2011: 380) (Xavánte, Nuclear-Macro-Je¹⁸)

- (16) a. *ĩ-mama te ma wapsã wa tãma ti-a*
 1SG-father RGN DAT dog EGO 3.DAT 3.ABS-give
 ‘I gave (food to eat) to my father’s dog.’
 b. **ĩ-mama te wapsã ma wa tãma ti-a*
 1SG-father RGN dog DAT EGO 3.DAT 3.ABS-give
 Intended: ‘I gave (food to eat) to my father’s dog.’
 (Machado Estevam 2011: 408) (Xavánte, Nuclear-Macro-Je)

In Bororo (Bororoan), there are three series of person markers used in possessive constructions: a series of bound pronominals which are used in verbal indexation as well as for inalienable possession, and two other series used for alienable possession and animal possession respectively (Table 6). Nominal possession is expressed with the appropriate possessor-indexing element accompanied by a preceding possessor, as in (17) (Crowell 1979).

- (17) *José aku kowaru redoku-re*
 José 3SG.animal horse run-NEUTRAL
 ‘José’s horse ran.’
 (Crowell 1979: 82) (Bororo, Bororoan)

The bound pronominals are apparently related to the forms of the other two paradigms. The paradigms for alienable and animal possession could be understood

¹⁸ Special glossing for Xavánte: EGO ‘egophoric’, EXPL ‘expletive’, ITER ‘iterative’, PL.DISC ‘discrete plural’, RGN ‘relational generic noun’.

Table 6: Bororo bound pronominals (used in inalienable possession), and person markers used in alienable and animal possession (Crowell 1979: 216).

Person	Bound pronominal	Alienable	Animal
1	i-	ino	inagu
2	a-	ako	akagu
3	∅-/u-	o	aku
coreferential	ti-/xi-	to-	tagu
reciprocal	pu-	pu-	pugagu
1pl incl	pa-	pago	pagagu
1pl excl	xe-	xeno	xenagu
2pl	ta-	tago	tagagu
3pl	e-	eno	enagu

either as independent paradigms with different grammatical marking or as the bound pronominals *i(n)*-, *ak*-, \emptyset -, etc. affixed to separate classifiers **o* and **aku*. However, there is no evidence of the lexical independence of hypothetical classifiers **o* and **aku*, and we cannot perform the other tests, as Bororo has no case, and plurals and postpositions are expressed at the end of the noun phrase. Though it appears quite plausible (indeed, likely) that the system seen in Table 6 developed from two independent classifiers,¹⁹ from the data available to us, the elements *-o* and *-aku* do not appear to function this way synchronically.

2.1.2.2 Special construction types

Apart from possessive constructions, there are a number of special constructions included in the Construction table. They enable us to describe accurately the differential behavior of Possession Classes with respect to possession.²⁰ These include:

- *Unpossession construction*: The construction employed when a noun is not possessed. Usually, this is a construction of just the bare noun [N], and in this case it is not entered in the database. However, there are cases of nouns that require a special marker in order to appear unpossessed or with an unknown possessor. Such constructions are included in the database and are marked as UNPOSSESSION for their construction type.

¹⁹ We think that classifier constructions more generally can grammaticalize into either marking that attaches to the possessor (PSSR type) or marking that attaches to the possessed noun (PSSD type), which indicates possession becoming more syntactically direct. We leave further exploration of this grammaticalization pathway for future work.

²⁰ These special construction types and the associated special construction form [NULL] are used in our automated methods for treating construction data.

- *Null unpossession construction*: If a noun class is claimed to always appear possessed, we represent it as having access to a construction of the UNPOSSESSION type with the form [NULL].
- *Null possession construction*: In some languages, a noun class is claimed to be unpossessible under any circumstances. This is represented in the database with a construction that has POSSESSION as its type and [NULL] as its form.

2.2 Language sample

For this study we employed a phylogenetically diverse global sample of 20 languages per macroarea (Hammarström and Donohue 2014), for a total of 120 languages. All the languages included in our sample belong to different families and are a subset of the languages included in the Possession Module of the ATLAS database (Inman et al. in prep). The full sample and the data are available in the Supplementary Materials. We follow Glottolog (Hammarström et al. 2021) for language names and classifications.

2.3 Methods of analysis

Our database can be used to examine possession with various approaches. We have already introduced three different possible views of possession, based on constructions, valence, and semantics. In this section we will briefly explain how we arrive at each of these views using our database. Then we will present the analyses performed and the questionnaire used for a short possession survey. We used custom scripts written in R (R Core Team 2021) to validate data consistency and to perform quantitative analyses (for more information see the Supplementary Materials).

2.3.1 Arriving at different views of possession

The construction and semantic views are directly accessible in the database through the Construction and the Possession Class tables respectively. In the Construction Table, each construction is directly associated with the possession class(es) that have access to it. In the Possession Class Table, each possession class is directly associated with the semantic categories belonging to this class.

The valence view is not directly encoded in the database but it can be derived using the construction table. We can determine the valence of the nouns belonging to each class as follows:

- *Non-possessible* nouns have access *only* to possession constructions of the INDIRECT aggregate type, or a special NULL possession construction (in this case, the nouns cannot be possessed at all). They do not have any UNPOSSESSION construction.
- *Obligatorily possessed* nouns have access to at least one possession construction of the DIRECT aggregate type *and* to a special UNPOSSESSION construction (which may be [NULL]).
- *Optionally possessed* nouns have access *only* to DIRECT possession constructions and they do not have access to a special UNPOSSESSION construction; or they have access to both DIRECT and INDIRECT constructions.²¹

2.3.2 Semantic network visualization

In order to investigate the cross-linguistic evidence for the categories commonly called “inalienable” and “non-possessible”, we visualize all semantically coherent possession classes (i.e., with most members belonging to one or a few semantic categories) of all languages in our sample in a semantic network. To do this we need to partition the semantic space in categories applicable to all languages.

We started from the semantic categories we found relevant for our data, which have been already presented in Table 4. Some of these categories are nested within other categories, as is the case for *body_internal* (covering internal organs), which is a proper subset of *body*. In order to devise a set of non-overlapping semantic categories, we organized these attested semantic categories into a partially hierarchical structure, as can be seen in Table 7. Each semantic category on the left contains the semantic categories to its right. The rightmost categories comprise the set of non-overlapping semantic categories used for crosslinguistic comparison. The pseudo-categories *mixed* and *default* are not included in this structure, since they are both used for semantically non-coherent classes.²²

Due to the nested nature of our original semantic categories, among the resulting non-overlapping categories there are some that are never attested, as they represent the remainder of a more inclusive category when a nested category is subtracted. In our previous example with *body_internal* and *body*, once *body_internal* is subsumed under *body*, a new category *body_external* is implied. We call such semantic

²¹ If a noun can be both directly and indirectly possessed, it is optionally possessed from a valence perspective, even if it has an UNPOSSESSION construction, thus rendering part of the first condition irrelevant.

²² There is an additional category, *mass_noun*, that is not included in the semantic hierarchy and the semantic network visualization. This category was found in only one language, Negidal, where the same possession construction is used for typically non-possessible nouns (names, animals, natural phenomena) and all mass nouns (Pakendorf and Aralova, this issue). Although there is a semantic content to the category of mass nouns, it is a cross-cutting category with respect to all others, and it would complicate the overall picture.

Table 7: Hierarchy of semantic categories.

kin	blood_kin	nuclear_kin
		DD_non_nuclear_blood_kin
	DD_non_blood_kin	
part	plant_part	
	DD_other_part	
	body	body_internal
		DD_body_external
nature	plants	
	nature_inanimate	
	animals	wild_animals
		DD_domestic_animals
	humans	
relation	owner	
	place_relation	
	DD_other_relation	
intimate_property		
names		

categories “deduced” and they are preceded by “DD” in Table 7. When constructing the semantic network, each high level category is replaced with all the non-overlapping categories it contains.

All non-overlapping semantic categories are potential nodes of a comprehensive semantic network. A coherent semantic class can then be represented with edges connecting the semantic categories it contains. For example, Hixkaryána (Cariban) has two semantically coherent possession classes: one containing body parts and kinship terms, and the other animals, plants, natural

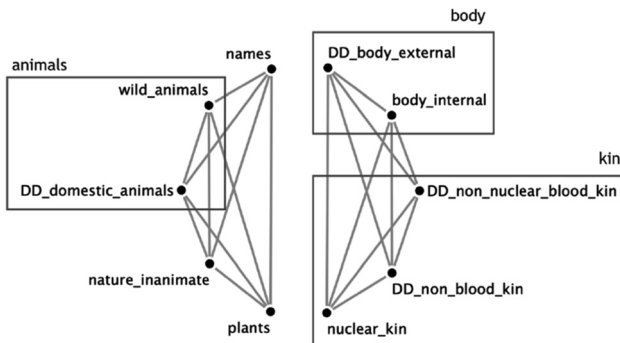


Figure 1: The full network of semantically coherent categories in Hixkaryána.

phenomena and proper names (Derbyshire 1979). Plotting the two semantically coherent classes of Hixkaryána results in the networks in Figure 1. We then repeat this process for every semantically coherent class in every language and we overlay the resulting networks. For the visualization we used Cytoscape v.3.9.0 (Shannon et al. 2003) and the aMatReader application (Settle et al. 2018).

2.3.3 Survey questions

In this section we present the questionnaire used to query our database of 120 languages for a short survey on possession worldwide. Our questionnaire can be divided in two parts: questions 1–4 are basic exploratory questions for the phenomenon of differential possession across languages, while questions 5–11 investigate the characteristics of particular classes based on their semantics.

As we will see in the results section, the semantic network visualization resulted in two well-separated networks of conceptually inalienable (mostly body parts and kinship terms) and conceptually non-possessible (mostly animals, humans and natural elements) possession classes, which allowed us to use these two broad types as a basis for further comparison. Thus, for the second set of questions, we grouped together all classes of the type “conceptually inalienable” and “conceptually non-possessible.”

The full list of survey questions used can be seen below:

1. How many possession classes are there?
2. How many semantically coherent possession classes are there?
3. What is the valence of nouns in the default class?
4. How are nouns of the default class possessed?
5. How many conceptually inalienable classes are there?
6. How many conceptually non-possessible classes are there?
7. What is the valence of nouns in conceptually inalienable classes?
8. How are nouns in conceptually inalienable classes possessed?
9. How are nouns in conceptually inalienable classes unpossessed?
10. What is the valence of nouns in conceptually non-possessible classes?
11. How are nouns in conceptually non-possessible classes possessed?

3 Results and discussion

3.1 Semantic network results

The result of the overlay of all semantically coherent possession classes attested in our data revealed two unconnected networks, which are given separately in

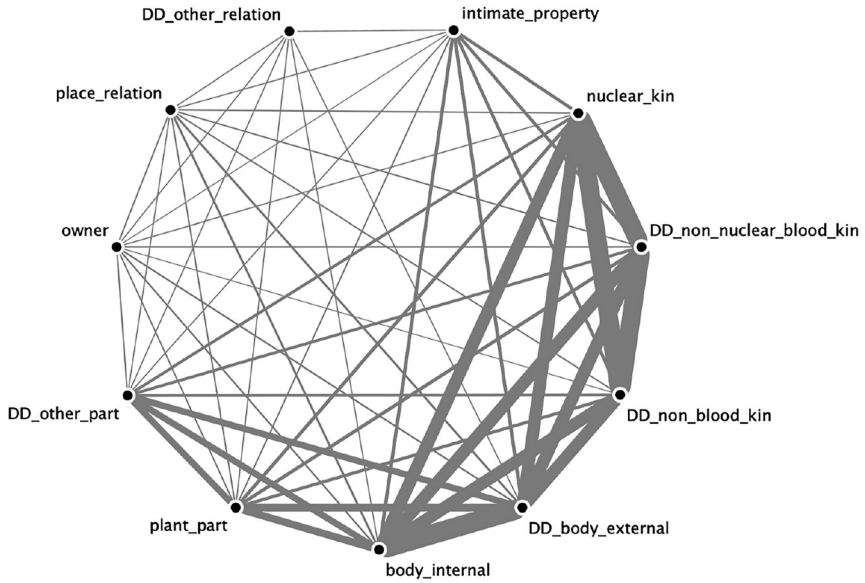


Figure 2: The network of conceptually inalienable classes.

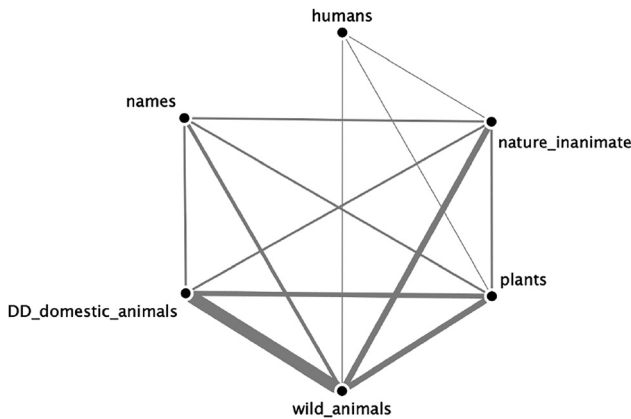


Figure 3: The network of conceptually non-possessible classes.

Figures 2 and 3. Relative thickness of edges represents the number of connections between semantic categories (i.e., frequency that two semantic categories are found in the same semantically coherent possession class).

The fact that these two networks remain totally unconnected means that not a single language in our sample of 120 has a semantically coherent possession class that

contains a semantic category from each of the two networks. We do not mean to imply that such an overlap is necessarily impossible, but it empirically must be rare. This also does not mean that no single semantic concept appears in both networks, but that if it does it must be exceptional and not categorical, as described in Section 1.1.2. We have termed these non-overlapping semantic networks “conceptually inalienable” (Figure 2) and “conceptually non-possessible” (Figure 3). This finding supports linguist intuitions about the semantic correlates of possession types.

The conceptually inalienable nouns have a clear core membership of kinship and body part terms, a more distant set of part-whole relations (including plant parts), intimate property, and finally a more peripheral set of members like owner and place relationships (homeland, village, etc.). These are all united by the notion of *unchosen* or *inherent* relationship, with kin and body parts the most stereotypical: one has the body parts one has and cannot un-have them except through violence, and one similarly does not choose who one’s kin are and cannot have that relationship sundered except perhaps by a (socially) violent break. This is true for part-whole relations as well (such as the leaf of a plant, or the top of a table), the notable difference being that these are both non-human and inanimate. Finally, the notion of an inherent relationship can extend to clothing, tools, relational places like village, homeland, origin, and so on.

Conceptually non-possessible nouns have a core membership of animals, with plants and inanimate nature (rocks, earth, sun, etc.) more distant from this core, and finally humans and names (or proper nouns) the most distant. Like conceptually inalienable nouns, there is an underlying notion shared among conceptually non-possessible classes: none of these nouns are really owned in a “state of nature.” Animals are only owned in the context of domestication or captivity, where human intervention has altered the (conceptual) state of nature. Similarly, plants are not owned in their natural habitat, and nor are people, except by some (perhaps socially) violent action that forces an ownership relation. This weakly extends to named entities, which are always uniquely identifiable, and are prototypically people or important entities held in common.²³ This is the exact opposite of the conceptually inalienable semantic classes, which in their state of nature are either parts of a whole or stand in an intimate relationship with something else.

Although there are clear semantic and conceptual correlations with these classes, the full reasons for their separation cannot be determined only from a typological study. These two semantic collections could represent something about how human beings inherently conceptualize the world, they could represent cultural

²³ It must be noted here that most grammars do not mention if and under what conditions proper nouns can be possessed. It may well be that names of entities are non-possessible in many more languages than appear in our results.

developments of integrating items into the human sphere of control (Bugaeva et al. 2021), either independently and in parallel or through shared histories, or this could be a by-product of the total frequency with which different types of possessive relations are expressed (Haspelmath 2017), or any combination of these factors. Regardless of their ultimate source, the two semantic clusters are empirically distinct and can be used for further research. Every semantically coherent possession class in our sample can be unambiguously categorized as either belonging to the conceptually inalienable network or the conceptually non-possessible network. We have therefore used these two types as a basis of further comparison.

3.2 Survey results

In this section we present summary statistics based on the survey questions, beginning with results on a per-language basis, followed by results on a per-possession-class basis.

3.2.1 Results by language

Table 8 shows how many languages have a certain number of classes of a particular type. For instance, every language has exactly one default class, so the “Default” row shows that all 120 languages have just one default class. The number of conceptually inalienable classes is more varied: in 57 languages, there are no classes of this semantic type, in 51 languages there is exactly one class of this semantic type, in 10 languages there are exactly two classes of this type, and so on. As this table shows, about half of the languages in our sample (54 out of 120) have only a single possession class (the default class), while the rest (66 out of 120) have more than one possession class (i.e., an (in)alienability contrast). The vast majority of non-default possession classes are semantically coherent. Only five languages in our sample have semantically non-coherent but closed (our pseudocategory *mixed*) possession classes:

Table 8: Number of languages with a particular number of classes.

	Number of classes									
	0	1	2	3	4	5	6	7	8	9
Default	0	120	0	0	0	0	0	0	0	0
Inalienable	57	51	10	1	1	0	0	0	0	0
Non-possessible	111	8	1	0	0	0	0	0	0	0
Mixed	115	3	0	1	1	0	0	0	0	0
Total possession classes	0	54	47	13	3	2	0	0	0	1

Apurinã (Arawakan), North Slavey (Athabaskan-Eyak-Tlingit), Highland Oaxaca Chontal (Tequistlatecan), Sandawe (isolate), and Maricopa (Cochimi-Yuman).

Among the languages that have two possession classes, the vast majority have a conceptually inalienable class in addition to their open default class (45 out of 47). Only two languages with only two possession classes have a conceptually non-possessible class in addition to the default class: Yuracaré (isolate), and Mohawk (Iroquoian). A small part of our sample has three possession classes (13 out of 120). Of them, five have a conceptually inalienable and a conceptually non-possessible class, seven have two conceptually inalienable classes, and one has a conceptually inalienable class and a *mixed* class. Finally, there are a small number of languages with more than three possession classes: three languages with four (Highland Oaxaca Chontal [Tequistlatecan], Limilngan [Limilngan-Wulna], North Slavey [Athabaskan-Eyak-Tlingit]), two languages with five (Teko [Tupian] and San Dionisio del Mar Huave [Huavean]), and one language with nine (Apurinã, Arawakan). Among these languages with a high number of possession classes, two (Limilngan and Teko) have only semantically coherent classes in addition to their *default* class, one (Highland Oaxaca Chontal) has only *mixed* classes, while three (North Slavey, San Dionisio del Mar Huave, and Apurinã) have both semantically coherent and *mixed* classes. The highest number of semantically coherent possession classes present in a language is four and is attested in Teko and Apurinã. These two languages also have the highest number of conceptually non-possessible and conceptually inalienable classes in our sample: Apurinã is the only language with four conceptually inalienable classes, while Teko is the only language with two conceptually non-possessible classes.

It is interesting to note that many of the “extreme” cases in our sample are languages from the Americas. All of the languages in our sample with *mixed* or semantically non-coherent possession classes are American. Both languages which have a conceptually non-possessible class without a conceptually inalienable class are American, and of the nine languages with a conceptually non-possessible class, seven are in the Americas (the exceptions being Grass Koiari and Negidal). This correlates highly with non-possessible valence: of eleven languages where the phenomenon is observed, only three are outside of the Americas (Grass Koiari, Ainu, and Abun). All but one of the six languages with four or more possession classes are American. This does not mean that complex systems cannot be found elsewhere. Bickel and Nichols (2013) find the largest number of possessive classes among their survey in Amele, a language of Papua New Guinea, and they report additional cases of languages with non-possessible classes outside the Americas. Nevertheless, the frequency with which American languages (in comparison with other macroareas) in our sample exemplify these properties – large numbers of possession classes, non-possessible classes, and *mixed* semantics – is notable.

Table 9: Available possession constructions for conceptual classes.

	MARKER	JUXT	CLAUSE	CLASS	NULL	MARKER & JUXT	MARKER & CLAUSE	Sum
Default	97	11	4	0	0	7	1	120
Inalienable	51	15	1	0	0	10	1	78
Non-possessible	2	0	0	2	6	0	0	10
Mixed	9	0	0	0	0	1	0	10

Table 10: Unpossession constructions for conceptual classes.

	Noun	MARKER	NULL	Sum
Default	120	0	0	120
Inalienable	47	15	16	78
Non-possessible	10	0	0	10
Mixed	7	3	0	10

Table 11: Valence of conceptual classes.

	Optionally possessed	Obligatorily possessed	Non-possessible	Sum
Default	116	0	4	120
Inalienable	47	30	1	78
Non-possessible	2	0	8	10
Mixed	7	3	0	10

3.2.2 Results by possession class

Every language has by definition one default class, which we use as a basis of comparison across languages. However, some languages have more than one conceptually inalienable class, while one has two conceptually non-possessible classes. In order to describe the main characteristics of conceptually inalienable classes cross-linguistically, we have pooled all such classes from all languages together, for a total of 78 conceptually inalienable possession classes. We have done the same with conceptually non-possessible classes (a total of 10 classes) and mixed classes (also a total of 10). Statistics for this cross-linguistic pooling of possession classes are given for possession constructions in Table 9, for un-possession constructions in Table 10, and for valence classes in Table 11. In the aforementioned tables we include results for

mixed classes for completeness, but since they are not cross-linguistically comparable, we will not comment upon them further.

3.2.2.1 Default classes

When comparing the unique open (pseudo-category *default*) possession class across languages, we can see that it contains overwhelmingly optionally possessed nouns. However, there are four languages whose default possession class is comprised of non-possessible nouns: Wichita (Caddoan), Maricopa (Cochimi-Yuman), Hokkaido Ainu (Ainu), and Abun (isolate).

With respect to construction types, the majority of languages with optionally possessed default nouns (97 out of 116) use a construction of the type MARKER (head marking, dependent marking, double marking, linkers), while a sizable minority (11 out of 116) use a construction of the type JUXT (juxtaposition, compounding). The remaining languages with a default class of optionally possessed nouns use two construction types: either JUXT and MARKER OF CLAUSE and MARKER (see Table 9). All four languages with non-possessible default nouns use subordinate clauses (type CLAUSE) to possess them.

3.2.2.2 Conceptually inalienable classes

About one third of the conceptually inalienable classes in our sample consist of obligatorily possessed nouns (30 out of 78), while the rest are optionally possessed nouns. There is only one language, Wichita (Caddoan), which uses clauses to obligatorily possess its conceptually inalienable class (the same construction it uses to possess its default class). In other words, the conceptually inalienable class of Wichita is non-possessible on the valence view. We propose to call such a case non-possessible but obligatorily owned.

By definition, obligatorily possessed nouns either have access to a special unpossession construction or they can never be unpossessed (corresponding to our special [NULL] unpossession construction). These two cases are attested in equal proportions in our sample (15 each). The construction types used for the possession of conceptually inalienable classes (with the exception of Wichita as mentioned above which uses CLAUSE) are MARKER (51 out of 78) and JUXT (15 out of 78), while there are ten cases where both these construction types can be used for the same conceptually inalienable class, and one case where both MARKER and CLAUSE constructions are available.

3.2.2.3 Conceptually non-possessible classes

Conceptually non-possessible classes are much less common in our sample (a total of 10). Among them, eight consist of syntactically non-possessible nouns, while two languages, Negidal (Tungusic) and Bororo (Bororoan), have a conceptually non-possessible class of optionally possessed nouns. For six of the conceptually non-possessible classes the sources claim that the relevant nouns can never be possessed (i.e., our [NULL])

POSSESSION construction). The rest can be possessed either through an INDIRECT construction (Yuracaré [isolate] and Teko [Tupian]) or through a DIRECT construction (Negidal and Bororo). Both cases with INDIRECT constructions involve possessive classifiers (type CLASS) rather than clauses (type CLAUSE).

4 Conclusions

In this work we have presented a database structure that encodes a high-resolution representation of differential possession. By treating possession classes and possessive constructions as independent but linked, our database can accommodate possession classes that are semantically coherent or not, as well as a many-to-many relationship between possession classes and possessive constructions. Relatively rare phenomena, such as conceptually non-possessible classes, or syntactically non-possessible default classes can be incorporated seamlessly into this coding scheme. We have presented a semantic ontology, as well as a construction categorization scheme, both of which are extendable. Finally, our database can be used to investigate the relationships between the semantic, constructional, and valence dimensions of differential possession cross-linguistically.

We have exemplified our methodology with a phylogenetically diverse global sample of 120 languages and presented preliminary results on the semantic dimension of possession classes and how it correlates with noun valence and possessive strategies. Our semantic network analysis confirms the long-standing linguists' intuition of the universality of conceptually inalienable nouns (Heine 1997), but also confirms a universal core of non-possessible nouns as well (Bugaeva et al. 2021; Haspelmath 2017). Conceptually inalienable nouns include body parts and kinship terms at their core, but they commonly extend to include plant parts or parts in general, intimate property, such as tools and clothing, as well as relational nouns, such as owner, friend, or homeland. Conceptually non-possessible nouns on the other hand have animals at their core, but they often include humans, plants, natural phenomena and inanimate objects, as well as proper names. Conceptually non-possessible noun classes are rare cross-linguistically and it seems possible that both their presence and their semantic correlates have been under-reported.

Based on our survey results, we conclude that possession classes are relatively common and they typically are semantically coherent. When two possession classes are present in a language, it is much more common that the closed class is conceptually inalienable, rather than conceptually non-possessible. When three semantically coherent possession classes are present in a language, the two closed classes could be either both conceptually inalienable, or one conceptually inalienable and the other conceptually non-possessible. Languages with more

than 3 possession classes are rare. Default classes consist overwhelmingly of optionally possessed nouns, but cases of non-possessible default classes are attested. Dependent-marking, head-marking, and juxtaposition are all common possession strategies, while default non-possessible classes are typically possessed using subordinate clauses. Among conceptually inalienable classes, it is about twice as likely that, in terms of valence, the nouns are optionally possessed rather than obligatorily possessed. Juxtaposition seems more common among conceptually inalienable classes than default classes. Finally, conceptually non-possessible classes usually consist of syntactically non-possessible nouns. In some cases, ownership of conceptually non-possessible nouns can be expressed with a classifier or dedicated head-marking construction.

Further research is needed to examine in more detail how semantic categories cluster in possession classes, as well as the association of different semantic categories with noun valence and possessive strategies. For instance, by associating construction types to conceptual classes (rather than the other way around), we can quantitatively test the claim that inalienable possession classes are more likely to have less morphological material than alienable possession classes. Another promising avenue of investigation is to take full advantage of our construction types to explore how different variables such as locus of marking and presence and patterns of agreement correlate with other properties of possession classes. Finally, we are interested in investigating areal patterns arising from nominal possession, in terms of the semantic categories that are specially possessed, the constructions available to the language, and also valence patterns.

The methods introduced here represent a first step in a broader program of creating a multi-variate typology of possession. Our results have already demonstrated the usefulness of this approach, and we hope our methodology will prove fruitful not only for possession, but also as an inspiration for the study of other multi-dimensional linguistic phenomena.

Supplementary Materials

Supplementary Materials for this paper can be found at the OSF repository: <https://osf.io/zurd6/>.

Acknowledgments: This research was funded by the Swiss National Science Foundation Sinergia project CRSII5_183578 “Out of Asia: Linguistic Diversity and Population History”. The authors would like to thank the editors of this special issue, the participants and audience of the “Atelier Morphosyntaxe” of the Laboratoire de Dynamique Du Langage (CNRS, Université Lyon 2) for helpful comments and

discussions, Marine Vuillermet and Kellen Parker van Dam for discussions on the data, as well as Gereon Kaiping and Melvin Steiger for help with creating the CLDF database. **Author contributions:** D.I. and B.B. conceived of the project. D.I. and N.C.P., with input from B.B., designed the database and defined the typological variables. T.C.H., N.C.P., and D.I. collected the data. D.I. and N.C.P. analyzed the data. D.I. wrote all necessary computer code. N.C.P., D.I., B.B., and T.C.H. wrote the paper. Natalia Chousou-Polydouri and David Inman contributed equally to this work.

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Categorizing possession in Zuanga-Yuanga and other Kanak languages (New Caledonia): a typological perspective

<https://doi.org/10.1515/ling-2022-0035>

Received February 28, 2022; accepted October 12, 2022; published online November 9, 2023

Abstract: Like many other Oceanic and Kanak languages of New Caledonia, Zuanga-Yuanga [ZY] has classifiers restricted to the possession of nouns denoting food, drink, animals and plants; it also has dichotomous direct and indirect adnominal possessive constructions, which are generally labeled inalienable or alienable in the Oceanic literature. These terms refer to a distinction between close versus distant structural marking, which do not strictly correlate with lexical-semantic categories. For instance, kinship nouns are split over the two types of constructions, distinguishing reference from address kinship terms, not in terms of semantic distinctions between close versus distant kinship types. The split for body-part nouns is between directly possessed dedicated terms and indirectly possessed metaphorical body terms, not in terms of permanent versus removable parts, or temporary body properties. In ZY possessive constructions correlate with fairly strict possessee noun classes belonging to one single structural class (directly or indirectly marked). Only a limited number of nouns denoting parts-of-whole have alternate constructions expressing different semantic relations to the possessed noun.

Keywords: alienability distinctions; New Caledonia; noun classes; Oceanic; possessive classifiers; split possessive constructions

1 Introduction

The focus of this study is Zuanga-Yuanga, an Oceanic language belonging to the Austronesian family and spoken in northern New Caledonia. It comprises three dialectal variants¹ spoken in different areas, in the villages of Gomen [GO], and

1 The name Zuanga-Yuanga itself reflects one of the phonological differences between these dialects, i.e., the interdental /ð/ in the Zuanga [ðuaŋa] dialects of GO and PA corresponds to /j/ in the Yuanga [juaja] dialect of BO. With respect to other morpho-syntactic and morpho-phonological distinctions,

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further inland in the mountain range, those of Paimboa [PA] and Bonde [BO].² Throughout this study these dialects will be referred to by their respective abbreviations.

A study of possessive constructions in Nêlêmwa (Bril 2002, 2013), a neighbor of Zuanga-Yuanga, will be mentioned for comparison. Nêlêmwa (NEL) is spoken in the northernmost tip of the Grande Terre (the main island), around Poum, and Zuanga-Yuanga (ZY) to the south of this area. They belong to the same group of extreme-north Kanak languages, together with Nyelâyu (YAL). Data from other northern Kanak languages will also be discussed, Nemi (NMI), Vamale (VAM), Bwato (Koné dialects), Cèmuhi (CEM), Paici (PAC) (see Map 1), and further south, Xârâcùù, Tiri as well as two languages of the Loyalty Islands of New Caledonia (Iaai and Drehu) (not on the map in Figure 1).

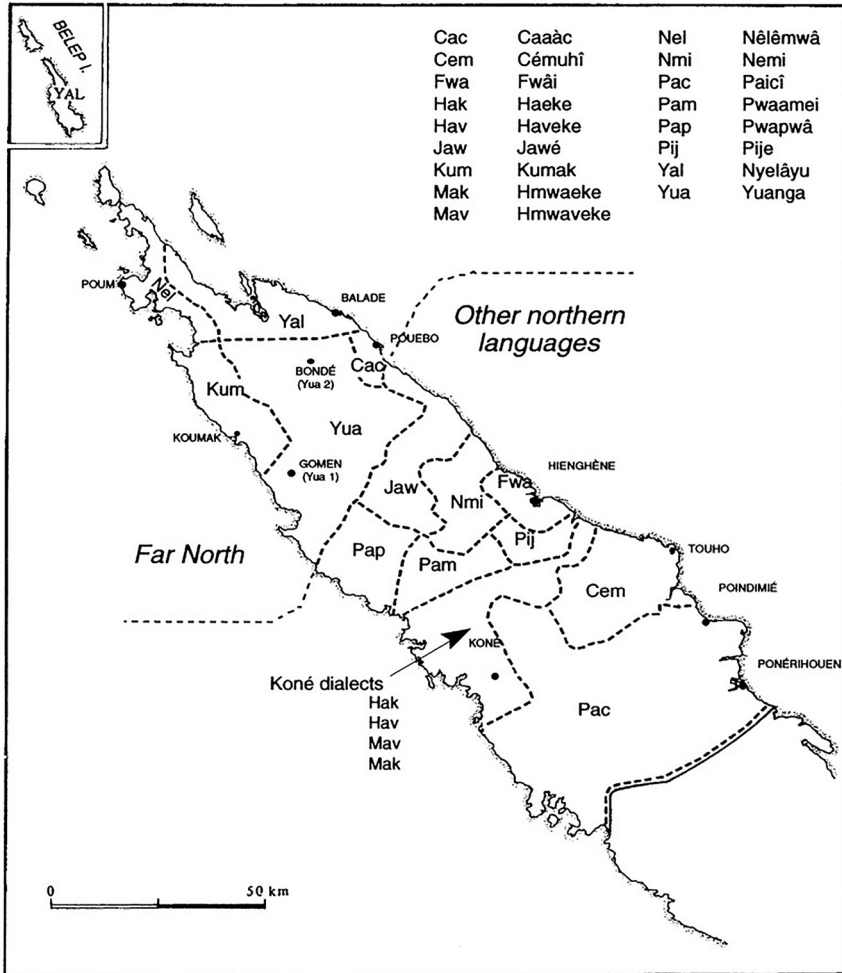
1.1 Defining adnominal possession

Crosslinguistically, splits between direct and indirect adnominal possessive constructions correlate with the weight and cohesion of encoding. “If a language has an adnominal alienability split, and one of the constructions is overtly coded while the other one is zero-coded, it is always the inalienable construction that is zero-coded, while the alienable construction is overtly coded” (Haspelmath 2017: 199). This prediction is borne out in Oceanic and Kanak languages. Another feature is the “cohesion scale” defined as follows: “In no language will the linguistic distance between X and Y be greater in signaling inalienable possession, in expressions like ‘X’s Y’, than it is in signaling alienable possession” (Haiman 1983: 793, quoted in Haspelmath 2017: 207).

The reasons behind such coding splits and the explanations for it are varied and are discussed in the wide literature on this topic, among them (Aikhenvald 2013; Chappell and McGregor 1989, 1996; Haspelmath 2017; Lichtenberk 1985a, 2004, 2009a, 2009b; Nichols 1988; Nichols and Bickel 2005, 2013). Some definitions correlate dichotomous possessive constructions to the semantics of control, permanence and inherent relation versus their opposite feature, while others like Nichols (1988) consider alienability splits as a structural phenomenon and a label for types of constructions correlating with noun classes on the grounds that “no account of the

PA appears to be a transitional dialect between GO and BO, the Bonde dialect being closer to Nêlêmwa, both geographically and in terms of shared features.

² The corpus and data were collected during five months of fieldwork between 2006 and 2011 and were conducted with some 25 native speakers in various villages around Gomen and in Paimboa. I warmly thank all the collaborators who participated in this research.



Map 1: Northern New Caledonian languages (Ozanne-Rivierre 1995: 45).

semantics of possession types will accurately predict the membership of the ‘inalienable’ set of nouns either within one language or crosslinguistically” (Nichols 1988: 568). Haspelmath (2017: 193–194) also predicts that the construction types are attributable to frequency asymmetries and that “additional marking is found when the possessive relationship is less predictable”.

The possessive constructions in ZY are now defined and analyzed against this background.

1.2 Defining adnominal possession in ZY

Lichtenberk (1985a: 125–126) acknowledges that in many Oceanic languages, possessive constructions are not fully predictable from the semantics of the relationship, but he still considers that the “possessive systems of most Oceanic languages are by and large semantically based”. Pawley and Sayaba (1990: 167–168) hold similar views, stating that in Fijian languages “certain nouns belong to strict and semi-arbitrary noun classes for purposes of possessive-marking, others show marking consistently following semantic³ [...] relations holding between possessed and possessor”. On the other hand, Geraghty (1983: 242) writes, “while there may well have been a time in the history of the Fijian languages when the inherent semantic property of inalienability alone determined how a noun was possessed, the situation has now changed in most Fijian languages, and semantically inalienable nouns are not all possessed in the same way”.

Oceanic languages actually display a cline of tight or loose correlations between possessee noun classes, types of possessive constructions, and the semantics of alienability.

For instance, in Manam (Lichtenberk 1985b) and Paamese (Vanuatu, Crowley 1996), direct or indirect possessive constructions and semantic distinctions (inherent vs. contingent) are strongly correlated, independently from noun classes. Fijian languages according to Pawley and Sayaba (1990: 167–168) have an intermediate position with some “strict and semi-arbitrary noun classes” restricted to one single type of possessive marking on the one hand, and constructions varying with the kind of conceptualized relations “for instance expressing an opposition between possession of goods for consumption and goods as property”.

Like other Oceanic languages, the Kanak languages of New Caledonia – among which, Zuanga-Yuanga (ZY) and Nêlêmwa (NEL) – have a pattern of direct or indirect possessive constructions. ZY and NEL (like some other Kanak languages) also have possessive classifiers used for nouns denoting food, drink, and possession of animals and plants.

In ZY, directly possessed nouns are marked by possessive suffixes or by directly postposed possessor nouns, while indirect possession is marked by prepositions or linkers. Direct and indirect possessive constructions correlate with fairly rigid possessee noun classes,⁴ which usually belong to a single structural class and allow few alternate constructions. Only a limited number of nouns occurring in parts-of-whole

³ The semantic classes referred to by Pawley and Sayaba (1990: 150) in their description of Fijian are “kinship, body-parts and natural parts of a natural object, manufactured part, food, drink, spatial relations, etc.”.

⁴ These possessee noun classes are defined by their type of possessive construction, direct or indirect.

relations have alternate constructions with semantic differences denoting inherent versus contingent relations (discussed in Section 5). Another essential feature of ZY is that direct or indirect possessive constructions cannot be fully predicted from lexical-semantic categories such as kinship terms and body parts, which are heterogeneous. There is thus some broad correlation between direct and indirect possessive constructions and the notion of (in)alienability, but this correlation is somewhat inconsistent. Consequently, following Nichols (1992: 117), it is considered that “the term inalienable, [...] refers not to a semantic constant having to do with the nature of possession, but to whatever set of nouns happens to take inalienable possession marking in a given language”.

Haspelmath (2017: 198) defines an alienability split for possessed nouns as follows: “a construction used characteristically with kinship and/or body-part possessed nouns is an inalienable possessive construction, while a construction that is characteristically not used with kinship and/or body-part possessed nouns is called an alienable possessive construction. When a language has two constructions of this kind, we can say that it makes an alienability contrast, and we can call the nouns occurring in the inalienable construction inalienable nouns, and those occurring in the alienable construction alienable nouns.”

The challenge in ZY and NEL is that body parts and kinship terms occur in direct and indirect constructions for grammatical and structural reasons (explained in Sections 3.3.2 and 4),⁵ but they do not express clear semantic distinctions. This supports the notion that the split in possessive constructions in ZY primarily correlates with possessee noun classes and secondarily with the semantics of possession. Directly possessed nouns are inalienable and indirectly possessed nouns are alienable in that structural sense. The terms inalienable or alienable are thus taken as labels for structural types of possessive marking, not as consistent semantic characterizations of possession.

In ZY, the main possessed noun classes are (i) bound nouns, (ii) free nouns and (iii) a few non-possessible nouns. Bound nouns have a construct~absolute suffix that allows them to occur without a possessor and which is replaced by a direct possessor. Free nouns are possessible nouns that do not have the absolute suffix, they subdivide into those which are:⁶

- (i) possessed with classifiers (classifiers are themselves directly possessed nouns)
- (ii) directly possessed
- (iii) indirectly possessed by prepositions (all loan words belong to this class);

5 It is also true of other Kanak languages, and more generally of many Oceanic languages including Fijian.

6 Defined by Bugaeva et al. (2021: 5) as “a noun or noun class that may, but is not required to, have possessive morphology”.

summarizes the above.

Table 1: Types of possessed noun classes.

	Bound nouns [PA BO only]		Free nouns	
Possession type	Direct	Indirectly possessed by classifiers	Direct	Indirect with prepositions
		CL-POSS.SUFFIX POSSESSEE		

The analysis proceeds as follows. Section 2 presents the general morphosyntactic features of direct and indirect possessive constructions in ZY. Section 3 discusses the main possessed noun classes and their possessive constructions, starting with bound nouns (Section 3.1); nouns possessed with classifiers (Section 3.2); and directly possessed free nouns are analyzed in Section 3.3, while indirectly, prepositionally possessed free nouns are presented in Section 3.4. Section 4 discusses kinship terms showing them to be a split class; Section 5 presents alternate constructions in relation to parts-of-whole (meronymic) possessive constructions, and Section 6 discusses the possessive construction of compound nouns comprising non-possessible nouns. The remaining sections present these same adnominal possessive constructions with other types of possesseees, viz. nominalizations (Section 7), spatial nouns (Section 8), some of which originate in body-part nouns; quantifier and partitive nouns (e.g., ‘part of’, ‘amount of’) (Section 9), some of which are subtypes of parts-of-whole relations; and modal nouns (Section 10). Section 11 concludes the article.

2 The morphosyntactic features of adnominal possession in Zuanga-Yuanga

ZY is head-marking. In verbal constructions, the verb is initial, and nominal arguments are post-verbal, generally with (s)VOS order, while pronominal indexes have sVo order. In adnominal possessive constructions, the possessee is the head and precedes the possessor.⁷

2.1 Morphosyntactic features

The pronominal possessive suffixes in the Zuanga-Yuanga dialects are represented in Table 2. One of the differences between the three dialects is the loss of all final

⁷ See Palmer and Brown (2007), Lichtenberk (2009b) for discussions on headedness.

consonants in GO, which entailed the loss in GO of the original possessive suffixes for all three singular persons, which are cognate with the Proto-Oceanic possessive pronouns (1sg **-ŋku*, 2sg **-mu*, 3sg **-ña*, Pawley 1973),⁸ and which are retained in PA and BO as 1sg *-ny* [ɲ], 2sg *-m*, 3sg *-n*. In the GO lect, these former possessive pronominal suffixes were replaced by the paradigm of object pronoun suffixes (see Table 2). Compare *kiò-ny* [PA BO] and *kiò-nu* [GO] ‘my belly’.

Table 2: Pronominal possessive suffixes in the Zuanga-Yuanga dialects.

	Possessive suffixes			Object & oblique suffixes	
	G	PA, BO	POc ^a	GO	PA, BO
1sg	<i>-nu</i>	<i>-ny</i>	<i>*-(ŋ)ku</i>	<i>-nu</i>	<i>-nu</i>
2sg	<i>-çö</i>	<i>-m</i>	<i>*-mu</i>	<i>-jo</i>	<i>-yö</i>
3sg	<i>-je</i>	<i>-n</i>	<i>*-ña</i>	<i>-je</i>	<i>-je/ye</i>
1du.excl	<i>-^mbî</i>	<i>-^mbin</i>		<i>-^mbî</i>	<i>-^mbin</i>
1du.incl	<i>-î</i>	<i>-î</i>		<i>-î</i>	<i>-î</i>
1tr.excl	<i>-me</i>	∅		<i>-me</i>	∅
1tr.incl	<i>-õ</i>	∅		<i>-iõ</i>	∅
1pl.excl	<i>-(i)va</i>	<i>-yaa/-zaa</i>	<i>*-[ma]mi</i>	<i>-va</i>	<i>-ya/-zaa</i>
1pl.incl	<i>-ã</i>	<i>-ã</i>	<i>*-(n)ta</i>	<i>-(h)ã</i>	<i>-(h)ã</i>
2du	<i>-çò</i>	<i>-yò</i>		<i>-jò</i>	<i>-yò</i>
2tr	<i>-we</i>	∅		<i>-we</i>	∅
2pl	<i>-wa</i>	<i>-zòò</i>	<i>*-m[i]ju</i>	<i>-wa</i>	<i>-zòò</i>
3du	<i>-li</i>	<i>-li</i>		<i>-li</i>	<i>-li</i>
3tr	<i>-lò</i>	∅		<i>-lò</i>	∅
3pl	<i>-laa</i>	<i>-laa</i>	<i>*-dra^b</i>	<i>-la</i>	<i>-laa</i>

^aProto-Oceanic reconstructions, Pawley 1973. ^bPOc **-d-*, **-r-* becomes Proto-Neo-Caledonian **ⁿq* which is reflected as *-ɽ-*, *-l-* [GO], and *-l-* [PA BO] (Bril 2020).

Except for the first three singular possessive suffixes, the other possessive suffixes and suffixed object pronouns are identical for all other persons in the three lects GO, PA, BO.

Another noteworthy and specific feature of the GO dialect is the existence of trial pronouns for 1st, 2nd and 3rd persons, with clusivity distinctions for 1st person (Table 2). Suffixed possessive pronouns do not mark gender, only number.

In ZY as in NEL, direct constructions are marked by personal possessive suffixes (1a), or by directly postposed possessor nouns (1b). Indirect constructions are marked by prepositions and oblique pronominal suffixes (see the paradigm in Table 2) as in (2a)–(2b). Thus, direct possessive constructions display a tighter structural relation than indirect constructions.

8 Lynch et al. (2002: 67) reconstruct: **-gu* 1sg, **-mu* 2sg, **-ña* 3sg.

- (1) a. *avwõnõõ-n*⁹ [PA BO]
village-3SG
'his/her village, his/her dwelling'
- b. *avwõnõ kãgu* [GO PA BO]
village spirit
'the dwellings of the spirits'
- (2) a. *vhaa i je* [GO PA BO]
speech PREP 3SG
'his/her speech'
- b. *vhaa i whamã* [GO PA BO]
speech PREP elderly
'the words of the elderly'

Semi-direct possessive constructions do not occur with a distinct possessee noun class, but are an alternate construction for some nouns expressing parts-of-whole relations of a more transient, contingent nature (see Section 5). They are marked by a now accreted, suffixed linker *-a*, possibly cognate with POC *ka2, which is a marker of uncontrolled possessive relation (Pawley 1973). It is called semi-direct, because the possessor, if pronominal, is suffixed to the accreted linker as in (3b), if nominal, it is postposed as in (3a)–(3c).

- (3) a. *dröö-a kui* [GO] 'a pot of yams' (*dröö* 'pot', *kui* 'yam') (i.e., a pot containing yams)
- b. *dröö-a-nu* [GO] 'my cooking-pot'
- c. *thini-a kavwègu* [GO] 'the fence of the chiefdom' (*thini* 'fence')

2.2 Stem allomorphies of directly possessed nouns and diachrony

Some directly possessed nouns have allomorphic stems but are otherwise directly possessed. Some of these allomorphies result from diachronic processes such as the attrition of the non-possessed stem, or an accreted linker on the possessed stem (see Section 2.2.4). These allomorphic stems distinguish possessive from modifying constructions (see Section 2.2.3).

9 Suffixed possessive pronouns lengthen the final vowel.

2.2.1 Length variation

Length variation of directly possessed nouns is a common feature of northern and other Kanak languages. A pronominal possessor preserves the long vowel of the root or lengthens it if the root vowel is short, while a nominal possessor tends to shorten a long vowel in the root form.

Free stem	pronominal possessor	nominal possessor
<i>kò</i> [GO], <i>kòð-n</i> [PA] ¹⁰	<i>kòð-nu</i> [GO], <i>kòð-ny</i> [PA]	<i>kò kuau=ã</i> ‘the legs of this dog’
‘foot, leg’	‘my foot’	<i>kò uva</i> ‘the lower part of the taro’
<i>hii</i> [GO], <i>hii-n</i> [PA]	<i>hii-je</i> [GO], <i>hii-n</i> [PA]	<i>hi thoomwã=ã</i> ¹¹ ‘this woman’s fingers’
‘arm, hand’	‘his/her hand’	<i>hi pwaji=ã</i> [GO] ‘the claws of this crab’
<i>cii</i> [GO], <i>cii-n</i> [PA]	<i>cii-ny</i> [PA BO]	<i>ci phwa-n</i> [PA BO] ‘his lips’ ¹²
‘skin’	‘my skin’	(skin mouth-his)

2.2.2 Stem allomorphies due to attrition of the non-possessed stem

Some stem allomorphies result from the attrition of a former disyllabic word to a mono-syllabic free stem, whose second syllable re-appears in the possessed form.¹³ For instance, *b(w)ò* [GO], *b(w)òn* [BO] ‘day, date’ has a possessed form *b(w)òni-* [GO, PA, BO] (cognate with POC *mponji).

- (4) *b(w)òni-ã* *mõnõ* [GO]
 date-1PL.INCL tomorrow
 ‘our (set) date tomorrow’

Similarly, *wõ* ‘boat’ has a possessed form *wõjo-* (cognate with POC *wanjka), similar to *waja* in Nêlêmwa:¹⁴

- (5) [GO] *wõ* ‘boat’; *wõjo-nu* ‘my boat’
 [PA] *wõny* [wõŋ] ‘boat’; *wõjo-ny* ‘my boat’
 [NEL] *wany* [waŋ] ‘boat’; *waja-ny* ‘my boat’

¹⁰ These nouns are bound nouns in PA and BO: *kòð-n* ‘foot’, *hii-n* ‘hand’, *cii-n* ‘skin’. The CST *-n* is replaced by the possessor noun.

¹¹ Compare with the compound *hii-n thoomwã* [PA] ‘thumb’ (lit. finger-CST woman).

¹² The noun *cii* ‘skin’ when possessed is frequently associated with a specific body-part; *cii-ny* ‘my skin’ would occur in contrast with bones for instance (skin and bones).

¹³ Ozanne-Rivierre (1991: 328) discusses some cases in other Kanak languages, showing that due to stress position, the second syllable was protected by the possessive suffixes in possessive constructions.

¹⁴ Similar allomorphies occurs in NEL, often with the same words (Bril 2013); see Bril (2020) for the phonetic correspondances with POC.

In other cases, a vowel reflecting the etymon occurs in the possessed form. Thus, *ka* ‘year’ has a possessed form *kau-* ‘age, year’ (POc **taqun*), compare *kau-m* [PA] ‘your age’ with [GO] *kau-çö* in (6).

- (6) *Pòniza kau-çö ?* [GO]
 how.many year-POSS.2SG
 ‘How old are you?’ (lit. how many your years?)

2.2.3 Vocalic allomorphs

A few possessed free nouns show vocalic allomorphs. For instance, the free noun *mwa* ‘house’ changes to *mõ-* when possessed, as in *mõ-çö* [GO] ‘your house’. In (7a-b) the question markers *ti ?* ‘who’ and *da ?* ‘what?’ are the adnominal possessors of *mõ-*. While (7a) inquires about ownership, (7b) inquires about some part-of-whole relation.

- (7) a. *Mõ-ti ?* - *Mõ-ãbaa-nu.* [GO]
 house-whose? house-brother-POSS.1SG
 ‘whose house is it?’ – ‘It’s my brother’s house.’
 b. *Mõ-da ?* - *Mõ-hèlè.*
 house-of.what? house-knife
 ‘the sheath of what?’ ‘It’s the knife’s sheath/handle.’

The stem *mõ-* occurs in expressions denoting body-parts and other parts-of-whole such as *mõ-hovwo*, *mõ-ènõ* and *mõ-ima* in (8a) to (8c), or container-contained relations such as (8d); they are distinct from compounds like *mwa dili* ‘mud house’ or *mwa hovwo* ‘pantry’ (lit. house-food).

- (8) a. *mõ-hovwo* [GO]
 ‘stomach’ (*hovwo* ‘food’)
 b. *mõ-ènõ* [GO BO]
 ‘uterus, placenta’ (*ènõ* ‘child’)
 c. *mõ-ima* [GO PA BO]
 ‘bladder’ (*ima* ‘urine’)
 d. *mõ-yaai*
 ‘fire-place’ (*yaai* ‘fire’)

The free noun *nhã* ‘feces’ has the allomorph *nhõ-* in possessive relations:

- (9) a. *nhõ-je* [GO], *nhõ-õ-n* [PA BO] ‘his feces’
 b. *nhõ êgu* [PA] ‘a person’s feces’
 c. *nhõ chòvwa* [GO] ‘the horse’s dung’

Nhõ-n also serves as an interjection meaning ‘serves him right!’ *i nhõ-n!* [PA BO] (lit. it’s his excrement!).

Other nouns show some vowel change /a/ > /e/ as in (10); the allomorphic possessive stem *wèè-* of the noun *wa* [GO], *wal* [PA] ‘root’ (from POC *wakaR) might result from an accreted linker, present in a prior stage of the language, such as *wa i* NP becoming *wèè-*.

- | | | |
|------|--|--|
| (10) | Free form
<i>wa</i> [GO], <i>wal</i> [PA BO] ‘root’ | possessed form
<i>wèè-n</i> [PA] ‘its roots’
<i>wèè bumi</i> ‘roots of the banyan’ |
|------|--|--|

In the case of *phwa* ‘hole, mouth’, the body-part is directly possessed, for instance as *phwa-n* [PA] ‘his/her mouth’, while the stem *phwè* occurs with compound nouns denoting body-parts like *phwè-bozo* ‘navel’ (lit. hole of umbilical chord) or nouns in close association.

- | | | |
|------|-----------------------------|---|
| (11) | <i>phwa</i> ‘hole, opening’ | <i>phwa-n</i> ‘his/her mouth’
<i>phwè-bozo-je</i> [GO] ‘his navel’
<i>phwè-bwinõ-n</i> [PA BO] ‘his anus’
<i>phwè-pwaji=ã</i> ‘the hole of this crab’ (where it hides) |
|------|-----------------------------|---|

In the case of *bwa* ‘head’, the body-part is also directly possessed as *bwa-n* [PA], while the stem *bwe-* occurs with inanimate possessors in other part-of-whole relations: for instance *bwe hogo* ‘the summit of the mountain’, which is thus distinguished from the locative prepositional use of *bwa* ‘in *bwa hoogo* ‘on the mountain’.

- | | | |
|------|---|--|
| (12) | <i>bwa</i> ‘head’
<i>bwa-ny</i> [PA] ‘my head’
<i>bwa chõvwa</i> ‘the horse’s head’ | <i>bwe</i> ‘top, summit’
<i>bwe hogo</i> ‘mountain summit, ridge’
<i>bwe kui</i> ‘the upper part of the yam’ (lit. top of yam) |
|------|---|--|

2.2.4 Directly possessed nouns with accreted linkers

For a few other nouns, stem allomorphy is the probable result of an accreted possessive linker. For instance, the noun ‘clothes’, *hãbwòn* [PA], *hõbwòn* [PA BO], *hõb(w)ò* [GO], has allomorphic possessed stems suggesting an accreted possessive linker of the form *hõbwo(n) ni*-NP, becoming *hõbwon-i-* or *hõbwoli*-NP.

- | | |
|------|---|
| (13) | [GO] <i>hõb(w)òni-nu</i> (or) <i>hõb(w)òli-nu</i> ‘my clothes’
[PA BO] <i>hõbwòni-ny</i> (or) <i>hãbwòli-ny</i> ‘my clothes’
Compare with [NEL] <i>hãbwan</i> > <i>hãbwali-n</i> ‘his clothes’. |
|------|---|

A possible source of the linker is the POc possessive classifier **na-/no-* denoting dominant possession, which has reflexes as *ne-*, *no-* or as *la-* or *le-* in various Oceanic languages. Another possible source is **n-i*, a reconstructed genitive preposition with the personal article **i* in PAN (Blust 1977, cited in Lichtenberk 1985a: 120). The change **n > l*, which is “a common sporadic dissimilatory change” (Pawley 1973), is also attested in some extreme-north Kanak languages (Bril 2020: 203).

3 Possessee noun classes and their adnominal possessive constructions

The four main possessee noun classes analyzed in this section are structurally defined by their possessive construction. They are (i) directly possessed bound nouns (Section 3.1); (ii) free nouns possessed with classifiers (Section 3.2); (iii) directly possessed free nouns (Section 3.3); (iv) indirectly possessed free nouns (Section 3.4). These categories of possessive constructions are also those reconstructed in Proto-Oceanic (Pawley 1973; Ross 1998, 2001).

Due to language change, a few lexemes are assigned to different possessee classes among the three ZY lects; this is illustrated in (14) by two nouns that are indirect in [GO], but direct in the more conservative [PA BO] lects.

- (14) Indirect Direct
- a. *alawe i we* [GO] vs. *alawe-m* [PA] ‘good-bye to you !
- b. *jige i je* [GO] vs. *jigèle-n* [PA], *jigali-n* [BO] ‘his gun’

Similar language evolution among the extreme-north Kanak languages also accounts for the divergent construction of lexemes with the same meaning, which also shows that semantics is not the main driving factor. Thus, in Nêlêmwa, *da* ‘blood’ is indirectly possessed as *da i ye* ‘his blood’ (Bril 2002: 371), but it is directly possessed in the dialects of ZY, as *kuraa-çô* [GO] ‘your blood’, as *kuraa-m* ‘your blood’ in PA and BO, and as *uraa-m* ‘your blood’ in neighboring Nyelâyu.

3.1 Bound nouns and the construct suffix *-n*

Bound nouns are a subset of directly possessed nouns¹⁵ that only belong to this class and are defined by their having an absolute suffix in their stand-alone form

¹⁵ Not all directly possessed nouns are bound nouns.

(i.e., without a possessor).¹⁶ They are only found in the PA and BO lects and their construct~absolute suffix generally takes the form of a final consonant, often *-n* in various northern Kanak languages. This morpheme could be cognate with the non-personal genitive relator POc **ni* (Ozanne-Rivierre 1991: 332; Ross 2001: 261). In GO, the loss of all final consonants, including the construct suffix, entailed the wholesale loss of bound nouns in the GO lect, which, as a consequence, only has free nouns as shown in (15a), to be compared with the PA, BO bound nouns:

- (15) a. GO *hii* ‘arm, hand’ *kò* ‘leg, foot’
 b. PA, BO *hi(i)-n*¹⁷ ‘arm, hand’, *kòò-n* ‘leg, foot’

The construct suffix allows the class of bound nouns in PA and GO.

- (i) to stand alone, in their absolute form,¹⁸ see (15b), (17a),
 (ii) to occur in compound nouns (16a), (16c).

Moreover, it does not show agreement in number, and thus has properties of absolute and construct morphemes (see Creissels 2017); it is glossed CST for convenience. This morpheme is replaced by a nominal possessor (16b), (16d), (17b) or by a pronominal possessive suffix if the possessor is human (16e), (17c).

In (16a)–(16c), the nouns for ‘thumb’ and ‘index’ with the absolute suffix *-n*, occur in compound nouns in which *thoomwã* or *émwèn* are adjoined modifiers, not possessors, thus (16a) does not mean **the woman’s finger, and (16c) does not mean **the man’s finger; the direct possessive constructions are respectively shown in (16b)–(16d) where the possessor is directly postposed to the possessee.

- (16) a. *hii-n thoomwã* [PA]
 finger-CST woman
 ‘the thumb’ (lit. finger female)
 b. *hi thoomwã* [PA GO] ‘the woman’s finger’
 c. *hii-n émwèn* [PA]
 finger-CST man
 ‘the index (lit. finger male)’
 d. *hi émwèn* [PA] ‘the man’s finger’
 e. *hii-ny* [PA] ‘my finger’

¹⁶ Quoting Nichols (1988: 597), the construct suffix serves an ‘absolutivizing’, stand-alone function for bound nouns.

¹⁷ The noun *hi(i)-* refers to the upper limbs and their subparts, i.e., ‘arm, hand, finger’, but also animals’ ‘wing, tentacle’. In PA, BO, only context disambiguates whether *hi(i)-n* is the CST suffix or the 3rd singular possessive suffix.

¹⁸ Quoting Nichols (1988: 597), the construct suffix serves an ‘absolutivizing’, stand-alone function for bound nouns.

In (17a), the absolute suffix on *puxu-n* ‘base, bottom’ (referring to an inanimate entity) also stands in a paradigmatic opposition with a definite nominal possessor (17b) or with a personal possessive suffix (17c).

- (17) a. *Jo na mwã puxu-n*. [PA]
 2_{SG} put SEQ bottom-CST
 ‘Put it at the bottom.’ (of a tree, house)
- b. *Jo na mwã puxu mwa*. [PA]
 2_{SG} put SEQ bottom house
 ‘Put it at the bottom of the house.’
- c. *Puxu-ã* [PA]
 base-POSS.1PL.INCL
 ‘Our god’ (lit. our base)

In PA and BO, there is only one construct suffix *-n* used for inanimate possessors and for non-specific, generic possessors, as in *hii-n mãni kòò-n* [BO] ‘limbs’ (lit. arms and legs), whereas in neighboring northern languages, like NEL and Nyelâyu, there are two construct suffixes. In NEL, they are *-n* (for non-specific human possessors) and *-t* (for non-specific and non-human possessors): e.g., *shi-n* ‘hand’ versus *shi-t* ‘paw, wing, tentacle’ (Bril 2013). In Nyelâyu, the construct suffixes are respectively *-k* (+ non-spec. human possessors) and *-t/-r* (+ non-spec. inanimate possessors): e.g., *ye-k* ‘hand’ versus *ye-r* ‘sleeve’ (Ozanne-Rivierre 1998: 36).¹⁹

Apart from some body parts, the construct suffix also occurs with some kinship terms of reference, such as *kêê-n mãni kibu-n* [PA] ‘fathers and grandfathers’,²⁰ which are mostly used in ceremonial speeches to refer to the generic notion of ancestors, not to any specific personal parenthood. Kinship terms are a split class further discussed in Section 4.

In PA and BO, the CST suffix is homonymous with the third-person singular possessive suffix *-n* of human or animate possessors (inanimate possessors do not have any pronominal indexation). A disambiguating feature is that in contrast with possessive pronominal suffixes, the CST suffix does not agree in number with the possessor; this is best seen in the context of dyadic kinship terms (see Examples (18) to (20)).

Dyadic kinship terms are marked by *è- ... -n* with the construct suffix *-n* in PA and BO, while the suffix is lost in GO. These terms refer to a few types of dual or plural

¹⁹ The CST of bound nouns is also *-n* in Vamale (Rohleder 2021: 112), in Bwato (Rivierre and Erhart 2006), in Iaa and Drehu (Loyalty Islands, Moyses-Faurie 1983: 168; Ozanne-Rivierre 1991: 325). Further south in Paicî, impersonal genitive relators have the form *rV* (Ozanne-Rivierre 1991: 330–331), and the form *-rè* in Xârâcùù (Moyses-Faurie 1995).

²⁰ The noun *kibu-n* ‘ancestors, grandfather’ is used in ceremonial speeches and refers to male ascendants.

relationships such as parent and children, grandparents and grandchildren, maternal uncle and nephew/niece, parents-in-law and children-in-law, spouses.

(18) *Liè e-môû-n mali-èò.* [PA]

ART.DU DYA-couple-CST DET.DU-DET.ANAPH

‘Those two spouses.’

If used predicatively, these kinship terms have dual or plural subject pronouns depending on the number of persons, but the construct suffix *-n* remains unchanged, as in (19)–(20).

(19) *Lhi è-pòì-n.* [PA]

3DU DYA-child-CST

‘They are father and son/daughter.’ (or) ‘they are mother and son/daughter.’

(20) *Lha è-peebeu-n.* [PA]

3PL DYA-grandchild-CST

‘They are grandfather and grandsons/grand-daughters.’ (or) ‘they are grandmother and grandsons/granddaughters.’

There are equivalent forms in other northern languages: *a- ... -n* in Nyelâyu (Ozanne-Rivierre 1998), *a(m)- ... -n* in NEL (Bril 2000: 84–85). The stem is usually the lower term of the dyad, i.e., *pòì(-n)* ‘child’ (see (19)), *peebeu(-n)* ‘grandchild’ in ZY (see (20)), with some counterexamples such as *è-pööni-n* ‘maternal uncle and nephew/niece’ [PA], where the stem *pööni(-n)* ‘maternal uncle, nephew, niece’ is the higher term of the dyad.

The CST *-n* also occurs with some quantifier nouns like *jiu-n* ‘the whole’, allowing their absolute use in reference to inanimate entities as in (21a), compared with the plural personal possessive suffix *jiu-laa* in (21b) referring to the number of people in (21b) (see Section 9 for other cases).

(21) a. *phe jiu-n* [PA]

take whole-CST

‘take the whole’ (of some inanimate entities)

b. *whaya jiu-laa ?* [PA]

how whole-POSS.3PL

‘what’s their total number?’ (of people)

The CST *-n* is found with the time noun *mwaji-n* [PA] ‘time, delay’.

(22) *Pwali mwaji-n ?* [PA]

length time-CST

‘how long?’

It also occurs with one property-denoting noun, *mudo-n* [BO] ‘decay’,²¹ it stands in a paradigmatic opposition with a directly postposed noun as in *mudo hōbwòn* [PA] ‘old clothes’ and *mudro mwa* [GO] ‘a decayed house’ (lit. the decay of the house). NEL has a similar construction with the bound noun *mobwa-t* ‘decay’, e.g., *mobwa mwa* ‘a decayed house’ (Bril [2000: 236]; see Ross [1998] for cases in other Oceanic languages).

The CST *-n* occurring on some modal nouns allowing their non-possessed, absolute use, is analyzed in Section 10.

3.2 Nouns possessed with classifiers

Possessive classifiers are frequent among Eastern Oceanic languages, which have between four and twenty of them (Lichtenberk 1983, 1985a: 105).²² ZY and NEL are in the high range with respectively ten and thirteen classifiers, IaaI has twenty-three of them (Ozanne-Rivierre 1976), while Micronesian languages have up to twenty or more.

The reconstructed POc possessive classifier morphemes are: *ka-1 for food, *ka-2 for uncontrolled possession,²³ *na-/*no- for controlled possession, *ma- for drink (Pawley 1973: 153–169). Lichtenberk (1985a: 117) and Lynch (1997) consider *na-/*no- as a general classifier. Lynch (2001: 150) adds *ta- and/or *sa- as other candidates. Of these, only POc *ka-, *kani ‘eat’ is reflected as the starch food classifier, *cè* [GO], *caa* [PA BO].

In ZY, the use of classifiers is restricted to nouns belonging to specific semantic domains (such as food and drink) and to nouns that cannot be possessed in any other way. A list is given in Table 3 for ZY and some other northern Kanak languages.

Possessive classifiers in ZY and NEL are morphemes with an obligatory direct possessor (generally marked by a pronominal suffix) and an adjoined possessed noun, with the pattern CL-POSS.SUFFIX POSSESSEE. The adjoined possessee is thus indirectly possessed, in relation to a nominal classifier which is itself directly possessed as shown in (23).

²¹ It is a free noun *mudro* in [GO].

²² Lichtenberk (1985a: 105) “The number of possessive classifiers in an Oceanic language ranges from one to well over 20. However, the languages fall into two fairly distinct groups. One has a small number of classifiers – from one to four. The other has a large number of classifiers – upwards of 10, and usually more than 20”.

²³ Which Lichtenberk (1985a: 107) considers derived from *ka-1.

Table 3: Possessive classifiers in various northern Kanak languages.

	GO	PA BO	NEL	YAL	VAM	Bwatoo	POc
Protein food	<i>hò-</i>	<i>hò-</i> [PA], <i>hu</i> [BO]	<i>kho-</i>	<i>we-</i>	<i>xhua-</i>	<i>xhua-</i>	
Starch food	<i>cè-</i>	<i>caa-</i>	<i>caa-</i>	<i>yaa-</i>	<i>ya-</i>	<i>zha-</i>	* <i>ka-</i> , * <i>kani</i> ‘eat’
Fruit, vegetable	<i>kûû-</i>	<i>kûû-</i>	<i>kûû-</i>	<i>ûû-</i>	<i>u-</i>	<i>xu-</i>	
Sugar-cane	<i>w(h)aza-</i>	<i>w(h)ala-</i>	<i>khora-</i>	<i>wha-</i>	<i>xhuta-</i>	<i>xhuta-</i>	
Drink	<i>kudò-</i>	<i>kidò-</i>	<i>kêâ-</i>	<i>uduu-</i>	<i>udoo-</i>	<i>bwidoo-</i>	
Food for chewing ^a		<i>maa-</i>	<i>maa-</i>	<i>mhaa-</i>	<i>fwaa-</i>	<i>fwaa-</i>	
Seedlings for planting	<i>êê-</i>	<i>êê-</i>	<i>aa-</i>	<i>ââ-</i>			
Carried objects	<i>phò-</i>	<i>phò-</i>	<i>fha-</i>	<i>phaa-</i>			
Weapons	<i>pai-</i>	<i>phai-</i>	<i>aadaxi-</i>				
Pet animals, cattle		<i>pò-i-</i>	<i>pwaxi-</i>	<i>nae-</i>			

YAL (Ozanne-Rivierre 1998), VAM (Rohleder 2021), Bwatoo (Rivierre and Erhart 2006). ^aThis is specific to some types of eatable leaves and magnania tubers, *Pueraria lobata*.

(23) *Kidoo-ny* ^(a)₂₄ *we.* [PA]
 CL:drink-POSS.1SG ^{EP} *water*
 ‘My water.’

Classifiers in ZY and NEL check many of the properties of classifier systems (Franjeh 2012: 196): (i) they do not occur with all nouns; (ii) they are semantically assigned; (iii) they can be used anaphorically; (iv) they mark nouns as non-generic.

There is no general possessive classifier in ZY, nor in NEL or YAL, but there is one in Tîri, *hêê* ‘belongings’ (Osumi 1995: 144–156) and one in Iaai *api-n* (Ozanne-Rivierre 1976: 188). In many Kanak languages,²⁵ possessive classifiers denoting the “possession” of food types are extremely common, with a shared set of basic categories, such as starch food, proteins, fruit and leaves, drink, and sometimes more categories. Food types are assigned to a superordinate category such as starch, protein, and drink, and possessed by the corresponding possessive classifiers. These are sortal classifiers that express a ‘genus’/kind, an inherent feature of the possessed entity, common to other members of that class, except for *w(h)aza*-[GO], *w(h)ala*- [PA BO] which is only used for *ê* ‘sugar-cane’, as in *whaza-nu ê* [GO] ‘my sugar-cane’ (for consumption). Yet, they do not constitute a gender system and do not index any female, male or thing/inanimate distinctions.²⁶

²⁴ This is specific to some types of eatable leaves and magnania tubers, *Pueraria lobata*.

²⁵ Some languages, like Cèmuhi, have no possessive classifiers.

²⁶ The situation is different from that of numeral classifiers, which distinguish humans from inanimates in NEL and ZY. In NEL, the numeral classifier for humans probably originates from the noun *ak* ‘man, male’ (Bril 2002, 2014: 176–178).

All other possessive classifiers are relational and denote a type of relation to the entity, such as carried objects, weapons, share of food brought for ceremonies, seedlings or cuttings for planting, catch at hunting, and domestic animals. Interestingly, animals and plants are classified not according to some inherent property, but according to relations entertained with them (see Table 3).

Sortal classifiers such as those used for food types tend to be rigidly assigned and are usually exclusive of each other, with a few exceptions like *nu* ‘coconut’, which can be categorized as a drink or as protein food according to the consumable part considered.

Relational classifiers are much more fluidly assigned since they categorize a noun according to a type of relation rather than to an inherent property, as pointed out by Lynch (1973: 76). Thus, yams as cuttings for farming are possessed with the relational classifier *êê-*, as a carried load with the relational classifier *phò-*, and as starch food with the sortal classifier *cè-*.

- (24) *êê-nu kui* [GO] (lit. CL:plant-my yam) ‘my cuttings of yam’ (to plant)
phò-nu kui [GO] (lit. CL:load-my yam) ‘my load of yam’
cè-nu kui [GO] (lit. CL:starch-my yam) ‘my yam’ (for consumption)

Relational classifiers vary according to conceivable relations, e.g., animals as catch at hunting and fishing, as food, as domestic or raised animals; plants are categorized as cuttings for cultivation, as shared goods in ceremonies, or as food.

Sortal and relational classifiers often originate from directly possessed nouns and are themselves directly possessed nouns,²⁷ called “possessed classifiers” by Aikhenvald (2000: 126); consider for instance:

- (25) a. *kudòò-nu we* [GO]
 CL:drink-POSS.1SG water
 ‘my drinking-water’
 b. *kûú-nu pò-mã* [GO]
 CL:fruit-POSS.1SG fruit-mango
 ‘my mango’ (to eat)

In ZY, only *phò-* ‘load’ and *pòi-* ‘child’ are used independently as directly possessed nouns as in (26), (27); all other classifiers are only possessive classifiers.

- (26) *Mõ vara pu phò-ã.* [GO]
 1TRL.INCL each have load-POSS.1PL.INCL
 ‘We three have each our duty/load.’

27 Lichtenberk argues that in most Oceanic languages, possessive classifiers originate from nouns, i.e., from [food-my] [taro] to [FOOD.POSS.CL-my taro] (Lichtenberk 2004: 357–358).

- (27) *Gele=xa* *pòi-m ?* [PA]
 there.is=INDEF.SPEC child-POSS.2SG
 ‘Do (you) have children?’

Phò- refers to any kind of transported thing, including hunted game or fished animals; its semantics also include the share of goods brought at ceremonies and it is used as a deontic noun referring to duties and obligations (see Section 10). Their classifier and nominal functions are distinguished by syntactic context; a classifier has a possessive suffix and is followed by the adjoined possessed noun, like *phò-la nō* [BO] (lit. CL:load-their fish) ‘their load/catch of fish’, while as a possessed noun *phò* is directly followed by the possessor as in *phò kamyô* [GO] ‘the load of the truck’ which denotes a container-contained relation.

Possessive and numeral classifiers are most generally distinct in ZY and NEL, except for *phò-* ‘load’ in ZY and *fha-t* ‘load’ in NEL, which have both functions (Bril 2014: 178).

Classifiers in ZY can be used anaphorically if the possessed entity is referential and contextually retrievable, in such a case, the possessee does not need to be mentioned. For instance, the construction in (28) can be reduced to *êê-ny* [PA] ‘my cuttings’ (for planting) if the referent is immediately retrievable.

- (28) *êê-ny* *kô-kumwala* [PA]
 CL:plant-POSS.1SG cutting-sweet potato
 ‘my cuttings of sweet potato’

In (29), the food type is known to be starch, but the specific referent is not mentioned since it is contextually referential. On the other hand, in the interrogative sentence in (30), the smell is identified as being that of meat or fish, triggering the classifier *hò-*, but the specific referent of the class is unknown and is precisely what needs to be identified.

- (29) *Nu na* *cee-je* *mōnō.* [GO]
 1SG give CL:starch-POSS.3SG tomorrow
 ‘I’ll give his (starch) food tomorrow.’

- (30) *Bo* *hò-ũ* *da ?* [PA]
 smell CL:protein-POSS.2DU what?
 ‘What (protein) food of yours is it the smell of?’ (lit. the smell of your protein food is what?)

This stand-alone property of classifiers is permitted by their nominal properties, they are the head and the superordinate term, while the adjoined possessee is the subordinate term. Besides, in the case of relational classifiers, the semantics of the

classifier is the most important information to identify the use of the subordinate noun, as shown below with *ê* ‘sugarcane’.

- (31) a. *phò-nu ê* [GO] ‘my load (of) sugarcane’
 b. *êê-nu ê* [GO] ‘my sugarcane cuttings’ (for planting)

An additional argument is that in some cases like (32), the possessive classifier is predicative and has an argument *nhye hînu*, the classifier and the possessee do not form an inseparable complex NP.

- (32) *Pòi-ny nhye hînu.* [PA]
 CL:child-POSS.1SG this image
 ‘This is my photo.’ (i.e., as the author, not as my portrait)

Most classifiers are in common use in ZY, except for the classifier of weapons *p(h)ai-*, which mostly occurs in story-telling, in relation to traditional weapons like spears, arrows and bows, sling-shot stones, clubs, axes, e.g., *phai-ny bulaivi* [PA] ‘my club’. The classifier can be used for modern weapons such as *jige* ‘gun’, e.g., *pai-nu jige* [GO] ‘my gun’, but *jige* is more commonly used either as an indirectly possessed noun, *jige i je* [GO] ‘his gun’, or as a directly possessed noun in [PA BO] with a different vowel, *jigèle-n* [PA], *jigali-n* [BO] ‘his gun’.²⁸ Even *jitua* ‘bow’ is used as an indirectly possessed noun *jitua i je* [PA] ‘his bow’, as in NEL.

Thus, processes of language change trigger categorical changes. While the classifier for weapons *phai-* is falling into disuse, some classifier nouns undergo semantic extension like *pòi-* ‘child’,²⁹ which also expresses ownership of domesticated animals or cattle *pòi-ã vaaci* [PA] ‘our cattle’, and extends to ownership of created objects such as photos, as in (32).

On the other hand, the possessive classifiers for food types appear to be the most stable.

Classifiers in ZY and NEL are not repeaters (auto-classifiers), but Iaaï (Ozanne-Rivierre 1976: 191) has various repeaters that extend to the possession of other entities categorized in the same class.³⁰ For instance, the Iaaï noun *uma* ‘house’ is an auto-classifier in *umwe-k uma* ‘my house’ and a classifier for all types of houses, *umwe-k ito*, ‘my round house’; the noun *nu* ‘coconut tree’, has the same twin function, *nuu-k nu* ‘my coconut tree’ and also occurs with all cultivated plants, e.g., *nuu-k koko* ‘my yam plant’ (lit. CL-my yam); similarly for *hu* ‘boat’, *huu-k hu* ‘my boat’, and for all types of boats *huu-k galu* ‘my row-boat’.

²⁸ Compare with NEL *jixe-t* ‘gun’, *jixela-m* ‘your gun’; YAL *jixe-r* ‘gun’, *jixela-m* ‘your gun’.

²⁹ As a kinship term, *pòi* ‘child’ is directly possessed as *pòi-ny* ‘my child’, and is not used as a repeater (***pòi-ny pòi* ‘my child’), see Section 3.2.

³⁰ Dotte (2017: 353, 358) discusses classifier loss, extension of the general classifier, and extension of the classifier *taben* for seats to transportation mode in present-day Iaaï.

3.3 Directly possessed free nouns

In contrast with bound nouns, free nouns can be used in their base form without any CST suffix and without possessive marking as in (33a). These nouns are directly possessed and are marked by possessives suffixes (33b) or by directly postposed possessor nouns; consider for instance: *yaaza* [GO] ‘name’, *yaaza-nu* [GO] ‘my name’, *yaaza ênō* [GO] ‘the child’s name’.

- (33) a. *Nōōle wō!* [GO] vs. b. *Nōōle wōjo³¹-nu!* [GO]
 look.TR boat look.TR boat-POSS.1SG
 ‘Look at the boat!’ ‘Look at my boat!’

3.3.1 Directly possessed free nouns: an overview of class membership

Nouns belonging to the class of directly possessed free nouns in ZY only belong to this class and do not show alternate constructions. The following nouns are just indicative of some semantic domains and are not an exhaustive list of the lexemes of that class.

- (i) Culturally basic possessed entities³² such as *mwa* ‘house’, *wō* ‘boat’, etc. *ke* ‘basket’ is possessed as *kee-nu* [GO], *kee-ny* [PA BO] ‘my basket’.
- (ii) Most body parts, inner organs, body fluids like *kutra* [GO], *kura* [PA BO] ‘blood’.
- (iii) Most kinship terms of reference.
 Various other possessible nouns denote:
- (iv) features or relations, like *yaaza* [GO], *yaara-* [PA] ‘name’, *kāgu* ‘spirit’, *nōbu* ‘rule, law’, *mōā* [GO] ‘food left-overs’; e.g., *mōā-nu* [GO] ‘my left-overs’.
- (v) properties and qualities: *bo* ‘smell’, *chiñō* ‘size’, *phwaxa* ‘length, height, duration’, *kòlò* ‘side, flank’, *mudro* [GO] ‘decay’; *mòlò* [PA] ‘life’
- (vi) time nouns: *yevwa* ‘time’, *bwò* [GO] ‘date’; *wara* [GO], *whara* [PA] ‘time, moment for’: *whara-ny* [PA] ‘my time’
- (vii) some spatial nouns, *gòò* ‘middle, part of’, *nō* ‘interior, inside’, *pira* ‘beneath’, *bala* [PA] ‘extremity, limit’
- (viii) almost all quantifiers or measure words meaning ‘a piece, a part of’ some non-count or count nouns, like *mhava* ‘piece of’, *ābaa* ‘some, others’, *kôgòò* [GO] ‘surplus’;
- (ix) various modal nouns, see Section 10.
- (x) greetings: *alawe-m* [PA] ‘good-bye to you ! (lit. (taking) your leave)

Some of these lexical domains are now briefly discussed.

³¹ Stem allomorphies are presented in Section 2.2.

³² A term borrowed from Nichols (1988: 572).

3.3.2 Directly possessed body-parts

Nouns denoting body parts, limbs and inner organs are most generally directly possessed as in (34) and (35).

- (34) *hii-je bwa mhwā* [GO] ‘his right hand’ (lit. hand-his on right)
hii-n [PA] ‘(his) hand, arm’; *gu hii-n* [PA] ‘his right hand’ (or:) ‘right hand’
hi pwaji=ā [PA] ‘this crab’s claw (lit. claw crab=this)’
bozo-nu [GO] ‘my umbilical cord’
cii-ny [PA BO] ‘my skin’
bwa-ny [PA] ‘my head’

Some of these nouns are directly possessed compound nouns denoting sub-parts of body parts as in (35a)–(35b), where the second noun specifies a type of ‘hair’.

- (35) a. *pu-bwaa-je* [GO] ‘his/her hair’ (lit. hair-head-his/her)
 b. *pu-phwa-n* [PA] ‘his beard/moustache’ (lit. hair-mouth-his/her)
 c. *phwè-bozo-je* [GO] ‘his navel’ (lit. hole-umbilical.cord-his/her)
 d. *ci-phāgoo-je* [GO] ‘his/her skin’ (lit. skin-body-her/his)

On the other hand, a few metaphorical body-part terms are indirectly possessed with a possessive linker *ni* or *ne* which is homophonous with a locative preposition (see Section 3.4), as in (36), but note that the body-part *hii-* is directly possessed.

- (36) a. *pò-mugo ni hii-n* [PA], b. *pò-mugo ni hii-ny* [PA]
 fruit-banana LNK arm-CST fruit-banana LNK arm-POSS.1SG
 ‘biceps’ ‘my biceps’

Interestingly, the existence of directly versus indirectly possessed body-part terms is not linked to a semantic contrast between permanent versus removable parts like hair, or temporary body sores, swelling, bumps, as in Paamese (Vanuatu, Crowley 1996: 395), rather, it is due to a structural distinction between dedicated and metaphorical body-part terms, the former being directly possessed and the most numerous.

3.3.3 Directly possessed parts-of-wholes

Directly possessed nouns also express parts-of-whole (meronymic) relations such as (37), as well as emission (as of heat, light) by a source as in (38), or direct production (as of dust or fire) by a source (39).

- (37) *kāgu mwa* [GO] ‘the spirit of the house’

- (38) a. *jiŋu yaai* [GO PA] ‘the heat of the fire’ (*jiŋu* ‘warmth’, *yaai* ‘fire’)
 b. *jiŋu a* [GO] ‘the heat of the sun’ (*a* ‘sun’)
- (39) a. *pubu dili* [GO PA BO] ‘the dust of the soil’ (*pubu* ‘dust of’, *dili* ‘soil’)
 b. *pubu yaai* [BO] ‘the smoke of the fire’ (*pubu* ‘smoke’, *yaai* ‘fire’)

On the other hand, indirectly possessed nouns denoting parts-of-whole relations are marked by prepositions or linkers, and are presented in Section 3.4 below. The dichotomous constructions of parts-of-whole show that they are primarily selected by possessee noun classes, not by semantic relations.

3.4 Indirect, prepositionally possessed free nouns

The class of indirectly possessed free nouns is marked by prepositions, *i* (possibly from POC *qi, Ross 2001) for animate possessors as in (40), by *(x)o*, *(w)o* for inanimate possessors as in (41) and for indefinite/collective possessors. Similar constructions occur in other Oceanic languages (see Lichtenberk et al. 2011).

- (40) *Gaa vhaa i êgu.* [GO]
 sound speech PREP people
 ‘The sound of people’s talk.’

- (41) *me-piça (x)o/(w)o bwa-je* [GO]
 NMLZ-hard PREP head-POSS.3SG
 ‘his stubbornness’ (lit. the toughness of his head)

The greatest number of loan words, if possessible, belong to the class of indirectly possessed nouns, independently of their lexical meaning; most of them denote artifacts and goods (i.e., *loto* ‘car’, *burei* ‘bouteille’, *mwani* ‘money’, etc.). Some loan nouns for food and drink are possessed with the adequate classifier (*kafe* ‘coffee’, *pomitee* ‘potato’, *phwalawa* ‘bread’, *aari* ‘rice’, etc.).

Another type of indirect possessive construction is marked by the linkers *ne ~ ni* and occurs with nouns mostly denoting parts-of-wholes with inanimate possessors. In ZY as in various other extreme-north Kanak languages, the possessive linkers are homophonous with locative prepositions *ni ~ ne* ‘in, on’. This construction has been mentioned for some metaphorical body parts (see Section 3.3.2) such as ‘calf’ and ‘biceps’ literally meaning ‘the banana of/on his leg/arm’ (42) and indirectly marked with the possessive linkers *ne ~ ni*.³³

33 The possessive linker *ne* does not host possessive suffixes in any of the ZY lects, while it does in Cèmuhi and Nemi.

- (42) a. *pò-mugo ni kòò-ny* [PA], *pò-mugo ne kòò-ny* [BO]
 fruit-banana LNK leg-POSS.1SG
 ‘my calf’
- b. *wa-aazo ni kòò-n* [PA]
 tendon-chief LNK leg-POSS.3SG
 ‘his Achilles’ tendon’

These possessive linkers *ne* ~ *ni* are further discussed in relation to alternate parts-of-wholes constructions in Section 5.3.

These linkers could reflect the POC associative linker **ni* (Lichtenberk 1985a; Lynch 1996), or a former genitive **NV* linker. Cognate forms are attested in various New Caledonian languages. Compare ‘the bark of the tree’ in three northern languages in (43): the nasal linker is reflected as *-n* in Nemi (NEM); in NEL, it is integrated in the head noun and marked by regressive nasalization of its final vowel; it is dropped in GO and PA, and the part-of-whole relation is directly marked.

- (43) NEM *cii-n ceec* ‘the bark of the tree’ (Ozanne-Rivierre 1991: 332–333)
 NEL *cîi ciic* ‘the bark of the tree’
 (the unpossessed form with the absolute suffix is *cii-t* ‘skin, bark’)
 GO PA *ci cee* ‘the bark of the tree’
 (the unpossessed form with the absolute suffix is *cii-n* [PA] ‘skin, bark’)

Cognate possessive linkers are *ne* in Caac, *la* in Nyelâyu (44a), *le* in Nemi (44b), they are homophonous with locative prepositions;³⁴ some of these morphemes host possessive suffixes.

- (44) a. NYE *ye-la habwan*
 sleeve-POSS.LNK clothes
 ‘the sleeve of the clothes’
 the unpossessed form with the absolute suffix is *ye-r* (sleeve-CST) ‘sleeve’
 (Ozanne-Rivierre 1998: 36)
- b. NEM *cee le gi*
 wood LNK axe
 ‘the handle of the axe’
 (Ozanne-Rivierre 1991: 331)

In Cèmuhî (Rivierre 1980: 152–157), various possessive linkers, *nè-*, *ko-*, *hê-*,³⁵ indicating inclusion and parts-of-whole relationship, host possessive suffixes. CÈM *nè-*

³⁴ Prepositions hosting possessive suffixes and having locative, benefactive, possessive functions are common in northern Kanak languages.

³⁵ The possessive linker *hê-* (probably originating from a locative preposition *hê-* ‘in’ with high tone) marks parts-of-whole or body-part relationship, as in *amo hê-n* ‘its post’ (of a house) (Ozanne-Rivierre 1991: 328).

only marks relationships between inanimate nouns, as in ZY; *Cèmuhi* and *Nemi ko ~ xo* ‘on’ mark indirect objects and possession, as in (45). The indirect possessive linkers (*x*)*o*, (*w*)*o* in ZY have the same origin, and similar functions, but do not host possessive suffixes and are restricted to inanimate possessors (see (41)).

- (45) a. CÈM *cinu ko-n*
 illness LNK-POSS.3SG
 ‘his illness’ (Rivierre 1980)
- b. NEM *dama xo-ng ; wâ xo hiu-ng*
 chief LNK-POSS.1SG vein LNK hand-POSS.1SG
 ‘my chief’ ‘the vein on my hand’
 (Ozanne-Rivierre 1991)

4 Kinship terms: split possessive constructions

The semantic category of kinship terms is generally considered criterial for the notion of inalienable possession; yet in many Oceanic languages as well as cross-linguistically, kinship terms and parts-of-whole terms may be split and marked differently in a given language. Nichols and Bickel (2005) and Chappell and McGregor (1996: 8–9) discuss cases of languages where only subsets of kin terms, body part and spatial terms are treated as inalienable, which is also true of ZY.

In ZY, kinship terms are split over the three possessee classes: some are directly possessed bound nouns, some are directly possessed free nouns, and some are indirectly possessed free nouns. The conceptual divide falls between address and reference terms; reference terms are, with a few exceptions, directly possessed, like ‘father’, ‘mother’, ‘child’, ‘siblings’, ‘spouse’, ‘nephews and nieces’, ‘maternal uncle’, ‘great-grandfather’, ‘grandchildren’, ‘brother in law’, ‘son-in-law’, ‘daughter-in-law’. Address terms that are normally non-possessed may be used as reference terms, they are then indirectly possessed, as in (46b).

- (46) a. *ōā-nu* [GO], *ōō-ny* [PA] ‘my mother, my maternal aunt’
 b. *nyānyā i je* [GO], *nyānyā i ye* [PA] ‘his mum, his maternal auntie’

In the case of ‘mother’, the address term *nyānyā* may be used as a hypocoristic reference term in relation to a child (i.e., ‘where’s his mum?’ rather than ‘where’s his mother?’).

Among former terms of address fully conventionalized as reference terms, some are directly possessed like *caaça* ‘dad, father’ (47a), while others are indirectly possessed like *wha* ‘grandpa, grandfather’ (48a)–(48b). The respective reference terms are directly possessed like *kêê-nu* ‘my father’ and *kibu-nu* [GO] ‘my

grandfather, ancestor’, but their use is restricted to ceremonial speeches when kin relations are reminisced (49).

- (47) a. *caaça-nu* [GO] ‘my father, my dad’
 b. *caaça ênô=ã* ‘this child’s father/dad’ (lit. father child=this)
- (48) a. *wha i nu* [GO] ‘my grandpa/grandfather’
 b. *wha i ênô=ã* ‘this child’s grandpa/grandfather’
- (49) *Gele la kêê-laa m̃ni kibu-laa.*
 be.LOC ART.PL father-POSS.3PL and grandfather-POSS.3PL
 ‘Their fathers and grandfathers were there.’

Similarly, *gèè* ‘grandma, grandmother’, an address term that has become the new reference term,³⁶ is indirectly possessed as *gèè i nu* ‘my grandma ~ my grandmother’; on the other hand, the reference term for ‘grandchild’ is directly possessed, *niila-nu* [GO] ‘my grandchild(ren)’, showing that distinctions are not in terms of the generation gap, nor in terms of distance to *ego*. The same is true of NEL (Bril 2002: 367); Ozanne-Rivierre (1991: 323) discusses similar facts in other Kanak languages.

A possible functional explanation is that an address term is generally not possessed unless it is used or conventionalized as a reference term; it then joins one of the two noun classes, directly or indirectly possessed. The selected class might correlate with the notion of frequency asymmetry (Greenberg 1966), further discussed by Haspelmath (2017: 203), according to which when a split in grammatical form occurs “the less frequent pattern tends to be overtly coded (or coded with more coding material), while the more frequent pattern tends to be zero-coded (or coded with less coding material)”. Frequency might thus explain why *caaça* ‘dad, father’ in ZY is directly possessed, while *wha* ‘grandpa/grandfather’ is indirectly possessed (i.e., with more coding). The indirectly possessed *nyãnyã i je* ‘his mum’ in (47b) does not contradict the frequency asymmetry, since it is in competition with the commonly used reference term *ôã-* ‘mother’, and since the two words retain the coding split. On the other hand, in the case of ‘father’, the address term *caaça* tends to replace the reference term *kêê* which is restricted to ceremonial contexts, and has taken over its usage and its direct coding (see Example (49)). Thus, the split possessive constructions of kinship term in ZY is not based on the semantics of (in)alienability, but on structural properties, distinguishing address terms from reference terms.

There are additional reasons for such splits, some are diachronic, and others are morphosyntactic. For instance, the term referring to the mother’s clan is an

36 In other languages, there are two words for grandmother: in Nyelâyu *gèè* is the address term (Ozanne-Rivierre 1998: 172), the reference term is *wa thaamwa* (lit. grandparent woman).

indirectly possessed deverbal noun (50), while other reference kinship terms on the mother's side are direct, such as the maternal uncle *èvwööni-nu* [GO], *pööni-ny* [PA] 'my maternal uncle'.³⁷

- (50) *a-çabò* *i* *hã*
 AGT-NMLZ-raise PREP 1PL.INCL
 'our maternal kins'

A possible explanation is that the noun *a-çabò* is derived from an intransitive verb,³⁸ and is indirectly possessed (see Section 7). This is a case where morphosyntax drives possessee class assignment.

To summarize, the split observed with kinship terms in ZY mostly correlates with their being either reference or address terms, and with processes of possessee class change, not with the semantics of (in)alienable possession. In Ajië (Houailou, south New Caledonia, La Fontinelle 1972; Lichtenberk 1985a: 125), kinship terms are also split between those that are directly and indirectly marked 'without any clear semantic reason' in Lichtenberk's view; for instance 'mother' is directly possessed, but 'father' is indirectly possessed; 'child' is directly possessed, but 'son' is indirectly possessed.

In Fijian (Geraghty 1983; Pawley and Sayaba 1990) also note some arbitrary splits of kinship terms over two constructions with no clear semantic grounds, which Pawley and Sayaba (1990: 158) explain by the fact that some of these "kinship terms came to be used fairly recently" and were originally names for parts-of-whole.

5 Alternate direct, semi-direct and indirect constructions of parts-of-whole relations

It has been argued that possessee class membership is usually unique in ZY and that alternate possessive constructions are mostly restricted to parts-of-whole (meronymic) relations, to which we now turn. A few nouns occurring in constructions expressing parts-of-whole have (i) direct or semi-direct (with the suffix *-a*) constructions, (ii) semi-direct and classifier constructions, or (iii) semi-direct and indirect constructions with the possessive linkers *ne* ~ *ni* ~ *na*. These alternate constructions depend on the range of conceptual and semantic relations stored in the

³⁷ The paternal uncle (father's brother) is called 'father'.

³⁸ The verb *cabo* means 'rise' (including the sun), 'emerge, appear'.

lexicon for a given lexeme and express different types of relationships and meanings. Importantly, these nouns do not pertain to a distinct possessee noun class from those already presented.

These constructions generally reflect former Proto-Oceanic possessive linkers used for meronymic relations; the semi-direct construction is marked by the suffix *-a*, a now accreted possessive linker that is possibly cognate with POC *ka2, a marker of uncontrolled, subordinate possessive relation (Pawley 1973: 162). For instance, Manam has a reflex *-ʔa* for inalienable constructions in which the possessor is a part or a source of the possessee (Lichtenberk 1985b: 295).

5.1 Alternate direct and semi-direct parts-of-whole relations

Some directly possessed nouns have an alternate semi-direct construction denoting some parts-of-whole or some property of the possessee; they generally express relations of a more transient, more contingent nature than the direct possessive constructions, and they are marked by the suffix *-a* (with the possible insertion of a glide *-(w)* between adjacent vowels).

For instance, *mōlō* ‘life’ is directly possessed as *mōlō-nu* [GO] ‘my existence, my life’, while the constructions with *-(w)a* expresses a distinct type of relation and has a slightly different meaning, as *mōlō-(w)a* ‘way of life’ in (51).

- (51) *Mōlō-(w)a kēē-ā māni kibu-ā.* [GO]
 existence-LNK³⁹ father-POSS.1PL.INCL and grand-father-POSS.1PL.INCL
 ‘The way-of-life of our fathers and grand-fathers.’

Similarly the noun *dou* ‘envelope, moult’ is directly possessed as a body-part in *dou-n* [PA] ‘his (bodily) envelope’, and in *dou pwaji* ‘the crab’s discarded carapace’; but it is marked by the suffix *-a* in *dou-(w)a hēgi* [dowa hē³⁹gi] [GO PA] ‘the casing of the valuables’ referring to a man-made case. Also consider the meronymic relations in (52).

- (52) a. *dra-(w)a yaai* [GO] ‘the ashes of the fire’ (*dra* ‘ash, soot’, *yaai* ‘fire’)
 b. *dra-(w)a dröö* [GO] ‘the soot of the pot’ (*dröö* ‘pot’)
 c. *nhe-(w)a-wō*⁴⁰ [GO] ‘the sail of the boat’ (*nhe* ‘a sail’, *wō* ‘boat’)

In NEL, the suffix *-a* is only used with non-human modifiers (Bril 2013), but Zuanga-Yuanga has no such restriction; the coding split with parts-of-whole is not conditioned by the possessor’s animacy, but by the kind of relation at hand.

³⁹ This possessive “linker” indicates a non-permanent relation between possessee and possessor.

⁴⁰ Compare with the compound *wony nhe* ‘sail-boat’.

5.2 Alternate semi-direct and classifier constructions for parts-of-whole relations

A few nouns have an alternate semi-direct construction or an indirect classifier construction. One such case is *hênu* [GO], *hînu* [PA] ‘image, shadow’ (POc *qanunu ‘shadow, reflection, soul’); its semi-direct construction with a possessive pronominal suffix or a nominal possessor, as in (53a) to (53d), often expresses subordinate, transient parts-of-whole relations or temporary images, reflections, shadows, shades; in (53d) the eye shade is temporary protection for the eye, distinct from the directly possessed body part *ci-mee-nu* [GO] (skin-eye-POSS.1SG) ‘my eye-lid’.

- (53) a. *Nu nōðle hênu-a-je nani vea.* [GO]
 1SG see.TR image-LNK-POSS.3SG LOC glass
 ‘I saw his reflection in the window-pane.’
- b. *hînu-a-ny* [PA]; *hênu-a-nu* [GO]
 image-LNK-POSS.1SG image-LNK-POSS.1SG
 ‘my image, reflection, shadow, photo’ (representing me)
- c. *hînu-a cee* [PA]
 shadow-LNK tree
 ‘the shadow/shade of the tree’
- d. *hênu-a me* [GO]
 shade-LNK eye
 ‘eye shade’ (usually made from a leaf) (*me* ‘eye’)

On the other hand, *hênu* is possessed with the classifier noun *pòi-* which denotes some creation, an image taken by the photographer in (54).

- (54) *Pòi-ny nhye hînu.* [PA]
 CL:child-POSS.1SG this image
 ‘This is my photo.’ (shot by me)

These distinctions are common in Oceanic languages; in Motu (Lichtenberk 1985a: 109), a similar distinction is expressed with a classifier when some form of authorship is implied, and by direct possession otherwise.

- (55) a. *Morea e-na sivarai.*
 Morea CL-POSS.3SG story
 ‘Morea’s story.’ (that he told)
- b. *Morea sivarai-na.*
 Morea story-POSS.3SG
 ‘Morea’s story.’ (about him)

5.3 Alternate semi-direct and indirect constructions of parts-of-wholes

A few nouns, mostly expressing parts-of-wholes, have alternate semi-direct and indirect possessive constructions with the possessive linkers *ne* ~ *ni* (discussed in Section 3.4), expressing different relations and semantics.

Consider for instance the noun *gu* [GO], *gun* [PA, BO] ‘noise, din’; its indirect construction as *gu ne chiò* [GO] ‘the noise of the bucket’ (*chiò* ‘bucket’) refers to a noise caused by some external agent and involving the head noun. On the other hand, a noise inherently emanating from an entity and considered as a part of it, is marked with *-a* as in *gun-a loto* [GO BO] ‘the noise of the car’; it can also be directly possessed as in (56), but the form *gunè-n* might result from the accreted possessive linker *ne* hosting a possessive suffix as in other Kanak languages:

- (56) *Novwö gunè-n*,⁴¹ *e gun whā nhyô*. [PA]
 THEM sound-POSS.3SG 3SG sound be.like thunder
 ‘As for its sound, it sounds like the thunder.’

Accreted linkers are the source of stem allomorphies, some of which were discussed in Section 2.2.4; they are possible causes for changes of possessive constructions and possessee classes.

Metaphorical body-parts were mentioned to be indirectly marked by a linker *ne* ~ *ni* in Section 3.4. Another case is that of *wa* [GO], *wal* [PA] ‘liana, rope, band’, whose semantics extends metaphorically to body-parts meaning ‘tendon, artery, vein, muscle’, indirectly marked by *ne* ~ *ni* as in (57a)–(57b). This stands in contrast with directly possessed compound nouns denoting artefacts or body-ornaments, in which *wa(l)* has its basic meaning ‘rope, band’ as in (58). Metaphorical relations are thus marked as more distant, while non-metaphorical meanings occur in directly possessed compound nouns.

- (57) a. *wa ne hii-nu* [GO]
 rope LNK arm-POSS.1SG
 ‘my arm muscles’
 b. *wa ni bwèèdrò-nu* [GO]
 rope LNK forehead-POSS.1SG
 ‘the vein(s) on my forehead’
- (58) a. *wa-bwèèdrò-li* [GO]
 band-forehead-POSS.3DU
 ‘their head-bands’

⁴¹ Thus from a hypothesized #*gu ne-n* to the PA form *gunè-n* ‘his/her/its noise’.

- b. *wa-hii-je* [GO]
 band-arm-poss.3sg
 ‘his arm’s bracelet’

Similar alternate constructions occur in NEL, between indirectly marked metaphorical body parts in (59a) and the semi-direct possession of body ornaments in (59b).

- (59) a. *wat na bwee-ny* [NEL]
 rope LOC top-poss.1sg
 ‘my veins’
 (Bril 2000: 350)
- b. *war-a bwaa-hli* [NEL]
 band-LNK head-poss.3DU
 ‘their head-bands’
 (Bril 2013: 79)

On the other hand, it is directly possessed when used with its basic sense of ‘rope, liana’:

- (60) [GO] *wa* ; *wazi-nu*⁴² ‘my rope, my liana’
 [PA BO] *wal* ; *wali-ny* ‘my rope, my liana’
 [NEL] *wat* ; *wale-ny* ‘my belt’

To summarize, these alternate direct, semi-direct and indirect constructions and their semantics only occur in parts-of-whole relations and are restricted to a few nouns. They show some correlation between their formal coding and the semantic feature of the relations at hand. The semi-direct constructions with the accreted suffix *-a* tend to express contingent, transient part-of-whole relations, while the indirect constructions with the prepositional linkers *ne ~ ni* express extraneous and metaphorical part-of-whole relations.

6 Constructions of non-possessible nouns

Non-possessible nouns are of interest inasmuch as they trigger specific constructions. They usually pertain to the natural world (stars, sea, etc.), to natural phenomena

42 POC *waRoc ‘rope, vein, tendon’ is reflected by *wal* [PA, BO], *wa* [GO] (no final consonant) and *wat* [NEL]. POC final *-s, *-c* is reflected by /-l/ [PA, BO], and by /-t/ [NEL] which only has final stops. In the possessed form, the consonant is in medial position, and is then reflected as -l- [PA, BO], -z- [ø] [GO], -l- or -r- [NEL] (Bril 2020: 209).

(thunder, storm, etc.), and are also superordinate nouns denoting materials such as *dili* ‘soil’, *cee* ‘wood’, *karòò* ‘coral’, etc. They also include generic human nouns like *égu* ‘person’ or nouns denoting human categories distinguished by age group, like *ēnō* ‘child (by age)’, or by gender like *émwê(n)* ‘male, man’, and specifying some attributes. These nouns usually occur as compound nouns whose possession requires stem repetition.

For instance, *dili* ‘soil’ is non-possessible, only compound nouns like *mwa dili* ‘mud house’ can be possessed by repeating the stem as in *mwa dili mō-nu* (lit. house-mud house-my) [GO] ‘my mud house’ (***mwa-dili-nu* is ungrammatical, so is ***mō-nu dili*).⁴³ The head noun must be repeated, possibly under distinct stems as in the case of *mwa* ‘house’ which is possessed with the stem *mō-* (see Section 2.2.3).

Similarly, since *cee* ‘tree, wood’ is non-possessible, compound nouns like *wō-cee* ‘wooden boat’ can only be possessed by repeating the head noun (***wō-cee-nu* is ungrammatical), as in *wō-cee wōjo-nu* [GO] (lit. boat-wood boat-my) ‘my wooden boat’, here again with the allomorphic possessed stem *wōjo-* (see Section 2.2.2). The noun *phò-cee* ‘load of wood’ must be possessed with the classifier *phò-* ‘load’ as in (61), (***phò-cee-nu* is ungrammatical).

- (61) *phò-nu* *phò-cee* [GO]
 CL:load-POSS.1SG load-wood
 ‘my bundle/load of wood’

By contrast, compound nouns in which the modifier is possessible, like the directly possessed noun *mōã* ‘left-overs’, allow a direct construction as *ke-mōã-nu* [GO] (lit. basket-left.overs-my) ‘my basket of left-overs’.

In ZY, the constructions with repeated stems have a different word order from that of possessive classifier constructions; in repeated stem constructions, the compound noun is followed by the possessed noun stem as in *wō-cee wōjo-nu* ‘my wooden boat’ (compound-N + N-POSSESSOR), while classifier constructions display the reverse order as CL-POSS.SUF + POSSESSEE, as in (61). By contrast, they have the same order in NEL, as shown by the repeated stem construction in (62); these constructions might potentially give rise to new classifiers.

- (62) *Waja-ny* *wany-hnap*.⁴⁴ [NEL]
 boat-POSS.1SG boat-sail
 ‘My sail-boat.’
 (Bril 2013: 72)

⁴³ Compare with the construction in NEL: *mwa-n mwa doo* (lit. house-POSS.3SG house mud) ‘his mud house’ (Bril 2002: 368).

⁴⁴ The NEL compound *wany-hnap* cannot be directly possessed, but requires the repetition of ‘boat’ under its possessed form.

Discussing classifiers in Murityabin (Brinken subgroup, Australia), and repeated forms such as *yeli-melten yeli yikin* ‘my digging-stick (lit. stick+digging-stick stick+my), Corbett (1991: 140) considers such constructions as a possible incipient system of agreement between the classifier and the possessed noun, and a possible incipient gender/agreement system if the form is repeated, for instance onto a possessive adjective or an adjective: “agreement is the means by which gender is realized and it shows great variety, both in the types of element which can carry a gender agreement marker and in the formal means employed.” (Corbett 1991: 143). But in NEL and ZY, these repeated forms are much too sporadic to warrant considering them as an incipient gender agreement system; they simply allow the adnominal possessive construction of non-possessible nouns and are explained by morpho-syntactic reasons.

7 Nominalizations and their adnominal possessive constructions

Deverbal nouns are yet another domain featuring adnominal possessive constructions, in which the participants are encoded as possessors in similar ways as with undervived nouns. In ZY, the common nominalizers are:

- *baa-* deriving instruments: *baa-kido* [PA] (lit. INSTR.NMLZ-drink) ‘bowl, glass’
- *me-* for action nominalization
- *mhenōō-* for locative nominalization
- *a-* for actor/agent nominalization: *a-vhaa* (lit. AGT.NMLZ-speak) ‘chatter-box’.

Instrument nominalizations are derived by *baa-*, as in (63a), in which the derived noun *baa-pe-nhuã* has a direct possessor suffix *-ō* ‘our’ referring to the reciprocal participants. Compare with the verbal construction with coreferential subject and object pronouns in (63b).

- (63) a. *Mō naa mwã nhye khōbwe baa-pe-nhuã-ō.* [GO]
 1TRL.INCL give SEQ this say INSTR.NMLZ-REC-release-POSS.1TRL.INCL
 ‘We then give this to serve as our way of taking leave from each other.’
- b. *Mō pe-nhuã-iō.* [GO]
 1TRL.INCL REC-release-1TRL.INCL
 ‘We release each other.’ (lit. we release us)

Action nominalizations with *me-* and a derived transitive verb are generally impersonal constructions with an unexpressed agent; the patient of the derived

noun is the direct possessive modifier as in (64a), compared with the verbal construction in (64b).

- (64) a. *Whaya me-cimwî pwaji ?* [PA]
 how NMLZ-catch crab
 ‘How are crabs caught?’ (lit. how is the catching of crab?)
- b. *Lha cimwî pwaji.* [PA]
 3_{PL} catch crab
 ‘They catch (the) crabs.’

A similar construction is shown in (65) in Loniu (Admiralties) “where a nominalized transitive verb is directly possessed by its absolutive argument and may also be indirectly possessed by its ergative argument” (Palmer 2008: 136).

- (65) *[ta-ya p^welɛyah] a yo.*
 [catch-NMLZ parrotfish LOC I
 ‘my [area for] catching parrotfish’ (lit. ‘parrotfish’s catching of mine’)
 (Hamel 1994:79, cited in Palmer 2008: 136).

On the other hand, in ZY, deverbal nouns derived from intransitive verbs or from verbs detransitivized by the suffixes *vwo* [GO] ~ *vwu* [PA]⁴⁵ take the actor as their possessive modifier. Interestingly, the actor modifier is indirect (*i çö*) in GO (66), but it is directly marked by a possessive suffix *-n* in PA (67), a probable consequence of the fact that the detransitivizer *vwu* has preserved nominal properties and a possessive suffix, which are lost in GO, thus favoring the indirect possessor marking in GO.

- (66) *Kavwö nu tröne-kaamweni me-nee-vwo i çö.* [GO]
 NEG 1_{SG} hear-understand NMLZ-DO-DETR PREP 2_{SG}
 ‘I do not understand your way of doing (things)’.
- (67) *Yala xa poo xa whaya me-nee-vwu-n.* [PA]
 name DET thing also manner NMLZ-DO-DETR-POSS.3_{SG}
 ‘It’s the name of something and also of his manner of doing (things).’

The possessive constructions of deverbal nouns correlate with diathetic alternations promoting and encoding either the actor (of intransitive verbs) or the patient (of transitive verbs) as the prime possessor. Similar constructions occur in Nêlêmwa⁴⁶ (Bril 2002: 375–377, 2013: 83–84).

⁴⁵ These detransitivizing morphemes probably originate from the noun *po*, *pu* ‘thing’.

⁴⁶ In NEL, the NMLZ prefixes are *baa*- instrument, *u*- action NMLZ, *hna*- locative NMLZ, *aa*- actor/agent NMLZ.

Nominalized stative and intransitive verbs occur (i) with direct possessive constructions (68a)–(68b), (ii) with the semi-direct *-a* marker (69)–(71), or (iii) with indirect possessors (72)–(73). In (68a), the possessive suffix denoting the experiencer is directly suffixed, in (68b) the adnominal possessor *mō-xabu* is also direct.

- (68) a. *Me-khinu-je* [GO]
 NMLZ-sick-POSS.3SG
 ‘his suffering/disease’
 b. *Haze me-trabwa mō-xabu.* [GO]
 different NMLZ-sit house-sacred
 ‘The shape of the temple is different/strange.’

On the other hand, temporary properties of nouns derived from stative verbs may be marked by the semi-direct *-a* construction of uncontrolled possession, denoting for instance some container-contained relation as in (69)–(70) or some transient property as in (71).

- (69) *Mhenōō-yuu-(w)a kāgu êgu māla mā.* [GO]
 NMLZ-stay-LNK spirit person these.PL dead
 ‘The dwelling of the spirit of the dead people.’
 (70) *Me-kinu-(w)a nō mwa.* [GO]
 NMLZ-warm-LNK interior house
 ‘The warmth inside the house.’ (lit. the warmth of the interior of the house)
 (71) *Nōōli me-phû-(w)a dònò.* [GO]
 look.TR NMLZ-blue-LNK sky
 ‘Look at the blue of the sky !’

The following stative deverbal nouns denoting a property are indirectly marked by *i* (+animate possessor), *(x)o* or *(w)o* with inanimate possessors.

- (72) a. ... *pune me-piça (x)o/(w)o bwaa-je.* [GO]
 cause NMLZ-hard PREP head-POSS.3SG
 ‘...due to his stubbornness.’ (lit. due to the toughness of his head)
 b. *Me-yuu i je.* [GO]
 NMLZ-stay PREP 3SG
 ‘his way of life’ (lit. way of staying).
 (73) *Kavwō nu trōne-kaamweni me-vhaa i la.* [GO]
 NEG 1SG hear-understand NMLZ-speak PREP 3PL
 ‘I do not understand their speeches/words.’

To sum up, deverbal nouns derived from intransitive and stative verbs may occur with the semi-direct *-a* construction denoting transient properties, or with indirect possessive construction, while nouns derived from two-argument verbs have the direct and indirect possessive patterns.⁴⁷

8 Spatial nouns and their adnominal possessive constructions

Nouns denoting spatial relations (under, above, to the side of, in the middle of, etc.) are directly possessed; some of these span into time relations. Some are bound nouns with the CST *-n* suffix in PA and BO (like *murò-n*, *hulò-n*, *bala-n*, *gòò-n* in (74a) to (74d)).

- (74) a. *murò-n* [BO] ‘behind, after him’ (‘its hind part’)
 b. *hulò-n* [BO] ‘the endpoint, extremity’ (of a long or high object)
hulò de [GO] ‘the end of the road’, *hulò cee* [PA] ‘the top of the tree’
 c. *bala-n* [PA] ‘extremity, endpoint’
bala-khò [PA] ‘the limit of the ploughing’ (where one stopped)
bala-pho [GO] ‘the limit of the weaving’ (where it is interrupted)
 d. *gòò-n* [PA BO], *gòò* [GO]
ni gòò-n [PA] ‘in its middle’

Some of these locative nouns have personal possessors: *gòò-ny* [PA] ‘my waist’; *kòlò-nu* [GO], *kòlò-ny* [PA] ‘at my place, at home’. Some originate in and are semantic extensions of body-parts, like *bwa* ‘head’, *kaça* ‘hind part’ (75a), *kai* ‘back’ (75b).

- (75) a. *E phu kaça-je!* [GO]
 3SG fly back-POSS.3SG
 ‘He flies behind him.’
 b. *Ge je kai-nu.* [GO] ~ *Ge je kai-ny.* [PA]
 be.LOC 3SG back-POSS.1SG be.LOC 3SG back-POSS.1SG
 ‘He is behind me, after me’ (lit. he is back-my)

These locative nouns may combine to denote sub-parts of body parts, for instance:

⁴⁷ See Palmer (2008: 131–137) for an analysis of the possessive constructions of nominalizations in various Oceanic languages.

- (76) *bwa-xaça hii-je* [GO] (lit. top-back hand-his) ‘the back of his hand’
bwa-xaça kòò-je [GO] (lit. top-back foot-his) ‘the top of his foot’ (vs. the sole).

9 Quantifier nouns and their adnominal possessive constructions

As in Nêlêmwa (Bril 2002: 391–396), quantifier nouns expressing parts-of-whole relations (e.g., a part of, amount of, the whole of) have direct or indirect possessive constructions, depending on their possessee class. No construction with the suffix *-a* was found.

Among directly possessed quantifiers, some are bound nouns displaying the CST *-n* in PA, BO (lost in GO): e.g., *mhava-n* [PA], *mhava* [GO] ‘piece, part of’ in (77a); *ābaa* ‘some’ (77b); *kôgò-n* [PA BO] in (78); *jiu-n* ‘the whole’ [PA] in (79).

- (77) a. *mhava gò* [PA] ‘a piece of bamboo’ (*gò* ‘bamboo’)
 b. *ābaa-laa* [GO] (lit. some-poss.3PL) ‘some of them’

- (78) *Gaa mwêênò kôgò-n* ^{a48} *hovwo.* [PA BO]
 still remain left-over-CST^{EP} food
 ‘There is still left-overs of food.’

- (79) *Kavwö nu khôbwe jiu-n.* [PA]
 NEG 1SG say whole-CST
 ‘I haven’t said the whole of it.’

The quantifier noun *phavwu* [GO] ‘numerous’ is an indirectly possessed noun: *phavwu i la* ‘they are in great number’ (lit. a great number of them).

10 Modal nouns and their adnominal possessive constructions

As in Nêlêmwa (Bril 2002: 229–239), various nouns encode some modalities listed in Table 4. All are directly possessed nouns; they are bound nouns occurring with the absolute suffix *-n* in PA and BO, with the absolute suffix *-t* in NEL, and with the absolute suffix *-r* in Nyelâyu (YAL) (Ozanne-Rivierre 1998: 37).

48 The vowel is epenthetic and avoids having two consonants in contact.

Table 4: Modal nouns in some northern Kanak languages.

	GO PA BO	NEL	YAL
Measure, ability, possibility'	jaxa-(n)	jaxa-t	jaxa-r
Will, heart, desire	ai-(n)	awa-t	ayua-
Load, duty, mission	phò-	fha-t	phaa-r
Mission, duty	nobwò-	hnabwa-t	maalâ-
Interdiction	kêbwa	khera-t	

As a modal noun, *jaxa-n* [PA BO], *jaxa-* [GO] ‘size, measure’ expresses ability (80a) and epistemic meaning (80b); the possessive pronoun refers to the argument endowed with the ability to act (80a) or to the argument possibly affected by the event (80b); the possessive pronoun may be ellipted if referential as in (80b).⁴⁹ These modal nouns may function as predicates often heading complement clauses marked by the conjunctions *vwö* (80) or *na* (84a).

- (80) a. *Kavwö jaxa-je vwö e zòò.* [GO]
 NEG measure-POSS.3SG CONJ 3SG swim
 ‘He can’t swim.’ (lit. it is not his measure to swim)
- b. *Za jaxa-(laa) vwö lha za mǎ!* [GO]
 ASS measure-(POSS.3PL) CONJ 3PL ASS die
 ‘They could/might have died.’

Ai-n ‘heart, will, desire’, expresses a wish as in (81a)–(81b) and heads a complement clause. The possessive pronoun refers to the experiencer of the wish.

- (81) a. *Ai-nu vwö pe-mhe-ò.* [GO]
 will-POSS.1SG CONJ REC-stroll-POSS.3TRI
 ‘I’d like us to go together.’
- b. *Ai-m da? – Ai-ny u nu a.* [PA]
 will-POSS.2SG what? will-POSS.1SG CONJ 1SG leave
 ‘What do you want? – ‘I want to leave.’

The noun *phò-n* ‘load’, also used as a possessive classifier, also means ‘mission, duty’ by metaphoric extension as in (82a)–(82b), and it has some deontic meaning, as in (82c), where no ambiguous notion of carried load is involved.

⁴⁹ *Jaxa-* also means ‘enough’ in some contexts such as *gu jaxa!* [GO] ‘it’s enough!’ (lit. truly the measure).

- (82) a. *Novwö phò-je na xòlò Treã-ma ça a-phe-fhaa.* [GO]
 as.for load-POSS.3SG LOC side chief-ASSOC TPC NMLZ-carry-speech
 ‘As for his mission towards the chief, it’s to be the messenger.’
- b. *Da nye phò-çö nani jenã ?* [GO]
 what? that load-POSS.2SG LOC that
 ‘What are your meddling in that for?’ (lit. what’s your duty in that?)
- c. *Phò-m^a tha kui.* [PA]
 load-POSS.2SG^{EP} dig.up yam
 ‘You have to dig up yams.’ (lit. your duty is that?)

The noun *nobwò*- ‘task, duty’ [GO] can also have deontic usage:

- (83) *Nobwò-nu vwö nu na cee-je mōñō.* [GO]
 duty-POSS.1SG CONJ 1SG give starch.food-POSS.3SG tomorrow
 ‘I must (lit. my duty is to) give him starch-food tomorrow.’

The noun *kêbwa-n* is a negative deontic modal noun expressing interdiction.

- (84) a. *Kêbwa-n na jo po khôbwe mwã.* [PA BO]
 ban-CST COMP 2SG ATTEN say ASS
 ‘You mustn’t say anything at all.’
- b. *Kêbwa ubò pwaá !* [GO]
 ban exit.house outside
 ‘Don’t go outside !’

11 Conclusions

It has been argued that direct and indirect possessive constructions in ZY show some broad but inconsistent correlation with the semantic notions of (in)alienability and that the terms (in)alienable are best considered as labels for structural types of possessive marking (i.e., direct or indirect), but they do not provide a fully predictable semantic characterization of possession.

This claim is supported by the fact that nouns denoting kinship and, to a lesser degree, body parts, are split over the two types of constructions; the split for kinship terms is between reference and address terms, not according to semantic notions such as close versus distant kinship types. The split for body-part nouns is between directly possessed dedicated body terms and indirectly possessed metaphorical body terms, the former being the most common. Apart from the directly and indirectly possessed noun classes, another smaller class of nouns contains those that are indirectly possessed with classifiers, and an even smaller one is that of non-possessible nouns which require stem repetition when they occur in possessed noun compounds. Despite some stem allomorphies attributable to diachronic processes

(discussed in Section 2.2), direct possessive constructions are fairly straightforward, and so are indirect constructions.

Nouns usually belong to a unique possessee class, direct, or indirect; alternate possessive constructions are mostly restricted to parts-of-whole (meronymic) relations, some of which may have direct and indirect constructions expressing different types of relations and distinct meanings. Indirect part-of-whole constructions with the possessive linkers *ni ~ ne* denote extraneous or metaphorical relations. A few directly possessed nouns may have an alternate semi-direct construction marked by the accreted possessive linker *-a*, expressing a more transient or contingent part-of-whole relation than the one expressed by the direct construction.

In other Oceanic languages with similar constructions, these alternate constructions with different meanings are rightly called associative possessive relations by Lichtenberk (2001) and relational constructions by Pawley and Sayaba (1990: 169).

As in ZY, possessed nouns belong to fairly rigid classes in Xârâcùù (south New Caledonia, Moysse-Faurie 1995: 21), but not all Oceanic languages share this feature, in Manam (Lichtenberk 1985b), many nouns have direct or indirect possessive constructions with semantic differences (inherent vs. contingent), independently from possessee noun classes.

As shown in Table 5, the direct and indirect possessive constructions are the most common, also reaching into the domain of quantifier nouns; on the other hand, modal and spatial nouns only belong to the class of directly possessed nominals. The semi-direct *-a* construction occurs in parts-of-whole relations and for possessed deverbal nouns derived from intransitive and stative verbs.

Table 5: Types of possessive adnominal constructions in ZY: A summary.

	DIRECT	INDIRECT	SEMI-DIRECT with <i>-a</i>
Directly possessed nouns	+		
Indirectly possessed nouns		+	
Possessive classifiers	Hybrid: directly possessed CLASS, indirectly possessed noun		
Body-parts	+	Metaphorical terms	
Kinship	Reference terms	Address terms	
Meronyms (varying with possessee's class or relation)	+	+	+
Nominalizations	+	+	Intrans. & stative verbs
Spatial nouns	+		
Quantifier nouns	+	+	
Modal nouns	+		

Linguistic change reshapes systems and re-assigns nouns within possessee classes, sometimes causing depletion or loss of some of these classes. For instance, the loss of all final consonants in GO resulted in the loss of bound nouns in that lect; besides, the loss of the original pronominal possessive suffixes in GO also tends to blur possessee class distinctions in this lect. This highlights the role of morpho-syntactic factors in class (re)assignment, which may lead to structural reorganization and to fading correlations with (in)alienability distinction, even though, as often noted, the direct ~ indirect dichotomy in Oceanic languages may have been semantically based. Language change within the ZY lects, and more broadly among the other northern Kanak languages, also results in divergent class reassignment of some nouns, as illustrated by the noun ‘blood’ which is directly possessed in ZY and Nyelâyu, but indirectly possessed in NEL.

Taking a broader Austronesian perspective, the structural direct ~ indirect dichotomy and its (in)alienability correlation is an innovation found in Oceanic languages, with some precursors in Eastern Indonesia and in some Eastern Malayo-Polynesian languages of South Halmahera and West New Guinea (Donohue and Schapper 2008: 318–319), but it is lacking in many western Austronesian languages. Among Oceanic languages, these possessive systems undergo ongoing changes, innovations and losses, a sign of their plasticity.

Abbreviations

ASS	assertive
ASSOC	associative
ATTEN	attenuative
CST	construct suffix
CL	classifier
CONJ	conjunction
CONT	container
DET	determiner
DETR	detransitivizer
DU	dual
DYA	dyadic marker
EP	epenthetic vowel
EXS	existential verb
FR	free pronoun
INCL	inclusive
INTR	intransitive
LOC	locative
NEG	negation
NMLZ	nominalization
POSS	possessive

PREP	preposition
REC	reciprocal
REL	relative marker
TPC	topic
TR	transitive
TRI	trial

Acknowledgments: I wish to thank Françoise Rose, An Van linden and two anonymous reviewers for their insightful comments and suggestions that led to the present structure of this article.

Research funding: This research is supported by the LACITO-CNRS, and the research strand 3 “Typology and dynamics of linguistic systems” of the Labex EFL (Empirical Foundations of Linguistics) (ANR-10-LABX-0083/CGI).

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Beyond alienability: factors determining possessive classes in Piaroa

<https://doi.org/10.1515/ling-2022-0017>

Received February 3, 2022; accepted September 2, 2023; published online November 2, 2023

Abstract: This article focuses on possession marking in Piaroa, a Jod̄i-Sáliban language spoken along the Middle Orinoco River on the Venezuelan-Colombian border. Based on a corpus of first-hand fieldwork data and building on previous descriptions of Piaroa possession, I show that Piaroa nouns can be divided into four main possessive noun classes based not only on the alienability (i.e., obligatorily possessed vs. optionally possessed) contrast but also based on construction types (i.e., directly possessed vs. indirectly possessed). This article thus contributes to our crosslinguistic understanding of possession constructions and possessive noun classes by showing that alienability is not a sufficient criterion to account for the different possessive classes and splits in Piaroa adnominal possessive constructions, which require positing two concurrent but distinct systems of possessive classification.

Keywords: alienability; genitive classifiers; (in)direct possession; Jod̄i-Sáliban; Piaroa; possession

1 Introduction

This article focuses on possession marking in Piaroa, a Jod̄i-Sáliban language spoken along the Middle Orinoco River on the Venezuelan-Colombian border. The main goal of the article is to show that a language can have concurrent systems of possessive classification for which the alienability contrast is but one determining factor. In particular, I show that Piaroa nouns can be divided into possessive classes based not only on the alienability (i.e., obligatorily possessed vs. optionally possessed) contrast but also on construction types – directly versus indirectly possessed –, revealing a complex interplay between alienability and (in)direct possession as two partially overlapping systems of possessive nominal classification. This article thus contributes to our crosslinguistic understanding of possession generally and of possessive classes more specifically by showing that alienability is an important but not

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sufficient criterion to understand the Piaroa possessive classes which are determined by two different classification systems.

The data used here come primarily from an ongoing documentation project carried out in collaboration with the Piaroa community of Babel (Cataniapo River area, Amazonas state, Venezuela) since 2016. In an effort to illustrate the different possession patterns through actual language use, I favor naturalistic examples drawn from texts and all examples are followed by an indication of their provenance (see Footnote 7). However, some elicited examples are used in order to provide negative evidence and to fill gaps in the corpus; these are clearly flagged as such. Where relevant, I also discuss the data and my analysis in light of previous descriptions of Piaroa possession (Krute 1989: 81–95; Mosonyi 2000: 660–661, 2002: 94) and propose revisions to those descriptions, especially regarding the genitive classifiers.¹

The article is organized as follows. In Section 2, I provide a brief introduction to the domain of “possession” and associated concepts while in Section 3, I offer a general profile of the language, discussing briefly the sociolinguistic situation of the language, existing prior work, and some relevant grammatical properties of the language. I then present the different possession marking strategies used by Piaroa speakers in Section 4 and focus on the encoding of inalienable possession (Section 4.1) and alienable possession (Section 4.2) with animate possessors. Given the variation in strategies to encode alienable possession, I present the two main strategies separately: prefixation in Section 4.2.1 and genitive classifiers plus prefixation in Section 4.2.2. These three different adnominal possession constructions are summarized in Section 4.3. Finally, I conclude the article in Section 5 with a discussion of the interplay between alienability and possessive classes in Piaroa.

2 Prior research on possession

Possession, the grammatical encoding of ‘ownership’ and other semantic notions such as part-whole and kinship relationships that can obtain between two nouns, has long been recognized as an important source of crosslinguistic variation and as such, it has received substantial attention in the literature, with several excellent book-length surveys available on possession as a whole as well as on specific

¹ While the description of the Piaroa possession constructions presented here relies on this prior work (especially Krute [1989]) to some extent, it goes beyond them in at least three important ways. First, the naturalistic data used here is starkly different from the primarily elicited data in prior work and allows for a more complete and nuanced description of the system. Second, prior work has not engaged with the expression of the possessor or with inanimate possessors, which I do here. Third, I propose revisions to prior descriptions of the genitive classifiers, which I also show to be RELATIONAL and, in two cases, to have plural forms.

aspects of it such as the encoding of (in)alienability (Aikhenvald and Dixon 2013; Baron et al. 2001; Chappell and McGregor 2011 [1995]; Heine 1997; McGregor 2009). An in-depth review of this and other prior literature is beyond the scope of this article; however, in this section, I draw on this body of research to outline the main concepts in this domain that are directly relevant to the discussion of Piaroa possession constructions that follows.² In particular, I focus on the notions of POSSESSIVE CLASSES, OBLIGATORY- VERSUS OPTIONALLY POSSESSED NOUNS, DIRECT/INDIRECT POSSESSION, (IN)ALIENABILITY, and GENITIVE (OR POSSESSIVE) CLASSIFIERS. These notions are all exemplified in this section by means of North Ambrym (Oceanic) data from Franjeh (2012), since 1) Oceanic-type possession systems make use of the different semantic and grammatical distinctions and constructions relevant to the discussion of Piaroa possession – although as I show below there are important differences between the Piaroa possession system and Oceanic systems – and 2) these systems are well-known in the typological literature on possession thanks to the work of Lichtenberk (1983, 1985, 2009) and others.³

Nichols and Bickel (2013a) define POSSESSIVE CLASSIFICATION as a contrast between two or more types of possessive constructions that are lexically “conditioned not by properties of the possessor but **by the possessed noun**, i.e., by the head noun in the construction” (emphasis in the original, JERL). A common distinction that many languages make, they argue, is one between OBLIGATORILY POSSESSED NOUNS and OPTIONALLY POSSESSED ones. In North Ambrym, kinship terms and body-part terms as well as some other nouns are obligatorily possessed; in other words, they cannot occur without a possessor. This is exemplified in Example (1) for the noun for ‘mother’. The possessor can be encoded via a suffix that attaches directly to the possessed noun as in (1a) or by juxtaposing the possessor noun and the possessee noun in a POSSESSEE-POSSESSOR construction as in (1b) but crucially, the noun for ‘mother’ cannot occur by itself without a possessor as (1c) shows. For this reason, nouns that behave like ‘mother’ are considered BOUND nouns in North Ambrym. Both the possessive constructions they enter into are considered instances of DIRECT POSSESSION since the possessive suffix in (1a) attaches directly to the noun.⁴

2 The reader can also consult Rose and Van Linden (this issue) for an overview of prior literature on the notion of ALIENABILITY specifically.

3 Data could have been drawn from some of the foundational literature on Oceanic possession but in this literature, the direct possession construction is often only superficially mentioned. Using North Ambrym data also has the advantage of allowing for the use a single language to illustrate all the needed distinctions.

4 It is perhaps less obvious how (1b) constitutes an example of direct possession but the argument lies in that the possessor noun has to occur immediately adjacent to the possessed noun.

- (1) North Ambrym (Oceanic)
- a. *rahe-ng*
mother-1SG
'my mother'
 - b. *rahe John*
mother John
'John's mother'
 - c. **rahe*
mother
Intended: 'mother'
(adapted from Franjieh 2012: 219)

These North Ambrym nouns contrast with nouns that are optionally possessed and which cannot occur in the same possessive constructions exemplified in (1). As the examples in (2) show, this other class of nouns, which includes animals, foods, and other semantic classes as summarized in Franjieh (2012: 244), can occur as FREE nouns and when in a possessive construction, they require a third element that acts as a link between the possessor and the possessee. In this second construction, it is this 'linking element' and not the possessed noun that serves as the host to the possessor suffix as in (2a) or occurs next to the possessor noun as in (2b). Due to the obligatory presence of this additional element, these constructions are considered instances of INDIRECT POSSESSION.

- (2) North Ambrym (Oceanic)
- a. *a-n to*
CL-3SG fowl
'his fowl'
 - b. *bàrrbàrr a Massing*
pig CL Massing
'Massing's pig'
(adapted from Franjieh 2012: 232)

The 'linking elements' used in the North Ambrym indirect possession construction are known in the Oceanic literature as POSSESSIVE CLASSIFIERS OR AS RELATIONAL CLASSIFIERS – see for instance Lichtenberk (1983, 1985, 2009).⁵ In addition to the *a* classifier in (2), the language has four other classifiers, namely *ma*, *to*, *bo*, and *mwena*, all of which are used in this type of construction. The difference among these five classifiers lies in that they encode different semantic characteristics of the possessee and its relationship with the

⁵ Although Franjieh (2012, 2016) calls these "indirect possessive hosts" and Bickel and Nichols (2013) call them "possessive nouns" or "possessive classifier nouns".

possessor (see Franjeh [2012: 244] for a summary); for instance, the *a* classifier in (2a) is used for food items, tools, units of time and some kinship terms.

In Nichols and Bickel's (2013a) terms, North Ambrym can thus be categorized as a language with two POSSESSIVE CLASSES, one of which can be said to have different subclasses. The first class includes the noun 'mother' and nouns that behave similarly to 'mother' in being bound and obligatorily possessed and in occurring in a direct possession construction. The second class includes nouns like 'fowl' and 'pig' and all other nouns that are free and optionally possessed and occur in indirect possession constructions.

Three further characteristics of the North Ambrym possessive system (and of Oceanic languages more generally) are worth discussing here, especially as they relate to the terminological decisions made for the discussion of the Piaroa possessive system analyzed in this article. Firstly, the two North Ambrym possessive classes are, according to Franjeh (2012), closely linked to ALIENABILITY, a notion that is difficult to define on its own but which is often tied to a formal distinction in the encoding of a possessive relationship (Chappell and McGregor 2011 [1995]; Haspelmath 2017; Nichols 1988). Franjeh (2012) categorizes obligatorily-possessed nouns in North Ambrym as INALIENABLE and the optionally-possessed ones as ALIENABLE, claiming that the former are "possessed referents that are deemed to be inalienable possessions of the possessor" (2012: 225). This conflation of obligatorily- and optionally-possessed nouns with (semantically) alienable and inalienable nouns is also found elsewhere in the literature on possession in Oceanic and other languages (see for instance Nichols [1988]) but it is important to bear in mind, as Bickel and Nichols (2013) note, that alienability is a semantic property that gets encoded through obligatory versus optional possession marking. In what follows, I do use the terms alienable and inalienable as shorthand for obligatorily possessed versus optionally possessed but add the word 'grammatically' to these terms to make the distinction clear. Secondly, the classifiers used in indirect possessive constructions in North Ambrym and other Oceanic languages are said to be RELATIONAL. This is because they arguably serve to encode not only semantic properties of the possessed noun but also the relationship between the possessor and the possessee. Aikhenvald (2013: 20–27) claims that there is a distinction between RELATIONAL CLASSIFIERS and POSSESSIVE (GENERIC) CLASSIFIERS, arguing that the former "categorize the relationship between the two nouns [possessor and possessee, JERL]" while the latter "categorize the possessee" but do not "necessarily categoriz[e] the way in which the P[ossessor] is using or possessing the P[ossessee]" (2013: 20, 24).⁶ Aikhenvald (2000, 2013) thus maintains that relational

6 In earlier work, Aikhenvald (2000) distinguished between *relational classifiers* and what she termed *possessed classifiers*, adding a third type of classifier – namely *possessor classifiers* – used in possessive constructions to categorize the possessor and which she claimed were limited in their distribution to Naduhup languages. As Epps and Obert (2022: 14) argue, the Naduhup morphemes discussed in Aikhenvald (2000) as possessor classifiers "are not productively understood as nominal classification".

classifiers are almost exclusively a feature of Oceanic languages but can also be found in a few South American languages such as Kipeá (Kipeá-Karirí) and Baniwa of Içana (Awarak) (Aikhenvald 2000: 133). Both types of classifiers, if such a distinction in fact holds, have also been called *GENITIVE CLASSIFIERS* by Carlson and Payne (1989) and by Grinevald (2000), a term I adopt here for the Piaroa classifiers that occur in possessive constructions (and which I show below to have relational semantics). Finally, North Ambrym treats human animate possessors differently from non-human animate and inanimate possessors in having two distinct third singular pronominal suffixes: *-n* for human animates and *-te* for non-human animates and inanimates. This is shown here in (3). The forms for ‘mother’ in (3a) and (3b) illustrate the difference between third singular human animate possessors – marked with *-n* – and non-human animate possessors – marked with *-te*; (3c) shows that inanimate possessors, like non-human animate possessors, are also marked with *-te*.

- (3) North Ambrym (Oceanic)
- a. *rahe-n*
mother-3_{SG}
‘his mother’
 - b. *rahe-te*
mother-3_{SG.NH}
‘its mother’ (of an animal)
 - c. *wo-te*
fruit-3_{SG.NH}
‘its fruit’ (of a tree)
- (adapted from Franjeh 2012: 249–250)

While differences in the encoding of different types of possessors in a possessive construction is not generally considered to be part of possessive classification (see the definition by Nichols and Bickel (2013a) quoted above), it is an important parameter along which possessive constructions can vary and which often reflects the fact that prototypical possessors tend to be human, specific and referential (Aikhenvald 2013; Heine 1997; Taylor 1989). These are called *POSSESSOR-DETERMINED SPLITS* by Haspelmath (2017: 197), who distinguishes them from *POSSESSEE-DETERMINED SPLITS* like the so-called *ALIENABILITY SPLIT*, which depends on the alienability of the possessee.

As will be shown below, Piaroa not only encodes animate versus inanimate possessors differently (a possessor-determined split) but also exhibits an alienability split in that some nouns are obligatorily possessed while others are only optionally so. Importantly, there is a third split based on whether a possessee noun with an animate possessor enters into a direct versus an indirect possessive construction and this split is not co-extensive with the alienability split. This is unlike Oceanic languages where obligatorily-possessed nouns occur in a direct possession construction

while optionally-possessed ones occur in an indirect possession construction. More specifically, some Piaroa optionally possessed (or *alienable*) nouns can be directly possessed while others are not, thus making the alienability contrast an insufficient criterion for determining possessive classes in Piaroa. Before delving into Piaroa possession constructions to provide support for this claim, a brief introduction to the language and the data is given in the following section.

3 General profile of the language

Piaroa [ISO 639-3: pid; Glottocode: piar1243] is a Jodí-Sálíban language; most closely related to Mako, it is also related to Sálíba and Jodí (Rosés Labrada 2016, 2019). This South American language is spoken on both sides of the Middle Orinoco River in present-day Venezuela and Colombia. The 2011 Venezuelan census reports 16,380 Piaroa speakers out of a total population of 17,384 Piaroa people ages 3 and older (Instituto Nacional de Estadística 2016), while the 2018 Colombian census reports 784 speakers out of a total population of 938 Piaroa people (Departamento Nacional de Estadísticas [DANE] 2020). These numbers also indicate that the language is relatively vital in both countries, as it is spoken by the majority of the Piaroa population. There is, however, pressure from the majority language (i.e., Spanish) and the disruption of traditional life since the mid-20th century has led to an interruption in the transmission of traditional ecological knowledge as well as shamanistic knowledge, including knowledge of special genres of the language (Zent 2001, 2009).

While there has been a significant amount of anthropological work on Piaroa culture and traditions carried out over the last 70 years or so, linguistic description of the language has remained relatively shallow until recently, with most of the previous work relying primarily on elicitation data based on translation from Spanish. Prior descriptions include Krisólogo (1976), Federmann (1978), Remiro (1988), Krute (1989), Caula (1999, 2001), Mosonyi (2000, 2002) and Rosés Labrada (2018). More recently, however, additional descriptive work – see, for instance, Rosés Labrada (2021, 2022) – has started to draw on naturalistic examples from narratives and interviews that are part of an audiovisual corpus of the language created with the assistance of Piaroa-speaking members of the Babel community in Venezuela. The examples used in this article are also primarily drawn from naturalistic speech included in said documentary corpus, with elicited examples used only sporadically.

There are three important properties of Piaroa grammar to discuss here as they will be relevant to the discussion of possession and alienability that follows. First, Piaroa nouns are divided into two classes based on grammatical animacy – defined here as the grammatical encoding of semantic animacy. Animate nouns are indexed on the verb – e.g., *chãdq* ‘my grandmother’ is cross-referenced with the prefix *k-* /k^h-/ ‘3SG.F’

on the verb in (4)⁷ – while inanimate ones are not – *kāry’cuppa* ‘wind’ in (5) is not cross-referenced on the verb. These examples illustrate the grammatical animacy-dependent difference in marking for an S argument (single argument of an intransitive verb) but the same difference in coding holds for A arguments.⁸

- (4) *chāda* *topu* *kicha’a*
 tʃ-æd-ã to-p-u k^h-iʃ-aʔa
 1SG-grandparent-FEM see-CLS2-NFIN 3SG.F-come-TAM₂
 ‘mi abuela ha venido a ver’
 ‘my grandmother has come to see’
 (Babel040:131)
- (5) *kāry’cuppa* *riāna* *icha’a*
 k^hæruk’u-p^ha rī-ænæ iʃ-aʔa
 wind.before.rain-CL:WIND be.big-ADV? come-TAM₂
 ‘viene bastante viento de lluvia’
 ‘a big rainy wind is coming’
 (Babel040:205)

7 All original examples are presented in a five-line format. The first line represents the word or utterance in the community orthography, the second line provides a transcription in the International Phonetic Alphabet (IPA) and morphological segmentation, the third line provides the glosses, and lines 4 and 5 provide a Spanish and English translation, respectively. Examples from narratives are followed by the name of the session and the number of the relevant intonation unit(s), for instance, Example (4) comes from intonation unit #131 in the Babel040 session. By contrast, examples obtained via elicitation are followed by the word “Elicited”. Examples from Krute (1989) are presented in a three-line format and the original Americanist transcription has been adapted to the IPA, with Krute’s permission. Abbreviations follow the Leipzig Glossing Rules (LGR); for those abbreviations that are not included in the LGR, a list is given at the end of the article. Distinct morphemes with identical glosses are distinguished with subscript numerals – i.e., ADV₁, ADV₂, etc. A question mark instead of a gloss means that I do not have an analysis for a given morpheme at this stage and a question mark after a gloss means that this is a proposed analysis but one that requires further research. The audio and video for all naturalistic speech examples used here are available on the Endangered Languages Archive at <http://hdl.handle.net/2196/b68d7b6d-5d90-47ff-a82c-54172ea342f9>.

8 See Rosés Labrada (2018) for additional details about Piaroa subject marking and Rosés Labrada (2013, 2016) and Estrada Ramírez and Rosés Labrada (2021) for details about subject marking in Mako and Sáliba, respectively. A reviewer asks about whether this animacy distinction is also valid for O arguments – i.e. the most patientive argument of a transitive verb. The answer is less straightforward in that the language exhibits Differential Object Marking. Specifically, animate O arguments are not indexed obligatorily on the verb but can be optionally indexed if animate (see Example (10) below); expressed animate O arguments can also be optionally marked with an object case suffix *-ru* ~ *-ry* / *-ru* ~ *-rũ*. Examples (46) and (50) serve to contrast an inanimate O argument and an animate one with respect to case marking.

This animacy distinction is also present in other parts of the grammar. For example, grammatically animate nouns can be pluralized by the plural suffixes *-tō* (e.g., *āhuiri* ‘dog’ vs. *āhuiritō* /*æwirĩ-tĩ*/ ‘dogs’) or *-mu* (e.g., see the word for ‘child’ in (23)), and occur with the animate negative existential verb *to-*. Inanimate nouns, on the other hand, are pluralized by the suffix *-iyä/-iyö* or by the construction *o-cl*, and occur with the inanimate negative existential verb *juiy-* (see Rosés Labrada [2021, forthcoming] for additional details).

Second, grammatically animate nouns are further subdivided into masculine and feminine. These two genders can be encoded by:

- (a) a gender suffix on certain bound noun roots: *-a* ‘FEM’ versus *-o* ‘MASC’ (cf. ‘grandmother’ in (4) and ‘grandfather’ in (15)),
- (b) distinct person pronouns for a third singular masculine (*jay* or *chu*) versus a third singular feminine (*yaju* or *juāju*) animate referent
- (c) a gender-specific animate singular classifier on certain verb forms to encode subjects: masculine classifier *-q* versus feminine classifier *-āju*,
- (d) the nominal possessive prefixes for third person singular (see below), and
- (e) the subject markers for third-person singular
 - (i) prefixes $\emptyset(V)$ - ‘3SG.M’ versus *k(V)*- ‘3SG.F’ for Class I verbs or
 - (ii) suffixes $-\emptyset$ ‘3SG.M’ versus *-k* ‘3SG.F’ for Class II verbs.⁹

Third, grammatically inanimate nouns can be further subdivided into different classes via nominal classifiers that distinguish for shape, function, consistency, etc., as described in-depth by Krute (1989). The word ‘wind’ in Example (4) above, for instance, is marked with the classifier *-ppa*. The locus of marking for all classifiers – the animate ones *-q* ‘CL:MASC’, *-āju* ‘CL:FEM’ and *-ätö* ‘CL:PL’ as well as the inanimate ones – can be the noun itself, demonstratives, the numerals for ‘1’ to ‘5’, verbs (when nominalized), the question word for ‘which’, and relational nouns (Krute 1989; Rosés Labrada forthcoming).

Possession marking interacts with animacy and gender, as will be shown below. However, note that these two systems of nominal classification as well as the system of nominal classifiers mentioned here are distinct from the genitive classifier system discussed below as well as from the two systems of nominal classification that determine possessive classes: alienability and (in)direct possession.

4 Piaroa adnominal possession constructions

Piaroa nouns can be divided into distinct lexical subclasses depending on whether they are obligatorily possessed or optionally possessed when in the

⁹ See Rosés Labrada (2016, 2018) for further discussion of Piaroa subject marking and verb classes.

possessee slot of an adnominal possession construction with an animate possessor. This division based on the “alienability opposition” (Nichols 1988) results in a class of obligatorily-possessed, i.e., grammatically inalienable, nouns (Section 4.1) and a class of optionally-possessed, i.e., grammatically alienable, nouns (Section 4.2). Crosscutting this distinction, there is a second formal distinction based on whether a noun can be directly possessed (i.e., have the animate possessor be indexed on the noun itself) or not. Directly-possessed nouns are marked via a possessor prefix and include both (all) inalienable nouns and (some) alienable nouns. For nouns that are not directly possessed (i.e., indirectly-possessed nouns), the possessor is indexed on a (one of four possible ones) preposed genitive classifier – which Carlson and Payne (1989: 88) define as classifiers that “occur in the genitive expression in order to indicate possession of certain nouns”; see also the discussion above in Section 2 – via the same set of prefixes used for direct possession. These distinctions are briefly exemplified here as a starting point for the in-depth examination of each construction in the sections that follow. Example (6) provides an example of an obligatorily-possessed noun which can be contrasted with the two different types of optionally-possessed nouns, namely those that enter into a direct possession construction as ‘waterfall’ does in (7) and those that do not and occur instead with a genitive classifier as is the case for ‘corn’ in (9). Examples (8) and (10) show that ‘waterfall’ and ‘corn’, respectively, can occur as free nouns. Crucially, as alluded to above, these two systems of classification for possessives are not co-extensive; in other words, there is no complete overlap between the classes determined by the alienability contrast (obligatory/optional marking) and those determined by direct/indirect possession as the optionally-possessed or ‘alienable’ *and* directly-possessed noun ‘waterfall’ in (7) illustrates.

- (6) *yajutä* *Chejeru* *kittimü* *jinq'q*
 ɕ-ahu-tæ tʃeheru k^h-ĩt^h-ĩ-mũ h-ĩn-aʔa
 DIST1-CL:FEM-CONTR? Chejeru 3SG.F-child-PL.ANIM
 ‘eran los hijos de (esa) Chejeru’
 ‘those ones were the Chejeru’s children’
 (Babel033:294)
- (7) *ttajü* *Chejeru* *kidäyā*
 t^h-āhũ tʃeheru k^h-i-dæ-ɕæ
 3PL-mother Chejeru 3SG.F-waterfall-CL:WATER
 ‘la cascada de su mamá Chejeru’
 ‘their mother Chejeru’s waterfall’
 (Babel033:401)

- (8) *jəpy* *däyā* *kɨ'ädy* *icy*
 hē-p-ũ **dæ-ɖʒæ** kʰi-ʔ-æd-ũ ik-ũ
 do-cls2-nfin waterfall-cl:water bathe-cls2-?-nfin aux-nfin
 ‘con una limpieza del baño en la/una cascada’
 ‘with a cleaning of cleansing (him) in the/a waterfall’
 (Babel070:120)
- (9) *chäddq* *bua* *saju* / *kycuq̃* *yqmy*
 ʧ-æd-ã bu-a =s-ahu / **kʰ-ũkʷæ** **ɲãmũ**
 1sg-grandparent-fem old-fem =dum-cl:fem 3sg.fem-alimentary corn
 ‘mi abuelita viejita, su maíz’
 ‘my elderly grandmother, her corn’
 (Babel040:159–160)
- (10) *yqmy* *ttiɣattö* *pa'ö* ...
ɲãmũ tʰ-idʒ-a-tʰi paʔi
 corn 3pl-give-fut₂-1sg.obj purp
 ‘para que me den el maíz...’
 ‘so that they give me (some) corn...’
 (Babel040:36)

Finally, grammatical animacy (of the possessor) interacts with these distinctions: the strategies discussed and exemplified so far involve animate possessors exclusively since inanimate possessors are not indexed on the possessee noun.¹⁰ In these cases, possession is not accomplished via affixation but rather by juxtaposition of the two nouns with no overt marking on the possessee (or the possessor), as illustrated here in Examples (11), (12), and (13). Note that in Example (11) the possessor noun itself is not possessed; however, in the other two examples the possessor noun – ‘house’ in (12) and ‘wing’ in (13) – is possessed by a third-person masculine animate possessor. Crucially, in all three examples, a possessee in a possessive relationship with an inanimate possessor does not take any morphological marking.¹¹ Example (14) further illustrates this construction and serves to show that the animacy distinction coded is not a semantic one but a grammatical one: the possessor ‘tree’ in (14) can be thought of as being semantically animate (e.g., trees grow, die, etc.) but nouns for trees are grammatically inanimate in

¹⁰ In fact, these examples only show human possessors but animals are also considered grammatically animate and, as possessors, they are indexed on the possessee; for instance, *poj ttä'o* /poɨ tʰ-æʔo/ fish.pl 3pl-father ‘the father of the fish’ (Babel026:22).

¹¹ These examples also show that part-whole relationships are not encoded via inalienable possession as it is the case in many languages with an alienable/inalienable distinction (Nichols 1988).

Piaroa (e.g., they take the inanimate plural marker) and therefore, the possessive relationship is not marked on ‘cold wind’ in (14).¹²

- (11) *mänä* *ä'ca* ...
mænæ **æk'a**
road base
‘en la entrada del camino...’
‘at the beginning of the road...’
(Babel018:60)
- (12) *ojusode* *ä'ärä* *imi* ...
Ø-**ohus-ode** **æ?æ-ræ** imi
3SG.M-house-CL:HOUSE yard-CL:CLEAR outside
‘fuera del patio de su casa,...’
‘outside his house’s yard, ...’
(Babel014:116)
- (13) *ujuqbä* *päjure* ...
Ø-**uhuābæ** **pæhure**
3SG.M-wing-CL tip
‘en la punta de sus alas...’
‘on the tip of his wings...’
(Babel037:419)
- (14) *cuähuäi* *dīyoppa*
k^wæwæ-i **didg-op^ha**
food-CL:TREE be.cold-CL:WIND
‘el aire frío del árbol (de las frutas)’
‘the Tree (of all Fruits)’s cold wind’
(Babel033:633)

Table 1 presents a summary of the different adnominal possession constructions in Piaroa and the factors that determine their structure. Given that the main goal of the article is to consider the interplay between alienability and possessive classes (of possessee nouns), the juxtaposition strategy for inanimate possessors exemplified above is not discussed further. The focus is thus on obligatory or grammatically inalienable possession (Section 4.1) and on optional or grammatically alienable possession (Section 4.2) constructions with an animate possessor.

¹² The derived (via a classifier) noun used here for ‘tree’ refers to a specific mythological tree that carried all the edible foods/plants and that was chopped down by Huäjäri’s nephews so the Piaroa and other peoples could eat.

Table 1: Piaroa adnominal possession constructions and determining factors.

Determining factor	Possessor Grammatical animacy	Possessee			
		Alienability	Meaning	Locus of marking	Strategy
Classes	Animate (indexed on the possessee)	Inalienable (obligatory marking)	Kinship Body parts	Noun (direct)	Possessive prefix
		Alienable (optional marking)	Other	Noun (direct)	Possessive prefix
			Pets Food Prey Novel objects	Genitive classifier (indirect)	
	Inanimate (not indexed on the possessee)				Noun juxtaposition

4.1 Inalienable possession

Both kinship terms and body-part terms, including certain bodily substances (Krute 1989: 89; Rosés Labrada 2022), are obligatorily possessed and can be said to be grammatically inalienable in Piaroa.¹³ The examples in (15) and (16) illustrate the use of two possessed kinship terms in discourse. In (15a), the possessor noun – in this case, the speaker’s mother – is indexed on the possessee via a prefix *k-* /*k^h-* that encodes person, number and gender of the possessor (in this case, third person singular feminine). In contrast in (15b), the possessor is the speaker herself and consequently, the possessee is marked with a first-person singular possessive prefix *ch-* /*tʃ-*. In both (15a) and (15b), the possessee noun is used to refer to a discourse entity referentially; this function contrasts with the vocative use of ‘mother’ in (16) which shows that all kinship terms are inalienably possessed whether their use is referential or vocative.

¹³ For a comprehensive listing of body-part terms in Piaroa and discussion of their grammar (including possession marking), see Rosés Labrada (2022). In turn, Kaplan [Overing] (1975: 199–202) provides a comprehensive list of Piaroa kinship terms, covering both blood and affinal relations. Kaplan [Overing] (1975) also discusses at length the use of the word for ‘friend’ or ‘partner’ exemplified below in (20c).

- (15) a. *kãdɔminã*
 k^h-ãd-õ-minã
 3SG.F-grandparent-MASC-DEC
 ‘su finado abuelo (de ella)’
 ‘her deceased grandfather’
 (Babel032:6)
- b. *chãdɔminã*
 tʃ-ãd-õ-minã
 1SG-grandparent-MASC-DEC
 ‘mi finado abuelo’
 ‘mi deceased grandfather’
 (Babel032:17)
- (16) *tã* *ji’ähui* *chajy*
 tæ hi-ʔ-æw-i tʃ-ãhũ
 NOW tell-CLS2-REFL-IMP₁ 1SG-mother
 ‘(ahora) cuente, mamá’
 ‘(now) tell (us), mother’ (lit. my mother)
 (Babel032:15)

Body-part terms are likewise obligatorily possessed and, as with kinship terms, the possessor is indexed on the possessee via a possessive prefix. This is shown here with the examples in (17), which come from the same stretch of text and illustrate the use of the word for ‘skull’ in discourse. The intonation unit in (17a) represents an instance of quoted speech by one of the characters in the text and therefore, the possessor is a first-person singular in this case and thus indexed on the possessee noun ‘skull’ with the prefix *ch-* /*tʃ-*/. Compare this with (17c) where ‘skull’ occurs with a third-person masculine possessor, which, as discussed below, is indexed most often via the absence of overt marking (represented here with a null symbol).

- (17) a. “*chõsqsq̃ tocuçujã*”
 tʃ-ĩsõsẽ to-k^w-ãk^w-ã-hã
 1SG-skull see-2-FUT-TAM₁-?
 ‘ “mi cráneo lo verán” ’
 ‘ “you will see my skull” ’
- b. he said (and) just like he said, when they went to look on the sands of the Orinoco

- c. *ösqsę*
 Ø-ĩsõsẽ
 3SG.M-skull
 ‘su cráneo’
 ‘his skull’
 (Babel014:222–224)

Example (17c) also serves to illustrate that when a body-part term occurs with what seems to be no marking for the possessor noun, the term is still understood to be possessed, specifically by a third-person singular masculine possessor. This is also the case for kinship terms as the use of ‘mother’ in (18) shows. For this reason, Piaroa kinship and body-part terms can be analyzed as bound roots.

- (18) *qjy’ĩnq̃* ...
 Ø-ãhũ-ʒĩnã
 3SG.M-mother-ADD
 ‘a su mamá y...’
 ‘to his mother and...’
 (Babel026:73)

This analysis of grammatically inalienable nouns as having bound roots is confirmed by the fact that when these nouns, at least body-part terms, occur in a context where they are pragmatically unpossessed, they are marked with a third person plural prefix that is interpreted as having generic reference. This can be elicited with relative ease for body part terms (e.g., a detached body part found on a road) but are harder to elicit for kinship terms. The example below illustrates the use of such a pragmatically unpossessed form in natural speech: ‘arm’ in (19) is being used to indicate the size of a *catumare* (a type of woven basket) and therefore has no concrete possessor referent; nonetheless, ‘arm’ is morphologically marked as possessed with a third plural possessive prefix.

- (19) *juq̃nę* *ttõjonq̃* *jq̃ppqtq̃* *tj’q̃d-y* *jępy*
 h^wãẽnẽ t^h-iho-nã hã-p^hũ-tã tĩ-?-ãd-ũ hẽ-p-ũ
 there 3PL-arm-LOC catumare-CL:WOVEN-CONTR? tie-CLS2-?-NFIN make-CLS2-NFIN
 ‘ahí hizo amarrando un catumare del tamaño del brazo’
 ‘there (he) made a *catumare* (that was) the size of an arm’
 (Babel038:271–272)

The previous examples illustrate that possession marking for grammatically inalienable nouns is accomplished via a set of prefixes that distinguishes person and number, and – in a restricted way – gender. Table 2 shows the form of the different possessive prefixes when attached to the kinship terms for ‘mother’ and ‘father’. Given that these nouns are always possessed, the segmentation of the prefix illustrated in the table was

Table 2: Possessive prefixes with ‘mother’ and ‘father’.

Person	‘mother’		‘father’	
	Singular	Plural	Singular	Plural
1	tʃ-āhū	t-āhū	tʃ-æʔo	t-æʔo
2	kʷ-āhū	kʷ-āhū(-tūkū)	kʷ-æʔo	kʷ-aʔo(-tuku)
3.MASC	∅-āhū ~ h-āhū	tʰ-āhū	h-æʔo	tʰ-æʔo
3.FEM	kʰ-āhū		kʰ-æʔo	

done through a comparison of all the forms in the paradigm. All the examples in the table – with the exception of the shaded first and second-person plural forms which were unattested in the corpus and were thus elicited – come from naturally occurring speech but were extracted from their context for presentational purposes. The first- and second-person plural forms were checked with a speaker. Additional elicited paradigms for kinship terms and body-part terms can be found in previous literature; see Krute (1989: 84) for a paradigm for ‘head’, Caula (1999: 137) for one for ‘buttocks’, and Mosonyi (2000: 661) for paradigms for ‘son’ and ‘mouth’.

The paradigms in Table 2 illustrate three important observations about the Piaroa possessive prefixes.¹⁴ First, masculine and feminine gender is only distinguished in the third-person singular but elsewhere in the paradigm, this distinction is neutralized. This is consistent with the distinctions made in the pronominal system itself and in the verbal subject affixes (see Section 3). Second, for third-person singular masculine, there is some variation in the form of the prefix itself. Specifically, while in most cases a third-person singular masculine possessor is indexed via the absence of marking as in (17c) and (18) above, there are instances where a third-person singular masculine possessor is indexed with a *j-/h-/* allomorph as with ‘father’ in Table 2 and with ‘grandfather’ in (27) below.¹⁵ Third, note that the forms /kʷ-āhū/ and /kʷ-æʔo/ appear in my corpus with a second person singular possessor but are reported by speakers in Babel, the Venezuela Piaroa-speaking community with which I have worked since 2016, to be usable for both a second singular and a second plural possessor. For them, the form *cuqjy* /kʷ-āhū/ in

¹⁴ Note that the forms of the prefixes exemplified so far as well as in the rest of this section consist of a single consonant; i.e., they have the shape C-. However, as I show below in Section 3.2 where I discuss optionally-possessed nouns, these prefixes also have a CV- allomorph.

¹⁵ It is not fully understood at the moment what motivates this variation and some noun roots such as ‘mother’ can take either form of the prefix (i.e., both *jqjy* and *qjy* are accepted and used for ‘his mother’ including by the same speaker in the same text) but others, such as ‘father’ can only take one allomorph – in this case, the *j-/h-/* prefix (i.e., *jä'o* is accepted for ‘his father’ but speakers find **ä'o* with the ∅- allomorph unacceptable).

Table 2, for instance, could be interpreted as ‘your (SG) mother’ and also as ‘your (PL) mother’ in isolation; this syncretism is also attested in the full paradigms provided by Krute (1989: 84), Caula (1999: 137) and Mosonyi (2000: 661). When asked how this could be disambiguated, the Babel consultants I work with added the 2_{PL} person pronoun *ucutu* forming the noun phrase *ucutu cuqjy* ‘your (PL) mother’. Speakers from the Piaroa community of Sarrapia in Colombia, however, offered the form /k^w-aʔo-tuku/ for the noun ‘father’ with a second plural possessor during a teacher-oriented workshop on 10 October 2022; similar forms were also offered for ‘your (PL) daughter’ and ‘your (PL) grandfather’ which suggests that at least for these speakers second singular and second plural possessors are marked differently on the possessee. There are only four nouns that appear with this second-plural marker in the corpus of connected speech from the Babel community: ‘partner/friend’, ‘children’, ‘hands’, and ‘enemy’. It is possible that the limited number of examples is due to the rarity of second-person – and especially second-person plural – addressees in the corpus, which mainly consists of traditional stories and personal histories. The first two examples below – namely (20c) and (20d) – come from Babel023 which is an oratory where an elder addresses other members of his community and hence the 2_{PL} possessor in these examples refers to his interlocutors. The following two examples – i.e., (21a) and (21b) – come from a stretch of quoted speech from Babel020, a narrative about how a grandmother killed a jaguar that was eating the community’s children. In this excerpt, she addresses a group of people to inform them that she had killed the jaguar – here ‘your (PL) enemy – that was eating their children. Both examples are presented with the translation of additional intonation units that serve to contextualize them further. While this suffix deserves further research, the important takeaway here is that the examples below, unlike elicited examples in prior work or gathered in the field, confirm the existence of a difference in the marking of second singular versus second plural possessors, with the latter taking a prefix and a suffix.¹⁶

- (20) a. ‘How did you (PL) use to live? Our late grandparents, our late ancestors... “Look”, (like) my son-in-law says... Thus,

¹⁶ It is possible that this difference is difficult to elicit due to the fact that the Spanish variety in use in Venezuela (and Colombia) no longer uses ‘vuestra/o(s)’ and that the ‘su(s)’ possessive is used both for a formal second singular possessor as well as a second plural possessor (in addition to being used for third persons). Additional support for this difference in marking may be found in the fact that in Mako, the second plural possessed form also takes a prefix and a suffix as the forms *k^w-ĩt^hĩ* ‘your (SG) child’ and *k^w-ĩt^hĩ-dui* ‘your (PL) child’ in Rosés Labrada (2016: 192) show.

- b. *pitumä* *jitämä* *cutumä*
 pitu-mǎë hitæ-mǎë kutu-mǎë
 PROX.ANIM-TOP? NOW-TOP? 2PL.PRO-TOP?
 ‘estos ahora ustedes’
 ‘these ones, now, you (PL)’
- c. *cughuqryhuatycy* *ittiru* *’quichqhuqry*
 k^w-ǎwǎrũw-ǎ-tũkũ Ø-ĩ^hĩ-ru k’ĩʃǎw-ǎ-rũ
 2-partner-CL.MASC-2PL 3SG.M-child-OBJ little.one-CL.MASC-OBJ
cuemätycuqmenämä
 k^w-ëm-ætũ-ömenæ-mǎë
 2-grab-2PL-ADV-TOP?
 ‘al hijo de su amigo de ustedes, al niño, cuando se adopta (para criar)’
 ‘when you adopt the child of your (PL) friend, the child’
- d. *ucutä* *cuqmötycyttö*
 uku-tǎë k^w-ũmũ-tũkũ-t^hĩ
 2SG-CONTR? 2-hand-2PL-EMPH?
 ‘tú mismo, en sus manos’
 ‘you yourself, in your (PL) hands’
- e. Yes... Where they are born,... they used to name him (a boy) after their father. A girl, they would name after her mother...
 (Babel023:1–12)
- (21) a. *jähuinäjydo* *tacu* *cuabq’chqtöcyinä* *täcu* *cuä’ö*
 hi-æw-in-ǎhũ-do tæku k^w-aböʃ-ǎ-tũkũ-mǎë tæku k^wæ-ʔ-i
 say-MID-IMPF-CL.FEM-EVID already 2-enemy-CL.MASC-2PL-TOP? already kill-CLS2-NFIN
chicuäcu
 ʃ-ik^w-æ-ku
 1SG-AUX-TAM₁-OBJ
 ‘ella contó: “ya su enemigo ya lo maté”’
 ‘she said: “I already killed your (PL) enemy”’
- b. *cuittimütöcyrymä*
 k^w-it^hi-mũ-tũkũ-rũ-mæ
 2-child-PL.ANIM₂-2PL-OBJ-TOP?
 ‘a sus hijos’
 ‘(to) your (PL) children’
- c. ‘The one who was finishing, who was eating, who was killing’
 (Babel020:243–246)

In all the preceding examples of kinship terms and body-part terms except for (20c), the possessor noun is only expressed via indexation on the possessee. However, the possessor can itself be optionally overtly expressed as a preposed modifier of the possessee. When overtly expressed, the possessor can be encoded as a pronoun, a simple noun, or a (complex) noun phrase. This is schematized in (22) and applies to both kinship terms and body-part terms.

- (22) a. PREFIX-POSSESSEE
 b. POSSESSOR.AS.PRONOUN + PREFIX-POSSESSEE
 c. POSSESSOR.AS.NOUN + PREFIX-POSSESSEE
 d. POSSESSOR.AS.NOUN.PHRASE + PREFIX-POSSESSEE

The following examples illustrate these constructions for both kinship terms and body-part terms. In the examples in (23) and (24), the possessor is expressed via a pronoun, in (23) with the 1PL pronoun *ujutu* as a modifier of ‘child’ and in (24) with the 3PL pronoun *juätö* acting as the modifier of the possessee ‘hair’. The next two examples illustrate the possessor-as-noun construction, with a proper noun in (25) acting as the modifier of a kinship term and with a common noun that acts as the modifier of a body-part term in (26).

- (23) ... *ujutu* *t̥t̥t̥m̥y* ...
uhutu **t̥-ĩt̥ĩ-mũ**
 1PL.PRO 1PL-child-PL.ANIM₂
 ‘...los hijos de nosotros...’
 ‘...our children...’
 (Babel033:70)
- (24) *juätö* *ttöhuo’che* *beipomeę*
h^wæti **t̥^h-iwo-t̥s’e** **beip-omẽ**
 3PL.PRO 3PL-hair-CL.HAIR end-ADV₂
 ‘en la punta (lit. donde termina) del cabello de ellos’
 ‘on the tip (lit. where it ends) of their hair’
 (Babel025:190)
- (25) *Chejeru* *k̥t̥t̥j* *p̥äji*
t̥feheru **k̥^h-ĩt̥^hĩ** **p-æh-i**
 Chejeru (proper name) 3SG.F-child be-?-NOM
 ‘(el que era) el hijo de Chejeru’
 ‘the one that was Chejeru’s son’
 (Babel033:666)

- (26) *yuri* *abonä*
ɖʒuri Ø-*abo-nã*
 Amazon.racerunner 3SG.M-back-LOC
 ‘en la espalda del yurí’
 ‘on the *yurí*’s back’¹⁷
 (Babel021:225)

Finally, the possessor-as-noun-phrase construction is exemplified in (27) for a kinship term and in (28) for a body-part term; both examples are fairly complex so I elaborate on their internal structure separately and use square brackets around the possessor noun phrase to facilitate the parsing of the example.

In (27), three distinct kinship terms are possessed within the same noun phrase: the word for ‘children’ is possessed via a 1SG possessor prefix *ch-* /tʃ-/ that cross-references the speaker herself; in turn, ‘children’ is the possessor of ‘father’ – thus marked with a 3PL possessor prefix *tt-* /tʰ-/ – and ‘father’ is the possessor of ‘grandfather’, which is accordingly marked with a 3SG.M possessor prefix *j-* /h-/. Importantly, the possessor that modifies ‘grandfather’ is the complex noun phrase ‘the father of my children’ as a whole.

- (27) *chittjmu* *ttä’o* *jädqminämä...*
 [**tʃ-ɪtʰi-mu** **tʰ-æʔo**] **h-ãd-õ-minã-mã**
 1SG-child-PL.ANIM₂ 3PL-father 3SG.M-grandparent-MASC-DEC-TOP?
 ‘el difunto abuelo del padre de mis hijos...’
 ‘the deceased grandfather of the father of my children...’
 (Babel080:36)

The possessee, namely the word for ‘bones’, in (28) is similarly possessed by a complex noun phrase – which is composed itself of three nouns – denoting a group of people who are related to the story character whose quoted speech this excerpt represents.¹⁸

¹⁷ A type of lizard, likely *Ameiva ameiva*.

¹⁸ This phrase was initially translated as *los huesos de mis parientes* ‘the bones of my relatives’ but further clarification to understand the possessor noun phrase led to the gloss of each individual noun as presented in the example. Federico Arana (pers. comm., 19 April/2023) explained that (*i*)*sotu* is often used to refer to a group of people, a function similar to that of *tq̄my* which is attested in the corpus as part of complex ethnonyms or names of specific groups but which speakers translate as ‘elders’ or ‘adults’ and which is often used to refer to ‘shamans’.

- (28) *chysänämü* *tämü* *sotu* *ttihue'ca*
 [**ʧ-üsænæ-mũ** **tæmũ** **s-otu**] t^h-iwe-k'a
 1SG-ancestor?-PL.ANIM₂ people+PL.ANIM₂ DUM-CL:PL 3PL-bone-CL:HARD
 'los huesos de mis ancestros shamanes'
 'the bones of my shaman elders'
 (Babel034:2646)

This optionality regarding overtly expressing the possessor versus leaving it unexpressed is further illustrated here with the (near minimal) pair of examples in (29) and (30): in both the speaker refers to his late father but in (29) the first-person singular possessor is not overtly expressed while in (30), it is expressed by means of the first-person singular person pronoun *ttö*. Crucially, whether overtly expressed or not, the possessor is always cross-referenced on the possessee via a possessive prefix.

- (29) *pöj* *ëmähüq* *ışq* *jınq'q* *chä'qminämq*
 pōĩ ěm-æwæ ĩs-ã h-ĩn-ã?ã ʧ-æ?o-minæ-mæ
 fish grab-NMZ? DUM-CL:M COP-PST-TAM₂ 1SG-father-DEC-TOP?
 'mi finado papá era cazador'
 'my late father was a hunter'
 (Babel031:156)

- (30) *ttö* *chä'qminämq* *pöj* *ëmähüq* *ışq* *jınq'q*
t^hi ʧ-æ?o-minæ-mæ pōĩ ěm-æwæ ĩs-ã h-ĩn-ã?ã
 1SG.PRO 1SG-father-DEC-TOP? fish grab-NMZ? DUM-CL:M COP-PST-TAM₂
 'mi finado papá era cazador'
 'my late father was a hunter'
 (Babel031:178)

To close this section, it is important to add that body-part terms themselves are grammatically inanimate – for instance, they take the inanimate plural marker *-iyã* (see Rosés Labrada [2022] for additional details and argumentation) – and as such, when they act as a possessor, they are not indexed on the possessee. This is exemplified here with the example in (31) where 'hip' acts as the possessor of the relational noun 'top'; as mentioned above in Section 4, the two grammatically inanimate nouns thus stand in juxtaposition with no overt marking of the possessive relationship.

- (31) *hua'arijo* *pinę* *chäcä* *huäborä*
 wa?ar-i-ho p-inē ʧ-ækæ wæb-oræ
 hug-IMP₁-? PROX-ADV₁ 1SG-hip top-CL:CLEARING
 'abrazame aquí, arribita de mi cadera'
 'hug (me) here, a bit above my hip'
 (Babel021:238)

In sum, kinship terms and body-part terms are obligatorily possessed in Piaroa (i.e., grammatically inalienable) and the possessor is indexed directly on the possessee via a prefix, which makes the Piaroa inalienable construction a DIRECT POSSESSION construction.

4.2 Alienable possession

Grammatically alienable nouns can be optionally possessed; in other words, while they can be possessed, they need not be so and can occur as free nouns as shown for the nouns ‘waterfall’ and ‘corn’ above. Semantically, these nouns denote plants, animals, and inanimate objects. When possessed, these nouns can appear in one of two different constructions: they can be directly possessed via a possessive prefix or they can be indirectly possessed by entering in a construction with a genitive classifier. This is further exemplified here with the nouns for ‘canoe’ and for ‘yucuta’.¹⁹

In (32), the noun for ‘canoe’ appears with a 3SG.M possessor prefix in (32a) but as a free (unpossessed) noun in (32b); both occurrences come from contiguous intonation units in the same stretch of text.

- (32) a. *'chänq̃* *öhuoi'canq̃* *tö'ö* *känq̃*
 ts'-æn-ĩ i-woik'a-nã ti-ʔ-i k^h-æn-ĩ
 go-DUR-NFIN 3SG.M-canoe+CL:HARD-LOC jump-CLS2-NFIN stand-DUR-NFIN
 ‘siguiendo, saltó en su curiara’
 ‘continuing on his way, he jumped into his canoe’
- b. *huoi'ca* *ti'epö* *icö* *tö'ö* *känq̃*
 woik'a ti-ʔ-ep-i ik-i ti-ʔ-i k^h-æn-ĩ
 canoe+CL:HARD untie-CLS2-ʔ-NFIN AUX-NFIN jump-CLS2-NFIN stand-DUR-NFIN
 ‘desamarrando la curiara, saltó’
 ‘untying the canoe, he jumped’
 (Babel014:104–105)

The examples in (33) and (34) contrast the use of the word for ‘yucuta’ when possessed (33) – via a possessor-marked genitive classifier – and when not possessed (34).

¹⁹ The word *yucuta* is used in the Spanish spoken in the Amazonian region of Venezuela for a drink prepared with manioc flour and water.

- (33) *ttɥcuä* *ɨrɨsahua'inä*
t^h-ũk^wǣ **ĩrɨs-awa-ʔinǣ**
 3PL-ALIMENTARY cassava-CL:LIQ-ADD
 'su (comida) yucuta también'
 'their *yucuta* too'
 (Babel020:210)
- (34) *ɨrɨsahua* *chahua* *pä'u* *ny'cuopu* *iyu*
ĩrɨs-awa tʃ-aw-a pæʔu nũk^w-op-u idʒ-u
 cassava-CL:LIQ 1SG-drink-FUT₂? PURP ?-?-NFIN give-NFIN
 'me daba yucuta de beber'
 'He would give me *yucuta* to drink'
 (Babel062:449)

In what follows, I discuss these two possession strategies for grammatically alienable nouns separately. The direct possession construction is discussed in Section 4.2.1 and the indirect one in Section 4.2.2.

4.2.1 Directly-possessed alienable nouns

Directly possessed grammatically alienable nouns make use of the same set of possessive prefixes described above for obligatorily possessed inalienable nouns. One crucial difference is that for directly possessed alienable nouns, the prefixes have two allomorphs: a C- allomorph that occurs with vowel-initial nouns and a (C)V- allomorph that occurs with consonant-initial nouns. This is exemplified here with the nouns for 'door' and 'basket'.

The example in (35) illustrates the word for 'door' being used as a FREE (unpossessed) vowel-initial noun. When the noun occurs with a possessive prefix as in (36), the form of the prefix consists of a single consonant (in this case, *ch-* /*tʃ-*/ for 1SG). This is the same first-person singular prefix discussed above in the context of grammatically inalienable nouns (cf. (15a) and (17) for instance).

- (35) *ápate* *ä'ca* *rutō*
æpate æk'a rut-i
 door base put.down-NFIN
 'lo puso fuerita en la puerta'
 'he put it (outside) by the door'
 (Babel032:233)

- (36) *q* *chäpate* *ä'ca*
 (false start) **ʃ-æpate** æk'ɑ
 1SG-door base
 'al pie de mi puerta'
 'by the base of my door'
 (Babel030:151)

In contrast, as a comparison of the word for 'basket' in Examples (37) through (39) suggests, the word *däruhuäppa* 'basket' starts with a consonant in its free (unpossessed) form (37) and when possessed, the possessive prefix that attaches to it has a CV syllable shape (namely, *ttö-* 3PL in (38) and *chö-* for 1SG in (39)).

- (37) *pɛŋɛ* *däruhuäppa* *pɔmemä* 'cuäcuo'o
 pēnē **dæruwæ-p^hɑ** p-ōme-mǣ k^wæ-k^w-oʔ-o
 here basket-CL:WOVEN sit-ADV₂-TOP enter-2SG-?-PROH
 'aquí donde está la cesta no pases'
 'don't go here where the basket is'
 (Babel029:297)
- (38) *ttödäruhuäppa* *ba'epö* *rutö*
t^hi-dæruwæ-p^hɑ ba-ʔ-ep-i rut-i
 3PL-basket-CL:WOVEN open-CLS2-?-NFIN put.down-NFIN
 'sus cestas/carteras abriendo dejaron'
 'opening and putting down their baskets'
 (Babel029:64)
- (39) *chödäruhuäppa*
ʃi-dæruwæ-p^hɑ
 1SG-basket-CL:WOVEN
 'mi cesta/cartera'
 'my basket'
 (Babel029:349)

As Example (32a) shows for the word 'canoe', however, a third person masculine singular possessor is indexed with an allomorph with a V- shape; this is expected given that the form of the third person masculine singular possessor when it attaches to vowel-initial nouns is generally \emptyset - (see discussion above in Section 4.1 and Footnote 15).

Note that when the prefix has the form CV, the prefix vowel harmonizes in vowel quality and nasality with the first vowel of the root. This is shown here with Example (40) where the 1SG prefix has the form *chi-* /ʃi-/ when attached to the word for 'land' which has a front nasal vowel /*ẽ*/ in the first syllable. This can be contrasted with the form of the first-person prefix in Example (39) above. Additional examples and discussion of this vowel harmony process can be found in Krute (1989: 85).

Table 3: Piaroa possessive prefixes.

Person	Singular	Plural
1	tʃ(V)-	t(V)-
2	kʷ(V)-	kʷ(V)- (-tuku)
3.MASC	∅(V)-/h(V)-	tʰ(V)-
3.FEM	kʰ(V)-	

(40) *ttötä* *chjreǰä* *jq'q* *pj̄nemä* ...
 tʰi-tæ tʃi-rêhæ h-ãʔã p-ĩne-mæ
 1SG.PRO-CONTR? 1SG-land COP-TAM₂ PROX-ADV₁-TOP
 ‘es mi tierra aquí’
 ‘here is my (very own) land’
 (Babel029:240)

Table 3 presents the possible allomorphs for the Piaroa possessive prefixes as they occur with directly possessed grammatically inalienable and alienable nouns.²⁰

The grammatically alienable nouns that can be directly possessed with prefixes are often objects that can be thought of as belonging to the possessor; for instance, examples in the corpus include the nouns for canoe, blowgun, necklace, house, port (where one bathes, ties one’s canoe, etc.), road (to one’s house), griddle, pot, cigar, hallucinogen nose inhaler, and the Piaroa ritual called *Huq̄rimę*,²¹ among others. In other words, a semantic ownership relationship is conceivable for many of these directly possessed alienable nouns.

In some instances, however, it is harder to argue for an ownership type of semantic relationship between the possessor and the possessee. Two such cases are provided here in (41) and (42). In the first example, the speaker is describing the arrival of the *Huiritö* – jungle beings common in Piaroa narratives – at the foot of a milk tree (*Couma utilis*) in the forest; the noun for ‘tree’ is here marked with a 3PL possessive prefix. In the second one, the inanimate noun marked with a possessive prefix is ‘river’. In these possessive examples, the semantic relationship encoded via possessive marking is thus perhaps one of *use* as in (41) or of *association* as in (42). As

²⁰ While not directly relevant to the discussion at hand, notice that the form of the possessive prefixes displays significant overlap with the form of the Class I subject prefixes as discussed in Rosés Labrada (2016). This syncretism is characteristic not only of the Sáliban languages but also of many Amazonian languages where possessors and subjects are indexed with similar or identical affixes (Dixon and Aikhenvald 1999: 9). It is also a broader crosslinguistic tendency (Siewierska 1998).

²¹ The *Huq̄rimę* ritual combines sacred masks and sacred flutes and was traditionally organized by shamans who were considered ‘owners’ of the ritual. For additional information, see Mansutti Rodríguez (2006).

research on possession in other languages (e.g., Taylor [1989] for English) and crosslinguistically (e.g., Heine [1997]) suggests, this is a common phenomenon.

- (41) *ttuppäi* *jäi* *kada'ca* *'chq̄hui'ö* ...
 t^h-up^hæ-i hæi k^hada-k'a ts'æwĩ?-i
 3PL-milk.tree-CL:TREE DIST+CL:TREE base-CL:HARD come.close-NFIN
 'acercándose al pie de su mata de pendare'
 'coming close to the foot of (the trunk of) their pendare tree...'
 (Babel019:70)

- (42) *ttö* *ttöäjənä*
 t^hi... t^hi-æhe-næ
 (FALSE START) 3PL-river-LOC
 'en el caño de ellos'
 'in/on their river'
 (Babel014:165)

The expression of the possessor has the same range of possibilities for grammatically alienable nouns as with grammatically inalienable nouns – summarized in (22) above. In other words, the possessor of a grammatically alienable noun can be left unexpressed as in Examples (36), (38), (39), (41) or (42) or it can be expressed via a pronoun as in (40), via a noun as in (43), or via a noun phrase as in (44b), which can be directly contrasted with the preceding intonation unit – given here in (44a) – where the possessee occurs by itself.

- (43) *ttq̄y* *köttahuärättö*
 t^h-ähü k^hi-t^hawææ-t^hi
 3PL-mother 3SG.F-port-ALLAT
 'desde el puerto de su mamá'
 'from their mother's port'
 (Babel033:409)

- (44) a. *tt̄r̄j̄äcy*
 t^hĩ-r̄h̄æ-kũ
 3PL-land-VEN
 'hacia la tierra de ellos'
 'towards their land'
- b. *cuähuä* *ttöcuäcuotö* *tt̄r̄j̄äcy*
 [k^wæwæ t^hi-k^w-æk^w-oti] t^hĩ-r̄h̄æ-kũ
 food 3PL-eat-FUT₁-CL:PL 3PL-land-VEN
 'hacia la tierra de la gente que va a comer las frutas'
 'towards the land of the people who will eat the fruits'
 (Babel033:589–590)

In all instances, the possessor is indexed directly on the possessee. As with grammatically inalienable nouns, the construction that these optionally-possessed nouns occur in can then be characterized as a DIRECT POSSESSION construction given that they take the possessive prefix directly. In the next section, I discuss other alienable nouns that enter an INDIRECT POSSESSION construction instead.

4.2.2 Indirectly-possessed alienable nouns

Some grammatically alienable nouns cannot be directly possessed; i.e., they cannot take a possessive prefix that attaches directly to the possessee noun. As the contrast between (33) and (34) above showed, these nouns, like the optionally-possessed nouns discussed in Section 4.2.1, can occur as free nouns (33) but can also be possessed (34). However, when possessed, they have to enter into an indirect possession construction involving the juxtaposition of the possessed noun with a preposed genitive classifier; the possessor is then indexed on the genitive classifier via a possessive prefix. This group of nouns includes inanimate nouns such as *yucuta* in (33) and (34) as well as animate ones, as shown below in Sections 4.2.2.1–4.2.2.4.

In this PREFIX-GENITIVE.CLASSIFIER + NOUN construction, the genitive classifier slot is filled with one of four possible classifiers which Krute (1989: 93) identifies as (all marked for 1SG here): *chuçuq̃* for foodstuffs (animal- and plant-derived), *chāji* for domesticated animals, *cho'qyq̃* for dead animals/carcasses, and *chöäre* for borrowed nouns or objects (from Spanish or Western culture).²² I discuss each of these four genitive classifiers below separately, devoting a short subsection to each to illustrate their use in discourse and to expand on Krute's description of their semantics. However, some general observations are made here about the structure of the construction as a whole.²³

First, note that, as Example (33) above suggests and as shown in the examples that follow, the possessee in these constructions should be understood to be a complex noun phrase that is composed of the genitive classifier + a lexical noun, with the genitive classifier acting as the locus of possessor indexing. Second, the possessive prefixes that attach to the genitive classifier are the same as the ones that attach directly to nouns in the direct possession constructions discussed above and summarized in Table 3 above. Third, the expression of the possessor follows the same

²² Note that Krute (1989: 93) transcribes these forms differently – namely as, *čukʷæ*, *čæhi*, *č'õña*, and *č'ære*, respectively – using Americanist transcription conventions. They are, however, given here in the community orthography used today in Babel in a form that reflects my own analysis, which includes nasalization. Other examples from Krute (1989) below are also adapted to the IPA but follow his original transcription.

²³ One further commonality not explored here is that all four genitive classifiers stem from generic nouns, which is in line with other work on Amazonian and other languages (Aikhenvald 2000; Carlson and Payne 1989; Grinevald 2000).

pattern as with the direct-possession constructions previously discussed; i.e., the referent for the possessor is indexed on the possessee (in this case, the possessee noun phrase) via a prefix but it need not be overtly expressed as in (33) above or it can be expressed via a pronoun as in (45), via a noun as in (57) and (58) below, or via a complex (possessor) noun phrase as in (48) below. In other words, the possessor can be expressed with all the same possible constructions outlined in (22) above.

- (45) *ttö* *cḥycuq̣* *yq̣ṃyṃq̣* ...
tʰi *tʃ-ũkʷæ* *ɕãũ-mæ*
 1SG.PRO 1SG-ALIMENTARY CORN-TOP
 ‘mi maíz...’
 ‘my corn...’
 (Babel037:42)

Finally, a third characteristic of this construction is that the genitive classifier and the noun are prosodically tightly bound, occurring under the same intonation contour and with no pause between them. Figure 1 illustrates this by showing the intonation contour, waveform and spectrogram for the example in (33) where the noun *ĩṛsahua* ‘manioc drink’ occurs with the genitive classifier *-ỵcuq̣*.

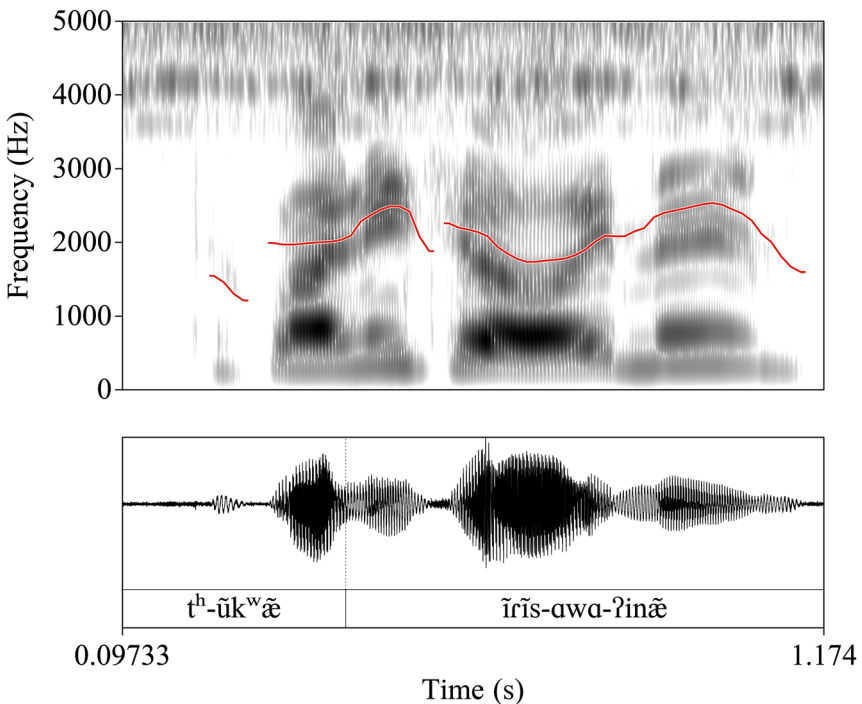


Figure 1: Spectrogram and waveform for the phrase *ttuçuq̣ ĩṛsahua'inq̣* ‘their yucuta too’.

With these general properties discussed, I now consider each genitive classifier separately in the sections that follow.

4.2.2.1 Edible and drinkable things

Krute (1989: 91–92) argues that the genitive classifier *-yucuä* – which he transcribes without nasalization – is used for “food”, whether animal-derived or plant-derived. He also mentions that it can be used for plants that provide “useful material in some form” (1989: 91). Example (46) illustrates the use of *-yucuä* with the word for ‘corn’ and Example (47), with the word for ‘pineapple’; this use with an edible plant is common in the corpus. A different use, one with drinks, is illustrated in (48) and above in Example (33). The latter use was not described by Krute (1989) but is well-attested in the corpus of narratives used here. The gloss ALIMENTARY chosen here reflects that this genitive classifier is used with both food and drinks.²⁴

- (46) *ttucuä* *yqmu* *tatta'a* *tq tq tq tq*
t^h-ük^wǣ *ɟʒãmũ* *ta-t^h-aʔa* *tõ tõ tõ tõ*
 3PL-ALIMENTARY corn grind-3PL-TAM₂ [ONOMATOPEIA]
 ‘su maíz pilaban’
 ‘they were grinding their corn’
 (Babel026:212)
- (47) *c-yucuä* *kãñäyu*
k-ük^wǣ *kãñã-ɟu*
 2SG-ALIMENTARY pineapple-CL:HEAD
 ‘tu piña’
 ‘your pineapple’
 (Babel021:172)
- (48) *chõtqamö* *Jõraqmõcha* *yucuä* *sqrĩ*
ʧ-ĩ^h-ãmĩ *hĩrãmĩʧa* **Ø-ük^wǣ** *sãrĩ*
 1SG-brother Jõraqmõcha 3SG.M-ALIMENTARY fermented.drink
 ‘el yarake de mi hermano Jõraqmõcha’
 ‘the *yarake* (fermented drink) of my brother Jõraqmõcha’
 (Babel014:44)

4.2.2.2 Domesticated/pet animals

The genitive classifier *-ãji* is used for (pet) animals that are “kept alive in the village for amusement, eventual sale, or use” according to Krute (1989: 90), who goes on to

²⁴ I thank a reviewer for this suggestion.

explain that “pets are rodents [possibly agoutis, lowland pacas and/or capybaras, JERL]; birds are trapped and held for sale; chickens and dogs are sometimes useful”. The use of this classifier is illustrated in (49) with the word for ‘dog’ and in (50) with the word for ‘chicken/rooster’.

- (49) *Huäcui micuinu jqu täji ähuiri*
 wak^wi mik^w-in-ũ hãũ **t-æhi** æwiri
Huäcui be.called-PST-NFIN 3SG.M.PRO 1PL-PET dog
 ‘*Huäcui* se llamaba nuestro perro’
 ‘Our dog was called *Huäcui*’
 (Babel062:222)

- (50) *chäji äcäräru’inä ...*
ʃ-æhi ækæræ-ru-ʔinæ
 1SG-PET chicken-OBJ-ADD
 ‘a mi gallo...’
 ‘my rooster’
 (Babel062:136)

It is important to note that speakers rejected any elicitation attempt to directly mark a possessor on the noun for ‘dog’, as shown in (51).²⁵

- (51) a. *chäji ähuiri* b. **chähuiri*
ʃ-æhi æwiri
 1SG-PET dog
 ‘my (pet) dog’
 (Elicited)

However, it is possible to possess certain animal names directly, as the example in (52a) shows. In this example, the word for (a kind of) ‘dove’ is prefixed with a 1PL possessive prefix. Only two such uses appear in my corpus and it may be that these are metaphorical expressions referring to children but this requires further research. Crucially, as (52b) shows, the word *märo* can also be used with the genitive classifier for ‘pet’. This variability is further discussed below in Section 4.2.3.

²⁵ In contrasting the use of the direct possession strategy via a prefix with the use of the genitive classifiers -*äji* and -*qyq* (see below), Krute (1989: 90) additionally provides the following unacceptable examples: */*ʃijæwi/* for ‘my (pet) tiger’, */*ʃit’æmi/* ‘my turkey (carcass)’, and */*ʃæʔi/* ‘my caught bass’. These may be pragmatically odd as none of them are animals that are kept or owned.

- (52) a. *ttöcuq* *tömärorumä*
 t^hi-k^w-ã **t**i-mæro-ru-mã
 wake-2SG-IMP₂ 1PL-dove-OBJ-TOP
 ‘lo vas a despertar a nuestro pajarito’
 ‘you will wake up our dove’
 (Babel020:86)
- b. *täji* *märorumä* *ttöcuq* *pättäjita’anö* ...
t-æhi mæro-ru-mã t^hi-k^w-ã pæ-t^h-æhi-ta?ani
 1PL-PET dove-OBJ-TOP wake-2SG-IMP₂ say-3PL-PERF?-SIM
 ‘A su pajarito despertarlo como le habían dicho’
 ‘Wake up our dove, like they had told (her)’
 (Babel020:213)

An important characteristic of this genitive classifier is that it can be pluralized if the possessee is plural, as exemplified in (53). Note, however, that the classifier does not take the same plural suffix as the possessee, which is marked with the animate plural suffix *-tö* /*-tĩ*/, but rather one that is lexically specified for this particular genitive classifier.

- (53) *chäjimü* *äwiritö*
 tʃ-æhĩ-**mũ** æwĩrĩ-tĩ
 1SG-PET-ANIM.PL₂ dog-ANIM.PL₁
 ‘my (pet) dogs’
 (Elicited)

In addition to ‘pets’ as defined by Krute, Piaroa teachers from the community of Sarrapia in Colombia report that this construction can be used with insects and other lower animal orders, for example, when they are used by children in their games (personal communication, October 10, 2023).²⁶

4.2.2.3 Other/prey animals

In addition to the ‘pet’ classifier discussed above, there is a second classifier that is used with animals, namely *-’yq*. Krute (1989: 90–91) points out that this classifier is used with “any dead animal, whether accidentally discovered or intentionally killed” and that although the typical use is with mammals, it can also be used with “(dead) fish and birds”. Example (54) shows this genitive classifier used two times

²⁶ The particular example reported by the teachers in Sarrapia involved grasshoppers which sometimes very young children will play with; such children may (reportedly) refer to these grasshoppers using a ‘my-pet grasshopper’ construction.

in the same stretch of speech, once with ‘birds’ and once with ‘peccary’, a type of mammal (*Tayassu pecari*).

- (54) a. *tt̥q̥'oyq̥ ppiyuhuã*
t̥h̥i-ʔõɕã p^hiɕuwæ
 3PL-PREY.SG bird.PL
 ‘sus pájaros’
 ‘their birds’
- b. *tt̥q̥'oyq̥ im̥ɛ pättäcu*
t̥h̥i-ʔõɕã im̥ɛ pæ-t^h-æ-ku
 3PL-PREY.SG peccary say-3PL-TAM₁-OBJ?
 ‘su váquiro (que) le dicen’
 ‘(what) is called their peccary’
 (Babel014:167-168)

Similarly to the *-äji* genitive classifier, *-'oyq̥* can also be pluralized; the plural form of the classifier is shown here in (55) and also through the contrast of the singular and plural forms in (56). Note that in (56b) the use of the plural marker on the noun itself was considered optional by the speakers consulted.

- (55) *ojusode ä'ärä imi q'qt̥q̥ k̥äy̥q̥*
 Ø-ohus-ode æ?æ-ræ imi õ-ʔõĩĩ k^hæy-ĩ
 3SG.M-house-CL:HOUSE yard-CL:CLEAR outside 3SG.M-PREY+PL worm-PL.ANIM₁
 ‘fuera del patio de su casa había sus gusanos comestibles’
 ‘outside his house’s yard, (there were) his edible worms’
 (Babel014:116)

- (56) a. *q̥'oyq̥ im̥ɛ'ĩnã*
ĩ-ʔõɕã im̥ɛ-ʔĩnã
 3SG.M-PREY.SG peccary-ADD
 ‘su váquiro también’
 ‘his peccary too’
 (Babel014:115)
- b. *q̥'qt̥q̥ im̥ɛ(t̥q̥)*
ĩ-ʔõĩĩ im̥ɛ(-t̥ĩ)
 3SG.M-PREY.PL.ANIM₁ peccary-PL.ANIM₁
 ‘sus (varios) váquiros’
 ‘his (multiple) peccaries’
 (Elicited)

While Krute (1989) suggests that this genitive classifier is only used with dead animals, the intuition of the consultants I have worked with is that it “can be used

also with live animals but that do not belong to you”.²⁷ The example in (55) is such a context in which the referent – in this case, a type of worm – is deemed to be alive and not dead.²⁸ It thus seems that a better descriptor is not necessarily their “dead” condition but rather whether they are (potential) “prey” – that is, they can be eaten. This is in line with the meaning of the word *pɔyɔ* from which the classifier is likely derived and which means ‘game, prey’ (Nolberto Fuentes, pers. comm., Nov. 4, 2021) and was confirmed by several Piaroa teachers in October 2022 while discussing the contrast between the different genitive classifiers. During this discussion, the teachers explained that, for instance, a chicken that one keeps for a time (as a pet or raising it) can be referred to by *-äji* but that a chicken that one buys with the intention of, say, killing it and eating it later in the day can co-occur with *-’qyɔ*, crucially while still alive. The teachers also reported that it is possible to use the word ‘chicken’ with the genitive classifier for food *-yɕuɔ̃* when talking about chicken meat. As I discuss below, this is an example of the relational nature of Piaroa genitive classifiers.

4.2.2.4 Novel/introduced objects

The fourth genitive classifier used in the indirect possession construction described in this section is *-äre* which, as Krute (1989: 91–92) shows, is primarily used with borrowed (from Spanish) nouns or native Piaroa nouns for which the real-life referent has changed to an introduced object (e.g., *soari* ‘needle’ which went from being traditionally made of bone to the metal needle introduced by the outside Venezuelan society).

The use of *-äre* is exemplified in (57) and (58) with the nouns for ‘money’ and ‘motorcycle’, respectively. Krute (1989: 91) argues that this construction can be used with borrowed nouns that have been morphologically adapted to Piaroa grammar via the addition of a classifier as well as with those that have not been adapted. His examples and the examples in (57) and (58) further suggest that this also applies to phonological adaptation: note that the word for ‘money’ has been phonologically adapted from Spanish *plata* ‘silver’ while the word for ‘motorcycle’ remains the same.

- (57) *chɔjɔ* *kiäre* *pärätä* *sojä* ...
 ʧ-äɦũ **k^hi-äre** pærætæ =s-ohæ
 1SG-MOTHER 3SG.F-INTRODUCED money =DUM-CL:LEAF
 ‘el dinero de mi mamá...’
 ‘my mother’s money (Spanish *plata* ‘silver’)...’
 (Babel011:22)

²⁷ This comment regarding use was provided while discussing the best translation for the example in (56a).

²⁸ In fact, the next intonation unit includes an ideophone that describes the sound the worms were making.

- (58) ... *chä'o* *iäre* *moto'inä*
 ʧ-æʔo **i-ære** *moto-ʔinã*
 1SG-father 3SG.M-INTRODUCED motorcycle-ADD
 '...la moto de mi papá también'
 '...my father's motorcycle too (Spanish *moto* 'motorcycle')'
 (Babel011:25)

This genitive classifier has also become the default strategy for introducing Spanish nouns designating other entities, beyond introduced objects per se, into the language. Examples in the corpus include 'our school (Spanish *escuela*)' in (59), 'our mate (Spanish *compañero*)' in (60), and 'their story (Spanish *historia*)' in (61). In all three of these examples, a Spanish noun is used with *-äre*; however, the semantics of these nouns can vary significantly even including animate nouns as in (60) for 'mate'.

- (59) *tiäre* *escuela*
ti-ære eskwela
 1PL-INTRODUCED school
 'nuestra escuela'
 'our school (Spanish *escuela* 'school')'
 (Babel002:19)
- (60) *tiäre* *compañero* *Marco*
ti-ære *kompañero* marko
 1PL-INTRODUCED mate Marcos
 'nuestro compañero Marco'
 'our mate Marcos (Spanish *compañero* 'mate')'
 (Babel015:15)
- (61) *ttiäre* *historia* *jittähua'a* ...
thi-ære istorja hi-t^h-æw-aʔa
 3PL-INTRODUCED story tell-3PL-MID-TAM₂
 'su historia de ellos contaban...'
 'they used to tell their story...'
 (Babel018:14)

One additional point is that Krute (1989) transcribes this genitive classifier as starting with a glottal stop but that does not seem to be the case, as a contrast of the two forms in (62) suggests. The consultants I work with deem these two forms to be phonologically different and the one with a glottal stop between the first two vowels is consistently assigned to the meaning 'her eye'. However, the realization of the (C)V-allomorph of the possessive prefixes with this genitive classifier would in fact suggest that the root is consonant-initial and not vowel-initial.

- (62) a. *kiäre* b. *ki'äre*
 k^hi-ære *k^h-iʔæ-re*
 3SG.F-INTRODUCED 3SG.F-face-CL:eye
 ‘her thing’ ‘her eye’
 (Elicited)

4.2.3 Non-predictability and variability in assignment

The examples in (51) and (52) above suggest that while the assignment of a particular noun to a particular possessive class – in this case, the classes of directly possessed (animate possessor marked on the possessee) and indirectly possessed nouns (animate possessor marked on the genitive classifier) – follows certain general trends, assignment is not entirely predictable based on semantic grounds only. In this particular case, while most animals cannot be directly possessed and require the use of the genitive classifier *-äji* as in (51), it is possible to possess an animal term directly as in (52a). A second example of this type of non-predictability in assignment is illustrated in (63). While food items generally take the genitive classifier *-ycuä*, it is also possible for certain nouns for food to be directly possessed via a possessive prefix as the example below shows. In this example, the deverbal noun *söahuä* ‘roast’ is marked via a 3SG.M prefix.

- (63) *juḡneṭä* *jäyänä* *ösoahuä* *imę* *soahuä* *huq'q*
 h^wænē-tæ *hæḡæ-næ* *i-so-æw-æ* *imē* *so-æw-æ* *w-aʔa*
 that-CONTR? side-LOC 3SG.M-roast-MID-NZR? peccary roast-MID-NZR? lie-TAM₂
 ‘del mismo lado su asado, asado de váquiro, estaba’
 ‘his roast, peccary roast, was on that same side’
 (Babel014:150)

Another possible context for non-predictability is instances like the one in (64) where more than one genitive classifier is semantically available as is the case for the noun *sḡḡṇḡ* here – borrowed from Spanish *sardina* ‘sardine’ – for which the speaker could have used either the classifier for food items or the one for novel/introduced objects encoded by Spanish borrowings. Here the choice seems determined by the semantics of the assignment.

- (64) *ycuä* *sḡḡṇḡ'inä*
 \emptyset -*ük^wæ* *sāḡḡṇḡ-ʔinæ*
 3SG.M-ALIMENTARY sardine-ADD
 ‘su (comida) sardina también’
 ‘his sardines (Spanish loan) too’
 (Babel026:174)

This non-predictability is already noted by Krute (1989: 93–95) who claims that there is no single semantic principle that can underpin the assignment of a given noun to a given possessive class. He argues that there are many semantic/grammatical (seeming) mismatches within the genitive classifier system, the direct/indirect system, and the alienability-based system.

In addition to non-predictability, there is contextual variability where a single noun can appear in more than one type of construction or with more than one type of genitive classifier.²⁹ For instance, the two examples in (65) show that it is possible for a noun to be directly possessed and indirectly possessed. Here the word for ‘milk tree’ enters into an indirect possession construction with the genitive classifier *-ɥcuä* in (65a) but is directly possessed with a first-person singular possessive prefix in (65b). These two examples come from the same narrative and are only one intonation unit away from one another, which underscores the variable nature of assignment to one construction over another depending on the context.

- (65) a. *ɥcuä* *uppäi* *jäi*
 Ø-**ük**^wä up^hæ-i hæi
 3SG.M-ALIMENTARY milk.tree-CL:TREE DIST+CL:TREE
 ‘su árbol de pendare’
 ‘his milk tree’
 (Babel025:18)
- b. “ *chuppäi* *jäi* ... ”
ɥ-up^hæ-i hæi
 3SG-milk.tree-CL:TREE DIST+CL:TREE
 ‘ “mi mata de pendare...” ’
 ‘ “my milk tree...” ’
 (Babel025:20)

To further test this, I performed a count of all instances of ‘milk tree’ in the text where the two examples in (65) occurred as well as a count for the word *märo* ‘dove’, illustrated above in (52), in Babel020. The results of these counts are presented here in Table 4 and illustrate that even within a single text (both texts are narrated by the same speaker), a given optionally possessed noun can appear within either a direct possession construction or an indirect possession one.

Further, Krute (1989) notes that a single noun can appear with more than one genitive classifier, as the elicited examples below show. Note that here the noun /tæ?u/ ‘nutria’ can combine with a different genitive classifier to encode different relational

²⁹ Note that variability of assignment is also characteristic of Oceanic possession systems as the discussion of ‘fluidity’ in Lichtenberk (2009) shows.

Table 4: Distribution of *märo* and *uppäi* by construction type.

	<i>märo</i> ‘dove’	<i>uppäi</i> ‘milk tree’
Free (non-possessed) form	2 (IUs: 58, 63)	2 (IUs: 24, 175)
Directly possessed via a prefix	3 (IUs: 57, 62, 86)	2 (IUs: 20, 36)
Possessed via a genitive classifier + prefix	3 (IUs: 213, 219, 230)	2 (IUs: 07, 18)
Unclear	1 (IU: 202)	2 (IUs: 30, 68)
Total occurrences	9	8

meanings between the possessee and the possessor. According to Krute (1989: 88), the directly possessed form */tʃitæʔu/ is, however, unacceptable to speakers.

- (66) a. tʃ-æhi tæʔu
 1SG-PET nutria
 ‘my nutria, my pet nutria’
- b. tʃi-ʔoŋæ tæʔu
 1SG-PREY nutria
 ‘my nutria, my nutria carcass’
- c. tʃ-ukʷæ tæʔu
 1SG-ALIMENTARY nutria
 ‘my nutria, my nutria meat, my butchered nutria’
 (adapted from Krute 1989: 88)

The examples in (66) and the discussion about possessing a ‘chicken’ reported at the end of Section 4.2.2.3 highlight that the Piaroa genitive classifiers are relational since they encode not only semantic characteristics of the referent but also the type of relationship that holds between the possessor and the possessee.

4.3 Summary

In the sections above, I presented an analysis of the different constructions that Piaroa speakers use to encode “possession”, with a focus on those that have an animate possessor. Here I discuss some of the main properties of the subset of constructions with an animate possessor discussed in Sections 4.1 and 4.2 in order to highlight similarities and differences between them, summarized in Table 5. All three main adnominal possession constructions that occur with an animate possessor – i.e., the inalienable construction, the alienable construction with direct marking, and the alienable construction with indirect marking – make use of the same set of possessive affixes to index the possessor and in all instances, the expression of the possessor can be accomplished via the same set of possibilities (zero overt expression, via a pronoun,

Table 5: Summary of structural properties by construction.

Properties	'Inalienable (Direct)'	'Alienable'	
		Direct	Indirect
Morphological indexing via affixation (same indexes)	✓	✓	✓
Expression of the (animate) possessor			
– Not expressed overtly	✓	✓	✓
– Expressed via a pronoun	✓	✓	✓
– Expressed via a noun	✓	✓	✓
– Expressed via a noun phrase	✓	✓	✓
Obligatoriness of indexing			
– Obligatory	✓	–	–
– Optional	–	✓	✓
Bound versus free roots			
– Bound	✓	–	–
– Free	–	✓	✓
Internal structure of the possessee noun phrase			
– Noun	✓	✓	–
– Genitive classifier + noun	–	–	✓
Locus of marking			
– Head (possessee)	✓	✓	✓
– Noun	✓	✓	–
– Genitive classifier	–	–	✓
– Dependent (possessor)	–	–	–

via a noun, and via a noun phrase). Additionally, all three constructions can be considered as head-marking constructions since the dependent possessor noun never takes any morphological marking. However, there are also important differences between these three constructions. First, the indexing of the possessor on the possessee via affixation is only obligatory for the inalienable construction. Second, the possessee nouns that occur in this construction can be considered to be bound roots since they cannot occur without possessive marking; the nouns that enter the alienable construction on the other hand are free nouns. Finally, the two alienable constructions, direct versus indirect, differ in that for the indirect construction the possessee is formed by a genitive classifier plus a noun and in that it is the genitive classifier (and not the noun) that is the locus of marking via affixation.

Three other characteristics of the Piaroa adnominal possession system are worth summarizing here given that they expand our knowledge about possession generally. First, the Piaroa data discussed above highlight that possession can be used to encode relations between two entities that go beyond the traditionally studied ownership, kinship and part-whole relations and which can include notions related to “use” of the possessee as potential food or prey. This seems to be typical of








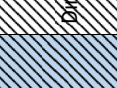








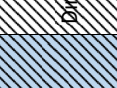

languages with genitive classifiers (Carlson and Payne 1989) but further in-depth studies of possession in languages with genitive classifiers are likely to reveal new semantic relations that can be encoded by possession as well as shed light on what semantic relations are commonly encoded via genitive classifiers crosslinguistically and how these are distributed areally (e.g., “pet” is common in several South American language families such as Naduhup [Epps and Obert 2022] and Tupían [Rose forthcoming] but is also present in Uto-Aztecan [Hill and Hill 2019: 296–297] and Maiduan [Mithun 1999: 250]). Second, the Piaroa genitive classifiers are in fact *RELATIONAL*, encoding not only properties of the possessee noun but also the semantic relationship between the possessor and the possessee; this challenges our previous understanding of the crosslinguistic distribution of relational classifiers as discussed in Section 2. Finally, one further important characteristic of the system is the contextual selection of the different possession strategies that some alienable nouns can occur in, a choice that seems to be discourse motivated rather than lexically assigned.

5 Discussion and conclusions

As shown above, Piaroa speakers make use of multiple possession strategies with animate possessors, all of them head-marked, which is a common pattern in the Americas (Nichols and Bickel 2013b). These strategies vary not only based on their obligatoriness (grammatical alienability) but also based on the locus of marking (direct vs. indirect possession). In other words, Piaroa possession distinguishes between, on the one hand, alienable and inalienable nouns and, on the other, nouns that can be directly possessed and those that cannot. Crucially, the Piaroa system reveals that it is possible for a language to have (two in this case) concurrent systems of nominal classification – in the sense of Fedden and Corbett (2017) who show that is possible for languages to have more than one system for classifying nouns simultaneously – that determine its possessive classes. Typological work like Nichols and Bickel’s (2013a) survey of 243 languages suggests that it is rare for languages to have more than three possessive classes.³⁰ However, an important difference between the four systems described by Nichols and Bickel (2013a) and the Piaroa system is that the Piaroa classes are not part of a single classification system but are rather determined by two different classification systems that overlap significantly but not completely. These two systems and their overlap are summarized in Table 6. On the one hand, the alienability contrast divides nouns into obligatorily possessed nouns (blue) versus optionally possessed nouns (orange). The obligatorily possessed or inalienable nouns include kinship and

³⁰ As previously discussed in Section 2, these authors define possessive classes as lexically determined classes conditioned by the possessed noun.

Table 6: Concurrent systems of possessee classification in Plaröa.^a

Determining Factor	Possessee				Determining Factor
	Class	Meaning	Locus of marking	Class	
Alienability	inalienable (obligatory marking)	  	  	  	Locus of marking (direct vs. indirect possession)
	alienable (optional marking)	  	  	  	

^aBlue = inalienable/obligatory possession; orange = alienable/optional possession; diagonal lines = direct possession; trellis = indirect possession.

body-part terms while the optionally possessed nouns include nouns denoting other semantic categories. On the other hand, there is a distinction between nouns that are directly possessed – i.e., nouns that can take the possessive affixes directly – and those that do not and require a genitive classifier to act as host of the possessive affixes; this contrast is indicated via texture in the corresponding cells (diagonal lines correspond to direct possession and a trellis pattern to indirect possession). As the table shows, there is no complete overlap between these four classes with direct possession being a property of inalienable nouns as well as of some alienable nouns.

The Piaroa system is thus different from other better-known systems of possessive classification such as those of Oceanic languages where alienability- and (in)direct possession-determined classes fully overlap (i.e., inalienable nouns are directly possessed and alienable ones are indirectly possessed). In other words, ‘alienability’ is sufficient to account for the distribution of possessive classes in Oceanic but this is not the case for Piaroa. In showing this difference and underscoring the fact that alienability is an important but not sufficient criterion to account for the distribution of possessive classes in Piaroa, this article contributes to our crosslinguistic understanding of possession, demonstrating that two different but concurrent systems of nominal classification are needed to account for the properties and distribution of the Piaroa adnominal possession constructions with animate possessors. It is my hope that further crosslinguistic research can reveal similarly complex systems of possessive classes.

Acknowledgments: First, I want to acknowledge and thank the many speakers of Piaroa who have worked with me since 2016. I owe special thanks to José Manuel Ochoa, Rogelio Ochoa, Miguel Pérez, Hotimio Tamaya, and Federico Arana for their continued help and patience with all of my questions as well as to the Piaroa teachers at the Internado Ecológico Intercultural Kwäwäi (Sarrapia, Colombia) for the opportunity to discuss the complexities of Piaroa possession with them. I also would like to acknowledge generous fieldwork funding for the documentation of Piaroa from the Endangered Languages Documentation Programme [Awards SG-0408 and IPF-0255], the Banting Postdoctoral Fellowships [Award 201409BAF-344340-258019] and the Killam Trusts at The University of British Columbia. Finally, I thank the editors of this special issue Françoise Rose and An Van linden and three anonymous reviewers for their insightful comments and suggestions on previous drafts of this article. I alone am responsible for any remaining errors and shortcomings.

Abbreviations (in addition to Leipzig Glossing Rules)

ADD	additive
ANIM	animate

CL	classifier
CLS2	marker for verb roots belonging to Class II in their non-finite and imperative forms
CONTR	contrastive
COP	copula
DEC	deceased
DUM	dummy root
FEM	feminine
INAN	inanimate
LOC	locative
MASC	masculine
MID	middle
NFIN	non-finite
PRO	pronoun
PURP	purposive
TAM	tense-aspect-mood marker

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Questioning the relevance of alienability in Arawak linguistics: an innovative analysis of possession in Mojeño Trinitario

<https://doi.org/10.1515/ling-2022-0018>

Received February 4, 2022; accepted April 7, 2023; published online October 20, 2023

Abstract: This article presents an original analysis of possession in Mojeño Trinitario, an Arawak language, teasing apart the levels of lexical possessive noun classes, morphological derivation between noun classes, and adnominal possessive constructions. The three possessive noun classes (obligatorily prefixed, optionally prefixed and non-prefixable) do not exactly correspond to the three possessive noun classes of the traditional analysis of Arawak languages, as in the analysis proposed here some of the traditionally called “alienable” nouns, i.e. nouns occurring as either possessed or unpossessed, are classified as non-prefixable nouns because they need some additional derivational morphology to be prefixable. The two adnominal possessive constructions (basic, through prefixation and modification; and indirect, via a generic possessive noun) are described, and their distribution is discussed. The article then addresses the question of how the notion of “alienability contrast” could explain the phenomena described, at either the lexical or phrasal level. In the process, it offers frequency counts on how often nouns of the different possessive classes occur as possessed in discourse, and it discusses whether the three noun classes are open or closed classes. It concludes that the alienability contrast is at best only a partial explanation for the expression of possession in Mojeño Trinitario. This article ends by developing how this innovative account of possession in Mojeño Trinitario applies to other Arawak languages.

Keywords: adnominal possession; bound nouns; generic possessive noun; derivation; discourse frequency

1 Introduction

This article offers an innovative analysis of possessive noun classes and adnominal possession in Mojeño Trinitario (Arawak, Bolivia), by highlighting the role of derivational processes among noun classes. By doing so, it questions the relevance of the

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concept of “alienability” for the description of that language, and of Arawak languages more generally. These languages are regularly described as featuring an alienability contrast in their encoding of possession.

In the literature, the linguistic category of possession is taken to cover many more relations within the personal sphere of the possessor than just ownership (Creissels 2006: 143). A well-known distinction in terms of possessive relationships is that between inalienable and alienable possession. This is called the alienability contrast and is either seen as a semantic contrast or as a formal instantiation of this contrast in the lexicon or grammar of a language (Nichols 1988). On the semantic level, inalienable possession is seen as being inherent and permanent and prototypically encompasses body-part and kinship relations, while alienable possession can be temporary (Chappell and McGregor 1996: 4). On the formal level, alienability splits often show in adnominal possession.¹ Crosslinguistically, the adnominal possessive construction expressing inalienable possession regularly “involves a tighter structural bond between possessee and possessor” than the one expressing alienable possession (Heine 1997: 172).

This article aims to revisit the relevance of the alienability contrast for the description of Arawak languages. These languages are often reported to show the tendency observed for Amazonian languages to feature an alienability contrast at the level of noun classes (see Krasnoukhova 2011), of (adnominal) possessive constructions (van der Voort 2009) or both levels, without clearly distinguishing them (Aikhenvald 2012: 163–178). Indeed, for Arawak languages, the alienability contrast has been argued to be at work at two levels: on the lexical level, through the distinction between noun classes depending on their morphosyntactic behavior in possessive constructions, and on the phrase level, through the competition between two adnominal possessive constructions. The literature on possession in Arawak languages consists of the relevant sections of grammars (see Durand [2016] for a good overview of descriptions of individual Arawak languages), some papers specifically focused on possession in individual languages (Carvalho 2015; Castillo Ramirez 2017; Corbera Mori 2005; Freitas 2017; Lemus Serrano 2015; Michael 2012), and some synchronic and diachronic work at the family level (Aikhenvald 2012: 163–178; Payne 1987). Before getting to the core of my proposal, I present a traditional account of possession in Arawak languages, illustrated with some data from Yukuna (Lemus Serrano 2020), meant to be representative of the literature mentioned above.

As mentioned above, the literature on Arawak languages refers to both alienable and inalienable nouns and alienable and inalienable possessive constructions. I will highlight now that there is no plain correspondence between classes of nouns and

¹ In adnominal possession, also called attributive possession, the possessor and the possessee are expressed within a single noun phrase, in contrast with predicative possession or external possession.

possessive constructions. On the lexical level, Arawakanists generally distinguish between a class of inalienable nouns, which obligatorily occur possessed (with a possessive person index and/or an NP for their possessor), and a class of alienable nouns, which only optionally occur possessed (with either a possessive person index and/or a possessor NP) (Aikhenvald 1999: 82). These latter roots usually need to carry a special suffix when possessed, although in some languages some of these roots do not need a suffix then. Examples (1) and (2) show an inalienable noun with a pronominal and a nominal possessor, respectively. Examples (3) and (4) show an alienable noun first unpossessed and then possessed. When possessed as in (4), it carries a suffix specific to alienable nouns, additionally to the expression of the possessor. These two noun classes perfectly illustrate the expectation that possession is encoded formally with more material for alienable nouns than for inalienable nouns since the former need an additional suffix. But in its definition of inalienable nouns, this traditional analysis overlooks the fact that some nouns that are obligatorily possessed can actually occur without a possessor, as long as they take another special suffix as in (5). This fact is not seen in the literature as a contradiction to the inalienable categorization of this class of nouns. Also, this analysis excludes from the domain of possession a third class of nouns in Arawak languages, usually described as non-possessible, on the basis that they cannot take a possessive person index, under any conditions.

- (1) Yukuna
na=a'jné
 3_{PL}=food
 'their food'
 (Lemus Serrano 2020: 50)
- (2) Yukuna
yuwa-ná a'jné
 unripe-_{PL} food
 'children's food'
 (Lemus Serrano 2020: 50)
- (3) Yukuna
wapa'ná jwa'té ri=chiri'-ch=ó
 blowgun with 3_{SG.NF}=wander-PST=MID
 'he went with the blowgun'
 (Lemus Serrano 2020: 812)
- (4) Yukuna
ri=wapa'ná-re
 3_{SG.NF}=blowgun-POSD
 'my blowgun'
 (Lemus Serrano 2020: 51)

- (5) Yukuna
A'jne-jí tâ ri=ikhá.
 food-NPOSD EMPH 3SG.NF=PRO
 'It is food.'
 (Lemus Serrano 2020: 51)

On the phrase level, some Arawak languages (only a few according to Aikhenvald (1999: 84), very probably more) show two adnominal possessive constructions. The basic construction, illustrated in (6), simply encodes the possessor as a person index on the possessee or as an NP juxtaposed to it (depending on the language, the person index is present or absent when the possessor is overtly expressed as a lexical item). The indirect construction, illustrated in (7), is built on the basic one, with the slot corresponding to the possessee in (6) being filled by either a generic possessive noun (translatable as 'belonging') or a generic classifier.² This basic adnominal possessive construction with the 'dummy' possessee is then specified with a lexical expression for the possessee, and together these elements constitute the indirect construction. The distinction between these two adnominal possessive constructions could be accounted for by the alienability contrast: semantically, the basic construction as in (6) can be said to encode a tighter semantic bond between possessee and possessor than the construction with an additional dummy possessee as in (7); formally, the indirect possessive construction shows more marking than the basic one.

- (6) Yukuna
nu=aló
 1SG=mother
 'my mother'
 (Lemus Serrano 2020: 319)

- (7) Yukuna
ri=le'jé pají
 3SG.NF=GPN house
 'his *maloca* (traditional house)'
 (Lemus Serrano 2020: 53)

Nevertheless, we have already seen that the basic construction is not restricted to inalienable possesseees, but also functions with alienable ones as in (4). Also, while the indirect construction is presented in the literature as offering a means for so-called "non-possessible" nouns to enter a possessive construction (which is a bit of a

2 In addition to the four languages listed in Aikhenvald (1999: 84), indirect constructions have been described for at least Baure (Danielsen 2007: 124), Yukuna (Lemus Serrano 2020: 53–54), and Paunaka (Terhart 2021: 182–185).

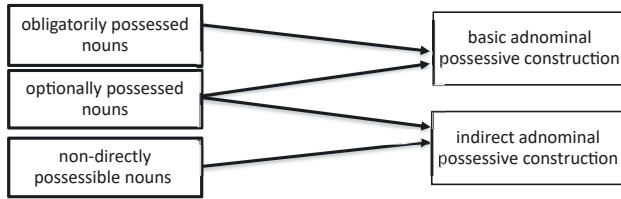


Figure 1: “Traditional” account of Arawak noun classes and possessive constructions.

contradiction), it is also attested with nouns that are possessible, as in (8) (Lemus Serrano 2020: 53).³ Therefore, there is not any simple association between noun classes and adnominal possessive constructions, as summarized in Figure 1.

- (8) Yukuna
nu=le'jé yáwi ñáni
 1SG=GPN dog DIM
 ‘my little dog’
 (Lemus Serrano 2020: 53–54)

- (9) Yukuna
nu=yawi-té-na
 1SG=dog-POSD-PL
 ‘my dogs’
 (Lemus Serrano 2020: 51)

The semantic basis of the alienability contrast has regularly been used as a motivation for a difference in formal marking between two classes of nouns, or between different adnominal possessive constructions, be it in terms of iconicity (Haiman 1985: 130) or frequency (Haspelmath 2017). This article aims at re-considering the validity of “alienability” as an explanatory factor for possessive noun classes on the one hand, and possessive constructions on the other hand, in Arawak languages, through the study of a particular Arawak language, namely Mojeño Trinitario. Does the alienability contrast surface in the lexicon? If so, what does the organization of the lexicon reveal about what is considered alienable or not in this language? Does the formal difference between the two adnominal possessive constructions rate as an alienability split?

To answer these questions, I will draw a clear line between noun classes (defined by their morphosyntactic behavior in possessive constructions) and adnominal possessive constructions. This line is sometimes blurred in the literature, which sometimes

³ The semantic distinction between (8) and (9) in Yukuna is actually not discussed by Lemus Serrano (2020).

seems to presuppose a strict correspondence between some noun classes and some adnominal possessive constructions. A feature of Mojeño Trinitario helps in that respect: unlike in Yukuna (see Example (2)), obligatorily possessed nouns feature possessive person prefixes even when the possessor is expressed as an NP. This systematic presence of person prefixes on obligatorily possessed nouns enables us to identify the noun classes depending not on whether they must be, can be, or cannot be possessed (i.e., enter a possessive construction), but with the more straightforward morphological criterion of whether they must, can or cannot take a person prefix.

All descriptions of Arawak languages mention the suffixes that are crucial for (all or some) so-called “alienable” nouns to be possessed. They are glossed POSD in the present work and have been exemplified with *-ne* in (4) and *-té* in (9). This article raises for the first time the question of the status of these possessive suffixes, which are crucial in most Arawak languages for so-called “alienable” nouns to be possessed. Let’s compare their traditional analysis with that of the suffixes found on obligatorily possessed nouns when these are not possessed, here glossed NPOSD and exemplified with *-jí* in (5). Most often, authors write that obligatorily possessed nouns can occur without a possessor when carrying a special suffix, without noticing the contradiction. Some authors reasonably dispel this contradiction by considering these suffixes to derive non-possessible nominal stems from obligatorily possessed roots (Danielsen 2007: 121; Michael 2012; Terhart 2021:179, for example). Similarly, it has been commonly accepted that optionally possessed noun roots enter the basic possessive construction while they systematically need a special suffix to do so (they would basically not be possessible without this suffix).

In this article, I propose that “possessive suffixes” (those glossed POSD) derive possessible nominal stems from non-possessible noun roots, mirroring the derivational account of the reverse process: the derivation of non-possessible nominal stems from obligatorily possessed roots with a NPOSD suffix mentioned above.⁴ This results in a different categorization of noun roots into possessive noun classes. The correspondence with the previous categorization is summarized in Table 1.

Another particularity of Mojeño Trinitario is interesting: the class of optionally possessed nouns (called “alienable” in the Arawak literature) contains some nouns that can take a possessive person prefix without any other change, thus calling for a true class of optionally possessed noun roots even after the reclassification of the nouns that need a suffix in order to be possessed as non-prefixable roots.⁵

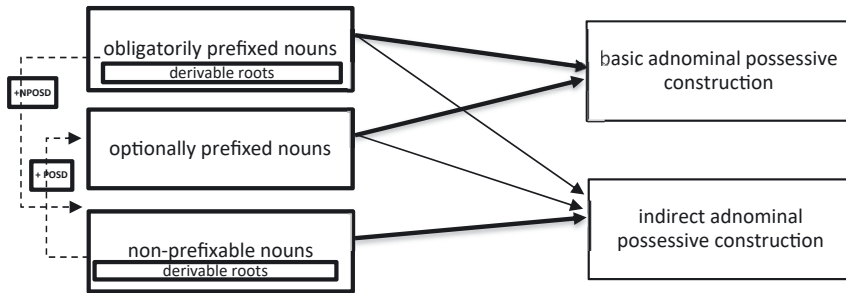
The analysis of the Mojeño Trinitario possession domain as analyzed in this article is schematized in Figure 2, where solid arrows represent the use of particular noun

4 Danielsen (2007: 123) and Terhart (2021: 181) do mention the derivation of a possessible form but do not question the fact that the underived root is therefore not possessible itself.

5 At least Paunaka also shows a class of alienable noun roots that do not need derivation to be possessed (Terhart 2021: 180).

Table 1: Arawak possessive noun classes: traditional account and present proposal.

Traditional possessive noun classes	Proposal for possessive noun classes	Subclasses based on derivational potential	Example from Yukuna
Inalienable	Obligatorily possessed	-NPOSD	Not illustrated <i>a'jné</i> (1) (2) (5)
Alienable	Optionally possessed		Absent in that language
Non-possessible	Not possessible with possessive person prefix	-POSD	<i>wapa'ná</i> (3) (4), <i>yáwi</i> (8) (9) <i>pají</i> (7)

**Figure 2:** Innovative account of Mojeño Trinitario noun classes and possessive constructions.

classes in possessive constructions, and dashed arrows the derivation processes among noun classes. The thinner arrows represent associations that are not frequent.

In brief, this article offers an innovative and more consistent analysis of possession in Arawak languages, with a central place given to derivational processes between noun classes. Ultimately, we will see that the semantic distinction between alienable and inalienable possession does not apply straightforwardly to either noun classes or adnominal possessive constructions, and even less so if one adopts a derivational analysis of the possessive suffixes.

Section 2 will introduce Mojeño Trinitario and its two possessive constructions: the basic and the indirect possessive constructions (the boxes to the right in Figure 2). Section 3 will present the three possessive classes of noun roots – obligatorily prefixed, optionally prefixed and non-prefixable ones (the boxes to the left in Figure 2). Section 4 will present an original analysis of the nominal suffixes that allow or disallow the combination of a noun root with a possessive person prefix: they will be analyzed as devices deriving noun roots into nominal stems of a different possessive class (the dotted arrows in Figure 2). Section 5 will then describe the distribution of

noun classes across the possessive constructions, represented by the solid arrows in Figure 2. Section 6 will argue that the notion of alienability does not clearly account for any contrast in Mojeño Trinitario, at either the lexical or phrasal level. Section 7 will briefly summarize the innovative analysis and present how it can be extended to other Arawak languages.

2 Adnominal possession in Mojeño Trinitario

Mojeño Trinitario (trin1274) is a Southern Arawak language spoken in the Bolivian lowlands (Gill 1957; Rose 2015b). The data on which this article is based have been collected in the field by the author since 2005. They constitute a database of 8 h of (semi)-spontaneous speech, 2 h of isolated sentences elicited with stimuli, and additionally 4900 elicited sentences (Rose 2018b).⁶ Mojeño Trinitario is a highly agglutinating language, with a large number of suffix/enclitic slots and a few prefix slots. Lexical and grammatical morphemes display several surface forms, due to a rich system of morphophonemic rules and a pervasive process of vowel deletion (Rose 2019a). Within the few prefix slots, one finds a set of prefixes that are used to index S and A on verbs and also – most crucially for this article – the possessor on nouns. This set, called “person prefixes” in this article, encodes person, number and gender, and is presented in Table 2.⁷

Table 2: Mojeño Trinitario person prefixes.

1SG	<i>n-</i>
2SG	<i>p- ~pi-</i>
1PL	<i>v- ~vi-</i>
2PL	<i>a-</i>
3M(SG,H) speaker♂	<i>ma-</i>
3M(SG,H) speaker♀	<i>ñi-</i>
3F(SG,H)	<i>s-</i>
3PL(H)	<i>na-</i>
3NH(SG/PL)	<i>ta-</i>
3	<i>t- ~ty-</i> on verbs only
‘other’	<i>po-</i> on nouns only

⁶ Examples of Mojeño Trinitario are followed by a code referring to my corpus. Examples extracted from texts are coded with the identification number assigned to the text and the utterance number within the text. Examples elicited as isolated sentences with the help of a stimulus are coded for the Stimulus, then a capital letter for the speaker, and the number of the utterance

⁷ The paradigm is discussed in detail in Rose (2015a) and its genderlect feature present in the 3rd-person human singular masculine forms in Rose (2013).

Mojeño Trinitario shows two adnominal possessive constructions, which I call basic and indirect. They are represented by the boxes to the right in Figure 2. They are presented respectively in Sections 2.1 and 2.2, and highlighted in boldface in the examples when part of a full sentence. The rarely attested possibility of combining the two possessive constructions will be presented later, in Section 5.3.

2.1 The basic adnominal possessive construction

In the basic adnominal possessive construction, the noun for the possessee has to carry a person prefix indexing the possessor. This noun may be modified by the following noun phrase for its possessor.⁸ This head-marked construction is summarized in Figure 3, where optional modifiers are overlooked. It is exemplified in (10).

DET *prefi*_{X_{POSS}}-N_{POSSESSEE} (DET N_{POSS})

Figure 3: The basic adnominal possessive construction.

- (10) *to ta-kunara'i to koje*
 ART.NH 3_{NH}-image ART.NH moon
 ‘the reflection of the moon’
 (6.017)

Very often, as in (11), the possessor is not expressed as an overt noun phrase, either because it is already given in the context and the possessive prefix on the possessee suffices to retrieve its identity, or because the possessor is first or second person.⁹

- (11) *esu s-ve-'o to s-ipruji*
 3_F 3_F-take_out-ACT ART.NH 3_F-medicine
 ‘She gets her remedies.’
 (C&B_S.070)

⁸ Krasnoukhova (2011: 87, 2012: 97) notes that in her sample of South American languages, most possessive constructions show the order possessor-possessee, except a few languages, most of which are found in the Guaporé-Mamoré area. Note that Mojeño Trinitario, spoken in the Guaporé-Mamoré area, reinforces the latter areal tendency towards the order possessee-possessor.

⁹ Free pronouns for possessors may co-occur with possessive prefixes but are generally not used in possessive constructions.

DET prefix_{POSSESSOR}-ye'e N_{POSSESSEE} (DET N_{POSSESSOR})

Figure 4: The indirect adnominal possessive construction.

2.2 The indirect adnominal possessive construction

The indirect adnominal possessive construction follows the pattern of the basic adnominal possessive construction (summarized in Figure 3), in that a noun carries a person prefix indexing the possessor, and may be modified by a following noun phrase for its possessor. But here the noun that carries the person prefix is systematically the generic possessive noun *-ye'e* 'belonging',¹⁰ and is combined with another noun, that is semantically the possessee. The indirect adnominal possessive construction is summarized in Figure 4, where optional modifiers are overlooked.

Just like the possessee noun in the basic construction (Figure 3), the noun *-ye'e* is preceded by a determiner and carries a person prefix referring to the possessor. However, *-ye'e* does not add any particular meaning to the possessive construction. It is a dummy item coreferential with the noun that specifies semantically the identity of the possessee.

In general, the noun *-ye'e* precedes the noun expressing the possessee, and both are preceded by one determiner only, as illustrated in Example (12) where *maye'e paku* is preceded by the non-human determiner *to*.

- (12) *to ma-ye'e paku ma 'móperu*
 ART.NH 3M-GPN dog ART.M youngster
 'the dog of the boy (lit. the his-belonging dog of the youngster)'
 (18.022)

The fact that the generic possessive noun *-ye'e* and the semantically more specific noun for the possessee share a single determiner excludes an analysis in terms of juxtaposition of two noun phrases: both nouns are forming the core of a noun phrase, with *-ye'e* being a head and the possessee noun a modifier.¹¹ This noun phrase then allows the embedding of a further noun phrase for the possessor.

¹⁰ The noun roots preceded by a hyphen in this paper cannot stand alone but instead need to be either prefixed or used in a compound. Very rarely, a semantically more specific noun is used in the same position as *-ye'e* in this indirect adnominal possessive construction.

¹¹ A noun modifying another noun in Mojeño Trinitario is not preceded by a determiner, like *'jiro* in *ñi 'chane 'jiro* 'the man (lit. the person man)', see Rose and Van Linden (2022: 248). By contrast, a noun phrase used in apposition to another noun phrase will show a determiner, if its head noun is specific. Mojeño Trinitario determiners consist of articles, demonstratives and some uses of third-person pronouns (as the bolded *eto* in (15)).

Most frequently, the possessor noun phrase is not expressed because it is one of the speech act participants, as in (13), or because it is discourse-given, as in (14) from the *Frog story* (a rendering of a picture book about a boy and a frog [Mayer 1969]), where *ma-* refers to the main protagonist of the story.

- (13) *ta-nos=po to n-ñe'e pak-chicha*
 3NH-stay=PFV ART.NH 1SG-GPN dog-EMP
 ‘My poor dog stayed.’
 (38.199)

- (14) *ene eto to ma-ye'e paku ta-woo-'o t-opn-u-ch-a*
 and 3NH ART.NH 3M-GPN dog 3NH-want-ACT 3NH-go_up-APPL-ACT-IRR
eto to t-ow-ri-ko to moposi-ono
 3NH ART.NH 3-live-PLURACT-ACT ART.NH bee-PL
 ‘And his dog wanted to climb where the bees were (i.e., the bee nest).’
 (18.026)

In addition, and extremely rarely, the possessee may not be expressed. The meaning of *-ye'e* is then either semantically vague, or interpretable in context. It may be translated as ‘thing’ or with a possessive pronoun as in (15).

- (15) *eto=rip=tse=ro eto v-ye'-on=richu viti je'e*
 3NH=PFV=contrast=UNQ 3NH 1PL-GPN-PL=RESTR 1PL VALD
 ‘But they (the dogs) are ours, really.’
 (13.005)

The noun *-ye'e* is itself an obligatorily prefixed noun without a clear semantic extension beyond the meaning of expressing a relation between two entities, hence its gloss as ‘generic possessive noun’ (GPN).¹² It retains its nominal features: it is preceded by a determiner, takes possessive prefixes like all obligatorily prefixed nouns, and also combines with the plural marker *-ono* found on nominals (15) and the nominal irrealis suffix *-ina* (not illustrated here).

This section has presented the two Mojeño Trinitario adnominal possessive constructions, while the next section will present the three Mojeño Trinitario possessive noun classes. The distribution of the different classes of nouns in the two possessive constructions will be discussed in Section 5.

¹² Possessive nouns are discussed from a typological point of view in Bickel and Nichols (2013). The noun *-ye'e* has other crucial functions in Mojeño Trinitario: it has grammaticalized as the universal preposition (Rose 2019b) and also forms the basis for the denominal verb *-koy'e* ‘have’ (Rose 2018a).

3 Mojeño Trinitario possessive noun classes

The three classes of Mojeño Trinitario nouns are identified in this article on a morphological basis, depending on their combination with the possessive prefixes listed in Table 2, when used as the head of an NP expressing possession.¹³ Note that the expression of possession within a Mojeño Trinitario NP necessarily involves a possessive prefix on the possessee (or the generic possessive noun), whether the possessor is co-expressed by a nominal term or not. The three Mojeño Trinitario possessive noun classes, represented by the left boxes within Figure 2, are called obligatorily prefixed, optionally prefixed, and non-prefixable. This terminology implicitly targets the possessive person prefixes, given that they are the only prefixes that a noun root can take without being derived into another part-of-speech. Sub-classes of nouns, in turn, are determined based on their derivational potential.

This section describes how these noun classes categorize noun roots. Section 4 will show how noun roots of one noun class can be derived into a stem of another noun class.

3.1 Obligatorily prefixed nouns

A first class of nouns comprises those roots which must carry a possessive prefix specifying the person, gender and number of the possessor. Table 3 offers a selection of these obligatorily prefixed noun roots. The first column shows the form used with a possessive person prefix, the fourth column gives the gloss, and the last one the semantic domain.

The first subset of nouns in Table 3 are always produced with a person prefix in the texts, and in elicitation sessions, speakers could not think of them without a prefix. An example is given in (16). Other nouns use one of several formal devices to occur without a prefix, i.e. unpossessed. The second column of Table 3 gives the form of these nouns when used without a prefix, while the third highlights the device used for the prefixless form, often a suffix glossed *N_{POSD}* as in (17). This derivation process will be dealt with in Section 4.1.

- (16) *m-pórape* **pórape*
 1sg-older_sibling older_sibling
 ‘my older sibling’ ‘older sibling’

¹³ Compounds are not analyzed as expressing possession, since the modifier cannot be specific (Rose and Van linden 2022).

Table 3: Selection of obligatorily prefixed noun roots.

ROOT	DERIVED STEM	SUFFIX	GLOSS	SEMANTIC DOMAIN
<i>-pórape</i>	n/a	n/a	‘older sibling’	Kinship
<i>-chicha</i>	n/a	n/a	‘offspring’	Kinship
<i>-apiaru</i>	n/a	n/a	‘uncle’	Kinship
<i>-imse</i>	n/a	n/a	‘mother-in-law’	Kinship (affinal)
<i>-kuñara</i>	n/a	n/a	‘sister-in-law’	Kinship (affinal)
<i>-iype</i>	n/a	n/a	‘foot’	Body part
<i>-ji’u</i>	n/a	n/a	‘horn, shoulder’	Body part
<i>-poko</i>	n/a	n/a	‘leaf’	Part-whole (vegetal)
<i>-chusi</i>	n/a	n/a	‘ravine’	Part-whole (landscape)
<i>-mópeku</i>	n/a	n/a	‘below’	Spatial relation
<i>-ju’e</i>	n/a	n/a	‘interior’	Spatial relation
<i>-kuna(ra’i)</i>	n/a	n/a	‘image’	Attribute
<i>-atajiwo</i>	n/a	n/a	‘suffering’	Feeling
<i>-kane</i>	n/a	n/a	‘worm, parasite’	Fauna
<i>-ye’e</i>	n/a	n/a	‘thing, belonging’	
<i>-yeno</i>	<i>yéno-re</i>	<i>-re</i> NPOSD	‘wife’	Kinship (affinal)
<i>-chimra</i>	<i>chmora-re</i>	<i>-re</i> NPOSD	‘visit’ (NMLZ)	Social relation
<i>-miro</i>	<i>miro-re</i>	<i>-re</i> NPOSD	‘face’	Body part
<i>-chuti</i>	<i>chti-re</i>	<i>-re</i> NPOSD	‘head’	Body part
<i>-mu’i</i>	<i>mu’i-re</i>	<i>-re</i> NPOSD	‘dress’	Clothing & accessory
<i>-mui’pa’e</i>	<i>muipue-re</i>	<i>-re</i> NPOSD	‘pants’	Clothing & accessory
<i>-juma</i>	<i>jma-re</i>	<i>-re</i> NPOSD	‘illness’	Attribute
<i>-owsa</i>	<i>wósa-re</i>	<i>-re</i> NPOSD	‘village, town’ (NMLZ)	Artifact
<i>-eesa</i>	<i>résa-re</i>	<i>-re</i> NPOSD	‘beer’ (NMLZ)	Artifact
<i>-siivi</i>	<i>sviv-re</i>	<i>-re</i> NPOSD	‘flute’	Artifact
<i>-chineno</i>	<i>chneno-ko</i>	<i>-ko</i> NPOSD	‘daughter-in-law’	Kinship (affinal)
<i>-emtone</i>	<i>motne-ko</i>	<i>-ko</i> NPOSD	‘work’	Attribute
<i>-echjiiriwo</i>	<i>chojrri-ko-wo</i>	<i>-ko</i> NPOSD	‘language/speech’ (NMLZ)	Attribute
<i>-ésane</i>	<i>san-ti</i>	<i>-ti</i> NPOSD	‘field’	Artifact
<i>-sawara</i>	<i>saware</i>	a → e	‘tobacco’	Flora
<i>-peno</i>	<i>peti</i>	suppletion	‘house’	Artifact

- (17) *n-yeno* *yéno-re*
 1SG-wife wife-NPOSD
 ‘my wife’ ‘wife’

In terms of semantic domains (last column of Table 3), the class of obligatorily possessed nouns exhausts all kinship terms and spatial relations, and it includes most body parts and parts of wholes, most items of clothing and personal accessories, some bodily excretions, some attributes like ‘work’, ‘charge’ and ‘language’ and a few artifacts like ‘beer’, ‘arrow’, and ‘flute’. Note the presence of two loanwords from Spanish in this class: *-kuñaru* ‘brother-in-law’ and *-kuñara* ‘sister-in-law’.

3.2 Optionally prefixed nouns

A second class of nouns consists of noun roots that can take a possessive person prefix but do not have to. They can also appear bare. This is illustrated by the two occurrences of *metsi* ‘pot’ in (18), first with a possessive person prefix and then prefixless. A selection of optionally prefixed nominal roots is presented in Table 4. Stems derived from non-prefixable roots behave in a similar fashion (see Section 4.2).

- (18) *t-imagi eto y-metsi, w-yukjo-mri-k=po eto*
 3-boil 3_{NH} 1_{PL}-pot 1_{PL}-pierce-CLF.group-ACT=PFV 3_{NH}
to taemoropi eto to metsi
 ART.NH strap 3_{NH} ART.NH pot
 ‘Our pots were boiling, we would pass a stick through their handle’
 (38.86)

Most roots in this class show two different forms depending on the presence or absence of a prefix, because of rhythmic syncope (Rose 2019a), such as *-pokre ~ pkure* ‘canoe’ (the underlying form of which, *pokure*, is never attested synchronically). Most invariable roots are borrowings, like *kareta* ‘cart’ (<Sp. *carreta*). It is also noteworthy that many of the optionally prefixed nouns have historically incorporated a classifier (i.e., the root never occurs without the classifier): one can recognize the classifiers *-mo* CLF.fabric in *-poomo* ‘leather’, *-pe* CLF.blade in *-esaviipe* ‘machete’, *-pa* CLF.needle in *-ijruupa* ‘spindle’ and *-ve* CLF.pointed in *enrove* ‘fishing hook’ for example.

Semantically, the optionally possessed nouns can be conceived of as referring to alienably possessed items. Most refer to artifacts that can easily change possessors. However, this class also includes one noun that refers to a body part and one to a part-whole relation, two semantic classes of nouns considered as expressing

Table 4: Selection of optionally prefixed nominal roots.

ROOT (PREFIXED)	ROOT (PREFIX-LESS)	GLOSS	SEMANTIC DOMAIN
<i>-yuchmo</i>	<i>yuchmo</i>	‘wall, fence’	Part-whole ^a
<i>-poomo</i>	<i>prumo</i>	‘skin/leather’	Body-part
<i>-siya</i>	<i>siya</i>	‘chair’	Artifact
<i>-ipruji</i>	<i>'puuji</i>	‘remedy’	Artifact
<i>-kareta</i>	<i>kareta</i>	‘cart’	Artifact
<i>-esaviipe</i>	<i>'saype</i>	‘machete’	Artifact
<i>-pokre</i>	<i>pkure</i>	‘canoe’	Artifact
<i>-ijruupa</i>	<i>juurupa</i>	‘spindle’	Artifact
<i>-enrove</i>	<i>'niive</i>	‘fishing hook’	Artifact
<i>-metsi</i>	<i>metsi</i>	‘pot’	Artifact

^aI consider *-yuchmo* ‘wall, fence’ to express a part-whole relationship, because its possessor is typically a building or a piece of land, just as the following root *-poomo* ‘skin/leather’ is a body part, with its possessor being the animal or person of which the skin is a part.

inalienable relationships because they do not usually change possessors. The only body-part term in this class, *-poomo* ‘skin, leather’ is most often used of the body part taken off from an animal (leather is an important material in this cattle-farming society). Elicited data indicate that natural entities or landscape elements, animals and plants may also enter this class.

3.3 Non-prefixable nouns

The third class of nouns consists of roots that do not take possessive person prefixes. A selection of non-prefixable noun roots is presented in Table 5. The first column shows the bare form of a noun, the fourth column the gloss, and the last one the semantic domain. The second and third columns concern only the roots that can be derived into optionally prefixed noun stems (see Section 4.2). Additionally, stems derived from obligatorily possessed roots behave like non-prefixable nouns (see Section 4.1).

Table 5: Selection of non-prefixable nominal roots.

Root	Derived stem	SUFFIX	GLOSS	SEMANTIC DOMAIN
<i>'pog'e</i>			‘ground, earth’	Natural element
<i>wkugi</i>			‘tree, stick’	Flora
<i>mkure</i>			‘pumpkin’	Flora
<i>sórare</i>			‘animal’	Fauna
<i>jimo</i>			‘fish’	Fauna
<i>'resia</i>			‘church’	Artifact
<i>'moyo</i>			‘child’	Human being
<i>trinranu</i>			‘Trinitario’	Human being
<i>'avitu</i>			‘robe’	Clothing & accessory
<i>nuuku</i>			‘hole’	Part-whole
<i>prata</i>			‘money’	Artifact
<i>moto</i>			‘motorcycle’	Artifact
<i>moso</i>	<i>-moso-ra</i>	<i>-ra</i> POSD	‘employee’	Social relation
<i>'chane</i>	<i>-chane-ra</i>	<i>-ra</i> POSD	‘person/assistant’	Human/social relation
<i>añu</i>	<i>-'añu-ra</i>	<i>-ra</i> POSD	‘year/age’	Attribute
<i>sache</i>	<i>-sáche-ra</i>	<i>-ra</i> POSD	‘day/sun, day’	Attribute/natural element
<i>krutsu</i>	<i>-kuutsu-ra</i>	<i>-ra</i> POSD	‘cross’	Artifact
<i>wasu</i>	<i>-wasu-ra</i>	<i>-ra</i> POSD	‘glass’	Artifact
<i>kujpa</i>	<i>-kújpa-ra</i>	<i>-ra</i> POSD	‘manioc’	Flora
<i>wiye</i>	<i>-wíye-ra</i>	<i>-ra</i> POSD	‘ox’	Fauna
<i>waka</i>	<i>-waka-ra</i>	<i>-ra</i> POSD	‘cow’	Fauna
<i>'chene</i>	<i>-ochene-k-ra</i>	<i>-ra</i> POSD	‘path’	Artifact
<i>apija</i> (only verbalized)	<i>-apija-ne</i>	<i>-ne</i> POSD	‘last name’	Attribute
<i>kaja</i>	<i>-kája-ne</i>	<i>-ne</i> POSD	‘caja (music instr.)’	Artifact

Semantically, non-prefixable noun roots refer to elements which are not normally possessed, i.e., are not seen as necessarily participating in the sphere of some other element: many refer to inanimate entities like natural elements and flora, but some also refer to animate beings (wild animals and general terms for humans). The class nevertheless also contains some items that can be conceived as possessed, referring to animates like domesticated animals and social relations, and to inanimates like food, clothing, artifacts, part-whole relations, bodily excretions and attributes. Note that many but not all of the non-prefixable nouns that can be conceived as being possessed are borrowings from Spanish, like *'resia* 'church', *'padrino* 'godfather', *'avitu* 'robe', *'prata* 'money' or *'moto* 'motorcycle'.

This section has described the three lexical classes of Mojeño Trinitario nouns based on their morphology: obligatorily prefixed, optionally prefixed and non-prefixable. How these classes associate with the adnominal constructions will be described in Section 5, and how they can or cannot be accounted for by an alienability contrast will be discussed in Section 6, after the possible derivation among these classes is presented in the next section.

4 Derivation between possessive noun classes

The derivational processes among possessive noun classes are represented by the dotted arrows in Figure 2. Section 4.1 presents the derivation of non-prefixable noun stems from obligatorily prefixed noun roots, and follows an analysis already used for some Arawak languages. Section 4.2 discusses the derivation of prefixable noun stems from non-prefixable noun roots, an innovative analysis proposed in this article (on the impact of this new analysis, see Section 7).

This proposal has three advantages. First, the analysis is consistent: both POSD and NPOSD suffixes are regarded as derivational devices among noun classes, rather than just one of them. Second, this analysis in terms of derivation fits well with the fact that the derivational processes trigger changes in the valency of the nouns, i.e., whether the nouns take a possessor or not. Third, the analysis of POSD and NPOSD suffixes as derivational devices is congruent with the observation of semantic changes through derivation.

4.1 Derivation of non-prefixable noun stems from obligatorily prefixed noun roots

Some obligatorily prefixed nominal roots can be derived into non-prefixable stems by various formal means, listed in the third column of Table 3: by adding a

NPOSD suffix *-re*, *-ko*, or *-ti*,¹⁴ via a final vowel shift in the noun *-sawara* ~ *saware* ‘tobacco’, or through suppletive forms or substantial formal changes for a few nouns. The stems derived through these means occur without a possessive person prefix, such as *mu'i-re* ‘dress’ in (19), where a potential possessor is not at issue.¹⁵

- (19) *sakmu'ipo to mu'ire*
s-a-k-mu'i=po to mu'i-re
 3F-IRR-VZ-dress=PFV ART.NH dress-NPOSD
 ‘She will put a dress on.’
 (29.057)

As for semantics, the sub-set of obligatorily prefixed nominal roots that can be derived into non-prefixable stems includes some affinal kin terms, body parts, clothing items and accessories, attributes and artifacts. The sub-set of obligatorily prefixed noun roots that cannot be derived into non-prefixable stems includes non-affinal kin terms, spatial configurations and parts of wholes. At least two of the derived noun stems show a meaning different from that of the root: *chti-re* ‘skull’ from *-chuti* ‘head’, and *'chojrüi-ko-wo* ‘story’ (21) from *-echjiriwo* ‘language, speech’ (20). It is a common characteristic of derivation that the semantics of the derived item is not always predictable.

- (20) *n-echjiriwo*
 1SG-language
 ‘my language, my speech’
- (21) *to n-ye'e 'chojrükowo*
 ART.NH 1SG-GPN story.NPOSD
 ‘my story (of my life)’
 (15.025)

The three most frequent derivational devices are the NPOSD suffixes *-re*, *-ko*, and *-ti*. Each one is specialized for a certain set of nouns, but this distribution is not predictable.¹⁶ One can nevertheless propose a few semantic generalizations:

¹⁴ The forms of the noun with or without a NPOSD suffix often differ because of the application of rhythmic syncope or because of other phonological reduction processes (Rose 2019a). All these additional changes are regular.

¹⁵ There is only one example in the corpus of an obligatorily possessed noun (*pero* ‘mount animal’) that, once derived with the NPOSD suffix *-ko*, is optionally prefixed. The derived stem *peroko* has a more general meaning of ‘animal’. I take this as a case of lexicalization.

¹⁶ In other Arawak languages, there is a single NPOSD suffix *-fi* or *-jVi*, often restricted to body parts (Aikhenvald 2021).

-re is used for clothing and accessories, and for most (derivable) body parts; affinal kinship terms are derived with either *-re* or *-ko*; most lexical nominalizations take *-ko*.

4.2 Derivation of optionally prefixed nominal stems from non-prefixable noun roots

The other derivation process among noun classes derives non-prefixable noun roots into prefixable nominal stems. This is essentially done with two POSD suffixes *-ra* and *-ne* (see the third column of Table 5). In (22), *-ra* makes the non-prefixable root *krutsu* ‘cross’ (from Spanish *cruz*) a prefixable form, which occurs prefixed in a basic possessive construction.

- (22) *to ma-kuutsu-ra ma v-iyá*
DET 3M-CROSS-POSD ART.M 1PL-father
 ‘the cross of our father’
 (25.129)

Derived prefixable stems most often occur within the basic possessive construction. However, I consider that the derived stems are optionally, rather than obligatorily, prefixed because two derived nouns occur without a possessive person prefix in my corpus, one outside of a possessive construction and the other in the indirect possessive construction (exemplified in (24)).

As for semantics, the sub-set of non-prefixable noun roots that can take a POSD suffix includes terms for a diversity of elements: animals, plants and natural elements/phenomena,¹⁷ as well as terms for humans expressing (temporary) social relations (such as ‘employee’) rather than permanent identities (such as ‘man’). Some terms for human beings show a distinct meaning when derived (such as *'chane* ‘person’ and *-chanera* ‘assistant, employee, partner’), as expected for derivation processes.

Just like the NPOSD suffixes, the two POSD suffixes *-ra* and *-ne* are in complementary distribution, as they are specific for certain sub-sets of nouns. It is not feasible to motivate the distribution of the two suffixes on specific noun roots on the basis of phonological or semantic grounds in a straightforward fashion.¹⁸ One can only note

¹⁷ The word for ‘sun’ is polysemous when prefixless: it means either ‘sun’ or ‘day’. In its derived form, it exclusively means ‘day’, usually referring to a birthday or name day.

¹⁸ In the Arawak literature, the distribution of the different POSD suffixes is often partially accounted for by the semantics of the nouns (Aikhenvald 2012: 167; Brandão 2014: 169; Haurholm-Larsen 2016: 56–57), except in Kampan languages, where only the number of syllables of the root matters (Castillo Ramirez 2017: 75; Michael 2012: 152).

that *-ra* tends to associate with nouns referring to animates (humans or animals), often with a sense of accompaniment or assistance. Both *-ra* and *-ne* are attested with borrowings, such as *waka ~ -waka-ra* ‘cow, meat’,¹⁹ and *kaja ~ -kaja-ne* ‘caja (a music instrument)’. Elicitation has shown that *-ra* is particularly productive on a large variety of nouns.

Finally, the corpus shows a single example of double derivation. A non-prefixable stem *'motne-ko* ‘work’ derived with a NPOSD suffix from the obligatorily prefixed root *-emtone* ‘work’ can additionally take a POSD suffix to become prefixable. In the process, its meaning changes from ‘work’ to ‘employee’, with *-ra* expressing a social relation of assistance. In (23), the doubly-derived stem is used in the basic construction, and in (24), in the indirect possessive construction.

(23) *no n-'motne-ko-ra-no*
ART.PL 1SG-work-NPOSD-POSD-PL
 ‘my employees’

(24) *piti p-kojch-a komo no s-ye'-ono 'motne-ko-ra*
2SG 2SG-SCOLD-IRR because ART.PL 3F-GPN-PL WORK-NPOSD-POSD
taj-ina s-jich-a
3NH.INDT-IRR 3F-say-IRR
 ‘You scold her, since she does not say anything to her employees.’
 (37.091)

The interaction of the two types of derived stems described in this section with adnominal possessive constructions is described in the next section. Section 6 will discuss how derivational processes make the picture of the expression of possession in Mojeño Trinitario more difficult to explain by the alienability contrast.

5 Distribution of noun classes within possessive constructions

This section details how noun stems of different classes, derived or not, are distributed across the two possessive constructions. These combinations are represented by the solid arrows in Figure 2. As obvious from the figure, there is no simple

¹⁹ In its derived possessible form, only the meaning ‘cow’ is attested.

association between classes of noun stems and possessive constructions, especially if we take into consideration derivation among noun classes. At least a sub-set of each of the three classes of nouns can enter the two possessive constructions, sometimes through derivation. This section also investigates whether the two constructions express different possessive relationships, in order to examine whether the competition between the two constructions falls under the alienability contrast (to be discussed in Section 6.5).

This section starts in 5.1 with the most frequent combinations of noun roots with possessive constructions – represented by the thick arrows in Figure 2. It then addresses in 5.2 and 5.3 two exceptional cases where the same noun can enter the two constructions – represented by thin arrows in Figure 2. These last two subsections present data from Mojeño Trinitario which I know no parallel of in other Arawak languages. Lastly, the distribution of derived noun stems in possessive constructions is presented in 5.4 and 5.5. These are represented in Figure 2 by more complex pathways, following the dotted arrows to the left (derivation) and then solid arrows.

5.1 Regular combination of noun roots with possessive constructions

Noun roots of different classes, when non-derived, most frequently enter a specific possessive construction. Obligatorily prefixed noun roots like *-chicha* ‘offspring’ exclusively enter the basic possessive construction as in (25). Optionally prefixed noun roots like *pokre* ‘canoe’ mainly enter the basic possessive construction as in (26). Non-prefixable roots like *pog'e* ‘land’ may exclusively enter the indirect construction as in (27). What has not been checked through elicitation work is whether some non-prefixable nouns can absolutely not enter the indirect construction and are therefore strictly non-possessible.

- (25) *p-su-kro ma-chicha ma rey*
 DEM-F-POT.LOC 3M-offspring ART.M king
 ‘that daughter of the king’
 (06.069)

- (26) *na-pokre*
 3PL-canoe
 ‘their canoe’
 (19.174)

- (27) *to ñi-ye'e 'pog'e*
 ART.NH 3M-GPN land
 'his land'
 (34.004)

5.2 Exceptional combination of an optionally prefixed noun root with the indirect possessive construction

It has been asserted in the preceding section that (non-derived) optionally prefixed noun roots mainly enter the basic possessive construction. This combination is not exclusive: there is one corpus example of such a noun in the indirect construction, given in (28). Since this pattern has been reproduced in elicitation with other optionally prefixed nouns, I take it as a rare but grammatical combination. In the discourse from which (28) comes, the possessee is a very atypical member of the canoe category, namely a caiman. The only hypothesis I can put forward for this example is that the possession of a “caiman canoe” might be conceived of differently from the possession of a wooden canoe.²⁰

- (28) *ene=ji ñi-jich=ri'i ñi ñ-ich-'o=p=puka eto*
 this_way=RPT 3M-DO=IPFV ART.M 3M-call-ACT=PFV=DUB 3NH
to manje'e ñi-ye'e=ri'i pkure
 ART.NH PH 3M-GPN=IPFV canoe
 'And he did so, he very likely called his canoe [to come and get him].'
 (19.172)

5.3 Obligatory prefixed nouns in a doubly marked possessive construction

It has been stated in Section 2 that the two adnominal possessive constructions may combine in a single construction: in this doubly-marked possessive construction, the possessee noun takes a prefix for its possessor and is preceded by the generic possessive noun *-ye'e* that also takes a possessive prefix. This construction is analyzed as

²⁰ A reviewer made the interesting suggestion that it may be referents rather than noun roots or stems that matter in terms of possession strategy, since *pkure* 'canoe' normally enters the basic possessive construction, and *meromero* 'caiman' could, given a proper context, enter the indirect possessive construction.

a single noun phrase, given the presence of one determiner only (the demonstrative *jma* in (29)), and the absence of a prosodic break. The interpretation of this construction requires further research.

- (29) *t-kaj-koko-no j-ma na-ye'e na-ni-ru apu*
 3-share-RECP-PL DEM-NH.PL 3PL-GPN 3PL-eat-SP.P.NZ banana
 ‘They share their (food) bananas.’
 (Path_C.029)

Only obligatorily prefixed nouns are found in the doubly-marked possessive construction, which is rare: it occurs five times in the text corpus, and once in an elicited noun phrase, as in (29) and (30).

- (30) *v-ye'e t-o'i*
 1PL-GPN 3NH-fruit
 ‘our fruit’

The five text examples all involve lexical nominalizations (with various patientive nominalizers), in which the nominalized verb obligatorily takes a possessive prefix encoding the “subject” of the verb. In this construction, the person prefixes on the deverbal noun and on *-ye'e* are always coreferential so that there is a single possessor entity. A tentative explanation for this double marking of possession is that in the basic construction, the possessive relationship is preferably interpreted as being agentive: the referent of the person prefix on the deverbal noun, in analogy with its use on verbs, tends to be interpreted as the agent of the verbal root.²¹ In contrast, the possessive relationship expressed in the indirect construction does not have this additional semantics. The doubly marked possessive construction would then express two types of possessive relationships simultaneously, with one of them being more “agentive” when deverbal nouns are involved.

For instance, in (29), the deverbal noun *ni-ru* ‘food’ is possessed both with a possessive person prefix and through the use of the generic possessive noun *-ye'e*. Given that this sentence was produced to describe a video clip (Vuillermet and Kopecka 2019), it is difficult to speculate what kind of special possessive relations the protagonists could have with their food. Of course, they could be conceived of as being both the eaters and the owners of the food.

²¹ Note that the person prefixes found on nominalizations are not always those expected on verbs, and are therefore best analyzed as possessive person prefixes. In fact, intransitive verbs normally take the third-person prefix *t-* rather than a semantically specific third-person prefix (Rose 2011).

This analysis of the doubly-marked possessive construction as encoding two different possessive relationships works as well for the single (elicited) example of doubly marked possession involving an underived nominal stem, given in (30).²² In this example, the person prefix on the noun and that on *-ye'e* are not coreferential, so this construction involves two possessors. The person prefix on the noun for 'fruit' can only refer to the plant it has grown on and an owner of the 'fruit' can only be referred to through the indirect possessive construction. This elicited example is the only case not involving derivation where one clearly sees a different contribution of the two possessive constructions.

5.4 Integration of derived prefixable noun stems in the basic possessive construction

We have seen that underived non-prefixable roots enter the indirect possessive construction only (5.1). However, once derived into prefixable stems, they can enter the basic possessive construction. Noticeably, most of the examples of the corpus involve borrowings, with the exception of *ochenekra* 'path' (illustrated in (33)) and the doubly-derived '*motnekora* 'employee' (seen in (23) and (24)).

Most of the time, there is no discernable meaning difference between the two possessive constructions involving the same root. For instance, the following pair of examples shows the non-prefixable noun root *wasu* 'glass' (borrowed from Spanish) in two very comparable sentences.²³ In (31), the basic construction builds on the prefixable form of the noun, derived with the POSD suffix *-ra*; in (32), the indirect construction builds on the non-derived form. There is no noticeable difference in meaning between the two constructions.

- (31) *ñi-kooto-ko* *p-jo* *ñi-woteya*, *to* *ñi-wasu-ra*
 3M-grab-ACT DEM-NH.SG 3M-bottle ART.NH 3M-glass-POSD
 'He took his bottle, his glass'
 (42.042)

²² This example was elicited in a session targeting phonological alternations, where my cue was 'our fruit', and aimed at collecting a form with the obligatorily prefixed noun root *-o'i* 'fruit' and a first-person plural prefix. Because this root cannot actually combine with a prefix with a human referent, the speaker used the doubly-marked possessive construction to yield the expected meaning. As a reaction to a reviewer's question, there is no particular reason to believe that the non-human prefix is used here as a dummy possessive prefix in the absence of a possessor, although this cannot be fully excluded.

²³ These two sentences were uttered by the same fluent speaker in the context of the Family Problem Solving Task (San Roque et al. 2012).

- (32) *p-ñi-gia ñi-kooto-ko p-jo ñi-woteria p-jo ñi-ye'e wasu*
 DEM-M-PROX 3M-grab-ACT DEM-NH.SG 3M-bottle DEM-NH.SG 3M-GPN glass
 '[...] this (man) is holding his bottle, his glass.'
 (40.163)

The two possessive constructions have been noticed to clearly encode two different possessive relationships with one non-prefixable root only, '*chene* 'path'. Within the basic possessive construction involving the derived prefixable form *-ochene-k-ra* in (33), the possessor of the path is its goal, i.e., the place to which the path leads (here, the field). Within the indirect possessive construction involving the non-prefixable form '*chene* in (34), the possessor of the path is the person who usually uses it (and was probably responsible for making it in the first place).

- (33) *s-im-'a to t-ochene-k-ra to 'san-ti*
 3F-watch-ACT-IRR ART.NH 3NH-path-CLF.path-POSD ART.NH field-NPOSD
 'She would see the path to (lit. of) the field.'
 (29.018)
- (34) *ty-opno su 'seno te to s-ye'e 'chene te to s-ésane*
 3-go_up ART.F woman PREP.NH ART.NH 3F-GPN path PREP.NH ART.NH 3F-field
 'The woman is going up on her path to her field.'
 (Path_M033)

5.5 Integration of derived non-prefixable noun stems in the indirect possessive construction

As stated in Section 5.1, obligatorily prefixed roots exclusively enter the basic possessive construction when underived. When derived into non-prefixable noun stems, they may either be used outside of any possessive construction as in (35) or enter the indirect possessive construction. This latter combination is attested with three deverbal nouns only, *echjiriwo* 'language' as in (21), *owsa* 'village', and *ajre* 'written document' in (36).²⁴

- (35) *a-sam-a p-jo-ka 'chojriikowo*
 2PL-listen-IRR DEM-NH.SG-PROX story.NPOSD
 'Listen this story!'
 (9.057)

²⁴ They are derived from the verbal roots *echji-ko* 'speak', *owo* 'be at, live in', and *aj(u)-cho* 'write'.

- (36) *eñi ñi 'móperu pasajeru t-jiro-me-ri-k=poo'i*
 3M ART.M youngster passenger 3-read-CLF:fabric-PLURACT-ACT=CONC.MOT.IPFV
eto ñi-ye'e ajú-re-ko [...]
 3NH 3M-GPN write-SP.P.NZ-NPOSD
 'The young passenger is reading his book (lit. his writing)...'
 (AM_F.163)

For the former, the semantic distinction from its non-derived form in (20) is not due to the construction, but rather to the derivation, since the meaning of 'story' is also attested outside of a possessive construction as in (35). In fact, there is no real difference in terms of the semantics of the possessive relationship between the two possessive constructions in (20) and (21): both are inherent possessions.

By contrast, the derivation of *ajre* 'written document' into a non-prefixable stem *ajúre-ko* does not seem to affect the lexical meaning of the noun. When the obligatorily prefixed stem *ajre* occurs in a basic possessive construction, the person indexed by the person prefix is spontaneously interpreted as the agent of 'write'; for instance, *to n-ajre* is interpreted as 'my document (that I wrote)'. In contrast, the derived non-prefixable stem *ajúre-ko* does not have this implication in an indirect possessive construction: in (36), the possessive relationship is spontaneously interpreted as ownership.²⁵

This section has shown that there is no simple association between noun classes and possessive constructions. In particular, it has presented counterexamples to the assumption that crosslinguistically, the indirect possessive construction is used exclusively with nouns that cannot take any possessive inflectional morphology or cannot occur with a possessor (Bickel and Nichols 2013; Krasnoukhova 2012: 58). There is very little evidence for a systematic inalienable/alienable contrast when the two possessive constructions accept the same noun.

6 The weak relevance of the alienability contrast in Mojeño Trinitario

The literature discusses the notion of alienability either at the lexical level (noun classes) or at the syntactic one (possessive constructions). Section 5 has shown that Mojeño Trinitario data call for distinguishing lexical noun classes and possessive

²⁵ Example (36) has been uttered as a description of a video stimulus (Boeg Thomsen and Nielsen 2020). There was no indication in the video clip of a particular relationship between the character and the book.

constructions. As a consequence, these constitute two different domains to which the notion of alienability could apply. In this section, I will first weigh the relevance of the alienability contrast for Mojeño Trinitario noun classes, tackling the issue based on several assumptions: the alienability contrast is a binary formal contrast (6.1), usually considered to be based on a semantic distinction (6.2), but possibly explainable by the frequency with which noun roots are possessed in discourse (6.3). Subsequently, I will assess the relevance of the alienability contrast for derivation among noun classes (6.4) and possessive constructions (6.5).

6.1 Alienability as a binary contrast

A preliminary issue in attempting to apply the alienability contrast to noun classes in Mojeño Trinitario is that this contrast is generally presented as binary, while there are three noun classes in the language, some with subclasses. It is therefore unclear what distinction the alienability contrast is supposed to explain.

The notion of alienability was initially motivated by coding differences between different classes of nouns within the syntactic domain of adnominal possession. Haspelmath expresses the most common expectation as follows: “Possessive constructions with inalienable nouns tend to show zero coding, short coding, bound coding, and/or obligatoriness, while possessive constructions with alienable nouns tend to show overt coding, long coding, free coding, and/or impossibility” (Haspelmath 2017: 218). In Mojeño Trinitario, a coding contrast in terms of the number of morphemes is found between prefixable and non-prefixable noun roots: the former require only a possessive prefix, while the latter need either derivation or the use of a generic possessive noun. This overt differential possession marking draws a boundary within semantically alienable nouns (see Section 3), in contradiction with the predictions related to the alienability contrast.

Coding differences can also be covert: the contrast is not apparent in terms of number of morphemes, but only through the obligatoriness of the possessor in discourse. This is referred to as ‘obligatory possessive inflection’ by Bickel and Nichols (2013) and as ‘inherent’ possession by Payne (1997: 105–106). In the Arawak literature (see, for example, Aikhenvald 1999: 82; Michael 2012), the alienability contrast usually distinguishes between obligatorily possessed and optionally possessed nouns, because the terms inalienable and alienable are taken as synonyms of bound and free. Indeed, among the prefixable roots, the obligatorily prefixed nouns like *-pórape* ‘older sibling’ in (16) and the optionally prefixed nouns like *metsi* ‘pot’ in (18) are equally marked for their possessor, but while *metsi* can also occur without a prefix, *-pórape* cannot. Importantly, this covert differential marking is

valid only among noun stems that can, but do not have to, be possessed. This means that this instantiation of the alienability contrast applies to a part of the possessive domain only, excluding the third class of so-called non-possessible nouns. Incidentally, we might wonder what the added value is of the terms inalienable and alienable, if they are used as synonyms of bound and free.

As a conclusion, there is definitely some arbitrariness as to which distinctions among noun classes the alienability contrast is taken to account for, especially if seen as binary. Another possibility, which steers clear from excluding or conflating noun classes, would consist in making the alienability contrast a ternary contrast itself, which would reflect the three-way lexical organization straightforwardly. Specifically, this approach implies allowing for “more alienable” and “less alienable” nouns, as does Haspelmath (2017: 213–214) with the term “super alienable” for the semantic group of nouns that rarely occur in possessive constructions (the non-prefixable nouns).

6.2 The alienability contrast as a semantic contrast between noun classes

The notion of alienability was originally meant to account for different semantic types of possession. Let’s now zoom in on the semantics of noun classes. The Mojeño Trinitario data only partly reflect commonly held views about the semantics of inalienable versus alienable noun classes. Heine (1997:10) presents as likely inalienable nouns those expressing the following meanings: (a) kinship roles, (b) body parts, (c) relational spatial concepts, like ‘interior’, (d) parts of other items, like ‘branch’, (e) physical and mental states, like ‘strength’, and (f) nominalizations, where the ‘possessee’ is a verbal noun, for example, ‘his singing’. The class of Mojeño Trinitario obligatorily prefixed nouns does include, as expected, kinship terms, spatial concepts, physical and mental states (subset of ‘attributes’ in my semantic categorization)²⁶ and nominalizations (see Sections 3.1 and 4.1 above). However, we have seen that body parts and parts of wholes are not only lexified as obligatorily prefixed nouns but also marginally as optionally prefixed nouns, and attributes such as ‘age’ are also found among non-prefixable roots. The classification of Mojeño Trinitario nouns therefore only partly corresponds to the expectations spelled out above.

²⁶ My category of attributes consists of nouns expressing not only mental and physical states but also other abstract concepts such as ‘image, work, language/speech, Saint day, last name’.

Another semantic generalization made on possessive classification is that “[s]emantics is involved in that there is usually a default or open class and a specified or determinate class with a semantic common denominator shared by most but not all members of the class and also sometimes found in non-members” (Nichols and Bickel 2013). These authors explain that the specified class is the one including kinship terms, body parts, parts of wholes, spatial relations and property nouns (my “attributes”). However, with respect to the Mojeño Trinitario data, I find it difficult to consider the class of obligatorily prefixed nouns to be “specified” and “with a semantic common denominator”, as it covers a good number of semantic domains (see the last column of Table 3). This is especially striking in contrast with the optionally prefixed noun class, which is almost entirely made of artifacts and is therefore semantically homogenous and specific (see the last column of Table 4).

Similarly, the Mojeño Trinitario data do not support Nichols’s (1988: 562) assertion that “the nouns that take ‘inalienable’ possession virtually always form a closed set, often a small one, while those taking ‘alienable’ possession are an open, hence infinite, set”. Table 6 presents the relative size of the three Mojeño Trinitario noun classes and their major subclasses. It is clear that obligatorily prefixed nouns (the class usually considered as consisting of inalienably possessed entities) do not form a marginal set in the current extension Mojeño Trinitario lexicon.²⁷

Table 6: Extension of noun classes and sub-classes.

	OBLIGATORILY PREFIXED	OPTIONALLY PREFIXED	NON-PREFIXABLE	TO BE CHECKED
Non-derivable	200	75	133	
Derivable	48		64	
Total	248	75	197	298

Regarding whether the classes are closed or open, the integration of borrowings and nominalizations into the noun classes must be examined.²⁸ Table 3 to Table 5 show that nouns borrowed into Mojeño Trinitario have joined all three

²⁷ The nouns included in that study are 818, and do not include proper names and non-native terms used in code mixing. The extension of obligatorily prefixed nouns has been checked, by systematically trying to elicit an unpossessed form of these nouns. By contrast, for most nouns that always occur prefixless in the texts, it has been checked whether they can take a possessive prefix. The greatest part of the nouns that remain to be classified only happen prefixless in the texts, so they are likely either optionally prefixed or non-prefixable nouns.

²⁸ Michael (2012: 165) asserts that borrowings are treated as alienably possessed nouns in the Arawak language Nanti. In a similar vein, Terhart (2021: 181) notices that many of the alienable nouns of Paunaka, another Arawak language, are borrowings.

possessive classes: *-kuñara* ‘sister-in-law’ from Spanish *cuñada* is an obligatorily prefixed noun, *kareta* ‘cart’ from Spanish *carreta* is an optionally prefixed noun, and *resia* ‘church’ from Spanish *iglesia* is a non-prefixable noun. There are only two loanwords in the class of obligatorily prefixed nouns (*-kuñara* ‘sister-in-law’ and *-kuñaru* ‘brother-in-law’), and these are not derivable into non-prefixable stems. This contrasts with the numerous non-prefixable borrowed nouns which show a deep morphological integration by being derivable into prefixable stems. However, this does not mean that the class of obligatorily possessed nouns is closed, because it actually shows a good number of deverbal nouns, thus making this class open to new items. All three classes are therefore open, which goes against Nichols’s (1988) assertion above.

6.3 The alienability contrast motivated by frequency of possession?

The literature on the alienability contrast discusses how this contrast should be explained. Haspelmath (2017) argues that it should be explained “by predictability due to the higher relative frequency of possessed occurrences of inalienable nouns”. To support this claim, he counts how many times six inalienable and six alienable nouns of Biblical Hebrew, Ancient Greek, and English are possessed in 20 random corpus examples. The results show that inalienable nouns occur much more often possessed than alienable nouns in speech. A major criticism one can address to this study is that none of these languages show possessive noun classes. The present study offers to undertake a similar task on the basis of a language with several possessive noun classes, namely Mojeño Trinitario. It will both serve as an assessment of one particular motivation of the crosslinguistically recurrent possessive coding split, and as an empirical tool in investigating where the major alienability split is expected to lay in that language, following that motivation.

The study targets 12 obligatorily prefixed (including six derivable ones), 6 optionally prefixed, and 12 non-prefixable noun roots (including six derivable ones). Because my corpus is small but searchable, I have counted all occurrences of these roots and classified them as possessed (i.e., within any of the two possessive constructions) or unpossessed.²⁹ The results are presented in Table 7. They only partly meet the expectations.

²⁹ I have excluded the occurrences where these roots are used in compounds, incorporated or with a verbalizer.

Table 7: Share of possessed occurrences for nouns of different possessive classes.

Noun class	Semantic domain	Root	Gloss	Possessed share	Possessed percentage
Obligatorily prefixed	Kinship	<i>apiaru</i>	'uncle'	19/19	100
Obligatorily prefixed	Body part	<i>type</i>	'foot'	7/7	100
Obligatorily prefixed	Body part	<i>ji'u</i>	'horn, shoulder'	6/6	100
Obligatorily prefixed	Part-whole	<i>poko</i>	'leaf'	7/7	100
Obligatorily prefixed	Spatial relation	<i>mopeku</i>	'below'	15/15	100
Obligatorily prefixed	Configuration	<i>mutu</i>	'all'	110/110	100
Obligatorily prefixed + NPOSD	Kinship	<i>ima</i>	'husband'	11/11	100
Obligatorily prefixed + NPOSD	Body part	<i>miro</i>	'face'	4/5	80
Obligatorily prefixed + NPOSD	Clothing	<i>mui'pa'e</i>	'pants'	3/4	75
Obligatorily prefixed + NPOSD	Artifact	<i>owsa</i>	'village'	38/72	53
Obligatorily prefixed + NPOSD	Attribute	<i>emtone</i>	'work'	55/63	87
Obligatorily prefixed + NPOSD	Artifact	<i>eesa</i>	'beer'	11/23	48
Optionally prefixed	Artifact	<i>metsi</i>	'pot'	5/10	50
Optionally prefixed	Artifact	<i>pkure</i>	'canoe'	4/10	40
Optionally prefixed	Artifact	<i>'puuji</i>	'medicine'	3/36	8
Optionally prefixed	Artifact	<i>yuchmo</i>	'wall'	1/14	7
Optionally prefixed	Artifact	<i>'saype</i>	'machete'	1/8	13
Optionally prefixed	Artifact	<i>kareta</i>	'cart'	2/10	20
Non-prefixable + POSD	Social relation	<i>'chane</i>	'person'	1/269	0
Non-prefixable + POSD	Natural phenomena	<i>sache</i>	'day'	2/50	4
Non-prefixable + POSD	Flora	<i>kujpa</i>	'manioc'	0/11	0
Non-prefixable + POSD	Attribute	<i>añu</i>	'year, age'	2/37	5
Non-prefixable + POSD	Attribute	<i>apija</i>	'last name'	3/3	100
Non-prefixable + POSD	Fauna	<i>wiye</i>	'ox'	5/13	38
Non-prefixable	Natural element	<i>pog'e</i>	'earth'	4/34	12
Non-prefixable	Flora	<i>wkugi</i>	'tree, stick'	1/82	1
Non-prefixable	Fauna	<i>sórare</i>	'animal'	0/18	0
Non-prefixable	Human being	<i>moyo</i>	'child'	0/34	0
Non-prefixable	Artifact	<i>'resia</i>	'church'	4/38	11
Non-prefixable	Artifact	<i>prata</i>	'money'	2/7	22

As expected, non-derivable obligatorily prefixed nouns (first set of nouns in Table 7) always occur possessed, since they require a possessive person prefix when they are used as the head of an NP.³⁰ Derivable obligatorily prefixed nouns (second set of nouns in Table 7) generally occur possessed in discourse, most often via the

³⁰ Interestingly, when used in compounds or incorporated, some occurrences do not index a possessor.

basic possessive construction.³¹ This proportion is naturally lower than that of other obligatorily possessed nouns, which always require a possessive person prefix. The corpus includes rather few nouns carrying a *NPOSD* suffix, and these are not frequent in texts, except for a few very frequent derived forms like *'wósa-re* 'town', *'san-ti* 'field', *tapraa-ko* 'charge' and *'résa-re* 'beer'.

As for optionally prefixed roots (third set of nouns in Table 7), two occur about equally often possessed or non-possessed, while the four remaining ones occur much more rarely possessed.

Now for the twelve non-prefixable nouns (fourth and fifth sets of nouns in Table 7), seven of them rarely or never occur possessed in the corpus, as expected. Remarkably, five other ones occur possessed as often as those optionally prefixed roots that are less often used possessed.³² The derivable fauna term *wiye* 'ox' behaves similarly to the optionally prefixed nouns that are more often found possessed ('pot' and 'canoe' in Table 7).

In brief, only the class of obligatorily prefixed nouns behaves homogeneously and as expected, with member nouns being possessed at least 50 % of the time. If the frequency at which roots were found possessed were a predictor for a binary contrast (as expected for the alienability contrast), then the split between the two degrees of alienability would not correspond to the noun classes: optionally prefixed 'pot' and 'canoe', as well as the non-prefixable 'last name' should be obligatorily prefixed nouns. In the end, because these counts have shown that noun class membership in Mojeño Trinitario is not predictable from the relative frequency of possessed occurrences in discourse, it weakens Haspelmath's (2017) claims on the motivation of the alienability contrast. Consequently, the fact that this methodology did not show a clear binary or ternary frequency distribution that would match a formal contrast undermines the operability of the 'alienability contrast' in Mojeño Trinitario.

6.4 The alienability contrast and derivation among possessive noun classes

This section investigates how the concept of an alienability contrast fits with derivation processes between possessive noun classes. The Arawak literature is inconsistent in whether the alienability contrast applies to roots or stems: obligatorily possessed nouns are considered inalienable based on the behavior of their roots,

³¹ Except doubly derived nouns.

³² The twelfth derivable noun, *apija* 'last name', has never been observed non-possessed: its underived form is only attested within a denominal verb form.

while so-called optionally possessed nouns are considered alienable based on the behavior of their derived stems (they are possessible only when derived with a suffix). This section aims to discuss how the notion of alienability articulates with derivation.

First, Nichols (1988: 597), in her pioneering article on alienability, explains that in some languages, some special morphological devices apply to bound nouns to enable them to stand alone as so-called ‘absolutive’ forms. She considers this process to be derivational and argues that “the existence of an absolutive does not weaken the claim that the bound nouns cannot occur without possession”. In short, she applies the alienability contrast to the root level. This line of analysis seems to be followed in most descriptions of Arawak *N_{POSD}* suffixes, and is sometimes explicitly described as ‘derivation’ (Michael 2012: 153; Terhart 2021: 179, among others).³³

In the present article, I extend Nichols’ line of analysis to the *POSD* suffixes, which make some non-prefixable roots possessible through the basic construction found throughout the Arawak family (where these roots are overwhelmingly analyzed as ‘alienable’ or ‘optionally possessed nouns’). The status of the *POSD* suffixes is unclear in current descriptions of Arawak languages. Danielsen (2007: 123) and Terhart (2021: 180–181) describe them explicitly as derivational, but – surprisingly – still consider the roots that take them as alienable but derived into inalienable stems with the *POSD* suffixes. If here too the concept of alienability applies at the root level, the roots in question are not possessible without previous derivation. This is why I propose to analyze these roots in Mojeño Trinitario as non-prefixable rather than as prefixable.

Regarding the derivational processes themselves, the coding differences seem to fit the expectations. In Haspelmath’s terminology, the *POSD* suffixes constitute an additional marker in the possession of super-alienable nouns, compared to alienable and inalienable nouns which only require a possessive person prefix. In turn, the *N_{POSD}* suffixes constitute an additional marker in the non-possession of inalienable nouns, compared to alienable and non-possessible nouns. In brief, derivational processes among noun classes can be seen as additional coding on nouns when occurring in non-prototypical possessive contexts.

It is yet unclear how to account for why only some noun roots are derivable. Most often, the derivation does not yield different lexical meanings between the root and the derived stem. I argue that the semantics associated with the derivation processes are essentially not a matter of lexical semantics but one of semantic

³³ Nichols (1988: 597) adds that in other languages, the same absolutivization function is expressed by some special inflectional morphology that indicates an unspecified third-person possessor. This is the line followed by Aikhenvald (2021) for the Arawak *N_{POSD}* suffixes, which she calls “non-specified possessor suffix”. I reject this analysis because the Arawak *N_{POSD}* suffixes are not part of the regular inventory of possessive indexes, which are always preposed to the noun stem.

valency. One could advance that the derivable noun roots are multi-relational, i.e., they can enter multiple relations with other entities (Durieux 1990; cited in Dahl and Koptjevskaja-Tamm 1998).

Some obligatorily possessed nouns (body parts, clothing items, accessories and artifacts) are logically multi-relational, and could be conceived as entering different types of possessive relationship: for instance, clothes and accessories have a relation with the person that wears them, but also with the person who made them. This type of multi-relationality is not evidenced in our small corpus, where the only derivable obligatorily possessed nouns that enter both possessive constructions are deverbal nouns. As argued above in 5.3 and 5.5, the multi-relationality of deverbal nouns seems to be triggered by the ambiguity of the possessive prefix, which can be interpreted as a participant of the situation expressed by the verbal root or as indexing the possessor of the deverbal noun.

Turning now to derivable non-prefixable roots, we have observed among them only one clearly multi-relational noun, the one for ‘path’. When derived as in (33), its semantic valency increases, involving an additional “possessor”, the place to which this path leads. In sum, multi-relationality could be a semantic particularity of (some) derivable roots. On this basis, one could see the two derivation processes under study as valency-changing mechanisms manifesting this potential multi-relationality in morphosyntax.³⁴ The *POSD* suffixes increase the valency of nouns, while the *NPOSD* ones decrease it (see Queixalós 2005, 2016 for the concept of noun valency). But there seems to be no clear semantic foundation to which nouns are derivable. Interestingly, the potential for derivation does not align with the alienability contrast: non-derivable nouns are found in all three classes, and derivable nouns in both obligatorily prefixed and non-prefixable noun classes.

6.5 The alienability contrast and the two adnominal possessive constructions

The application of the alienability contrast at the construction level also needs to be investigated. On the formal level, the indirect construction shows more coding devices than the basic construction (because of the presence of the generic possessive noun). The two adnominal possessive constructions are therefore good candidates for embodying the supposed alienability contrast. However, on the

³⁴ This is really a matter of potential, because obligatorily prefixed nouns derived into non-prefixable nouns are not found in the indirect possessive constructions in the texts, except in one example. Instead they are non-possessed.

semantic level, it is not the case that the basic construction only encodes inalienable possession (it is also used with the artifacts expressed by optionally prefixed nouns), even if the indirect construction can generally be associated with alienable possession (it is mainly used with non-prefixable stems, considered to be alienable).

In fact, the following pair of elicited examples shows that the distribution between the two possessive constructions does not crucially depend on the particular semantics of the possessive relationship (nor on the identity of the possessee and possessor), but primarily on noun classes. The examples involve two synonymous nouns as possessees, one native and the other borrowed from Spanish,³⁵ with the same first person possessor. The native word is an obligatorily prefixed noun and enters the basic possessive construction (37), while the loanword is a non-prefixable noun and enters the indirect construction (38).

(37) *esu n-chimra*
 3_F 1_{SG}-visitor
 ‘She is my visitor’

(38) *esu n-ye'e visita*
 3_F 1_{SG}-GPN visitor
 ‘She is my visitor’

In general, the distribution of the two constructions largely depends on the class of the noun root or the derived noun stem, as detailed in Section 5. There is little evidence for an inalienable/alienable contrast when the same noun can enter both possessive constructions. The most numerous cases of ‘competition’ between the possessive constructions can be seen as an effect of the origin of said nouns as deverbal nouns.

6.6 Summary on the alienability contrast in Mojeño Trinitario

To summarize the findings of this section, the alienability contrast can be applied arbitrarily to different parts of the distinctions between noun classes (6.1). The only strong case it makes is the distinction in terms of obligatoriness of inflection between obligatorily prefixed nouns and the others, aka as bound versus free nouns. It leaves the remaining differences between optionally prefixed and non-possessible nouns unexplained.

³⁵ This word results from a nominalization (of *chimpo* ‘meet’) but is not fully analyzable synchronically.

The alienability contrast does not predict which individual nouns join which particular noun classes or sub-classes, be it based on semantics (6.2) or frequency of occurring possessed (6.3). This article indeed offers frequency counts on how often nouns of different possessive classes occur possessed in discourse (Table 7) and concludes that these would predict an alienability contrast that does not correspond to the actual distribution in the three noun classes. Another important result of this article for the typology of possession is that the “inalienable” class of nouns cannot be seen as a closed marginal class semantically more homogenous than the other classes, contrary to Nichols’s (1988) general claims (6.2). As for derivational processes among noun classes, they can be seen as differential coding for non-prototypical possessive situations.

Finally, the distinction between the two adnominal possessive constructions (syntactic level) is also evaluated as a weak instantiation of the alienability contrast (6.5), because it only partially corresponds to the semantic expectations: while the structure with most coding material (the indirect construction) only expresses alienable possession, the least coded structure (the basic construction) encodes either inalienable or alienable possession.

6.7 Discussion

The main theoretical problem behind the alienability contrast as an explanation for the encoding of possession is that it is unclear to which sets of linguistic objects it should *a priori* apply. This is so because the literature applies it to either noun classes or constructions, and usually presents it as binary, sometimes as ternary. This vagueness has two logical consequences. First, I consider that if this functional explanation can apply at several levels at once in a language, and if these levels do not perfectly overlap, then the “explanation” is contradictory. Second, the explanation is more likely to be considered robust if applied as an *a posteriori* explanation to a particular set of data, at a level chosen by the analyst on a language-individual basis, but this can be called methodological opportunism (Croft 2001: 30).

The vagueness of how the alienability contrast should apply has several practical consequences. On the one hand, it means that discussing this contrast in a cross-linguistic perspective is not methodologically sound, unless one systematically separates the levels of analysis, as done by Chousou-Polydouri et al. (this issue). On the other hand, at the language-individual level, it may then leave unexplained some phenomena it is supposed to cover and has a very low predictive power. One could actually wonder whether invoking the alienability contrast to “make sense” of lexical or grammatical distinctions does not actually bring confusion into language-specific analyses. Two potential effects on language-specific analyses are the following: (i) by

promoting a binary contrast, the alienability contrast makes the distinction among free forms (optionally prefixed and non-prefixable class) less salient, (ii) by merging formal and semantic considerations, it is an obstacle for a clear separation of lexicon, syntax, and semantics. For instance, “alienable” was originally a semantic concept, but is most often used to label a class of nouns, and sometimes a possessive construction. This results in many descriptions of Arawak languages presenting obvious contradictions. For example, nouns labeled as “non-possessible” (and as such distinct from “alienable” nouns) are still mentioned as entering a particular possessive construction, being hence obviously morphosyntactically possessible, and semantically alienable. At the same time, there has been until this article an apparent general resistance to labelling those roots that happen to be easily possessed only once suffixed as “non-possessible”.³⁶

To solve the problem of the vagueness of the domain to which the alienability contrast should apply, this article advocates a strict separation of the levels of analysis, as implemented with Mojeño Trinitario data. A major methodological issue when investigating the potential of the alienability contrast as an explanation for the competition between the adnominal possessive constructions is the difficulty of teasing apart the semantic input of noun classes, the effect of the derivation processes among these, and the semantic import of the two possessive constructions, and this is, I believe, what future efforts should concentrate on.

7 Extending the innovative analysis to the Arawak family

This article has presented an innovative analysis of possession in an Arawak language, distinguishing the levels of lexical classes of noun roots, morphological derivation processes and syntactic constructions. It is the first to invoke derivation for two commonly made observations in Arawak linguistics, viz. the use of many obligatorily prefixed nouns as unpossessed and that of another class of nouns as either possessed or unpossessed in discourse. These latter nouns, usually considered “alienable” or “optionally possessed”, are described in this article as non-prefixable nouns, which need to be derived to enter the basic possessive construction. As a result, the three possessive noun classes of Mojeño Trinitario presented in this article do not correspond to the three possessive noun classes of the traditional analysis of Arawak languages (Figure 1).

³⁶ By contrast, the fact that some roots that are obligatorily possessed can be derived into non-prefixable stems has never led to reconsidering these so-called “inalienable nouns” to be in fact alienable.

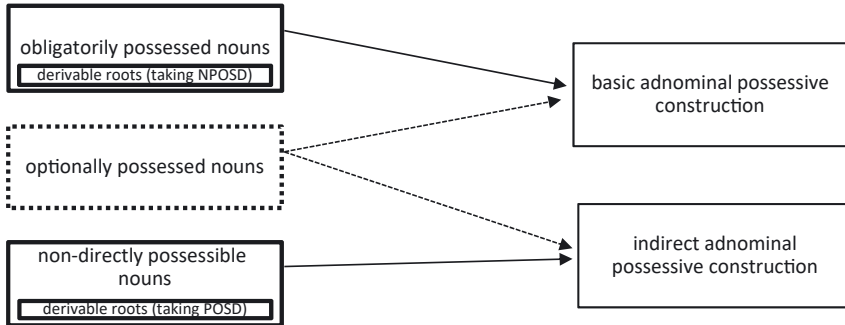


Figure 5: Innovative account of Arawak noun classes (with or without optionally possessed nouns).

The innovative analysis presented in this article can easily be extended to other Arawak languages, as sketched in Figure 5. One must only adapt the terminology for those languages, like Yukuna (see Section 1), in which a third-person possessor is not necessarily encoded by an index on prefixable nouns, but can simply be expressed as an NP. For those languages, one should use the term “obligatorily/optionally possessed” rather than “obligatorily/optionally prefixed”. Additionally, in line with Krasnoukhova (2012: 58), I recommend using the terms “non-prefixable” or “non-directly possessible” (see also Krasnoukhova [2012: 58] on this point) rather than “non-possessible” for the third class of nouns in the languages in which there is an indirect possessive construction (to avoid contradiction regarding their possessability).

The proposed derivational account of the nouns traditionally called “optionally possessed nouns” that need a suffix to be possessed now excludes these nouns from the optionally possessed class and classifies them as “non-prefixable” or “non-directly possessible” roots (see Table 1). There are two consequences for the analysis of possessive classes in Arawak languages. For languages like Mojeño Trinitario that have a class of nouns that can be possessed or not in the basic possessive construction without any derivation, an overt coding contrast will be found between non-directly possessible nouns (which require a derivational suffix to be possessed) and the others (which only take a prefix). This differs from the traditional analysis by which the coding contrast is seen between inalienable and alienable nouns in that the latter require a suffix to be possessed. For languages like Yukuna in which there is no category of nouns that are optionally possessed in the basic construction without a suffix (represented by the dotted square in Figure 5), the drastic consequence of the innovative analysis is that we are left with two possessive classes only: the obligatorily possessed one, and the non-directly possessible nouns. In that case, it seems that the alienability contrast applies efficiently to the formal and semantic opposition between these two classes.

A plausible reason for why the present proposal had not been formulated before for any Arawak language is that it leaves most Arawak languages without a class of optionally possessed noun roots as in many Arawak languages, “optionally possessed nouns” actually are non-possessible roots, since they first need to go through a derivation process to be possessible. And importantly, optionally possessed noun roots (free nouns) are generally considered to be the alienable nouns par excellence in the Amazonian literature (see, for example, van der Voort 2009: 382). One may wonder whether the well-known alienability contrast did not bias the traditional account of noun classes in Arawak studies by forcing the identification of a class of “alienable” nouns, regardless of the fact that the roots in question are not directly possessible without an additional suffix.

Abbreviations

ACT	active
APPL	applicative
ART	article
CLF	classifier
CONC.MOT	concomitant motion
DEM	demonstrative
DET	determiner
DIM	diminutive
DUB	dubitative
EMP	empathy
F	feminine (singular)
GPN	generic possessive noun
H	human
INDT	indeterminate
IRR	irrealis
M	masculine (singular)
MID	middle
N	noun
NPOSD	non possession
NF	non-feminine
NH	non-human
PST	past
PFV	perfective
PL	plural
PLURACT	pluractional
POSD	possessed form of the noun
POT.LOC	potential location
PREP	preposition
PRO	pronoun
PROX	proximal

RECP	reciprocal
RESTR	restrictive
RPT	reportative
SG	singular
Sp	Spanish word
SP.P.NZ	specific patient nominalizer
UNQ	unquestionable
VALID	validator
VZ	verbalizer

Acknowledgments: I would like to thank the reviewers for their useful feedback. I also wish to thank the students of the summer schools where I taught a class on possession within a course on Amazonian languages (*3L International Summer School on Language Documentation and Description* in 2009, *TypoLing* in 2016), and the participants of the 2019–2020 *Atelier de Morphosyntaxe* within the Dynamique Du Langage research unit in Lyon. Terhart’s (2021) *Grammar of Paunaka* was a source of inspiration: her explicit mention of ‘derivation’ for so-called ‘alienable nouns’ triggered my questioning of the traditional Arawak noun classes. My warmest thanks to An Van linden, the scientific leader of the 2020 *Atelier de Morphosyntaxe*, then a visitor at DDL/Collegium de Lyon and co-editor of this special issue. The many rich interactions we have had on the topic of possession and my understanding of Mojeño Trinitario in particular have played an instrumental role in articulating the new analysis I propose in this article.

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When the alienability contrast fails to surface in adnominal possession: bound nouns in Harakmbut

<https://doi.org/10.1515/ling-2022-0039>

Received March 4, 2022; accepted April 7, 2023; published online October 26, 2023

Abstract: This article investigates the nature and behavior of independent, bound and deverbal nouns at various levels of linguistic organization in Harakmbut (isolate, Peru), and assesses the explanatory potential of the alienability contrast for the data observed. While the distinction between bound and independent nouns is to a great extent motivated by the conceptual distinction between inalienably and alienably possessed items, the behavior of bound and independent nouns in adnominal possession is not. Whereas independent (and deverbal) nouns use a genitive-marked two-word construction, bound nouns can use the same one, when keeping their noun prefix, or they can use a genitive-marked one-word construction, in which they drop their prefix. It is thus argued that there is no alienability split in adnominal possession, that is, there is no coding split according to which bound nouns behave fully differently from independent nouns. This is supported by the finding that bound nouns (unlike independent and deverbal ones) also show the same choice between a two-word and a one-word coding strategy in non-possessive adnominal modification. In noun-noun compounding, the data merely reveal different preferences of bound and independent nouns for the N1 versus N2 position; here deverbal nouns behave identically to bound nouns in dropping their prefix in N2. In noun incorporation, finally, the relevance of the alienability contrast is similar to that for the two-way noun class system. Inalienable semantics (and morphological boundness) could be argued to determine the incorporability of nouns, but there are also exceptions.

Keywords: coding split; genitive marking; noun classes; noun-noun compounding; noun incorporation

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1 Introduction

This article investigates to what extent the notion of alienability can account for the distinct behavior of classes of nouns in the underdescribed language Harakmbut, more precisely the Arakmbut (Amarakaeri) dialect (glotto-code amar1274),¹ spoken in south-east Peru (departamentos of Madre de Dios and Cusco). Harakmbut is still regarded as an unclassified Amazonian language (Wise 1999: 307; Dryer and Haspelmath 2013), although Adelaar (2000, 2007) has made a case for a genetic link with the Brazilian Katukina family, which may be further linked to Macro-Jê. More information on its genetic affiliation, internal classification, vitality and sociolinguistic context is presented in Van linden (2023: 441–444).

The notion of alienability entered the linguistic scene in the early twentieth century in the context of studies on possession. It was proposed to explain patterns of distinct morphosyntactic marking, or coding splits, in the grammatical environment of adnominal possession, e.g., in Melanesian languages (Lévy-Bruhl 1914) and North American languages (see Nichols 1988), and to account for restrictions in terms of possessee types in the grammatical environment of external possession in Indo-European languages (e.g., Bally 1926). These phenomena were explained in terms of the conceptual difference between inalienable and alienable possession: the former involves “inextricable, essential or unchangeable relations” between possessor and possessee, while the latter involves associations between possessor and possessee that are of a less permanent and inherent type (Chappell and McGregor 1996: 4). Prototypical possessee types of the former type include body-part terms and kinship terms, while those of the latter type comprise artifacts. Within adnominal possession, then, the observed pattern is that inalienable possession is typically coded with less “morphosyntactic material” than alienable possession (Payne 1997: 105; see also Haspelmath 2017). Rather than viewing the alienability contrast as a semantic explanation for coding splits, Nichols (1988) proposed regarding it as a formal contrast at work on two different levels of linguistic organization: at the word level, yielding two different noun classes (inalienable vs. alienable nouns), and at the phrase level, yielding two different adnominal possessive constructions, with the inalienable construction featuring less morphosyntactic marking than the alienable one. This article will investigate the explanatory potential of each interpretation of

¹ Speakers of this variety consider the label *Amarakaeri* a depreciating term; it is adapted from *wam-ba-arak-a-eri* (NMLZ-VPL-KILL-TRNS-AN), a verb-based nominalization meaning ‘(fierce) killer/murderer’, which goes back to an ancient story about the origin of the different ethnolinguistic groups of the Harakmbut people. They prefer to call their variety ‘Arak(m)but’, as distinct from the Watipaeri variety, with whose speakers they generally have tensed relations.

the alienability contrast in examining the class of bound nouns in Harakmbut, and their morphosyntactic behavior in different grammatical environments.

The starting point of this article is indeed the morphological distinction between independent and bound nouns in Harakmbut. Unlike independent nouns, as in (1a), bound nouns require a noun prefix to obtain independent nominal status (*wa(?)*- or *e(?)*-), as in (2a), and mainly refer to inalienably possessed entities, such as body parts, plant parts, and landscape parts, as well as kinship terms and basic shapes or qualities of entities. These two noun classes are sometimes called non-obligatorily versus obligatorily possessed nouns, or alienable versus inalienable nouns, and they are ubiquitous in Amazonian languages (Krasnoukhova 2012: 87–88). Considering the two adnominal possessive constructions in the Harakmbut Examples (1b) and (2b), one may conclude that the distinct morphosyntactic patterning exhibited by members of the two noun classes can be explained in terms of the alienability contrast.

(1) Independent noun

- a. *kōsō*
 pot
 ‘pot’
- b. *ndo?-edn kōsō*
 1SG-GEN pot
 ‘my pot’

(2) Bound noun

- a. *wa-ʔi*
 NPF-foot
 ‘foot’
- b. *ndo?-edn-ʔi*
 1SG-GEN-foot
 ‘my foot’

The pattern with the bound noun in (2b) shows a tighter morphosyntactic bond between the genitive-marked possessor and possessee – in fact, the two form a single phonological unit – than the two-word pattern with the independent noun in (1b). The examples are representative of their respective noun classes in patterns with human possessors, and might thus trick the analyst into thinking that Harakmbut has an alienability split. However, it will turn out that bound nouns can also enter the two-word possessive construction shown in (1b) when they take their noun prefix, and that some bound nouns (e.g., some kin terms) do not enter the one-word possessive construction. In such cases, then, the two noun classes use the same possessive construction. As observed by Krasnoukhova (2012: 87–88), this is very common among Amazonian languages having a class of inalienable nouns. She found that such languages even more often use the same construction with inalienable and

alienable nouns (22 out of 41 languages) than a different construction (18 out of 41 languages; Krasnoukhova 2012: 87–88). I will thus argue that Harakmbut does not show a possessive split based on the distinction between bound and independent nouns. In fact, the data will point to a possessor-governed coding split with body-part possessors: animal possessors require a different coding than human possessors.

Corroborating evidence for the finding that adnominal possession is not determined by the alienability contrast in Harakmbut comes from data showing the distinct morphosyntactic behavior of bound nouns in grammatical environments other than adnominal possession. For instance, the data show that the bound nouns that enter the one-word possessive construction in (2b) can also fuse phonologically with other types of prenominal modifiers, such as interrogative, demonstrative, or quantifying modifiers, unlike independent nouns. As is the case in adnominal possession, the one-word strategy is invariably in competition with the two-word strategy. Moving beyond adnominal modification, the article will also hone in on noun-noun compounding and noun incorporation, in which bound nouns also behave differently from independent nouns. All in all, the article concludes that while the alienability contrast could be argued to motivate semantically the noun class system in Harakmbut, it falls short in accounting for the distinct morphosyntactic behavior of bound nouns in adnominal modification and beyond. Rather, this behavior is determined by the morphological property of boundness, which also takes effect in constructions that do not involve the semantics of possession.

As the prefixes *wa(?)*- and *e(?)*- serve not only to give independent nominal status to bound nouns but also to derive nouns from verb stems (or action nominals from predicates-cum-arguments) (see Van linden 2019), this article will also take nominalization into account. It will investigate the distinction between bound nouns and deverbal nouns in the various grammatical environments examined here, focusing on deverbal nouns as possessors in adnominal possessive constructions, but also as heads in other adnominal modification structures, and as N1 or N2 in noun-noun compounds. It will become clear that deverbal nouns always use the two-word strategy in any type of adnominal modification, featuring the nominalizing prefixes, but that they drop their prefix when occurring as N2 in noun-noun compounds, just like bound nouns. Unlike the latter, however, deverbal nouns are not incorporable into verbs.

In terms of data, this article draws on earlier work on Harakmbut, which has mainly focused on the Arakmbut variety (Hart 1963; Helberg Chávez 1984, 1990; Tripp 1976, 1995), as well as fieldwork conducted by the author. The first-hand data recorded in the field include elicited data and a collection of seven texts representing spontaneously produced language recorded in the native communities of Puerto Luz, San José del Karene and Shintuya, all with Arakmbut consultants, in the summers of 2010, 2011 and 2016. Additional elicited data were also collected at a distance. The practical orthography used in this article is IPA-based and different from the community spelling (see Van linden 2020: 9, Note 2).

The discussion is organized as follows. Section 2 discusses the distinction between bound nouns and independent nouns at the word level, concentrating on the distinct semantic domains covered by the members of either class. It also introduces verb-based nominalization. Section 3 moves to the phrase level, and focuses on adnominal possessive constructions, classifying them in terms of types of possessees (independent, bound and deverbal nouns) and possessors (human, animal and inanimate), and also considering alienable construal of bound nouns denoting body parts. Section 4 hones in on the morphosyntactic behavior of bound, independent and deverbal nouns in adnominal modification constructions other than adnominal possession. Section 5 leaves the phrase level and explores the morphologically complex word-level phenomenon of noun-noun compounding as well as the clause-level phenomenon of noun incorporation, again distinguishing between bound, independent and deverbal nouns. The article winds up with a brief summary and its conclusions on the relevance of the alienability contrast in Harakmbut in Section 6.

2 Bound, independent and deverbal nouns

This section takes a closer look at the two noun classes in Harakmbut, bound and independent nouns, and investigates whether they could be regarded as reflexes of the alienability contrast in terms of the semantic domains they cover. It will also introduce the nominalizing function of the two noun prefixes *wa(?)*- and *e(?)*- on verb stems.

Common nouns in Harakmbut divide into two morphologically distinct classes, viz. bound and independent nouns.² While independent nouns can occur on their own without any additional morphology (see (1a)), bound nouns do need a noun prefix in their citation form, viz. *wa(?)*- (3) or *e(?)*- (4).³ As these noun prefixes enable bound nouns “to stand alone without possession”, they serve the function of what Nichols (1988: 597) has called *absolutivization*: they derive independent nouns from bound ones. In Chousou-Polydouri et al.’s (this issue) terms, they are markers of the *unpossession* construction.

2 There might be one other noun class with just one member, viz. *-mba* ‘land, place’, which cannot be used outside of a possessive construction (e.g., *Nilda?-en-mba-yo* [Nilda-GEN-land-LOC] ‘to Nilda’s place’) or noun-noun compound (e.g., *tare?-mba* [manioc-land] ‘manioc field’). That is, it cannot be absolutivized with *wa(?)*- or *e(?)*-; in Lehmann’s (1998: 52) terms, it is an inabsoluble noun.

3 The *e(?)*- prefix has been identified as a feature of the Guaporé-Mamoré linguistic area by Crevels and Van der Voort (2008: 167): it has the same form and function (in noun-based nominalization) as the dummy noun prefix *e-* in Cavineña (Guillaume 2008: 409–416) and other Tacanan languages like Ese Ejja (Vuilleumet 2012: 299–305). It is also similar to the unspecified possessor prefix *e-* in Baure (Danielsen 2007: 119–120) and to the semantically empty root *e-* in Kwaza, which serves as “a noun formative to lend independent status to classifiers” (Van der Voort 2005: 397).

- (3) *wa?-ay?*
NPF-bone
'bone'
- (4) *e?-pidn*
NPF-spine
'spine, thorn'
(Tripp 1995: 51)

Typically, bound noun stems combine with a single noun prefix exclusively, as in (2a) and (3), but some combine with both prefixes, yielding two different independent nouns whose referents show similarity in shape. For example, the bound root in (4) can also combine with the prefix *wa(?)*- to denote the body part 'rib'. Another exception is given in (5), in which the *wa(?)*- form denotes a body part (5a), while the *e(?)*- form denotes a plant part (5b), similar to (4).

- (5) (a) *wa-mba?* (b) *e-mba?*
NPF-hand NPF-hand
'hand' 'leaf'

As can be seen in Table 1 below, there are also plant parts that exclusively take *wa(?)*-, but overall the generalization can be upheld that referents of bound nouns with *e(?)*- belong to the world of vegetation. This generalization supports an analysis of the absolutivizing prefixes as derivational rather than inflectional (see also Danielsen (2007: 119–120) on the unspecified possessor prefix *e-* in Baure, Arawak, Bolivia).⁴

Table 1: Semantic domains covered by Harakmbut bound nouns *(T = Tripp 1995).

Semantic domains	Bound nouns	Independent nouns
(a) Part-whole		
Body part	<i>wa-ay?</i> 'bone'; <i>wa-ʔidn</i> 'tooth'; <i>wa-kupi</i> 'horn'	–
Plant part	<i>e-mba?</i> 'leaf'; <i>e?-mbih</i> 'liana' (generic term); <i>e-pidn</i> 'thorn'; <i>wa-mbuh</i> 'manioc root'; <i>wa-ʔiwit</i> 'root'; <i>wa-kidn</i> 'seed'; <i>wa-tioʔpi</i> 'branch'	–

⁴ The Harakmbut noun prefixes are also functionally equivalent to classifiers in languages with multiple classifier systems like Bora-Miraña, where classifiers can transform mass nouns into countable nouns as well as derive nouns from verbs (Seifart 2007). Aikhenvald (2000: 220–221) lists Guahibo, Tucano and Tariana as languages in which classifiers serve these functions as well. However, such classifiers carry a specific semantic load related to shape or substance, much unlike the Harakmbut prefixes.

Table 1: (continued)

Semantic domains	Bound nouns	Independent nouns
Landscape part	<i>wa-kumbogŋ</i> ‘ravine’; <i>wa-kupo</i> ‘hill’; <i>wa-ndagŋ</i> ‘path’; <i>wā-wē</i> ‘river’	<i>mbayako</i> ‘pool, lagoon’; <i>ndumba</i> ‘forest’; <i>widnmba</i> ‘pebble beach’
Non-physical part	<i>wa-nokīrēŋ</i> ‘spirit of a person’	–
Other part	<i>wa-ktape</i> ‘half’; <i>wā-ē(kōŋ)</i> ‘hole’	–
(b) Relations		
Kinship	<i>wa-mambuy</i> ‘same-sex sibling’; <i>wa-si?po</i> ‘child’; <i>wā-ŷē</i> ‘mother’	<i>nāŋ</i> ‘mother’; <i>pagŋ</i> ‘father’
Social relation	<i>wa-iri</i> ‘chief’; <i>wa-ndi</i> ‘friend’ (T:32)*; <i>wa-nindi</i> ‘romantic partner’	–
Spatial relation	<i>wa-kīrēŋ</i> ‘interior’; <i>wa-topen</i> ‘below’ (T:149)	–
(c) Shape and substance		
Shape	<i>wa-po</i> ‘something round’; <i>wa-pu?</i> ‘tube’	–
Substance	<i>wā-ōŋ</i> ‘powder’; <i>wā-wē</i> ‘liquid’	–
(d) Miscellaneous		
Attribute	<i>wa-ndari</i> ‘native land’; <i>wa-ndik</i> ‘name’	–
Bodily emanation	<i>wa-nokīrēŋ</i> ‘shadow of a person’	–
Bodily excretion	<i>wa-ndawē</i> ‘semen’	<i>iŋkusīwē</i> ‘saliva’ (T:339)
Animal	<i>wa-koy</i> ‘cormorant’ (T:119); <i>wa-kuwēŋ</i> ‘specific frog species’ (T:120)	<i>sūwīt</i> ‘hummingbird’; <i>kēmē</i> ‘tapir’

Let us now turn to the semantic domains encompassed by the referents of bound nouns, which are listed in Table 1 with a non-exhaustive set of examples. The table also includes independent nouns belonging to the same semantic domain if available. What may strike the reader immediately is that bound nouns predominantly denote entities that are – in conceptual terms – inalienably possessed, such as body parts, plant parts, landscape parts, kinship terms, social and spatial relations, attributes, basic shapes, substances, and other parts of wholes (see Rose and Van linden, this issue). The Harakmbut data thus support the implicational hierarchy for membership of the ‘inalienable’ class of nouns proposed by Nichols (1988: 572), in which kin terms and/or body parts outrank part-whole and/or spatial relations, which in turn outrank culturally basic possessed items; the latter are invariably lexicalized as independent nouns in Harakmbut.

Interestingly, Table 1 also includes items that are less easily categorized as conceptually inalienably possessed and which some languages treat as non-possessible, viz. animals (see Lehmann 1998) for wild animals in Yucatec Maya; see also Chousou-

Polydouri et al. (this issue). For this semantic category, independent nouns far outnumber bound nouns in Harakmbut. In relation to kinship terms, it should be noted that the independent nouns in Table 1 are in fact terms of address which have come to be used as reference terms (see Tripp 1995: 175–185) (see also Brill [this issue] on Kanak languages). With respect to landscape parts, bound nouns tend to refer to elements determining the physical shape of a landscape, while independent nouns refer to types of soil cover.

By and large, we can conclude that the class of bound nouns is semantically homogeneous and that the two noun classes can be regarded as a reflex of the alienability contrast surfacing at the word level, albeit not a perfect one. Specifically, since not all conceptually inalienable entities are lexicalized as bound nouns (e.g., kinship terms, bodily excretions) and since a few bound nouns denote conceptually non-possessible entities (animals), the data rather support Nichols' (1988: 574) claim that inalienability is a lexical category rather than a semantic property. Yet, according to the criteria used by Chousou-Polydouri et al. (this issue) in their crosslinguistic study, the class of bound nouns in Harakmbut would rate as semantically coherent.

In addition to covering certain semantic domains, Nichols (1988: 564) also notes that bound nouns form a closed set, which may vary considerably in size across languages. In terms of the criterion of loan integration, bound nouns in Harakmbut form a closed class indeed: loan words invariably enter the class of independent nouns. For instance, even though there is a Harakmbut bound noun for 'grandmother', *-mama*,⁵ the Spanish loan *abuela* is also often used, and it is grammatically treated as an independent noun in spite of its inalienable semantics. The issue of productive compounding or derivation is not generally regarded as a criterion for open versus closed classes. However, if it were, the class of bound nouns could be regarded as (semi-) open because Harakmbut has many morphologically complex lexical items that contain bound noun roots and take a noun prefix, such as (6) and (7), and because such processes of word formation are productive (see also Section 5.1). Note that (6) combines (5a) and (3), with (3) being the head of the compound. The noun prefixes occur in (6) and (7) because the first elements in these complex items are bound nouns, namely *-mbaʔpih* 'finger' and *-wē* 'liquid' respectively.

- (6) *wa-mbaʔ-pih-ayʔ*
 NPF-hand-digit-bone
 'finger bone'
- (7) *wā-wē-ērĩ*
 NPF-liquid-AN
 'river spirit'

5 Bound forms are represented with a hyphen in this paper.

The prefixes *wa(?)*- and *e(?)*- serve not only to derive independent nouns from bound ones; they also serve in verb-based nominalization. Nominalization with *wa(?)*- is restricted to participant nominalization, viz. for instrumental and objective nominalization (see Comrie and Thompson 2007: 338–342), as in (8) and (9) respectively. It is primarily used to produce nouns for NP-use (Van linden 2019: 465–467).⁶

- (8) a. *wa-wedn* b. *wa-kpo-k-bet*
NMLZ-lie NMLZ-eye-SPAT:separation-attach
‘bed’ ‘spectacles, glasses’

- (9) a. *wa?-a?* b. *wa-mbuey*
NMLZ-say NMLZ-die
‘speech, word, language’ ‘corpse’

Nominalization with *e(?)*-, in turn, is used for both event nominalization and participant nominalization (see Van linden 2019: 468–484). The type of participant nominalization attested is that of objective nominalization, illustrated in (10). Just as in (9), the nominalized form in (10) denotes the result or the typical or ‘cognate’ object of the action designated by the verb; it can be used as the head of an NP.

- (10) *e-ma-mbo?-e-a*
NMLZ-[VPL-stand-ITER-TRNS]_{photograph}
‘picture, photograph’

In terms of semantic domains, instrumental nominalizations will typically denote items that are – in conceptual terms – alienably possessed, such as artifacts (8a) or accessories (8b), while objective nominalizations are often inalienably possessed. Example (9a) is an attribute, just like *e?-mba?a?* ‘work’. Other examples are in Table 2; note that the prefix *e(?)*- is also used in the citation form of verbs (Van linden 2019: 482–483).

Table 2: Deverbal nouns with inalienable semantics.

Deverbal noun	Glosses	Meaning	Semantic domain
<i>e-ʔi-mbo?</i>	NMLZ-foot-stand	‘footprint’	Bodily emanation
<i>e?-ndigɨ-pak</i>	NMLZ-pain-VBZ	‘(have) fever’	Bodily sensation
<i>e-tā-ē?</i>	NMLZ-APPL-be	‘visit(or)’	Social relation
<i>e?-tiri?</i>	NMLZ-ache	‘(have) pain’	Bodily sensation
<i>ē?-wīē?</i>	NMLZ-smell	‘smell’	Bodily excretion

6 Note that (8b) and *e-ʔi-mbo?* in Table 2 are nominalized forms of N + V compounds, i.e., they involve noun incorporation (see Van linden 2023: 470–471).

In conclusion, deverbal nouns feature the same prefixes as bound nouns and may even show inalienable semantics similar to bound nouns. However, they are not analyzed as members of this noun class because of their verbal origin and their distinct morphosyntactic behavior in several grammatical environments. The latter will be exposed in the remainder of this article.

3 Adnominal possession

This section moves to the phrase level and discusses adnominal possessive constructions. It is organized according to types of possessees: independent nouns (Section 3.1), bound nouns (Section 3.2), and deverbal nouns (Section 3.3), and will focus on different types of possessors (human, animal and inanimate). It will argue that Harakmbut does not manifest an alienability split; it merely shows a coding split for body-part possessees that is based on the human versus animal nature of the possessor.⁷ In addition, there is no pronoun/noun split.

3.1 Possessive constructions with independent-noun possessees

Independent nouns predominantly denote alienably possessed entities (see Section 2), and the possessor types observed are restricted to humans and animals. As shown in (11) to (13), possession is dependent-marked, and there is no pronoun/noun split or animacy-based split: the genitive marker *-edn--en--ēn* attaches to human nominal (11), pronominal (12) and animal nominal possessors (13) alike.

- (11) *Lupe?edn hak*
 Lupe-GEN house
 ‘Lupe’s house’
- (12) *ndo?edn hak*
 1SG-GEN house
 ‘my house’

⁷ In a similar vein, Creissels (this issue) argues that the possessive coding split in Mandinka (West Mande, Gambia, Senegal, and Guinea Bissau) looks like an alienability split, but under closer analysis turns out to be a possessor-governed coding split according to animacy.

- (13) *apetpet-edn hak*
 jaguar-GEN house
 ‘a/the jaguar’s den’

3.2 Possessive constructions with bound-noun possessees

Bound nouns overwhelmingly denote inalienably possessed entities (see Section 2), which is why in principle they can combine with any semantic type of possessor. In contrast to constructions with independent-noun possessees, constructions with bound-noun possessees show a coding split according to the human versus animal nature of the possessor. Consider Examples (14) to (17), in which stressed syllable nuclei are underlined. It should be noted that the domain for stress assignment in nouns is the root plus derivational affixes, with the main stress falling on the penultimate syllable, which may be a noun prefix. Inflectional suffixes and clitics fall outside the stress domain.

- (14) a. *Lupe?-edn wa-ku* b. *Lupe?-edn-ku*
 Lupe-GEN NPF-head Lupe-GEN-head
 ‘Lupe’s head’ ‘Lupe’s head’
- (15) a. *on-en wa-ku* b. *on-en-ku*
 2SG-GEN NPF-head 2SG-GEN-head
 ‘your (sg) head’ ‘your (sg) head’
- (16) *mbawi-ku-pi*
 deer-[head-CLF:stick]_{horn}
 ‘a/the deer’s horn’
- (17) *kurukuru-mba?*
 bijao-hand
 ‘bijao leaf’ (plant species: *Calathea lutea*)

Examples (14) and (15) indicate that there is no pronoun/noun split with bound-noun possessees either. In addition, they show that bound nouns differ from independent nouns in allowing for two coding strategies with human possessors: a two-word strategy with prefixed head nouns, as in the a-examples, and a one-word strategy without noun prefixes, as in the b-examples.⁸ Because the bound noun root is monosyllabic in (14)–(15),

⁸ The same competition between a two-word and one-word strategy in adnominal possession has been noted for *e*-nouns in Ese Ejja as well (Vuillermet 2012: 302–304). Unlike in Harakmbut, however, proper name possessors in Ese Ejja tend to allow the two-word strategy only. Cavineña and Baure (see Note 3), by contrast, do not show any competition between possessive constructions for bound nouns (Danielsen 2007: 118–124; Guillaume 2008: 484–491).

the two strategies differ in which syllable of the genitive modifier carries the stress. More importantly, however, both strategies involve the genitive marker, while structures with animal possessors (16) and inanimate possessors (17) use fundamentally different morphosyntactic marking, viz. noun-noun compounding. As the possessor in structures with inanimate possessors like (17) is never referentially distinct from the possessee, examples like (17) in fact do not instantiate adnominal possession but merely word formation (see Section 5.1). In structures with animal possessors like (16), by contrast, the possessor may well be referential. A case in point is in (18) below, in which *wadnpi* *sindak* ‘the ocelot’s skin’ does exemplify adnominal possession.

- (18) *Lupe?-a me-niŋ-to-tiak-ne wadnpi-sindak Luis?-a e?-arak*
 Lupe-NOM 3SG>1/2SG-BEN.APPL-CAUS.SOC-COME-IND ocelot-skin Luis-NOM NLMZ-kill
 ‘Lupe brought me the skin of the ocelot killed by Luis.’ (elicited)

In (18), the possessor (*wadnpi*) is further modified by the post-nominal non-finite clause and is hence referential; an interpretation in which the possessor is non-referential (‘an/the ocelot’s skin killed by Luis’) would make no sense, as one cannot kill a skin. On the basis of Examples (14) to (18), the main coding split with bound nouns is thus determined by the possessor: human possessors use the genitive marker, whereas animal possessors use noun-noun compounding.

However, there is an exception to this generalization about animal possessors which relates to the type of possessive relation. While noun-noun compounding is used to refer to body parts, it is the genitive marker that is typically used for kinship relations, for example with respect to the animal’s offspring in (19).

- (19) a. *apetpet-edn wa-si?po*⁹ b. *apetpet-edn-si?po*
 jaguar-GEN NPF-child jaguar-GEN-child
 ‘a/the jaguar’s cub’ ‘a/the jaguar’s cub’
 c. *apetpet-si?po* d. *apetpet-si?po*
 jaguar-child jaguar-DIM
 ‘a/the jaguar’s cub’ ‘a/the small jaguar (of adult age)’

Just like human possessors (see (14)), animal possessors show two coding strategies with the kin-term possessee ‘child’, viz. a two-word strategy (19a) and a one-word strategy (19b).¹⁰ Unlike in (14b) and (15b), the stress does not fall on the genitive marker in the one-word structure because the bound-noun possessee in (19) has two syllables rather than one. The second syllable of the genitive modifier in (19b) carries secondary stress. The compounding strategy (19c) can also be used to code this

9 Note that ‘child’ is morphologically complex itself: *-si?po*, consisting of a bound noun (*-si?* ‘peel’) and a bound noun that also functions as a classifier denoting a round shape (*-po*).

10 The latter is most frequently used according to my consultant.

specific kinship relation, but this might cause confusion with the diminutive form (19d), whose suffix, of course, originated in the bound noun denoting ‘child’. For other kinship relations, animal possessors do not allow the compounding strategy.

There is one other exception to the above generalization about animal possessors, but this one relates to the alienable construal of semantically inalienably possessed entities such as body parts. Consider Examples (20) and (21).

- (20) a. *mokas-kutipō*
collared.peccary-thigh
‘a/the collared peccary’s thigh (still attached to the animal, dead or alive, or removed from its corpse)’
- b. *mokas-en-kutipō*
collared.peccary-GEN-thigh
‘a/the collared peccary’s thigh, removed from its corpse’

As indicated in the translations of (20a) and (20b), the default coding strategy of noun-noun compounding (20a) and the genitive-marked one-word structure (20b) come with distinct but overlapping interpretations. The overlap is exactly an ‘alienable’ interpretation, i.e., that of a detached body part. Table 3 summarizes the observations for human and animal possessors with bound-noun possessees. It also includes data on the disembodied interpretation of human body parts discussed in relation to Examples (21a) and (21b) below.

Table 3: Possessor-governed coding split for bound-noun possessees.

POSSESSOR	POSSESSEE	
	BODY-PART POSSESSEE	KIN-TERM POSSESSEE
	<i>Alienable interpretation</i>	<i>Inalienable interpretation</i>
ANIMAL POSSESSOR	Genitive-marked one-word structure Noun-noun compounding	Genitive-marked one-word and two-word structure (Noun-noun compounding with offspring relation)
HUMAN POSSESSOR	Genitive-marked one-word structure Genitive-marked two-word structure	Genitive-marked one-word and two-word structure

On the basis of Table 3 and the discussion in Section 3.1, we can thus conclude that there is only a coding split for bound-noun possessees (mainly inalienable possession). This split is [±human] based and mediated by type of possessive relation (body part vs. kin term). In the remainder of this section, I will argue that the observed coding split cannot be explained in terms of alienability.

If the coding split were based on alienability, it would be expected that possessive constructions with bound nouns (expressing inalienable possession) show less morphosyntactic marking or tighter integration than possessive constructions with independent nouns (expressing alienable possession) (see Haspelmath 2017: 218). The competing coding strategies in Harakmbut do not differ in terms of number or length of morphemes but rather in number of words. Hence, when we consider Examples (1b) and (2b) (Section 1) in isolation, an analysis in terms of an alienability split seems justified. However, there are a number of reasons why such an analysis is not descriptively adequate. The first obvious one is that bound nouns *also* use the coding strategy available to independent nouns; (14a) and (15a) are not different from (11) and (12) in morphosyntactic terms (except for the presence of noun prefixes on the bound stems). This situation is very different from that in languages like Abun (West Papuan), where inalienable and alienable nouns systematically use distinct morphosyntactic marking in adnominal possessive constructions (Berry and Berry 1999: 77–78).

Another reason is that in phonological-prosodic terms, there is less difference between the two-word coding strategy of independent nouns (1b) and the one-word or prefixless strategy of bound nouns (2b) than in morphosyntactic terms. On the one hand, with possessees that have two or more syllables, as in (21), it is hard to prosodically distinguish the two-word strategy (21a) from the one-word strategy (21b). Example (21a) has two distinct stresses, while (21b) has one main stress on the penultimate syllable and a secondary stress on the penultimate syllable of the possessor root, but this difference is very subtle.¹¹ My consultant pronounced (21a) and (21b) also at about the same speed rate.

- | | | | | | |
|------|----|---|---------------|----|--------------------------------|
| (21) | a. | <i>Maribel-en</i> | <i>wá-kpo</i> | b. | <i>Maribel-en-okpo</i> |
| | | Maribel-GEN | NPF-eye | | Maribel-GEN-eye |
| | | ‘Maribel’s eye (well in place, or
removed from its natural place)’ | | | ‘Maribel’s eye, well in place’ |

On the other hand, possessive constructions with monosyllabic independent nouns like (11) often show the same one-word prosody (*Lupe?-edn hak*) as possessive constructions with monosyllabic bound nouns like (14b). However, there is still a small difference, as monosyllabic independent-noun possessees can still receive stress independently of the genitive modifier, while monosyllabic bound-noun possessees like *-ku* in (14) cannot. All of this indicates that the hyphen separating the genitive-marked possessor from the possessee in the one-word strategy mostly signals that the possessee is syntactically obliged to have a possessor, i.e., it cannot occur on its

¹¹ Note that ‘eye’ is morphologically complex itself: *ok-po*, consisting of a spatial morpheme (*ok-*) and a bound noun that also functions as a classifier denoting a round shape (*-po*).

own. The hyphen does not represent tighter phonological integration, except for monosyllabic bound nouns. In typologizing possessive constructions from a 120-language sample, therefore, Chousou-Polydouri et al. (this issue) conclude that the two noun classes share the same possessive construction, i.e., they do not posit a coding split at all for human possessors.

A third reason for not analyzing the possessive split as an alienability split pertains to the distinct interpretations of the two coding strategies found with human possessors and body part possessees, as in (21a) and (21b). The free translations of (21a) and (21b) show that the interpretations are opposite to those of (20a) and (20b) with animal possessors (see Table 3). Whereas the one-word strategy (21b) is dedicated to inalienable possession ('in-situ' body parts), the two-word strategy (21a) is ambiguous between alienable and inalienable interpretations. Such lack of dedicated strategies for alienable and inalienable interpretations, observed for both animal and human possessors, would be difficult to account for by an alienability-driven split.

A fourth and final reason for rejecting an explanation in terms of an alienability split is that not all bound nouns accept the one-word or prefixless strategy. Most notably some kinship terms do not. While the kin term *wa-si?po* 'child' is found in the two genitive-marked strategies available to human possessors, the term *wa-mambuy* 'same-sex sibling' only accepts the two-word strategy in (22a); (22b) is not well-formed.

- | | | | | |
|------|----|---------------------------------|----|-----------------------------|
| (22) | a. | <i>ndo?-edn wa-mambuy</i> | b. | <i>*ndo?-edn-mambuy</i> |
| | | 1SG-GEN NPF-same.sex.sibling | | 1SG-GEN-same.sex.sibling |
| | | 'my sister (of female ego)' | | 'my sister (of female ego)' |

Examples like (22) show that not all bound nouns behave similarly and that the morphosyntactic behavior of bound nouns cannot be explained in terms of alienability, since the same possessive relation (e.g., kinship) has distinct coding possibilities. All in all, limiting our observations to the grammatical environment of adnominal possession with underived-noun possessees, this section pointed to a number of reasons for why Harakmbut has no alienability split.

3.3 Possessive constructions with deverbal-noun possessees

Extending our scope to deverbal-noun possessees does not impinge on the above conclusion that Harakmbut has no alienability-driven possessive split. Nominalization is productive in Harakmbut, and deverbal nouns do not need to be possessed by a genitive-marked modifier, but they need the prefixes *wa(?)*- or *e(?)*- to be used as an independent noun. As explained in Section 2, deverbal nouns may have alienable or inalienable semantics. However, they behave identically in the domain of adnominal possession, irrespective of their semantics or of their nominalizing prefix. Consider

Examples (23) to (26), which illustrate participant nominalizations used as heads of NPs. The genitive-marked modifiers do not form part of the nominalization structure,¹² but denote the possessors of the instruments (23)–(24) or attributes (25)–(26) designated by the deverbal nouns.

- (23) a. *Maribel-en wa-wedn* b. **Maribel-en-wedn*
 Maribel-GEN NMLZ-lie Maribel-GEN-lie
 ‘Maribel’s bed’ ‘Maribel’s bed’
- (24) a. *ndo?-edn wa-wedn* b. **ndo?-edn-wedn*
 1SG-GEN NMLZ-lie 1SG-GEN-lie
 ‘my bed’ ‘my bed’
- (25) a. *arakmbut-en wa?-a?* b. **arakmbut-en-a?*
 people-GEN NMLZ-say people-GEN-say
 ‘the language of the people’, ‘the language of the people’,
 ‘the Harakmbut language’ ‘the Harakmbut language’
- (26) a. *on-en e?-a-pak* b. **on-en-a-pak*
 2SG-GEN NMLZ-say-VBZ 2SG-GEN-say-VBZ
 ‘your (sg) voice’, ‘what you (sg) said’ ‘your (sg) voice’, ‘what you (sg) said’

Comparison of Examples (23a) and (24a) shows that constructions with deverbal-noun possessors do not show a pronoun/noun split, just like those with independent or bound nouns. More generally, all the examples use the same coding strategy, viz. the two-word construction with genitive marking on the possessor, whether the deverbal nouns are formed with the prefix *wa(?)*-, as in (23) to (25), or *e(?)*-, as in (26), and no matter the possessive relation, viz. conceptually alienable in (23)–(24) versus inalienable in (25)–(26).¹³ In all cases, the one-word, prefixless strategy is ungrammatical, as indicated by the asterisk (*) in the (b)-structures. This finding shows that deverbal nouns behave identically to independent nouns as heads of possessive NPs, and should hence be kept separate from bound nouns.

¹² Note that in (multiple-word) event nominalizations, the participants of the situation expressed by the verb stem are nominative marked, accusative marked, or unmarked, but never genitive marked (Van linden 2019: 468–482).

¹³ As noted by a referee, in some cultures, beds or hammocks are not regarded as entities that easily shift possessors; they are hence conceptually inalienable within their worldview, but, I would argue, not intrinsically inalienable. Here it can be noted that instrument nominalizations denoting medicinal substances (e.g., *wa-kōō?* NMLZ-bathe ‘infusion to bathe you with when you have fever’) pattern identically to the participant nominalizations exemplified in (23) to (26). Such substances are often handed around in Harakmbut communities.

3.4 Interim conclusion and locus of marking

Wrapping up, Sections 3.1–3.3 on adnominal possession have shown that Harakmbut has no noun/pronoun split, which is crosslinguistically unusual (Dryer 2007) but characteristic of South American languages (Krasnoukhova 2012: 99). More pertinent to the central research question, they have built the case that Harakmbut has no possessive coding split governed by the alienability contrast. The only coding split we could posit is one according to humanness, and which is restricted to structures with body-part possessors. Deverbal nouns, in turn, were found to pattern identically with independent nouns in adnominal possession, in spite of sharing the same prefixes with bound nouns, and in some cases also showing inalienable semantics.

With respect to the locus of marking in possessive noun phrases, the Harakmbut data proved to form an exception to Nichols' (1988: 576) finding that there is no language that “has only dependent-marked possession and manifests an alienability opposition” (see also Bugaeva et al. 2022). It was shown that Harakmbut uses the genitive marker (and compounding) in possessive constructions and does show an alienability contrast, albeit just in the lexicon (Section 2), or at the word level rather than at the phrase level. In fact, Krasnoukhova (2012: 93) cites six South American languages that form true counterexamples to Nichols' (1988) claim. In these languages, inalienable possession is exclusively dependent marked. Abstracting away from the alienability contrast, Krasnoukhova (2012: 85) finds that head marking and dependent marking are equally represented in the Amazonian languages in her sample, with dependent-marking languages clustering “in Ecuador, on the border of Colombia and Brazil, and the Peru-Brazil border” (2012: 85). The latter area comprises the Harakmbut communities. Her study and the Harakmbut data hence do not support Dixon and Aikhenvald's (1999: 8) claim that Amazonian languages typically use a head-marking strategy in adnominal possession.

4 Other types of adnominal modification

We now move to non-possessive types of adnominal modification to reveal that the coding strategy exclusive to bound nouns in adnominal possession, i.e., the one-word, prefixless strategy, is also observed for other types of modifiers. This finding corroborates our conclusion that this coding strategy is not an alienability phenomenon. Independent nouns and deverbal ones, by contrast, will always use the two-word strategy with these types of adnominal modifiers. We will take a closer look at interrogative, demonstrative and quantifying modifiers.

The generalization that emerges is that bound nouns show the same two coding strategies as observed for possessive modifiers when combined with other modifiers that obligatorily precede the nominal head in continuous noun phrases: they either attach to a noun prefix and follow the modifier in a separate word, or they directly attach to this modifier, dropping the noun prefix (see Van linden 2023: 453–454). Independent nouns and deverbal nouns will always follow the modifier as a separate word. Consider Examples (27)–(29).

(27) Independent noun

kate aypo *iʔ-pak-ika-Ø?*
 what food 2SG-want-HAB-DUB
 ‘What sort of food do you (sg) like?’
 (elicited, Van linden 2023: 452, ex. (15))

(28) Deverbal noun

kate wā-wadn *iʔ-pak-ika-Ø?*
 what NMLZ-sit 2SG-want-HAB-DUB
 ‘What sort of seat do you (sg) like?’ (elicited)

(29) Bound noun

kate-nda=pi *min-we-ndik* *yānʔ-ē* *wa-siʔpo*
 what-fruit=INDET eat.by.sucking-NEG-POT 3PL.DUB-be NPF-child
 ‘What sort of fruit shouldn’t children eat?’
 (Patiachi Tayori n.d.)

In (27), the interrogative modifier *kate* modifies the independent noun *aypo* ‘food’, and the modifier-head structure consists of two words. The same goes for (28), featuring the deverbal noun *wāwadn* ‘seat’ as head. In (29), by contrast, *kate* modifies the bound noun *-nda* ‘fruit’, which attaches to the modifier; the modifier-head structure forms a single stress domain, with the stress falling on the penultimate syllable, i.e., the last syllable of the modifier – stressed syllable nuclei are underlined (remember that clitics do not belong to the stress domain). Alternatively, the modifier-head structure can also use the two-word strategy *kate wānda=pi* without a difference in meaning.

The same behavior is found with demonstrative modifiers, for example, the distal form *ken* ‘that, ‘those’ in (30)–(32).

(30) Independent noun

ih-yok-i *kuwa* **ken** *wettone-tewapa*
 1SG-give-1.IND dog DIST woman-BEN
 ‘I give a dog to that woman.’ (elicited)

(31) Deverbal noun

- a. *ken wa-wadn* b. **ken-wadn*
DIST NMLZ-sit DIST-sit
 ‘that seat’ ‘that seat’

(32) Bound noun

- ndignanda wã-mẽ o-ka-po o-mbuey-tuy ken-si?po*
strongly NPF-liver 3SG.IND-do-DEP 3SG.IND-die-REM.PST.INDIR.EVD DIST-child
 ‘He had a lot of diarrhea and died, that kid.’ (narrative)

In (30) *ken* modifies the independent noun *wettone* ‘woman’, while in (31) it modifies the deverbal noun *wawadn* ‘seat’. Both types of head noun only allow the two-word modification construction. In (32), in turn, *ken* modifies the bound noun *-si?po* ‘child’, forming one phonological word with it. As an alternative to (32), the speaker could have used the two-word strategy *ken wasi?po* without a difference in meaning.

In the last set of examples featuring quantifying modifiers, the (a)-examples include independent nouns showing the two-word strategy, the (b)-examples feature deverbal nouns showing the same strategy, and the (c)-examples illustrate bound nouns using the one-word strategy. Example (33) contains a numeral ((a) and (c) come from a list of ingredients for ceviche), and (34) an indefinite quantifier.

- | | a. Independent noun | b. Deverbal noun | c. Bound noun |
|------|---|---|---|
| (33) | a. <i>mba?pa ugn</i>
three chili.pepper
‘three chili peppers’ | b. <i>mba?pa wa-wadn</i>
three <small>NMLZ-sit</small>
‘three seats’ | c. <i>mbapa?-ku seboya</i>
three-head onion
‘three onion-heads’ |
| (34) | a. <i>wakka-nda kãã</i>
<small>many-NDA</small> ¹⁴ pineapple
‘many pineapples’ | b. <i>wakka-nda e-?i-mbo?</i>
<small>many-NDA NMLZ-foot-stand</small>
‘many footprints’ | |
| | c. <i>wakka-?idn-a-nda</i>
<small>many-tooth-EP.V-NDA</small>
‘many teeth’ | | |

The data discussed in this section bear out that the peculiar behavior of bound nouns in adnominal possessive constructions (discussed in Section 3.2), allowing for two coding strategies, is not limited to the expression of possession. Rather, it is a general characteristic of adnominal modification structures in which the modifier precedes the nominal head (note that adjectives do not always precede their head,

¹⁴ The analysis of the suffix *-nda* remains unclear, which is why I use the transcription of the suffix itself as a gloss (see Van linden 2023: 458).

see Van linden 2023: 457–458). This observation bolsters our conclusion that Harakmbut does not show an alienability contrast at the level of the phrase.

5 Beyond adnominal modification

Having looked at the (simple) word level (Section 2) and the phrase level (Sections 3 and 4), we now venture into yet other levels of analysis for which alienability phenomena have been documented in the literature (see Rose and Van linden, this issue), viz. the complex word level, looking at noun-noun compounding (Section 5.1) and the clause level, discussing noun incorporation (Section 5.2).

5.1 N-N compounding

This section takes a closer look at the behavior of independent, bound and deverbal nouns in noun-noun compounding. It shows that independent and bound nouns show a skewed distribution across N1 and N2 in N(1)-N(2) compounds, in which N1 always modifies N2. Deverbal nouns, this time, behave similarly to bound nouns in that they drop the nominalizing prefix in N2 position, whereas they keep it in adnominal modification constructions.

We first focus on N-N compounds showing combinations of independent and bound nouns. All possible combinations occur, as illustrated in (35) below. When bound nouns occur as N2, they drop their noun prefix, as in (35b) and (35c) (see Rose and Van linden 2022).¹⁵ When they occur as N1, by contrast, they keep their prefix, as in (35c) and (35d).¹⁶

- (35) (a) I-I *ndumba-kuwa* [forest-dog] ‘bush dog’ (Helberg Chávez 1984: 252; Tripp 1995: 194)
 (b) I-B *kumo-?iwit* [barbasco-root] ‘the root of barbasco’
 (c) B-B *wa-?i-pih* [_{NPF}-foot-digit] ‘toe’
 (d) B-I *wa-ta?pi-widn* [_{NPF}-spine-stone] ‘kidney’ (Tripp 1995: 130b)

For the distribution of these noun classes across the two noun slots in N-N compounds, I use data collected for Pepper’s (2020) list of 100 complex concepts, designed

¹⁵ Some bound noun roots only occur in N2 in N-N compounds, e.g., *-pih* ‘digit’ in (6) and (35c).

¹⁶ *E*-nouns in Ese Ejja also drop their prefix in N2, but keep it in N1 (Vuillermet 2012: 301–302). In Cavineña, *e*-nouns generally (but not always) drop their prefix in N2 in N-N juxtaposition structures, which typically lexicalize into N-N compounds. Monosyllabic *e*-nouns are also phonologically attached to the preceding noun modifier in N-N juxtaposition structures, but polysyllabic ones are not (Guillaume 2008: 411–432).

to study binominal lexemes from a crosslinguistic perspective. Out of the 78 Harakmbut data items collected for 72 entries of this list, 15 instantiate compounding. Table 4 presents the distribution of these 15 items over the two noun classes in N1 and N2 positions. Independent nouns (I in Table 4) are only rarely found as N2, whereas bound nouns (B in Table 4) frequently occur as N2. Although this preference is statistically significant,¹⁷ the scarcity of the data calls for caution. The tendencies in Table 4 need to be confirmed with more data.

Table 4: Types of N-N compounds according to morphological class of N1 and N2 in Pepper's list of 100 complex concepts.

Noun classes in N-N	I-I	I-B	B-B	B-I
Harakmbut (15)	0	5	9	1

In terms of semantic domains, bound N2 in compounds typically include plant parts (35b) and body parts (35c). In such cases, the semantic relation between N2 and N1 is a part-whole relation, as reflected in the translation of (35b); 'toe' in (35c) can be paraphrased as 'digit of the foot'. However, what is important is that the holonym (or 'possessor') in N1 is non-referential, which is why such examples do not rate as adnominal possessive constructions (see also Section 3.2). The landscape part term *-wě* 'river' is often used in hydronyms, e.g., *Karene-wě* 'Colorado River'. Kinship terms hardly occur in N2, but shapes and substances often do, in which N2 has an attribute-like relation to N1 and is in fact better analyzed as a classifier (see Rose and Van linden 2017, 2022 for argumentation).

Deverbal nouns (D) pattern like bound nouns in that they never use a nominalizing prefix in N2 (36a)–(36b), while they do carry such a prefix in N1 position (37a)–(37b). In (36a) and (36b), N1 is an independent noun. So far, all examples I have come across in which a bound noun precedes a verb root are similar to (36c) and (8b), and are analyzed here as instrumental nominalizations of compound N-V lexemes (so, noun incorporation, see Section 5.2) rather than N-N compounds of the B-D type. In (37a) and (37b), N2 is a bound noun. I have not found any N-N compounds of the D-I type yet. What I have found are examples like (37c), in which the deverbal noun modifies an independent noun, but these nouns are merely juxtaposed; they do not form a single phonological word.

¹⁷ As suggested by the editor, binomial tests point to a significant difference when we compare IB + BB with II + BI ($p = 0.00098$), and to no significant difference when we compare II + BI with BB + BI ($p = 0.30$).

- (36) (a) I-D *siro-mba-pe?* [metal-VPL-eat] ‘metal plate’ (some metal thing to eat from)
 (b) I-D *arakmbut-(h)a-te* [person;people-say-LOC] ‘in the language of the people; in Harakmbut’
 (c) *wa-mba?-ot* [NMLZ-hand-get.dressed] ‘glove’ (‘something to put on your hand’)
- (37) (a) D-B *wa-ma-tā?kea-?idn* [NMLZ-VPL-angle-tooth] ‘fish hook’ (Tripp 1995: 123b)
 (b) D-B *wa-k-may-kidn* [NMLZ-(SPAT:separation-drink)_{drink.medicine}-seed] ‘pill’ (Tripp 1995: 118b)
 (c) *wa-mba-tay hak* [NMLZ-VPL-sleep house] ‘accommodation’ (Tripp 1995: 108)

The interim conclusion is hence that deverbal nouns do not show all logically possible combinations with independent and bound nouns in N-N compounds; B-D and D-I combinations do not occur. They thus do not fully resemble bound nouns in N-N compounding.

In addition to N-N compounds, there is one other type of binominal lexeme that deserves discussion here, as it includes a genitive-marked noun, but nevertheless does not instantiate adnominal possession. An example is in (38). According to Pepper’s (2020: 155–156) classification of binominal lexemes, it instantiates the *gen* type, in which head and modifier are two separate words, with an additional word-class preserving morpheme attached to the modifier.

- (38) *amiko-en kutamah* [foreigner-GEN bag] ‘backpack’

The structure in (38) is formally identical to adnominal possessive constructions with independent-noun possessors like (11), but differs in referential terms, as the ‘possessor’ in (38) is non-referential. Interestingly, similar examples with bound-noun heads (39) also feature a genitive marker but do not involve two separate words.

- | | | | | |
|------|----|------------------------------|----|----------------------|
| (39) | a. | <i>mokas-en-ay?</i> | b. | <i>mbawi?-en-ay?</i> |
| | | collared.peccary-GEN-bone | | deer-GEN-bone |
| | | ‘bone of a collared peccary’ | | ‘bone of a deer’ |

The examples in (39) were produced in a single conversation; they refer to the material of the needles the speaker was using to make string bags. They are similar to (20b) in showing the genitive marker and being fused with the possessee in N2, as well as in having an alienable interpretation of a semantically inalienably possessed entity – the pieces of animal bone, turned into needles, now belong to the speaker. Crucially, however, they are different in that the genitive-marked possessor is not referential. Like (38), (and (17) in Section 3.2), then, (39a) and (39b) constitute binominal lexemes and do not exemplify adnominal possession.

All in all, the data on N-N compounds, or binominal lexemes more generally, merely pointed to differences in preference for the N1 or N2 position between independent and bound nouns. As expected from what we have discussed so far, bound nouns drop their noun prefix in N2. And while deverbal nouns never drop their nominalizing prefix in adnominal modification constructions, they do drop it when occurring as N2 in N-N compounds. None of these observations can be meaningfully related to the alienability contrast.

5.2 Noun incorporation

The last grammatical environment to be looked at here is noun incorporation, a phenomenon that operates at the clause level – and also at the complex word level, as it is a type of N-V compounding. Harakmbut shows all four types of noun incorporation distinguished by Mithun (1984), but these types have semantic biases, as indicated in Table 5. This table only includes the semantic domains covered by bound nouns and listed in Table 1 that have been observed in incorporated forms. Note that all of these involve inalienable possession – animals are missing from Table 5. Except for one independent noun (*hak* ‘house’, attested in type I only), which could be

Table 5: Semantic biases per type of noun incorporation.

Semantic fields	Type I NI (lexical compounding)	Type II NI (manipulation of case)	Type III NI (manipulation of discourse structure)	Type IV NI (classificatory NI)
(a) Part-whole				
Body part	✓	✓	✓	✗
Plant part	✓	✓	✓	✗
Landscape part	✓	✓	(✓)	✗
(b) Relations				
Kinship	‘child’ only	✗	✗	✗
(c) Shape and substance				
Shape	✗	✗	✓ (CLF)	✓ (CLF)
Substance	✗	✗	✓ (CLF)	✓ (CLF)
(d) Miscellaneous				
Attribute	✓	✓	(✓)	✗

regarded as a culturally basic possessed item (see Nichols 1988: 572), morphological boundness is the formal prerequisite for nouns to be incorporable.

The four types of noun incorporation in Table 5 are discussed in Van linden (2023: 470–471) and Rose and Van linden (2017, 2022: 266–270). Kin terms almost do not occur incorporated in verbs; the only noun I found is *-siʔpo* ‘child’, for instance in type I *e-siʔpo-ka* [_{NMLZ-child-make}] ‘procreate’ (see Tripp 1995: 52a). Parts of wholes and attributes are typically found in types I and II, and only occasionally in type III. An example of type II involving a body part is in (40), whose non-incorporated equivalent would have ‘Joeri’s head’ (with *Joeri* marked for genitive case) as Goal argument, as rendered in the translation. Incorporation of the body part *-ku* ‘head’ into the verb allows the possessor to be promoted to object status (see Mithun 1984: 857–858), with *Joeri* marked for accusative case in (40), and thus serves to manipulate case roles at the clause level.

- (40) *Pomelo-a* *o-ku-ti-kot-ay* *Joeri-ta*
 grapefruit-NOM 3SG.IND-head-SPAT:up-fall-AVRT Joeri-ACC
 ‘A grapefruit almost fell on Joeri’s head.’
 (elicited, Van linden 2022: 143, Ex. (20))

Shapes and substances, in turn, show almost the reverse distribution across the four types of noun incorporation because of their wide-scope semantics; they are in fact only attested in types III and IV. An example of the latter is in (41), in which *-po* classifies the more specific external NP present in the clause (see Mithun 1984: 863), viz. *kōsō* ‘pot’, characterizing it in terms of shape.

- (41) *kōsō* *o-po-wadn* *mesa-toyo*
 pot 3SG.IND-CLF:round-sit table-under
 ‘The pot is under the table.’ (elicited)

Summing up, apart from one independent noun (*hak* ‘house’), it is only bound nouns denoting inalienably possessed entities that are incorporated in verb forms, dropping their noun prefix. They are found in all four types of noun incorporation described by Mithun (1984), but the distribution of the nouns across these four types differs in terms of the semantic domain they belong to. Deverbal nouns are of course morphologically bound as well, but as their stem is verbal in nature, they cannot get incorporated as nouns in verb forms. By and large, it can thus be argued that the difference in incorporability of common nouns in verbs can be explained by the conceptual distinction between alienable and inalienable possession just as much as the simple-word level phenomenon of the two-way noun class system can – it is not a perfect explanation because of the independent-noun exception and the skewed distribution of nouns across semantic domains; not all inalienably possessed entities get incorporated.

6 Conclusion: what can the alienability contrast account for in Harakmbut?

Having looked at the nature and behavior of independent, bound and deverbal nouns at various levels of linguistic organization in Harakmbut, we are now in a position to assess the relevance of the alienability contrast in that language. The description of the two-way noun class system (Section 2) revealed that membership of common nouns in these two morphologically determined classes is to a great extent motivated by the conceptual distinction between inalienably and alienably possessed items. While bound nouns predominantly include the former type, independent nouns primarily comprise the latter. There are exceptions at either end, which adduces evidence for Nichols' (1988: 574) position that inalienability is a lexical category at the word level rather than a semantic property (see also Nichols and Bickel 2013). Yet, going by the criteria proposed by Chousou-Polydouri et al. (this issue), the two noun classes would qualify as semantically coherent in terms of inalienable versus alienable.

Although the alienability contrast could be argued to motivate the noun class system in Harakmbut, it was found to be irrelevant to adnominal possession, or to phrase-level phenomena at large. While languages showing bound versus independent nouns typically show coding splits in adnominal possession determined by membership of the possessee in these noun classes (see Rose, this issue; Rosés Labrada, this issue), the Harakmbut data only pointed to a coding split according to humanness for a set of bound nouns (i.e., body parts). In adnominal possession constructions, but also in other types of adnominal modification constructions, bound nouns were shown to use the same (two-word) coding strategy as independent nouns. They differ from the latter in also showing another, one-word coding strategy, but only in a lexically skewed way. That is, some bound nouns do not accept one-word modification constructions. While the distinct behavior of bound nouns in adnominal modification, compared to that of independent and deverbal nouns, can be explained by their having a nominal root or stem and being morphologically bound, the reasons for the differential acceptance of the one-word, prefixless strategy across the class of bound nouns remain unexplored.

With no alienability split at the phrase level, there was little hope of finding reflexes of the alienability contrast in the complex-word phenomenon of noun-noun compounding. Bound and independent nouns were found to merely differ in preference for the N1 or N2 position; neither class is excluded from either position. Deverbal nouns, in turn, behave identically to bound nouns in dropping their prefix in N2 while keeping it in N1. However, we did note differences with the two common-

noun classes in that deverbal nouns only combine with independent nouns in N1, or bound nouns in N2; the reverse combinations are excluded.

Finally, we investigated noun incorporation and found that the explanatory potential of the alienability contrast for this clause-level phenomenon is similar to that for the (simple) word-level phenomenon of the noun class system. Inalienable semantics could be argued to determine the incorporability of nouns, but there are also exceptions.

More generally, this article has shown that although a language may manifest alienability oppositions at the lowest level of organization, viz. the word, this does not necessarily entail the presence of an alienability split in adnominal possession. This is in line with Krasnoukhova's (2012: 87–88) finding that South American languages with inalienable and alienable nouns do not always use different possessive constructions with either class. In fact, they more often use the same possessive construction. In Harakmbut, then, the relevance of the alienability contrast seems to be limited to having motivated the morphological distinction between bound and independent nouns, which in turn motivates the distinct behavior of bound and independent nouns in various grammatical environments. The most intriguing aspect of this distinct behavior is the choice that bound nouns offer to speakers: when do speakers choose the two-word strategy and when do they select the one-word strategy? Is the competition between the morphosyntactic patterns discourse-related, semantically motivated, or lexically determined? These questions are left for further research.

Acknowledgments: The research reported on in this article has been made possible by mobility grants and postdoctoral grants from the Research Foundations FWO and FNRS, as well as by research project grants from the research council of KU Leuven (C14/18/034), the research council of the University of Liège (FSR-S-SH-17/15), and the Fund for Scientific Research (F.R.S.-FNRS) (PDR T.0065.20). It also benefitted from my research stay in Lyon from September 2020 until January 2021, funded by the Collegium de Lyon of the University of Lyon and the Dynamique Du Langage research unit from the LabEx ASLAN. My warm thanks go to Françoise Rose for being my academic host in Lyon and for useful comments on an earlier draft of this paper. I also thank the anonymous referees and the editor for their constructive criticisms. Finally, I am very grateful to all the speakers of Harakmbut who taught me their language, and in particular to my main consultant Yesica Patiachi Tayori.

Data availability statement: The dataset underlying this article can be found in the Zenodo file: <https://doi.org/10.5281/zenodo.7860485>.

Abbreviations

1	1st person
2	2nd person
3	3rd person
>	'acts on'
ACC	accusative
AN	animate
APPL	applicative
AVRT	avertive
BEN	beneficiary/benefactive
BEN.APPL	benefactive applicative
CAUS.SOC	sociative causative
CLF	classifier
DEP	dependent verb form
DIM	diminutive
DIST	distal
DUB	dubitative
EP.V	epenthetic vowel
GEN	genitive
HAB	habitual
IND	indicative
INDET	indeterminate
INDIR.EVD	indirect evidential
ITER	iterative
LOC	locative
NEG	negation
NMLZ	nominalizer
NOM	nominative
NPF	noun prefix
POT	potential
PL	plural
REM.PST	remote past
SG	singular
SPAT	spatial prefix
TRNS	transitivizer
VBZ	verbalizer
VPL	verbal plural

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Non-canonical possessive constructions in Negidal and other Tungusic languages: a new analysis of the so-called “alienable possession” suffix

<https://doi.org/10.1515/ling-2022-0030>

Received February 14, 2022; accepted February 18, 2023; published online June 7, 2023

Abstract: A distinction between inalienable and alienable possession is considered to be crosslinguistically common. For the Tungusic languages, it is generally illustrated with examples that contrast inherently possessed body parts with body parts belonging to a non-inherent possessor, with the latter being formally marked with a suffix $-ŋ(V)$. However, as we argue here for Negidal (Northern Tungusic), rather than marking ‘alienable’ or ‘indirect’ possession, the suffix $-ŋ(i)$ flags the occurrence of non-canonical possessive constructions; the supposedly straightforward interpretation of the oft-cited examples involving body parts is merely a secondary effect of the particular kind of non-canonical construction involved. This analysis unifies the diverse constructions in which $-ŋ(i)$ occurs, namely with obligatorily possessed body parts, with non-possessible items such as nouns denoting humans or environment terms as well as demonstratives or adjectives, and with other modifiers when the possessee is elided. We complement our investigation with the analysis of the cognate suffix $-ŋi$, whose main function is to mark the possessor in possessive constructions with an elided head. The function of both suffixes can thus be subsumed under the marking of non-canonical possessive constructions. This analysis can be extended to several Tungusic languages, as the comparison with Negidal’s sister languages shows.

Keywords: associative possession; inalienable-alienable distinction; possessive classes; Siberia; Tungusic

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1 Introduction

So-called (in)alienable possession is described as a crosslinguistically common feature whereby two distinct kinds of possession – inherent and permanent versus loosely associated and non-permanent – are formally distinguished in adnominal constructions (e.g., Chappell and McGregor 1996; Haspelmath 2017; Nichols 1988; see also the overview of the literature in the introduction to this issue). This category has also been widely noted in the Tungusic languages (Boldyrev 1976; see Avrorin [1959: 155–163] specifically for Nanai, Boldyrev [2007: 122–139] for Evenki, Nikolaeva and Tolskaya [2001: 135–141] for Udihe, Novikova [1960: 145–152] for Even, and Pevnov and Khasanova [2006: 503–504] for Negidal), which are also included by Nichols (1988: 591–592) in her classification of (in)alienable possession types. The Tungusic distinction is most commonly illustrated with the contrast between inherently possessed body parts (1a) on the one hand and body parts of dead animals that have entered the possession of some human (1b) on the other, with the latter being formally marked by a suffix *-ŋ(V)*. Such examples appear to show that this formal opposition in possession marking is indeed one of inalienable versus alienable possession.

(1) Nanai

- a. *naj dili-ni*
 person head-PX.3SG
 ‘(the) person’s head’
- b. *naj dili-ŋgo-ni*
 person head-ŋ(V)-PX.3SG
 ‘(detached) head (e.g., of an animal) owned by a person’
 (Nichols 1988: 565–566, taken from Avrorin 1959: 157–158; glosses and transcription modified)

However, in Negidal, a critically endangered language spoken in the Far East of Russia, the so-called alienable possession suffix [which takes the form *-ŋ(i)*] occurs in contexts that cannot be explained by any form of loose association or “socially or economically conferred ownership” (Nichols 1988: 568), such as with human referents or with the sun, casting doubts on an analysis in terms of alienability. Nikolaeva and Tolskaya (2001: 135–141) also point out that in Udihe the cognate suffix occurs in many more contexts than simply alienable possession; they describe the suffix as having five distinct functions (see Section 4.3 for details).

We here address the question whether an analysis of the suffix *-ŋ(i)* in terms of marking alienable possession is warranted by the Negidal data. As will be seen from the label POSS (standing for ‘non-canonical possessive construction’) with which we

gloss this suffix, and as is laid out in detail in Section 4, we provide an analysis in which the function of *-ŋ(i)* is not to mark alienable possession, nor does this suffix have various different functions as postulated for the Udihe cognate by Nikolaeva and Tolskaya (2001: 135–141). Rather, the seemingly diverse uses of this suffix in Negidal can all be subsumed under a single function, namely to flag the occurrence of non-canonical possessive constructions. These data illustrate how apparently straightforward examples of the so-called alienability contrast might upon close examination turn out to have very different underlying motivations, thus raising the possibility that other cases of supposed (in)alienability might in actual fact also have different causes (see also Rose, this issue).

We extend our discussion to the closely related suffix *-ŋi*, which marks possessors in constructions with elided head nouns (hence the gloss PSR “possessor of elided head”). As will be detailed in Section 7, such constructions are non-canonical from a syntactic perspective and thus complement our understanding of non-canonical possessive constructions not only in Negidal, but also in other Tungusic languages.

The remainder of the article is structured as follows: after a brief introduction to the language and the data that form the basis of this investigation (Section 2), we introduce possessive constructions in Negidal in Section 3. In Section 4 we discuss the uses of the suffix *-ŋ(i)*, which was previously considered a marker of alienable possession. In order to situate the Negidal data in a broader context we provide a brief overview of the cognate suffixes in other Tungusic languages (Section 5). Section 6 is devoted to the description of the suffix *-ŋi*, which marks the possessor in possessive constructions with elided possessee in Negidal as well as in other Tungusic languages. The article concludes with a discussion of the different non-canonical possessive constructions that are marked by these two clearly cognate suffixes (Section 7).

2 Negidal: the language and the data

Negidal is a critically endangered Northern Tungusic language spoken in the Far East of the Russian Federation on the Lower Amur river and one of its major tributaries, the Amgun'. At least two dialects used to be distinguished: Upper Negidal and Lower Negidal (Cincius 1982: 3). However, Lower Negidal appears to be extinct by now, and only a handful of speakers of Upper Negidal remain (Pakendorf and Aralova 2018), among whom only two elderly women are still fluent in the language.

Like its relatives, Negidal is a fairly agglutinative language with rich, exclusively suffixing morphology. It has nominative-accusative alignment, with obligatory indexation of the S/A argument on the verb; objects, in contrast, are not cross-referenced on verbs. Nevertheless, both S/A and object (pro)nominal arguments are

commonly omitted if their referents are retrievable from the context. Due to vestiges of vowel harmony and consonant assimilation at morpheme boundaries, the surface forms of suffixes show some variation (Pakendorf and Aralova 2020).

This study is based exclusively on a fully annotated corpus of oral speech of Upper Negidal (Pakendorf and Aralova 2017). This comprises about 200 texts of diverse genres (folklore, autobiographical anecdotes, procedural texts, and conversations) numbering approximately 76,500 words in total. Nine elderly speakers – four of whom are by now deceased – are represented in the corpus, eight women and one man. Of these, the man and four women (a mother and three of her daughters) were/are fluent speakers, while the others, including another daughter, show differing levels of attrition (Pakendorf and Aralova 2018; corpus description¹).

For our analysis of the contexts of use of the suffixes *-ŋ(i)* and *-ŋi* (cf. Section 6 for details on the distribution and morphological behavior of these suffixes) we extracted all the examples found in the corpus, namely 656 for *-ŋ(i)* and 31 for *-ŋi*, and coded them for host (class of lexeme, such as human, animal, plant, mass noun, demonstrative, adjective, or numeral) and specific lexeme (e.g., ‘person’, ‘wood’, ‘good’, ‘this’, etc.); whether the item carrying either of these suffixes carried further derivational, case, or possessive marking and if so, which kind (cf. Section 3.1); the context of use of the suffixes; and the syntactic position of the item carrying them (see coding sheet: Aralova and Pakendorf 2023). We furthermore investigated all the lexemes belonging to particular semantic classes (kinship terms, body parts, animals, plants, food, personal names) to assess to what extent they occur with or without possessive marking in the corpus, and we scanned concordances of the possessive suffixes to gain an understanding of their functions in Negidal.

3 Possession in Negidal

Since an understanding of possessive marking is necessary in order to understand the function of *-ŋ(i)* and *-ŋi*, in this section we continue with a brief description of possessive constructions in Negidal (3.1) and the possessive classes (3.2) observed in the corpus.

3.1 Types of possessive constructions

In Negidal, adnominal and predicative possession are expressed with two different constructions. Predicative possession is expressed with the proprietive suffix *-tei*. This suffix marks the possessee, and the possessor is not overtly indexed. While the

1 <http://hdl.handle.net/2196/b644db81-725c-4031-935c-f33c763df152> (accessed on 25 July 2021).

Table 1: Possessive suffixes in Negidal (showing major allomorphs/variants).

	SG	PL
1 inclusive		- <i>ti</i> , - <i>t</i>
1 exclusive	- <i>β</i> / <i>mi</i>	- <i>βun</i>
2	- <i>s</i>	- <i>sun</i>
3	- <i>n</i> / <i>nin</i>	- <i>tin</i>
reflexive	- <i>j</i> / <i>mi</i>	- <i>βaj</i>

propriative mainly occurs in predicative possessive constructions (2), it can also mark possessives in attributive and adverbial position.

- (2) *bajan hutə-təi bi-təa-n*
 many offspring-PROP be-PST-3SG
 ‘He had a lot of children.’
 (APN_DIN_teadrinking: 48)

Adnominal possession is characterized by possessive suffixes on the head noun which index the person and number of the possessor (Table 1); the preposed possessor remains unmarked and is frequently dropped. The reflexive possessive suffixes index a possessor who is coreferential with the subject of the clause.

As is crosslinguistically common (Creissels 2006: 141–144; Koptjevskaja-Tamm 2001), the possessive suffixes in Negidal have several different nominal functions, namely to mark: (i) ownership (3a)–(3b); (ii) part-whole relationships (3c); (iii) the head in nominal modifier constructions (in which the ‘possessor’ characterizes the possessee, cf. Creissels 2006: 142 and Koptjevskaja-Tamm 2001: 964; [3d]) and iv) associative possession (3e). Notably, the marking of prototypical possession, i.e., ownership of items that can be bought, sold, or given away, is relatively infrequent, making up only a small proportion of the occurrences of these suffixes in the corpus. As can be seen from (3b), the (pro)nominal possessor, which precedes the possessee (3a), can be freely omitted from such possessive constructions, since it is cross-referenced on the possessee with the possessive suffixes. In discourse, overt possessors are relatively rare.

- (3) a. *bi su:n-mə-β tət-i-βka-kəl gun-ə-n*
 1SG coat-ACC-PX.1SG to.dress-CAUS-IMP.SG say-NFUT-3SG
 ‘Dress it in my coat.’
 (TIN_swine: 90)²

² All examples are taken from the Negidal corpus (Pakendorf and Aralova 2017). Note, however, that in some cases we have slightly modified the glosses and translations for clarity. The translation does not always reflect the Negidal text word for word; citation markers like *gunən* ‘he/she says’, in particular, are often omitted in the translation.

- b. *hola-sun=kə* *e:kun* *gun-ə-n*
blanket-PX.2PL=FOC what say-NFUT-3SG
 ‘‘What is **your blanket** made of?’’ – he says.’
 (DIN_chevkan_tale: 50)
- c. *mo: nɨŋtə-nin* *ʃukə-dukəkəj* *ju-tæ-ja-n*
tree root-PX.3SG ice-ABL exit-RES-NFUT-3SG
 ‘...the **root of a tree** sticking up out of the ice’
 (APK_spirits: 24)
- d. *i-dukɨn=da* *baka-ŋa:ti-s* *taj* *lam* *ʃolo-βa-n*
 INTERR-ABL=ADD find-DEONT-2SG DIST **sea** **stone-ACC-PX.3SG**
 ‘... where can one find a **stone from the sea** (lit. ‘sea stone’)?’
 (DIN_APN_fighting: 141)
- e. *samoxodka-β* *iltən-ə-n* *a:tɨin*
?steamer.R-PX.1SG pass-NFUT-3SG NEG
 {A woman is driving a boat upriver and is unsure about where to go. She
 has been following a steamer, but then} ‘The steamer (lit. my steamer)
 passed [the riverbend] and disappeared.’
 (GIK_chertovy_zuby: 21)

The notion of associative possession is very important in the context of our study, since it is this type of possession marking that triggers most of the productive occurrences of the suffix *-ŋ(i)* (Section 4.1.2).³ In this kind of construction, possessive marking highlights a relationship between two participants that is salient in discourse or in the speech situation (cf. Creissels 2006: 143 and in particular Nikolaeva 2003; Pakendorf 2007). These participants are the ‘possessee’ and the ‘possessor’ cross-referenced with the possessive suffixes.

Thus, in Example (3e) above, the woman driving the boat had been hoping to find her way through the tricky Amgun’ channels by following the steamer (with which she otherwise has no relation at all); the importance that the steamer has for her at this moment of the narrative is expressed by the 1SG possessive marking (‘my steamer’). Similarly, in (4) below, the little girl says it is her needle that broke, but in fact the needle belongs to an evil spirit. The salient relationship that is highlighted by the 1SG possessive marking (‘my needle’) is the fact that it was very important to return the needle to the spirit, but it broke while the girl was using it.

³ Even more frequent in number are lexicalized forms referring to ‘husband’ and ‘wife’ (see Section 4.1.3 for examples).

- (4) *uli-l-la:n* *gun-ə-n* *kilgədgə-jə-n* *inma-β...*
 SEW-INCH-SS.ANT say-NFUT-3SG break[INTR.SMLF]-NFUT-3SG **needle-PX.1SG**
 {The evil spirit is asking for its needle, and the little girl answers:} ‘As soon as
 I started to sew, the needle (lit. **my needle**) broke.’
 (DIN_APN_needle: 48)

3.2 Possessive classes

Our perusal of the Negidal corpus leads us to identify three different possessive classes of lexemes based on their morphosyntactic behavior: (i) obligatorily possessed nouns that practically always occur in a possessive construction; (ii) non-possessible items that generally do not occur in possessive constructions: these comprise semantically non-possessible nouns on the one hand, and formally non-possessible numerals, demonstratives, adjectives and participles on the other; and (iii) all other nouns which can occur both with or without possessive suffixes (including the proprietive), depending on the context. With respect to the function of *-ŋ(i)* it is the first two possessive classes that are relevant, since in the corpus data *-ŋ(i)* tends not to occur with optionally possessed nouns; we, therefore, provide more information on obligatorily possessed nouns and non-possessible items. In the following, we will use the term ‘direct possession’ to refer to possessive constructions in which the possessive suffixes attach directly to the head noun (following case suffixes where pertinent, cf. [3a], [3e]), and ‘indirect possession’ to refer to constructions in which the suffix *-ŋ(i)* intervenes between the root and the possessive suffixes.

The obligatorily possessed nouns comprise kinship terms on the one hand (5a) and body parts on the other (5b). (We exclude from consideration spatial/temporal relation nouns – these are nominals that mostly function as the heads of possessive constructions and are marked with one of the spatial cases and possessive suffixes which agree with the ‘possessor’, e.g., *uskə daga-du-n* [door near-DAT.ESS-PX.3SG] ‘next to the door’).

- (5) a. *ti:nu* *min-dula* *əmə-jə-n* *okin-mi*
 yesterday 1SG.OBL-LOC come-NFUT-3SG **older.sister-PX.1SG**
 ‘My older sister came to me yesterday...’
 (GIK_shuka: 1)
- b. *bi: si dəl-βə-s* *hoŋna-sin-jiŋa-β* *bosa:ktə-βə-s*
 1SG 2SG head-ACC-PX.2SG chop-TAM1-FUT1-1SG **kidney-ACC-PX.2SG**
talaka-jiŋa-β *gun-ə-n* *ha:kin-mə-s* *ju:-β-jiŋa-β*
 eat.raw.meat-FUT1-1SG say-NFUT-3SG **liver-ACC-PX.2SG** exit-VAL-FUT1-1SG
 ‘I will chop off **your head**, I will chop **your kidneys** finely and eat them, I
 will take out **your liver**.’
 (DIN_Emeksikan: 97)

As will be seen in Section 4.1, these two subcategories of obligatorily possessed nouns differ in whether they occur with *-ŋ(i)* (body parts) or not (kin terms). There are only two contexts in which kin terms are found without possessive marking: in the vocative case (expressed by final vowel lengthening), and when carrying the comitative suffix *-teil*. This occurs only with kinship terms and expresses both a reflexive possessive relationship and a joint action (6).

- (6) *bu akina-teil ju:-ji taj amban-ji kusi-ja-βun*
 1PL.EX older.brother-COM two-COLL DIST devil-INS fight-FUT2-1PL.EX
 ‘We, my brother and I, will fight with that devil the two of us.’
 (DIN_Emeksikan: 249)

As to the lexical group of body parts, since prototypically these are in a very tight relation to their inherent possessor, most of these items in the corpus are indeed directly possessed, and the possessor is easily retrievable from the context. However, we observe some exceptions to this rule in the data: body parts in an extended sense, such as the integument, bodily effluvia, and bones, do not carry possessive marking when they refer to disembodied entities whose original ‘possessor’ is not identified. This includes examples of meat or fat used as food, hide used as fabric, pieces of fur caught on branches, or bones scattered on a battlefield.

The class of non-possessible items is heterogeneous and consists of different parts of speech. It comprises certain nouns referring to humans⁴ (proper nouns, but also common nouns such as ‘person’), wild animals, plants, other environmental phenomena (such as ‘sun’) and nouns referring to large masses of uncountable entities (for instance, ‘wood’, ‘water’, food items) – this list is similar to, though not entirely overlapping with, Ainu non-possessible items (Bugaeva et al. 2022: 55). It also contains demonstratives, numerals, and modifiers such as adjectives and participles. Non-possessible items can occur with possessive markers in three cases: the nouns are (i) directly possessed when they function as the head in a construction with ‘characterizing’ nominal modifier (7) and (ii) indirectly possessed when their associative relationship to a discourse participant is highlighted for pragmatic reasons or when reference is made to a particular subset of an uncountable entity. (iii) As for the demonstratives, numerals, and modifiers, these are indirectly possessed for different reasons (described in detail in Section 4.2), for instance when they take the place of an elided head that would carry possessive marking. In all instances of indirect possession, the suffix *-ŋ(i)* is inserted before the possession marker, as will be shown in detail in Section 4.

⁴ There are two exceptions to this rule: directly possessed *asi* ‘woman’ occurs with a reading of ‘(someone’s) wife’ – though this is far less common than the use of indirectly possessed *atika:n* ‘old woman’ with this meaning (see Section 4.1.3) – and there are a few examples of directly possessed *bəjə* ‘human’ with a reading of ‘people, tribe’.

- (7) *siŋəʂa gun-mi oja:βi gun-ŋati-s ʃo: bəjŋa:-nin*
 mouse say-SS.COND taboo say-DEONT-2SG house animal-PX.3SG
 ‘Saying “mouse” is a taboo, you have to say “domesticated animal” (lit. ‘house animal’)’. (DIN_taboo: 1)

4 The suffix *-ŋ(i)* in Negidal

As mentioned in the preceding section, the suffix *-ŋ(i)*, which we gloss as POSS, ‘non-canonical possessive construction’, occurs with two categorically opposed classes of items: the obligatorily possessed body part terms and the heterogeneous class of non-possessible items. It always precedes a possessive marker,⁵ either the possessive suffixes summarized in Table 1 or the proprietive suffix *-təi*. Below we provide a detailed discussion of the contexts of use of the suffix, making a distinction between the possession of nouns (Section 4.1) and the possession of formally non-possessible parts of speech (Section 4.2). The use of *-ŋ(i)* with such disparate classes of items can be explained by viewing it as a flag of non-canonical possessive constructions, as we argue in Section 4.3. Our analysis contrasts with that of Pevnov and Khasanova (2006: 503–504), who discuss the suffix *-ŋ(i)* in semantic terms, as a marker of alienable possession, as is common in descriptions of Tungusic languages (cf. Cincius 1982: 20); they contrast it with “not-indirect possession” (*nekosvennaja prinadležnost’*) that occurs with body parts, kin terms, domestic animals and cultural artefacts.

A word of caution is in order: as pointed out in Section 2, we are basing our study purely on our analysis of the Negidal corpus. Given the nature of the corpus (spontaneous oral speech produced by individuals for whom Negidal has ceased to be the primary language of everyday use and who show differing degrees of attrition), counterexamples to our generalizations do occur, and not all of the examples are clear (~4 % were coded as ‘unclear’ for various reasons, see coding sheet). Nevertheless, since our database of examples is quite extensive, we feel confident in our overall analysis.

4.1 The suffix *-ŋ(i)* marking nouns

The vast majority of the tokens of *-ŋ(i)* marking nouns occur in adnominal possessive constructions which carry personal possessive suffixes, as will be illustrated

⁵ In actual fact, we find six examples of privative constructions where the *-ŋ(i)*-marked nominal is the argument of the negative existential noun *a:təin* and carries the indefinite accusative case marker instead of possessive marking. Of these, three comprise the phrase *atika:-ŋ-ŋa a:təin* ‘unmarried’, literally ‘without a wife’, which we consider to be a lexicalization.

throughout this section. However, in 19 cases the possessive phrase is in predicative position, and thus the ‘possession’ is indexed by the proprietive suffix *-tei* ([8]; see Section 4.3.1 on use of the noun ‘year’ with possessive marking). The possessor tends to be animate, generally a human being or an anthropomorphized character in a fairy tale.

- (8) *a:ŋ taj əmən nəkun-tin tonŋa anŋani-ŋi-tei*
 yes DIST one younger.sibling-PX.3PL five year-POSS-PROP
 ‘And the youngest is **five years old** [lit. has five years].’
 (APN_tri_soseda: 56)

We first describe the use of *-ŋ(i)* with body parts (Section 4.1.1) before turning to the discussion of one of the most salient contexts of use of this suffix, namely the associative possession of non-possessible nouns (Section 4.1.2). Furthermore, certain non-possessible nouns acquire a reading of particularization in the context of possession, as we describe in Section 4.1.3.

4.1.1 Body parts

As mentioned in the introduction, one of the most frequently cited uses of the suffix *-ŋ(i)* is with body parts that have entered the possession of an individual who is not the inherent possessor. This is the use that has led to its previous identification as a marker of alienable possession (e.g., Pevnov and Khasanova 2006: 504). However, in the corpus we find hardly any examples of this type. In total, we have only four examples of nouns referring to body parts marked with *-ŋ(i)* (less than 1% of all examples). Furthermore, rather than *-ŋ(i)* occurring with detached body parts that are in the possession of someone other than the inherent possessor (cf. [1] above), three of the four examples concern ‘extended’ body parts (‘hide’, ‘blood’, and ‘excrement’), with somewhat unclear contexts, complicating their interpretation. In the remaining example of an indirectly possessed body part this refers not to the part of an animate being, but to the part of a boat. In (9a) the ‘nose’ of the boat (i.e., its prow) is marked by *-ŋ(i)* plus plural reflexive possessive suffixes referencing the non-inherent possessors, namely the sisters who made it.⁶ In contrast, in (9b) the ‘nose’ is associated with the boat, its inherent possessor, and is directly possessed.

⁶ Note that in this example the possessive marking is of an associative nature, highlighting the relationship that is established between the sisters who are making the boat and its parts, rather than marking any form of ownership.

- (9) a. *kaltaka oŋokto-ŋ-ŋaj tula-təa[-l] kaltaka-ŋ-ŋaj*
 half **nose-POSS-PRFL.PL** attach-PST[-PL] half-POSS-PRFL.PL
tula-ji-du-tin arroj ədi-l-təa umnat
 attach-PRS.PTCP-DAT.ESS-3PL INTERJ.EVK blow(of.wind)-INCH-PST INTS
 ‘They had attached one half of **the nose**, as they were attaching the other half, suddenly the wind started to blow.’
 (APN_two_sisters: 10)
- b. *hul-mi hul-mi jaŋa-βa βa:-təa taji-ŋ-ŋi βa:-ja:n*
 go-SS.COND go-SS.COND uncle.R-ACC kill-PST DIST-POSS-PRFL.SG kill-SS.ANT
na:-təa lodka-j oŋokto-du-n
 put-PST **boat-PRFL.SG nose-DAT.ESS-PX.3SG**
 ‘Going and going he killed a bear; having killed it he put it on the **nose of the boat**.’ (GIK_bear: 19)

In contrast to body parts, which do occur with *-ŋ(i)*, no examples of the obligatorily possessed kinship terms carrying this suffix are found in the corpus.

4.1.2 Associative possession of non-possessible nouns

By far the largest proportion of productively used tokens of *-ŋ(i)* are found with non-possessible nouns when these occur in associative possession constructions. For example, in (10a) the person referred to by the 1_{PL} possessive-marked noun *bəjə* ‘person’ is a human who has entered the hut of foxes who are holding a shamanizing session. The possessive marking indicates the relationship established by his having sat down among the foxes (who are here the speakers) and might, in addition, express a certain respect or awe on their part, since they assume he must be a shaman. In (10b) the associative relationship between the 2_{SG} ‘possessor’ and the fox lies in the fact that the fox has tricked the addressee, a flying squirrel, into giving him her children one by one, which he then ate. Finally, in (10c) the setting of the sun has a direct impact on the two female protagonists cross-referenced by the 1_{PL} possessive marking since they are lost in the forest and clearly will not be able to find their way home in the dark.

- (10) a. *gə əj bəjə-ŋi-t [...] sama:n=mal bi-jiŋa-n*
 DP PROX **person-POSS-PX.1PL.IN.ARCH** shaman=INDEF be-FUT1-3SG
gun-ə
 say-NFUT[3PL]
 ‘“Oh, **this person** (lit. this person of ours) is probably a shaman”, they say.’
 (APK_fox: 127)
- b. *solaki-ŋi-s ola:k gun-ə-n*
fox-POSS-PX.2SG deceiver say-NFUT-3SG
 ‘**Your fox** is a liar.’
 (APN_omki: 39)

- c. *gə ɲənə-jə-βun ɲənə-jə-βun siβu-ŋi-βun tik-təa*
 DP go-NFUT-1PL.EX go-NFUT-1PL.EX sun-POSS-1PL.EX fall-PST[3SG]
 ‘We go and go, **the sun** (lit. our sun) set.’
 (APN_zabludilisj: 27)

An associative relationship flagged with possessive marking can also be of a more stable nature, such as that uniting a mother and her son in (11a), whom she refers to as ‘my Vova’ (a hypocoristic form of Vladimir), or that between a river and the person living on it (11b).

- (11) a. *i vova-ŋi-β jo-tki-j əmə-ja:n taja-βa*
 and.R PERS.NAME-POSS-PX.1SG house-ALL-PRFL.SG come-SS.ANT DIST-ACC
ves ulgutəa:n-a-n
 all.R tell-NFUT-3SG
 ‘And **my Vova** came home and told all about it.’ (talking about her son)
 (AET_bear: 35)
- b. *jepu-βkan-na-ji-du-j itəe-je-n beja-ŋi-n*
 eat-CAUS-AM-PRS.PTCP-DAT.ESS-PRFL.SG see-NFUT-3SG river-POSS-PX.3SG
bad-gida-li-n solaki noŋan-duki-n se:ŋa-ja-n
 opposite-SIDE-PROL-PX.3SG fox 3SG-ABL-3SG ???-NFUT-3SG
 ‘While she was going to feed [her puppy] she sees, on the opposite side of **the river** [where she lives] a fox is ??hiding from her.’
 (APK_1chindakan: 20)

In all of these cases, it is the possessive suffixes on the noun that express the pragmatically or situationally salient associative relationship, as shown for the directly possessed ‘steamer’ and ‘needle’ in (3e) and (4) above. Yet since the entities in Examples (10) and (11) belong to the class of non-possessible items, *-ŋ(i)* is necessary to license the possessive marking. Whereas in many cases the membership in the non-possessible class is semantically motivated (i.e., nouns denoting the landscape, wild animals or natural objects), the use of *-ŋ(i)* with proper nouns is a formal and not a semantic requirement. This is demonstrated by (11a): the same individual *Vova* could have been referred to by the speaker with directly possessed kin terms, such as *omolgi-β* ‘my son’ (boy-PX.1SG) or *hutə-β* ‘my child’ (offspring-PX.1SG).

4.1.3 Particularization via possession of non-possessible nouns

Non-possessible nouns referring to uncountable masses of an entity, such as wood, water, money, or food items, can carry possessive suffixes to pick out a particular subset of the entity that is in the possession of an individual and that is intended for their personal use. In this case, the suffix *-ŋ(i)* is required to license the possessive

marking. Thus, ‘your water’ in (12a) refers to a particular subset of water that you need in the house for drinking, cooking, or washing. Possessive marking on the noun *mo*: ‘tree, wood’ can result in two different readings: it can refer either to wood that is going to be used in the fire of the ‘possessor’ (12b), or to a piece of wood that is in someone’s possession for use as a staff or a stick. Similarly, the bread that is being sought in (12c) is only a very small and particular subset of all bread, namely the individual ration that was allocated during the war.

- (12) a. *ineŋ-ti* ***mu:-ŋ-ŋi*** *əmə-β-ŋati-s*
 day-ADVR **water-POSS-PREFL.SG** come-VAL-DEONT-2SG
 ‘You must bring **the water** (lit. your water) during the day.’
 (DIN_rite: 12)
- b. *ŋonu-jə-n* ***mo:-ŋ-ŋi*** *hena-dgi-je-n*
 to.leave-NFUT-3SG **wood-POSS-PREFL.SG** carry.load.on.back-REP-NFUT-3SG
 ‘He goes and carries the firewood on his back.’
 (DIN_starik_staruha: 24)
- c. *əmnə* ***xlepu-ŋ-ŋaj*** *ulguma-mi* *ŋənə-təa-βun*
 once **bread.R-POSS-PREFL.PL** ask-SS.COND go-PST-1PL.EX
 ‘Once we went to ask for **our** (ration of) **bread**, ...’
 (APN_DIN_conversation: 152)

This ‘particularization’ function of possessive marking of non-possessible nouns can also be found in some special cases, namely to refer to an individual’s age [(8) above and (14) below], to single out a particular individual from a larger set, and to derive the terms for ‘husband’ and ‘wife’ from nouns meaning ‘old man’ and ‘old woman’ (13a), (13b), respectively.⁷ The terms for ‘husband’ and ‘wife’ can be interpreted as referring to one particular individual among all the possible ‘old women/men’ (who in the case of spouses, of course, do not necessarily have to be old) who has a particular relationship with the ‘possessor’. These terms are already lexicalized,⁸ as can be seen from the fact that they serve as the base for the derivation of the verbs ‘to marry’ (13c), (13d). A similar case of particularization via possessive marking can be found in Udihe, where indirect possessive marking of the nouns meaning ‘girl’ and ‘boy’ results in a meaning of ‘daughter’ and ‘son’, respectively (Nikolaeva and Tolskaya 2001: 139–140).⁹ The language-specific nature of this kind of possessive

7 As mentioned in Footnote 4, directly possessed ‘woman’ can also be used with reference to someone’s wife, but the use of indirectly possessed ‘old woman’ in this function is more than three times as frequent.

8 Nevertheless, in some fairy tales in which the protagonists are old spouses, the words *otika:ŋinin* and *atika:ŋinin* are variably translated as ‘old man’ and ‘old woman’ rather than ‘husband’ and ‘wife’.

9 Note that Nikolaeva and Tolskaya (2001) analyse this case of particularization as a function of the so-called alienable suffix *-ŋi*, not of the possessive marking.

marking can be seen in the fact that in Negidal the word for ‘son’ derives from directly possessed ‘boy’ [without addition of *-ŋ(i)*], while in Udihe the direct addition of possessive suffixes, without *-ŋi*, to the term for ‘old man’ results in a meaning of ‘husband’ (Nikolaeva and Tolskaya 2001: 127).

- | | | | | |
|------|----|---|----|---------------------------------------|
| (13) | a. | <i>otika:-ŋi-nin</i> | b. | <i>atika:-ŋi-nin</i> |
| | | old.man-POSS-PX.3SG | | old.woman-POSS-PX.3SG |
| | | ‘her husband’ | | ‘his wife’ |
| | c. | <i>otika:ŋ-la:-</i> | d. | <i>atika:ŋ-la:-</i> |
| | | husband-VR | | wife-VR |
| | | ‘to marry (from a woman’s perspective)’ | | ‘to marry (from a man’s perspective)’ |

With respect to a person’s age, it is the particularization via ‘possession’ of the noun meaning ‘year’ that has this function ([14], see also [8] above). As will be discussed in the following section, a reading of particularization is also attained when numerals carry possessive suffixes.

- (14) ...*min-du* *bi-təa-n* *juŋun* ***anŋani-ŋi-β***
 1SG.OBL-DAT.ESS be-PST-3SG six year-POSS-PX.1SG
 ‘... I was six years old.’
 (GIK_olan: 3)

4.2 The suffix *-ŋ(i)* marking non-possessible parts of speech

As mentioned in Section 3.2, apart from non-possessible nouns the suffix *-ŋ(i)* occurs widely with other word classes. Here its use does not have any semantic motivation but is required for formal reasons. The possession of numerals (Section 4.2.1) can be analyzed as an example of particularization, similar to that described for nouns in Section 4.1.3. Another class of formally non-possessible items is demonstratives. We discuss the diverse contexts in which they occur with possession marking in Section 4.2.2. We also find *-ŋ(i)* with modifiers such as adjectives or participles in adnominal possessive constructions with elided possessee (Section 4.2.3); in these cases, the possessive suffix transfers from the head to the modifier, thus triggering the insertion of *-ŋ(i)*.

4.2.1 Particularization via possessive marking of numerals

Possessive marking on numerals has a similar particularization effect as that seen for certain nouns (e.g., wood, water, years, or spouses), namely, it serves to single out a particular individual from a group (15a). With numerals higher than one the resulting reading is that of an ordinal numeral (15b).

- (15) a. *omɔŋ-ŋi-βun* *dəlbəni-ŋja-βa* *aja-t* *ə-təə* *a:ja*
one-poss-1PL.EX night-AUG-ACC good-ADVR NEG-PST sleep-NEG.CVB
uŋum-mi
 freeze-SS.COND
 ‘One of us didn’t sleep well all night, freezing.’
 (GIK_2tatarskoe: 62)
- b. *taji=gda* *ton-ŋi-tin* *dolin-du* *təgə-t-təa*
 DIST=CONTR **five-poss-PX.3PL** middle-DAT.ESS sit.down-TAM2-PST.PTCP
bəja-l-βa *itce-je-n*
 person-PL-ACC see-NFUT-3SG
 ‘That one, **the fifth** that sat in the middle, saw the men.’
 (DIN_kidnap: 41)

4.2.2 Possessed demonstratives

Another highly frequent use of the suffix *-ŋ(i)* is with the distal and proximal demonstrative pronouns *taj* ‘that’ and *oj* ‘this’. These demonstratives are very frequent in Negidal speech: in the corpus we find 4975 instances of *taj* and 1386 instances of *oj*.¹⁰ Mostly they are used without any possessive marking, and when they do take possessive suffixes, these are always preceded by the marker of non-canonical possessive constructions *-ŋ(i)*.

There are 147 examples with indirectly possessed demonstratives in the corpus, both distal and proximal, i.e., these constitute about one-fifth of all the examples carrying the suffix *-ŋ(i)*. As found for some proper nouns, the use of *-ŋ(i)* with possessed demonstrative pronouns can be shown to be formally rather than semantically motivated, as illustrated by example (16): here the demonstrative refers to an inherently possessed body part, namely the foot of the person who is doing the bandaging, which takes direct possessive marking as seen in the phrase added as an afterthought. The fact that *taj* carries *-ŋ(i)* can thus only be explained by the fact that demonstratives are formally non-possessible and cannot be directly possessed.

- (16) *taji-ŋ-ŋi* [...] *kaβsa-ja-n* *bogdi-j*
 DIST-POSS-PRFL.SG wrap.up-NFUT-3SG leg-PRFL.SG
 ‘He bandaged **all this**, his foot.’
 (DIN_starik_staruha: 62)

¹⁰ This count does not differentiate between nearly lexicalized adverbial uses like *ta-du* ‘there’ (DIST-DAT.ESS), *o-du* ‘here’ (PROX-DAT.ESS), or *ta-duk* ‘then’ (DIST-ABL), attributive uses, and proper pronominal uses when a demonstrative pronoun functions syntactically as a verbal argument. However, the case-marked forms of the distal demonstrative, which are likely to have an adverbial reading, make up only ~16 % of all the instances in the corpus.

Possession of the distal demonstrative pronouns is very often associative, as seen in (17) with the following context: two women saw someone in a boat who they thought was a relative, so they called him, but when he got closer, they saw he was a stranger. The possessive marking here underlines the salient relation between the women and the man they were talking about and whose attention they were trying to draw.

- (17) *taji-ŋi-βun* *ali-l-la:n* *gun-ə-n* *ja=ka*
 DIST-POSS-PX.1PL.EX be.angry-INCH-SS.ANT say-NFUT-3SG 1SG.R=FOC
otkuda *gun-ə-n* *nemec-duk* *priexal* *li*
 from.where.R say-NFUT-3SG German.R-ABL come.PST.R Q.R
 ‘He [lit. ‘that one of ours’] got angry and said: “So where do I come from”, he said, “from the Germans, or what?”’
 (APN_anecdotes: 27)

In addition, the distal demonstrative frequently occurs with possessive suffixes when it substitutes for a noun that would take possessive marking. For example, in (18) the distal demonstrative replaces the word *nuptinman* ‘lining’, which takes 3SG possessive marking since it stands in a part-whole relationship to the implied ‘possessor’, a fur rug. In its function as an anaphoric pronoun, *taj* takes the same 3SG possessive marking. As in (16), the possessive marking on the demonstrative has to be licensed with the suffix *-ŋ(i)*, even though the noun referred to is directly possessed.

- (18) *nuptin-ma-n* *o-si-n* *man* *uli-jə* *o-si-n* *itæ-je*
 lining-ACC-PX.3SG NEG-NFUT-3SG self SEW-NEG.CVB NEG-NFUT-3SG see-NEG.CVB
bi *taji-ŋ-ŋa-n* *uli-m*
 1SG DIST-POSS-ACC-PX.3SG SEW[NFUT]-1SG
 ‘She doesn’t sew the lining herself, she doesn’t see, I sew **that**.’
 (DIN_komalan_prixozhka: 12)

The proximal demonstrative *oj* is used in deictic rather than anaphoric functions. It is frequently accompanied by a co-speech gesture, independently of its use with or without possessive markers. The possessive marking of the proximal demonstrative pronouns appears to have subtle pragmatic nuances that we as outsiders cannot access, since possessive-marked forms do not differ intonationally or gesturally from non-possessed forms. For instance, in (19), which is taken from a procedural explanation, the speaker does not emphasize the possessive-marked demonstrative intonationally, nor does she point while producing it, but she emphatically points and pronounces the final unpossessed demonstrative *əj-gatɛin*. It is thus not clear why she chose to add a possessive suffix to the first demonstrative. However, independently of the reasons why in some cases demonstratives receive possessive marking, formally they belong to the class of non-possessibles; thus, addition of possessive suffixes needs to be licensed through addition of the specialized marker *-ŋ(i)*.

- (19) *u-li-dgi-s* *oji-ŋi-nen* *o:-ŋati-nin* *počti*
 scrape.hide(uu)-INCH-REP-2SG PROX-POSS-PX.3SG become-DEONT-3SG nearly.R
əj-gatein
 PROX-SML
 ‘You again start to scrape, so that this side becomes nearly like this.’
 (DIN_preparing_hide: 97)

Furthermore, both the distal and the proximal demonstrative occasionally function as a placeholder, substituting for a noun that cannot be immediately retrieved. When the delayed noun carries possessive marking, whether for semantic or pragmatic reasons, the demonstrative functioning as a placeholder carries the same possessive suffix, and *-ŋ(i)* is required to license this marking (see [16] above with the distal demonstrative as a placeholder and [20] with the proximal demonstrative in this function).

- (20) *oŋi-m* *oji-ŋ-duli-n* *jaβa-ja-n* *del-duli-n*
 mother-PX.1SG PROX-POSS-PROL-PX.3SG grab-NFUT-3SG head-PROL-PX.3SG
 ‘My mother grabbed it by this, by its head.’
 (DIN_rybalka: 25)

4.2.3 Modifiers of an elided possessee

The suffix *-ŋ(i)* also occurs on modifiers in constructions with an elided head noun. In the corpus, we find eight examples of *-ŋ(i)* occurring on a modifier: it marks participles, adjectives, and the term *ge:*, which is polysemous between an adjectival reading ‘other’ and an ordinal numeral ‘second’. Furthermore, some of the examples of indirectly possessed demonstratives, especially the distal demonstrative, could potentially also be analyzed as modifiers with elided head nouns. It is important to note that the modifier in these constructions is not a possessor, since Negidal uses a dedicated, albeit clearly related, suffix to mark the possessor when the head of an adnominal possessive construction is elided (see Section 6). The examples below illustrate the use of *-ŋ(i)* with an adjective and a participle (21a) and the term *ge:* (21b). In these cases the modifier carries the possessive and case marking that would have been found on the head noun, and *-ŋ(i)* is required to license the possessive marking on parts of speech that are not possessible. This requirement is again of a formal, and not semantic, nature: for example, ‘bucket’ is a noun that can take possessive suffixes directly (21c), so that the occurrence of *-ŋ(i)* on the modifier ‘second’ in (21b) cannot be explained by it having been copied from the omitted head.

- (21) a. *gə tar əjəki bitəa ujun ke:ruken-ŋ-ŋi mani-n jəp-pa-n*
 DP DIST.EVK frog BL.PTL HESIT **unripe**-POSS-PRFL.SG self-3SG eat-NFUT-3SG
ujun-mi i:təa-ŋ-ŋi okin-du-j
 HESIT-PRFL.SG **ripen**-PST.PTCP-POSS-PRFL.SG older.sister-DAT.ESS-PRFL.SG
na:jə-n
 put-NFUT-3SG
 ‘Well, as for the frog, it eats **the unripe** (berry) himself, and **the ripe one** he keeps (lit: puts) for his older sister.’
 (APK_frog_tale: 37)
- b. *ge:ŋ-ŋəj kaltaka-(βa)-n təsi-ja-(βun)*
second-POSS-PRFL.PL half-ACC-PX.3SG gather-NFUT-1PL.EX
 ‘We had gathered half of **our second** (bucket) [i.e., it was half-full].’
 (APN_cheremsha_brodjaga: 68)
- c. *vedro-βaj jaβa-gaj təβli-nakan ŋənə-gaj ...*
bucket.R-PRFL.PL take-HORT.PL pick.berries-SS.SIM go-HORT.PL
 ‘Let’s take **our bucket**, let’s go picking berries ...’
 (APN_cheremsha_brodjaga: 88)

In summary, the suffix *-ŋ(i)*, which was previously analyzed as a marker of ‘indirect’ or ‘alienable’ possession (e.g., Cincius 1982: 20; Pevnov and Khasanova 2006: 503–504), occurs with nouns denoting entities that are impossible to reconcile with alienable possession, and it also occurs with items belonging to very distinct possessive classes, both obligatorily possessed body parts and a variety of non-possessible items. This might appear to indicate that this suffix has a diverse range of functions, as was proposed for Negidal’s sister language Udihe by Nikolaeva and Tolskaya (2001: 135–140; 634–635). However, as we will outline in the following, it is indeed possible to subsume all the diverse uses under one single function, namely the marking of non-canonical possessive constructions.

4.3 Analysis in terms of non-canonical possessive constructions

To recapitulate, in Negidal the suffix *-ŋ(i)* is found in the following possessive constructions: (i) when the possessee is a body part that is in the possession of an individual who is not the inherent ‘possessor’ (i.e., what has up to now been analyzed as the marking of alienable possession); (ii) when the possessee is a noun that denotes a non-possessible entity, such as a human being or an entity pertaining to nature or a noun that denotes an uncountable and unpossessible mass, where the possessive marking serves to highlight a pragmatically salient relation or to pick out a particular item or individual; and (iii) with different formally non-possessible parts of speech, such as numerals, demonstratives, adjectives, or participles. In this third category we find possessive-marked numerals that pick out an individual from a group, demonstratives

that carry possessive suffixes to highlight a salient relationship between the ‘possessor’ and the possessee or because they substitute for a possessive-marked noun, and adjectives or participles that take on the possessive marking pertaining to the head noun in constructions where the possessee is elided. What unites all of these constructions is the fact that they are non-canonical: body parts are prototypically attached to the body they were born on, so that ‘possession’ by a non-inherent possessor is unexpected and out of the ordinary. Similarly, non-possessible items such as humans, wild animals, plants, the sun, trees, water, numerals, demonstratives, adjectives, or participles are by definition not expected to be possessed; possessive marking for pragmatic or discourse-based reasons is thus clearly unexpected and non-canonical. The seemingly diverse contexts of use of $-ŋ(i)$ can thus be explained by this suffix carrying a single function, namely to flag non-canonical possessive constructions. That these non-canonical possessive constructions occasionally comprise examples involving body parts that appear to show a distinction between inalienable and alienable possession is merely a secondary effect of the actual function of $-ŋ(i)$.

The use of $-ŋ(i)$ in Negidal is not necessarily a semantically driven feature but is often governed by formal requirements, as is shown in various instances. Thus, associative possession of proper nouns such as *Vovaniβ* in (11a) triggers indirect possessive marking, even though the same individual could be referred to by a directly possessed kinship term. Similarly, in some examples, a modifier (21b) or a possessive-marked demonstrative (16, 18) stands in for a possessee that would either obligatorily or optionally take direct possessive marking. Furthermore, possessive-marked proximal demonstratives occur in parallel with unpossessed forms without any easily discernible difference in use. Nevertheless, all the examples of possessive-marked demonstratives carry $-ŋ(i)$.

To date, the suffix $-ŋ(V)$ found in Tungusic languages has been treated as a marker of ‘alienable’, ‘indirect’ or ‘relative’ possession (e.g., Boldyrev 2007 for Evenki, Novikova 1960 for Even, and Nikolaeva and Tolskaya 2001 for Udihe; cf. Nichols 1988; Nichols and Bickel 2013), with analyses of its occurrence couched in semantic terms. Whereas Novikova (1960: 141–152) and Boldyrev (2007: 122–139) attempt to explain – not always successfully – all occurrences of the suffix $-ŋ(V)$ by referring to a single function, namely that of marking ‘indirect’, ‘relative’, or ‘symbolic’ possession (*kosvennaja*, *otnositel’naja*, or *uslovnaja prinadležnost’*), Nikolaeva and Tolskaya (2001: 135–141) attribute five different types of functions to this suffix: “(i) temporary ownership [...]; (ii) alienable possession [...]; (iii) an abstract associative relationship through a certain activity [...]; (iv) a substitutional meaning ‘instead of something’ [...]; (iv – *sic*) the predicative function” (p. 135). These descriptions thus differ considerably from our analysis of $-ŋ(i)$ in Negidal, for which we identify a single function based in part on formal grounds. We, therefore, turn to descriptions of several Tungusic languages to investigate to what extent our analysis of the function of $-ŋ(i)$ in Negidal might be valid for the cognate suffixes in its sisters.

5 The marking of non-canonical possessive constructions in other Tungusic languages

We here summarize information on possessive constructions in four relatives of Negidal: Evenki, Even, Udihe and Nanai. Even and Evenki, which are spoken by small speech communities dispersed over the length and breadth of Siberia, are very closely related to Negidal, while Udihe and Nanai, which are spoken in geographical proximity to Negidal, are genealogically distant (Atknine 1997; Janhunen 2012). Our discussion is based on our interpretation of published descriptions and does not necessarily reflect the analysis of or the terms used by the original authors.

Judging from the available sources, the suffix *-ŋi* in Evenki functions in a very similar manner to *-ŋ(i)* in Negidal. As in Negidal, kinship terms and body parts appear to be obligatorily possessed, since they practically always occur with possessive suffixes, whereas terms denoting humans, environmental features, plants, wild animals or birds, and nouns denoting uncountable entities ('water', 'bread', 'wood') cannot carry possessive suffixes directly. Associative possession of such entities has to be licensed by the suffix *-ŋi* (Boldyrev 2007: 126–133; Nedjalkov 1997: 145). Furthermore, when adjectives, participles or demonstratives carry possessive suffixes because the head noun is elided, this possessive marking also has to be licensed with *-ŋi* (Boldyrev 2007: 133–136).

In Even, too, the suffix *-ŋ* occurs in the same contexts as *-ŋ(i)* in Negidal: with proper nouns, terms referring to people, the environment, wild animals and food, as well as adjectives, numerals, participles and demonstratives when the head noun is elided (Novikova 1960: 147–150). Interestingly, Novikova (1960: 141, 147) provides examples of this suffix attached to kin terms, with a reading of social rather than biological kinship (22).

- (22) Even
- | | | | |
|-----------------------|---------------------------|--------------------------|----------------------------|
| <i>timin</i> | <i>kuŋakan</i> | <i>hutə-ŋ-ə-n</i> | <i>əliki-ŋ-ge-j</i> |
| next.day | child | offspring-POSS-EP-PX.3SG | squirrel-POSS-DEST-PRFL.SG |
| <i>gel-ne-n</i> | <i>nəkitəi-l-rəkə-n</i> | <i>iret-le</i> | <i>teukatəan</i> |
| search-AM[NFUT]-3SG | shoot.arrow-INCH-COND-3SG | young.larch-LOC | bird |
| <i>do:n</i> | <i>gə:n-ni</i> | <i>kuŋa-ŋ-təki-j:</i> | |
| to.land[NFUT]-3SG | say[NFUT]-3SG | child-POSS-ALL-PRFL.SG | |
| <i>amə-ŋ-ə-s</i> | <i>ekən-ŋ-i</i> | <i>atikan-ŋ-rə-n</i> | |
| father-POSS-EP-PX.2SG | older.sister-INS-PRFL.SG | marry-NFUT-3SG | |
- 'The next day the boy, **the one who is considered his child**, went to hunt squirrels (lit. went to look for squirrels for himself). When he started to shoot, a bird landed on a young larch and said to that boy: "**The one who is considered your father** is married to his older sister."
(Novikova 1960: 148, our glossing and English translation)

In Udihe, too, possessive constructions are similar to those found in Negidal: while kinship terms and body parts tend to be obligatorily possessed, ownership of a body part by someone other than the inherent ‘possessor’ is marked by *-ŋi*, as is ‘possession’ of ‘land’ and other landscape terms, terms denoting humans, the words for ‘tree’ and ‘money’ (and, somewhat unexpectedly, ‘cow’), as well as substantivized adjectives (Nikolaeva and Tolskaya 2001: 135–141).

As in Negidal, in Nanai body part and kinship terms (except in vocative use) are obligatorily possessed, while proper nouns and meteorological terms as a rule do not occur with possessive suffixes (Avrorin 1959: 119–127). The ‘indirect possession’ suffix *-ŋgo/-ŋgu* occurs frequently with non-possessible nouns that are associatively possessed, and can also be added to adjectives and interrogative pronouns (Avrorin 1959: 160–161).

In summary, the types of nouns and other lexemes that require addition of the suffix *-ŋ(V)* to license possessive marking overlap to a large extent across Negidal, Evenki, Even, Udihe, and Nanai: kinship and body part terms are obligatorily possessed, while terms denoting humans, environmental features, uncountable masses and materials cannot take possessive suffixes unless these are preceded by *-ŋ(V)*. Adjectives, participles, and demonstratives that take possessive marking because they substitute for an elided head noun need *-ŋ(V)* to license the possessive marking. From this perspective, the analysis we propose for Negidal could be extended to *-ŋ(V)* in other Tungusic languages, namely that this suffix has as its single function the marking of non-canonical possessive constructions. Like the possession of a body part by an individual who is not the inherent possessor, a kinship relationship that is not a true biological relationship is unexpected and not canonical, explaining why such a relationship is flagged with *-ŋ* in Even (22), resulting in an apparent marking of alienable possession.

6 Possessor marking in constructions with elided possessee in Negidal and other Tungusic languages

The description of non-canonical possessive constructions in Negidal would not be complete without describing another suffix, namely *-ŋi*, which was briefly mentioned in the introduction. As opposed to *-ŋ(i)*, which is found on the possessee and its modifiers, *-ŋi* occurs exclusively on possessors in adnominal possessive constructions with an elided head noun; hence we gloss it PSR, ‘possessor of elided head’. This suffix differs slightly in form from that found with possesseees: while in the latter case,

the base form is *-ŋ* with *-i* added as an epenthetic vowel in certain morphonological environments,¹¹ the suffix that occurs with possessors has the base form *-ŋi*. This difference can clearly be seen when comparing two accusative-marked forms, one a possessee (23a) and one a possessor with an elided head noun (23b). In (23a) the bilabial fricative of the accusative case marker assimilates to the velar nasal of *-ŋ(i)*, whereas in (23b) the accusative suffix retains its original shape following the vowel of *-ŋi*. Nevertheless, the two suffixes are clearly diachronically related (cf. Sunik 1982: 65) as well as functionally similar, as will be discussed in Section 7.

- (23) a. *tə:ka-ŋ-ŋa-s* b. *daβa-ŋi-βa*
 grass-POSS-ACC-PX.2SG chum.salmon(autumn)-PSR-ACC
 ‘your grass’ ‘chum salmon’s (skin)’

Our analysis of *-ŋi* is based on 24 clear examples in the corpus (see coding sheet, which also contains several examples with calques from Russian and several unclear cases). This suffix is attested in those cases when the possessee is omitted from an adnominal possessive construction: compare (24a) with the overt head noun *sobgo* ‘fish skin’ with (24b), where *-ŋi* substitutes for the head of the possessive phrase ‘skin of a catfish’. Although in examples such as (24c) the possessee is present in the sentence, the possessor having been added as an afterthought, it is not present in its canonical position in the possessive construction, namely following the possessor.¹²

- (24) a. *som sobgo-nin kak uŋun sapjan=da*
catfish.R fish.skin.NAN-PX.3SG like.R HESIT morocco.leather.R=ADD
 ‘The skin of a catfish is like morocco leather.’
 (APN_DIN_rybjakozha: 25)
- b. *som-ŋi kak sapjan-gatɕin*
catfish.R-PSR like.R morocco.leather.R-SML
 ‘A **catfish’s** [skin] is like morocco leather.’
 (APN_DIN_rybjakozha: 27)
- c. *...ŋan əmən dəl-βa-n tɛka-ja taj amban-ŋi-βa*
 again one head-ACC-PX.3SG cut.off-NFUT[3PL] DIST **devil-PSR-ACC**
 ‘... they cut off another head **of that devil** (lit. they cut off another head of his, of that devil).’
 (DIN_Emeksikan: 110)

¹¹ *-ŋ* occurs before syllabic morphemes: overt case markers, the verbalizer *-la:* and reflexive possessive markers when the nominal is in direct object position; *-ŋ-i* occurs before the nonsyllabic plural suffix and with nominals in nominative case and before the proprietive suffix.

¹² The canonical form of the possessive construction in (24c) would be *amban dəlβan*.

Since possessive noun phrases are not restricted to any specific position in the clause we find *-ŋi*-marked possessors in subject (24b), direct object (24c), and predicate position (25), although the latter are rare in the corpus (see coding sheet).

- (25) *babuška nikolaeva tože kazarov-ja-ŋi*
 granny.R PERS.NAME also.R PERS.NAME-ASS.PL-PSR
 ‘Granny Nikolaeva was also **one of the Kazarovs.**’
 (DIN_APN_za_chaem: 140)

Interestingly, the split in marking a modifier depending on whether it is a possessor (marked with *-ŋi*) or another type of modifier [marked with *-ŋ(V)*] is found not only in Negidal, but is also present in some, albeit not all, other Tungusic languages. For Evenki, Bulatova and Grenoble (1999: 14) postulate a formal distinction of the suffix that marks possessors from the so-called marker of indirect possession: they analyze the morpheme that attaches to possessors as having a long vowel (*-ŋi:*) as opposed to the short vowel they determine for the suffix that marks possessives. However, this distinction is not mirrored in Nedjalkov’s (1997: 123–125) analysis, which appears to identify the two suffixes as one and the same form, an analysis that also seems to be taken by Boldyrev (2007: 122–139).

In contrast, in Even there is a clear formal distinction between the suffix that attaches to the possessee, which consists solely of the velar nasal *-ŋ* (26a), and the suffix that attaches to possessors in constructions with elided head, which takes the form *-ŋi* (26b); Cincius 1947: 144, 148; Novikova 1960: 147–152). The latter can occur in subject, predicate, direct object, and attribute position and is called a “special possessive form of nouns” by Novikova (1960: 150–152).

- (26) a. Even
hun buju-ŋ-ə-sən
 2PL.OBL wild.reindeer-poss-EP-PX.2PL
 ‘your wild reindeer’
 (Novikova 1960: 147, our glossing and English translation)
- b. Even
...taduk hin-ŋi-β man-rijur jan min-ŋi-β jeb-ji-p
 ...then 2SG.OBL-PSR-ACC USE.UP-SS.ANT.PL also 1SG.OBL-PSR-ACC eat-FUT-1PL.EX
 ‘(Let’s first eat your stored fish), then, when we have eaten **yours**, we will eat **mine.**’
 (Novikova 1960: 151, our glossing and English translation)

For Udihe, Nikolaeva and Tolskaya (2001: 141, 634) analyze the suffix *-ŋi* that occurs with possessors as clearly being identical to the “alienable possession suffix” and analyze it as expressing predicative possession: “The suffix *-ŋi-* here signifies that the possessive relationship is the main predication in the sentence. For obvious semantic

reasons, only the alienable possessive relationship can be predicated by the construction in question.”

In contrast to Udihe, and like Even and Negidal, Nanai, too, makes a formal distinction between the suffix that marks possessees (*-ŋgo/-ŋgu*, [27a], [27b]) and that which marks possessors (*-ŋgi*, [27c], [27d]; Avrorin 1959: 155–163, 186–192), which Avrorin calls the “predicative-possessive form”. The same split is furthermore found in Uilta, a close sister of Nanai (Ozolinja 2013: 128–133, 253). In Nanai, possessors are marked with the suffix *-ŋgi* when they occur in predicative position, when they are postposed to their head (as an afterthought), or when the head is elided because it is retrievable from the preceding discourse (Avrorin 1959: 187–189).

- | | | | | |
|------|----|---|----|------------------------|
| (27) | a. | Nanai | b. | Nanai |
| | | <i>mi: naj-ŋgo-i</i> | | <i>mi: engur-ŋgu-i</i> |
| | | 1SG human-POSS-PX.1SG | | 1SG wolf-POSS-PX.1SG |
| | | ‘my human’ | | ‘my wolf’ |
| | | (Avrorin 1959: 160, our glossing and English translation) | | |
| | c. | Nanai | d. | Nanai |
| | | <i>naj-ŋgi</i> | | <i>sol-i-ŋgi</i> |
| | | human-PSR | | fox-PSR |
| | | ‘belonging to a human’ | | ‘belonging to a fox’ |
| | | (Avrorin 1959: 186, our glossing and English translation) | | |

Unlike the Tungusic languages spoken in Russia, Written Manchu (attested in northern China) has a genitive case form that marks the possessor in adnominal possessive constructions, but it lacks suffixes that attach to the head noun in such constructions, having neither the direct possession markers nor the suffix *-ŋ(V)*. However, it does have a suffix *-(n)ingə*¹³ that marks the possessor in predicative position or when the possessee is elided (Avrorin 1956: 99, 2000: 74, 86) and that thus corresponds to the suffix *-ŋi* found in Negidal.

In the Tungusological tradition, the suffix *-ŋi* is often considered a marker predominantly of predicative possession (Avrorin 1956: 94, 1959: 186–188; Nedjalkov 1997: 123–124; Nikolaeva and Tolskaya 2001: 634–635). In contrast, we analyze the function of this suffix as marking possessors of elided head nouns, with the predicative position of the NP being a secondary aspect that emerges from discourse. Our analysis is fully compatible with the data presented by Avrorin (1956: 99) on Manchu, Avrorin (1959: 186–189) on Nanai, and Novikova (1960: 150–152) on Even; a parenthetical insertion by Avrorin (1956: 97) indicates that the same might hold for Evenki.

¹³ Avrorin (1956: 99) analyzes this suffix as a combination of genitive suffix *-(n)i* and the predicative-possessive suffix *-ŋgə*.

We are thus faced with formally similar (and most probably related), yet distinct suffixes in at least three Tungusic languages that appear to have distinct functions, namely the marking of possessees on the one hand and the marking of possessors on the other. Nevertheless, as we discuss in the concluding section, these discrepancies can be reconciled under a unified analysis as markers of non-canonical possessive constructions.

7 Discussion and conclusions

To summarize, the Tungusic languages have one (Evenki in one analysis, Udihe) or two (Evenki in an alternative analysis, Negidal, Even, and Nanai) formally very similar suffixes that occur in possessive constructions. One of these has the form *-ŋi* in all the languages except for Nanai, where it is *-ŋgi*, the other is *-ŋ* in Even and Negidal (with insertion of an epenthetic schwa or [i], respectively) and *-ŋgo/-ŋgu* in Nanai. These suffixes are most probably cognate (cf. Sunik 1982: 65), with the protoform arguably being *-ŋi* – and, as shown by the Manchu data – the original function possibly being the marking of possessors in adnominal constructions in which the head noun is omitted. In the languages that have two formally distinct suffixes, the formal distinction corresponds to a syntactic distinction, since the suffix *-ŋi* occurs exclusively with possessors in constructions with elided head nouns, while the suffix *-ŋ(V)* occurs with possessees. However, while the formal split corresponds to the syntactic split between possessor- and possessive-marking, there is also non-correspondence between form and syntactic function, since like *-ŋi* the suffix *-ŋ(V)* occurs with modifiers of elided possessees. Thus, in some languages, two distinct suffixes are found in adnominal possessive constructions with an elided head noun. A diachronic analysis of these suffixes in the Tungusic languages might help elucidate how these distinct functions evolved but has to be left for a later stage.

In addition to the shared origin of these suffixes, they can also be analyzed as sharing an overarching function, namely the FLAGGING OF NON-CANONICAL POSSESSIVE CONSTRUCTIONS. In Section 4.3, we argued that the suffix *-ŋ(i)* that occurs in possessive constructions in Negidal has erroneously been analyzed as a marker of alienable possession, following a Tungusological tradition. As our analysis shows, this suffix signals either the possession of a body part by a non-inherent possessor, or the possessive marking of non-possessible items, both semantically non-possessible nouns and formally non-possessible parts of speech, such as proper nouns, numerals, demonstratives, and adjectives. The suffix *-ŋi* that marks the possessor seems to have a similar flagging function, though with a different type of non-canonical construction. As pointed out in Section 3.1, it is quite common to omit the POSSESSOR from possessive constructions, since in adnominal constructions this is indexed by the

personal possessive suffixes, and its identity can thus be retrieved fairly straightforwardly. The canonical Negidal adnominal possessive construction can thus be taken to consist of a head noun carrying possessive suffixes and an optionally expressed possessor; the inverse, namely an overt possessor and an elided head noun is unexpected and non-canonical. Therefore the function of *-ŋi* marking possessors of elided head nouns can be subsumed synchronically under the overall function that we propose for *-ŋ(i)*, namely the marking of non-canonical possessive constructions. Judging from the available descriptions, this analysis could be extended to the cognate suffix(es) in Negidal's sister languages.

Non-canonical possessive constructions are clearly a complex, multilayered and interlaced phenomenon, with semantic, formal, and syntactic factors playing a role (Figure 1). Regarding nouns, possession can be seen as non-canonical mainly for semantic reasons: the suffix is used either with body parts that are possessed by a non-inherent, i.e., non-canonical, possessor, or with nouns that refer to entities that cannot be possessed, such as humans or different natural entities. In the case of other parts of speech, the use of the non-canonical possession marker has purely formal reasons: all non-nouns are marked with *-ŋ(i)* in possessive constructions, irrespective of whether they are associatively possessed, refer to particularized individuals, or stand in for a directly possessed noun. Syntactic considerations are important with respect to constructions that are structurally non-canonical. Although possession of formally non-possessible modifiers such as adjectives and participles needs to be licensed with *-ŋ(i)*, while possessors carry *-ŋi*, these seemingly disparate constructions share the omission of the head noun of an adnominal possessive construction. We summarize the different types of non-canonical possessive construction in Figure 1.

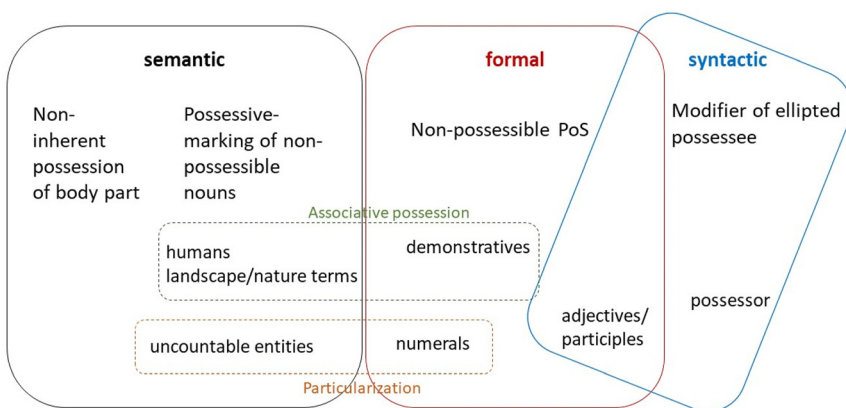


Figure 1: Types of non-canonical possessive constructions in Negidal.

Our study thus demonstrates that descriptions of the (in)alienability distinction supposedly found in Tungusic languages should be treated with caution. While this distinction appears to emerge straightforwardly from the oft-cited examples involving ‘alienably possessed’ body parts, close examination of all the contexts of use of the ‘alienable possession’ marker shows that this interpretation is merely a secondary result of the particular type of non-canonical construction involved. While it would of course be rash to conclude from this single case that all instances of inalienable versus alienable possession identified worldwide are erroneous, our study does indicate a need for caution when interpreting such data (cf. the introduction to this special issue, and in particular Rose, this issue).

Acknowledgments: The ideas discussed here were first presented at the “Atelier morphosyntaxe” at the research unit Dynamique Du Langage on 15 December 2020, with an updated version presented at the conference “Malye Jazyki v Bol’shoj Lingvistike”, Moscow, on 24 April 2021; we thank the audiences of both events for their discussion and comments. We are particularly grateful to An Van linden for extensive comments on a draft of this article that helped us to refine our arguments. We would like to thank two anonymous reviewers for their careful and thoughtful reading of the article and their suggestions. We also acknowledge the generous support of the Endangered Languages Documentation Project (www.eldp.net), which enabled our work on the Negidal corpus. Brigitte Pakendorf is grateful to the ASLAN project (ANR-10-LABX-0081) of the Université de Lyon, for its financial support within the French program “Investments for the Future” operated by the National Research Agency (ANR). Natalia Aralova’s work on this article was supported by the Kazan Federal University Strategic Academic Leadership Program. Last, but definitely not least, we are very grateful to all the speakers of Negidal who contributed to the corpus, and in particular to our main consultants Daria Nadeina and Galina Kandakova, whose patient help over many years was crucial to our work.

Author contributions: The order of authors is alphabetic. Both authors collected, analysed, and discussed the data and wrote the paper.

Data availability statement: The data coding sheet for this article may be viewed in the Zenodo repository at: <https://doi.org/10.5281/zenodo.7897522>.

Abbreviations

ABL	ablative
ACC	accusative
ADD	additive
ADJR	adjectivizer
ADVR	adverbializer

ALL	allative
AM	associated motion
ANT	anterior
ARCH	archaic form of suffixes
ASS	associative
AUG	augmentative
BI.PTL	particle derived from the copula <i>bi-</i>
CAUS	causative
COLL	collective
COM	comitative
COND	conditional
CONTR	contrastive
CVB	converb
DAT.ESS	dative-essive
DEONT	deontic future
DEST	destinative
DIST	distal demonstrative
DP	discourse particle
EP	epenthetic vowel
EVK	Evenki borrowing
EX	exclusive
FOC	focus
FUT	future tense
HESIT	hesitative
HORT	hortative
IMP	imperative
IN	inclusive
INCH	inchoative
INDEF	indefinite
INS	instrumental
INTERJ	interjection
INTERR	interrogative root
INTR	intransitive
INTS	intensive
LOC	locative
NAN	Nanai borrowing
NEG	negative
NFUT	non-future
OBL	oblique
PERS	personal (name)
POSS	non-canonical possessive construction
PRFL	reflexive possessive
PROL	prolative
PROP	propriative
PROX	proximal demonstrative
PRS	present
PSR	possessor of elided head

PST	past
PTCP	participle
PX	nominal possession
Q	question
R	Russian borrowing
REP	repeated action
RES	resultative
SIDE	derivation suffix meaning 'side'
SIM	simultaneous
SML	similative
SMLF	semelfactive
SS	same-subject converb
TAM	tense-aspect-mood
VAL	valency-changing suffix
VR	verbalizer

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Coding splits in the adnominal possessive construction and alienability: the case of Mandinka (West Mande)

<https://doi.org/10.1515/ling-2022-0028>

Received February 14, 2022; accepted December 7, 2022; published online October 23, 2023

Abstract: In the adnominal possessive construction of Mandinka (a West Mande language spoken in Gambia, Senegal, and Guinea Bissau), the possessor NP may be simply juxtaposed to the possessee or flagged by the postposition *lá*. This coding split shows unusual properties in comparison with most of the languages having formally similar coding splits. Crucially, any noun can be modified by an unflagged possessor, depending on the semantic nature of the possessor and of its relation to the possessee. The present-day distribution of the two constructions cannot be analyzed as reflecting an alienability contrast, nor can the alienability contrast account for the emergence of this coding split. The data analyzed in this study suggest that the *lá*-construction initially referred to situations where the possessor determines the LOCATION of the possessee, but is grammaticalized differently depending on the grammatical nature of the head noun and the semantic nature of the modifier. The Mandinka data also show the limits of explanations in terms of discourse frequency, and the need to admit that semantic features such as ANIMACY and CONTROL may play a crucial role in the genesis of coding splits in the adnominal possession construction.

Keywords: adnominal possessive construction; alienability; animacy; control; discourse frequency effects; Mandinka

1 Introduction

Mandinka, spoken by approximately 1.5 million speakers in Gambia, Senegal, and Guinea Bissau, is the westernmost member of the Manding dialect cluster, included in the Western branch of the Mande language family:

Mandinka \subset Manding \subset West Mande \subset Mande

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The Mande language family was included by Greenberg in the Niger-Congo phylum, but the evidence for a Niger-Congo affiliation for Mande is rather slim; Dimmendaal (2011), for example, argues that Mande is best treated as an independent language family.¹

The literature on Mandinka is relatively small, but includes a comprehensive reference grammar (Creissels and Sambou 2013), with a chapter describing the coding split in the adnominal possessive construction. The present article discusses theoretical issues raised by the facts described in their chapter devoted to adnominal possession.

Two variants of the adnominal possessive construction must be distinguished in Mandinka. In the direct construction, the possessor NP immediately precedes the possessee noun, without any intervening morphological material, as in (1a), whereas in the indirect construction, the possessor NP is flagged by the postposition *lá* (glossed GEN when it fulfills the function of possessor flag in the adnominal possessive construction), as in (1b).²

- (1) a. *Jàatà-kúndáa* *kòlójò*
 Jaata-neighborhood well.D
 ‘the well of the Jaatakundaa neighborhood’
- b. *Jàatà-kùndà-nkôo-lú* *lá* *kòlójò*
 Jaata-neighborhood-inhabitant.D-PL GEN well.D
 ‘the well of the Jaata family’

This article addresses the question of the validity of the alienability contrast as a functional explanation for this coding split.³ As developed by Rose and Van linden in the introductory chapter of this special issue, to which readers are referred for more references on alienability, inalienable possession is usually conceived as involving “either inextricable, essential or unchangeable relations between possessor and possessee” (Chappell and McGregor 1996: 3), in contrast to alienable possession conceived as involving less permanent or inherent types of associations (Chappell and McGregor 1989: 25). In the particular case of Mandinka, a superficial observation

1 It is commonly accepted that the most ancient branches of the Mande language family go back over 5 millennia, whereas the Manding dialect cluster no more than 8 centuries. For the classification of Mande languages, see Vydrin (2009).

2 *Jàatá* is a family name, or more exactly a clanic name. Traditionally, Mandinka villages are divided into neighborhoods grouping families that belong to the same clan.

3 The situation described here for Mandinka is general within the Manding dialect cluster, although the postposition used to flag the possessor NP in the indirect construction varies from one variety to another. Outside Manding, coding splits in the adnominal possessive construction have been reported in many Mande languages, but the available descriptions are not precise enough to enable a real discussion of the validity of the alienability contrast as a possible functional explanation.

limited to the possessive relations commonly considered prototypical (ownership, kinship, and part/whole relationships) may suggest analyzing the coding split in the adnominal possessive construction of Mandinka as straightforwardly conditioned by alienability. However, a comprehensive description of the uses of the adnominal possessive construction leads to the opposite conclusion and suggests that the crucial notions in the historical development of the coding split observed in present-day Mandinka were location, control, and animacy, rather than alienability.

The article is organized as follows. Section 2 provides the necessary background information about Mandinka morphosyntax. Section 3 provides basic data about the coding split in the adnominal possessive construction. Section 4 describes the contrast between direct and indirect adnominal possessive constructions with ordinary nouns in the role of head, and discusses the historical scenario that may have resulted in the situation observed in present-day Mandinka. Section 5 describes the contrast between direct and indirect adnominal possessive constructions with verbal lexemes used as event nouns in the role of head. Section 6 discusses the contribution of Mandinka to the discussion about the possible explanations of coding splits in the adnominal possessive construction.

2 The basics of Mandinka morphosyntax

2.1 Nouns and verbs

Nominal lexemes are characterized by their ability to project NPs whose possible functions include those of subject and object. Verbal lexemes are typically found in the V slot of the verbal predication construction (see Section 2.2), but with the exception of *sǎa* ‘die’ (which nominalizes as *sǎayáa* ‘death’), they can also be used as event-denoting nouns without any specific morphological marking, with modifiers representing their core arguments. However, as will be developed in Section 5, verbal lexemes used as event-denoting nouns do not behave exactly like ordinary nouns in the adnominal possession construction.

2.2 Verbal predication

A brief overview of verbal predication is in order for a proper understanding of the particularities of adnominal possessive constructions with verbal lexemes used as event-denoting nouns in the role of head (Section 5).

The most striking characteristic of clause structure in Mande languages is the extreme rigidity of the typologically unusual S-O-V-X constituent order in verbal

clauses, and Mandinka is no exception. No operation, such as focalization or questioning, can trigger change in constituent order, and with the exception of some types of adjuncts, noun phrases or adpositional phrases cannot occur in topic position (on the left edge of the clause) without being resumed by a pronoun occupying the position they would occupy if they were not topicalized.

In transitive clauses, as illustrated in (2), both the subject and the object obligatorily precede the verb, and the subject obligatorily precedes the object. Assertive and interrogative transitive clauses always include an auxiliary-like element inserted between the subject and the object, called a *predicative marker* in the Mandeist tradition. Predicative markers are portmanteau morphemes encoding aspectual and modal distinctions and expressing polarity.⁴ Obliques follow the verb and are standardly encoded as postpositional phrases (2c)–(2d). The subject and the object bear no mark of their syntactic role and are not indexed on the verb (or elsewhere in the clause).⁵

- (2) a. *Jàtòo yè dánóo bàràamá.*
 lion.D CPL.TR hunter.D hurt
 ‘The lion hurt the hunter.’
- b. *Dánòò yè jàtòò bàràamá.*
 hunter.D CPL.TR lion.D hurt
 ‘The hunter hurt the lion.’
- c. *Ì yè bànkòo-lú táláa kàbùlòo-lú lè tēemá.*
 3PL CPL.TR land.D-PL divide clan.D-PL FOC between
 ‘They divided the lands between clans.’
- d. *Kèè kà à téerímáa máakóyì kóòòò tó.*
 man.D ICPL 3SG friend help money.D LOC
 ‘The man helps his friend financially.’

In intransitive clauses, exemplified in (3), the subject precedes the verb. Like transitive subjects, intransitive subjects bear no mark of their syntactic role and are not indexed. Obliques behave in exactly the same way in transitive and intransitive clauses. With the exception of the completive positive (encoded by the predicative marker *yè* in transitive clauses, and by the verbal suffix *-tá ~ -tà* in intransitive clauses), aspect, modality, and polarity are encoded by the same predicative markers as in transitive clauses.

⁴ In the glosses, negative predicative markers are explicitly signaled as ‘.NEG’; the predicative markers whose gloss includes no indication of polarity must be understood as expressing positive polarity.

⁵ In some Mande languages, subjects are indexed on the predicative marker, but this is not the case in Mandinka and other Manding varieties.

- (3) a. *Yíróo bùyí-tà sílò kâŋ.*
 tree.D fall-CPL.ITR road.D on
 ‘The tree fell down on the road.’
- b. *Nèê kà kómôŋ jýòò kónò.*
 iron.D ICPL rust water.D in
 ‘Iron rusts in water.’
- c. *Kèê mâŋ kúmá mùsôo yé.*
 man.D CPL.NEG talk woman.D BEN
 ‘The man did not talk to the woman.’

Pronouns occupy the same positions as NPs consisting of a nominal lexeme and its modifiers, and show no variation related to their syntactic roles.

2.3 Noun phrase structure

The structure of Mandinka noun phrases can be schematized as follows, with two possible positions for determiners. The position labeled ‘Det.₁’ is occupied by demonstratives, whereas all other types of determiners occupy the position labeled ‘Det.₂’:

(Adnom.poss.) (Det.₁) N (Attr.) (Num.) (Det.₂)

Mandinka has no agreement mechanism between nouns and their modifiers, and apart from a classifying suffix *-maa* optionally found with kinship terms and a few other nouns denoting interpersonal relationships, Mandinka has nothing similar to the phenomena described cross-linguistically as classifiers, noun classes, or grammatical genders.

Mandinka has a determiner *-ò*, sometimes labeled ‘definite marker’, which is better characterized as a DEFAULT DETERMINER. It originates from the grammaticalization of a demonstrative, and at some stage in the history of Manding languages, it probably acted as a definite article. However, synchronically, in most contexts, it carries no particular semantic specification, and must simply be present if the speaker does not consider it useful to select a determiner with a more specific meaning. The combination of nouns with the default determiner tends to behave as the default form of nouns, whereas the absence of the default determiner must be licensed by grammatical features of the noun phrase or of the clause in which it occurs. In particular, Mandinka speakers invariably use the *ò*-form of nouns for citation.

Table 1: Emphatic and non-emphatic forms of personal pronouns.

	n.emph.	emph.
1SG	ń	ń-tè
2SG	í	í-tè
3SG	à	à-té
1PL	ń	ń-tè-lú ~ ń-tò-lú
2PL	álí ~ álú	álí-tè-lú ~ álú-tò-lú
3PL	ì	ì-tè-lú ~ ì-tò-lú

2.4 Personal pronouns

The emphatic versus non-emphatic contrast distinguishes personal pronouns from all other nominals (Table 1).

As illustrated in (4), the third-person pronouns encode no gender or animacy distinction.

- (4) a. *Kèè yè kòdòò díí mùsòò lá.*
 man.D CPL.TR money.D give woman.D POSTP
 ‘The man gave the money to the woman.’
- b. *À yè à díí à lá.*
 3SG CPL.TR 3SG give 3SG POSTP
 ‘He/she gave it/him/her to him/her.’

As also illustrated in (4), personal pronouns share with the other nominals the absence of any morphological encoding of their syntactic role, nor do they occupy positions distinct from those occupied by other nominals fulfilling the same functions. The only differences in the syntactic behavior of emphatic and non-emphatic forms are that non-emphatic forms (i) cannot be focalized, and (ii) are prosodically dependent on the following word, which prevents them from accessing positions in which they would necessarily be followed immediately by a pause (in particular, they cannot feature as left-dislocated topics, nor can they be used in the vocative function).

3 The adnominal possessive construction: first observations

3.1 Direct versus indirect adnominal possessors

NPs in adnominal possessor function invariably precede their head. Mandinka has a distinction between DIRECT adnominal possessors, simply juxtaposed to their heads,

and INDIRECT adnominal possessors, flagged by the postposition *lá*. At first sight, one might think that this is a standard case of the alienability distinction at work, since with prototypical possessive constructions, the choice between the two variants of the adnominal possessive constructions is compatible with an explanation in terms of alienability (Nichols 1988; Rose and Van linden this issue). As illustrated in (5), the relationships between individuals and their body parts or blood relatives (prototypically inalienable) are among those requiring the direct construction (5a)–(5b), whereas the indirect construction is obligatory when the head noun refers to a concrete object that the referent of the possessor has at his/her disposal (5c).

- (5) a. *mùsòo kùŋôo*
 woman.D head.D
 ‘the woman’s head’
- b. *díndíŋó mààmúsòo*
 child.D grandmother.D
 ‘the child’s grandmother’
- c. *kèê lá sàmàtòo-lú*
 man.D GEN shoe.D-PL
 ‘the man’s shoes’

However, as will be discussed in detail in Sections 4 and 5, the notion of alienability does not provide a GLOBAL explanation of the choice between the two variants of the adnominal possessive construction.

Before turning to this question, several general properties of the adnominal possessive construction are worth mentioning: the lack of pronoun versus noun split, the lack of choice between flagged and unflagged possessors in some conditions, the distinction between the adnominal possessive construction and N + N compounds, and the fact that no Mandinka noun can be characterized as either obligatorily possessed or non-possessible.

3.2 No pronoun versus noun split

There is no pronoun versus noun split in the adnominal possessive construction of Mandinka. As mentioned above, in predicative constructions, pronouns occupy the same positions as noun phrases and show the same form in subject, object and oblique roles. The same applies to the adnominal possessive construction, in which pronouns fulfill the role of modifier exactly like noun phrases. For example, as illustrated in (6), the second person singular pronoun occurs as *í* (n.emph.)/*ítè* (emph.), not only in subject, object and oblique function, but also in modifier function

in the adnominal possessive construction, and combines with the postposition *lá* in the same conditions as a noun fulfilling the same function.

- (6) a. *í / íté* *kùṅôo*
 2SG (n.emph. / emph.) head.D
 ‘your head’
- b. *í / íté* *màmàmúsòo*
 2SG (n.emph. / emph.) grandmother.D
 ‘your grandmother’
- c. *í / ítè* *lá sàmàtòo-lú*
 2SG (n.emph. / emph.) GEN shoe.D-PL
 ‘your shoes’

3.3 Configurations with no possible choice between flagged and unflagged possessors

In the following three configurations, there is no possible choice between flagged and unflagged possessors.

- (i) When the role of head is fulfilled by the proprietive pronoun *tâa* ‘that of X’, ‘what belongs to X’ (exclusively used in the role of head in the adnominal possessive construction), the direct construction is invariably used, whatever the understood noun and its semantic relationship to the possessor – Example (7);

- (7) a. *í lá sàmàtòo-lú*
 2SG GEN shoe.D-PL
 ‘your shoes’
- b. *í díṅò-lú*
 2SG child.D-PL
 ‘your children’
- c. *í tàa-lú*
 2SG PROPR-PL
 ‘yours (pl.)’, whatever the understood noun: shoes, children, etc.

- (ii) When the noun in the role of head in the adnominal possessive construction combines with *fànsúy-* or *súndíy-* ‘own’, the direct construction is invariably used, whatever the head noun and its semantic relationship to the modifier – Example (8);

- (8) a. *í là búŋò*
 2SG GEN room.D
 ‘your room’
 b. *í (*là) fànsúm-búŋò*
 2SG GEN own-room.D
 ‘your own room’

(iii) When the noun in the role of head in the adnominal possessive construction is also modified by a demonstrative, the indirect construction is invariably used, whatever the head noun and its semantic relationship to the modifier – Example (9).

- (9) a. *í díŋkèè*
 2SG son.D
 ‘your son’
 b. *í *(lá) ñĩŋ díŋkèè*
 2SG GEN DEM son.D
 ‘this son of yours’

3.4 Adnominal possessive construction and N + N compounds

A brief mention of N + N compounds is in order here, since in some languages the distinction between N + N compounds and the adnominal possessive construction is problematic.

Generally speaking, compounding is a very productive type of word formation in Mandinka. In particular, nouns may be modified not only by noun phrases referring to specific entities in the role of modifier but also by bare nominal lexemes expressing generic reference to kinds, with which they form compounds. Moreover, contrary to the adnominal possessive construction, the formation of compounds involves specific tone rules that modify the tonal contour of the lexemes that combine into a compound. Example (10c) shows that the distinction is ensured by tone in cases where the segmental form is ambiguous. Moreover, N + N compounds show no coding split comparable to that found in the adnominal possessive construction: in general, the two terms of the compound are simply juxtaposed, and the same tone rules apply, whatever the semantic relationship underlying the formation of a compound.

- (10) a. *mùsôo lá sàmàtôo* vs. *mùsù-sámátôo*
 woman.D GEN shoe.D woman-shoe.D
 ‘the/a shoe of the/a woman’ ‘woman’s shoe’
- b. *ñàṅkùmò fě̀ṅò* vs. *ñàṅkùmà-fě̀ṅò*
 cat.D tail.D cat-tail.D
 ‘the/a tail of the/a cat’ ‘cat’s tail’
- c. *bàtánsée fàtôo* vs. *bàtánsèe-fátôo*
 eggplant.D peel.D eggplant-peel.D
 ‘the/a peel of the/an eggplant’ ‘eggplant peel’

In the perspective of the hypothesis according to which the original function of the indirect construction of adnominal possession was to specify the locational nature of the relationship between Possessor and Possessee (as developed in Section 6 below), it is interesting to mention that Mandinka also has N + Postposition + N compounds in which the postposition specifies the locational nature of the relationship between the two nouns, such as *wúlá-kónó-séewò* /bush-in-pig/ ‘warthog’.

3.5 Obligatorily possessed nouns, non-possessible nouns

Mandinka has neither obligatorily possessed nouns nor non-possessible nouns, in the sense defined and commented on in Rose and Van linden (this issue). On the one hand, relational nouns (i.e., nouns that are prototypically possessed) can be used without any modifier, and are then interpreted as expressing reference to unspecified possessors, as ‘foot’ in (11) and ‘mother’ in (12), or to specific possessors whose identity can be retrieved from the context.

- (11) *Sijôo bé dũumà, sàâ bé dũumà,*
 foot.D LCOP on.the.ground snake.D LCOP on.the.ground
 ‘The foot is on the ground, the snake is on the ground,
wõo ñóodáṅò m̃ṅ díyáa.
 DEM avoiding.each.other.D CPL.NEG be.easy
 they can hardly avoid each other.’ (proverb)
- (12) *Álà lá kànoo hádámàdíṅò yé,*
 God GEN love.D human.being.D BEN
 ‘God’s love for mankind
wõo lè wàrà-tà baa lá díṅ-kànoo tí.
 DEM FOC be.great-CPL.ITR mother.D GEN child-love.D POSTP
 is greater than a mother’s love for (her own) children.’

On the other hand, in Mandinka, the nouns that are not prototypically possessible are found quite commonly as heads of adnominal possessive constructions expressing relationships other than prototypical possession, for example, *í là lúŋò* ‘your day’ in the sense of ‘the day that has a special significance for you’, *í là sàâ* ‘your snake’ in the sense of ‘the snake that frightened you’, *í lá niŋkínànkôo* ‘your dragon’ in the sense of ‘the dragon you mention in the story you are telling’, etc.

4 Direct and indirect adnominal possessive constructions with ordinary nouns in the role of head

In the analysis of the contrast between flagged and unflagged possessors, adnominal possessive constructions with a verbal lexeme used as an event noun in the role of head must be treated apart, since they put into play a very straightforward rule which at the same time cannot be deduced from the general regularities about the choice between flagged and unflagged possessors. The special behavior of adnominal possessive constructions with verbal lexemes used as event nouns in the role of head will be analyzed in Section 5, while this section will focus on ordinary nouns in the role of head.

4.1 Factors determining the variation between direct and indirect adnominal possessive constructions

The following three types of relationships are commonly considered prototypical for possessive constructions (see Rose and Van linden, this issue, and references therein):

- the relationships between human individuals and their body parts;
- the relationship between human individuals and their blood relatives;
- the relationship between human individuals and the objects they possess according to the rules that regulate individual property in a given society.

Within the limits of these three types of relationships, as shown by Example (5) above, the notion of alienability correctly predicts the distribution of direct and indirect adnominal possessive constructions. However, the adnominal possessive construction is far from being limited to the expression of prototypical possession. In fact, it encodes nothing more than the existence of a privileged relationship OF ANY KIND between the referents of the head noun and of the NP in the role of modifier. The

point is that, for the relationships other than those commonly considered as constituting the semantic core of the linguistic notion of possession, it immediately turns out that alienability cannot explain the distribution of flagged and unflagged possessors in the adnominal possessive construction of Mandinka.

For example, it is difficult to imagine how the notion of alienability could explain the contrast in (13).

- (13) *Sènèkàali pérésídánjò* vs. *Sènèkàali-ŋkòo-lú là pérésídánjò*
 Senegal president.D Senegal-inhabitant.D-PL GEN president.D
 ‘the president of Senegal’ ‘the president of the Senegalese’

Conversely, if the notion of alienability were crucial in the distribution of direct and indirect adnominal possessive constructions, it should not be possible to use the same construction for ‘the country where he was born’ (unbreakable relationship) and ‘the country over which he reigns’ (breakable relationship), as in (14).

- (14) *à lá bàŋkòo*
 3SG GEN country.D
 ‘her/his country’, with reference to any conceivable relationship between a human individual and a country: ‘the country where s/he was born’, ‘the country over which s/he reigns’, etc.

Similarly, with *léetárò* ‘letter’, *à lá léetárò* (where *à* is the third person singular pronoun) can refer to any conceivable relationship between a person and a letter: ‘the letter s/he wrote’, ‘the letter s/he asked me to write for her/him’, ‘the letter s/he received’, ‘the letter s/he is holding in her/his hands’, ‘the letter s/he delivered’, ‘the letter s/he is waiting for’, etc. In fact, with *léetárò* ‘letter’, the direct construction is only possible with an inanimate modifier: *à léetárò* ‘the letter that goes with it’.

Such examples could be multiplied indefinitely. A crucial observation is that, regarding the productivity of the two variants of the adnominal possessive construction, there is a striking contrast between Mandinka and most of the languages that code, for example, ‘my bicycle’ differently from ‘my head’ and ‘my brother’. In most of the languages in which such a contrast can be observed, as a rule, the nouns that can fulfill the role of head in the construction used for ‘my head’ and ‘my brother’ constitute a small closed class. By contrast, in Mandinka, both variants of the adnominal possessive construction are productive. In fact, any noun can fulfill the role of head in the direct adnominal possessive construction, depending on the nature of the modifier.

In Mandinka, the best predictor of the choice between direct and indirect adnominal possessive constructions is animacy of the modifier. With some exceptions that will be examined in Sections 4.2 and 4.3, the default rule is that inanimate possessors require the direct construction, whereas animate possessors (including

non-human animates) require the indirect construction. What creates the illusion of an alienability contrast is that, for reasons that will be discussed in Section 4.3, the default rule does not apply to constructions referring to body parts or kinship terms.

4.2 The adnominal possessive construction with inanimate possessors

When an ordinary noun in the role of head of the adnominal possessive construction combines with an inanimate modifier, the general rule is that irrespective of the head noun and the semantic nature of the relationship between the two terms of the construction, the direct construction is the only possible option. The only exception to this rule is that the presence of a demonstrative determiner invariably triggers the use of the indirect construction, as in (15b).

- (15) a. *à kótòò*
 3SG meaning.D
 ‘its meaning’ (speaking of a proverb)
- b. *à lá ñĩŋ kótòò*
 3SG GEN DEM meaning.D
 ‘this meaning it has’ (speaking of a proverb)

4.3 The adnominal possessive construction with animate possessors

When an ordinary noun in the role of head of the adnominal possessive construction combines with an animate modifier, the default choice is the indirect construction. There are, however, two important groups of exceptions to this rule. Possible explanations will be discussed in Section 6.

4.3.1 Nouns referring to body parts and related notions

The direct construction is used when the head noun refers to a body part of the referent of the modifier, giving rise to contrasts such as (16).

- (16a) *sàajíyòò kúlòò*
 sheep.D skin.D
 ‘the skin of the sheep’

- (16b) à lá sàjji-kúlò
 3SG GEN sheep-skin.D
 ‘his/her sheepskin’

The same behavior is observed for *fùrée* ‘corpse’.

- (17) a. à fùrée
 3SG corpse.D
 ‘his/her corpse’
 b. à lá fùrée
 3SG GEN corpse.D
 ‘the corpse of the person he/she killed’

The direct construction is also found with animate possessors of the following groups of nouns:

- (a) nouns denoting physical characteristics of individuals, such as *sémbò* ‘force’, *tímínò* ‘endurance’,
 (b) nouns denoting bodily emanations or excretions such as *niinỳò* ‘shadow’, *sinnò* ‘footprint’, *tàrò* ‘sweat’, *ñáajỳò* ‘tears’, *dáajỳò* ‘saliva’, *séerò* ‘smell’,
 (c) nouns denoting non-physical constituent parts of animate beings such as *niỳò* ‘soul’, *hákílò* ‘intelligence’, *sónómò* ‘conscience’, *jíkò* ‘personality’, *fúlò* ‘destiny’, *tànò* ‘taboo’, and nouns derived from verbs referring to individual behavior, such as *táamá-ñàa* ‘way of walking’ < *táamá* ‘walk’,
 (d) nouns denoting social characteristics of individuals such as *tò* ‘individual name’, *kòntòjò* ‘family name’, *sỳò* ‘ethnicity’,
 (e) *yàà* ‘residence’,
 (f) *jàmáanò* ‘time when s.o. lived’

However, the behavior of some of the nouns expressing such notions is difficult to explain. For example, *dáajỳò* ‘saliva’ requires a direct construction, but *kàarò* ‘sputum’ requires an indirect construction. Similarly, it is difficult to explain the use of the direct construction for *ninsò kékèè* ‘the milk of the cow’, contrasting with the use of the indirect construction for *siisèe lá kílò* ‘the egg of the hen’.

4.3.2 Kinship terms and nouns referring to other types of interpersonal relationships

Kinship terms (including those referring to kinship based on marriage), are the other group of nouns with which animate noun phrases in the role of modifier occur in the direct adnominal possessive construction. In Mandinka, kinship terms are optionally marked by the classifying suffix *-máa*, whose presence excludes definiteness

marking. With *kèê*, which has the non-relational meaning of ‘man’ and the relational meaning of ‘husband’, this gives rise to the contrast illustrated in (18).

- (18) a. *à kèê ~ à kèe-máa*
 3SG man.D 3SG man-KIN
 ‘her husband’
 b. *à lá kèê*
 3SG GEN man.D
 ‘his/her man’, i.e., a man having with him/her a relationship of any kind, except marriage (for example, ‘the man he/she is speaking about’)

Interestingly, *mùsôo* ‘woman, wife’ behaves differently from *kèê* ‘man, husband’, and constitutes in fact the only possible exception to the rule according to which kinship terms, including those referring to kinship based on marriage, require the direct construction. With *mùsôo*, the direct construction is obligatory if the classifying suffix for kinship terms *-máa* is used (*à mùsù-máa* ‘his wife’, exactly like *à kèe-máa* ‘her husband’). However, when the form *mùsôo* is used, the indirect construction is required (*à lá mùsôo* ‘his wife’ or ‘his woman’).

Grégoire (1984) showed that the explanation lies in the grammaticalization process that resulted in the creation of the postposition *lá* and the extension of its use to the adnominal possessive construction. In present-day Mandinka, *lá* is a multi-functional postposition, but historically, it is cognate with nouns attested throughout the Mande family with meanings such as ‘mouth’, ‘opening’, ‘edge’. Consequently, it can safely be concluded that *lá* grammaticalized first as a spatial postposition, and that the indirect adnominal possessive construction results from a process of semantic bleaching that has affected *lá* in a construction *X lá Y*, whose original meaning was ‘the Y located near X’. Starting from that, the crucial observation is that, in traditional Mandinka society (as is often the case in sub-Saharan Africa), when a man and a woman marry, the wife moves to the family residence of her husband. Consequently, it makes sense for a Mandinka man to designate his wife as ‘the woman who is at my place’, whereas the reverse would not make sense. Consequently, the fact that *mùsôo* ‘wife’ is the only kinship term requiring the indirect adnominal possessive construction can be explained as a retention of the original meaning of the postposition used in this construction.

In addition to kinship terms, the direct adnominal possessive construction is also required by nouns referring to symmetrical interpersonal relationships, such as *téerò* ‘friend’, *jáwò* ‘enemy’, *fúlánò* ‘peer’, and co-participant nouns derived from verbs such as *táa-ñò* ‘fellow traveler’ < *táa* ‘go’.

Finally, there are three pairs of nouns referring to interpersonal relationships that show the same behavior as ‘husband’ and ‘wife’, and for which the same explanation can be considered:

- (a) *jỳàatíyò* ‘host’ requires the direct construction, whereas *lúntánò* ‘guest’ requires the indirect construction;
- (b) *kàràmmôo* ‘teacher, professor’ requires the direct construction, whereas *kàràndínò* ‘pupil, student’ requires the indirect construction;
- (c) *màaríyò* ‘master’ requires the direct construction, whereas *jòhò* ‘slave’ requires the indirect construction.

In the case of ‘host’ and ‘guest’, it is obvious that a host can designate his/her guest as ‘the guest who is at my place’, but not the other way round. Similarly, at the time when slavery existed, slaves used to live at their master’s place. In the case of *kàràmmôo* ‘teacher, professor’ and *kàràndínò* ‘pupil, student’, the explanation is that in traditional Koranic teaching, pupils live in their teacher’s home. Interestingly, *kàràmmôo* ‘teacher, professor’ and *kàràndínò* ‘pupil, student’ behave in the same way when used with reference to European-style teaching, in spite of the fact that, in the context of European-style teaching, the original motivation of their behavior in the adnominal possessive construction is lost.

All the other nouns that refer to interpersonal relationships, including those referring to superiors in hierarchical relationships, follow the general rule for adnominal possessive constructions involving animate modifiers. For example, *kintánò* ‘circumcisee’s mentor’ requires the indirect construction, contrary to *kàràmmôo* ‘teacher, professor’, *jỳàatíyò* ‘host’, or *màaríyò* ‘master’. The behavior of *kintánò* may surprise, given the hierarchical relationship between a circumcisee and his mentor, but it is consistent with the fact that circumcisees do not live at their mentor’s place. This confirms that what matters for the asymmetrical pairs (‘husband’/‘wife’, ‘guest’/‘host’, ‘master’/‘slave’, and ‘teacher’/‘pupil’) is not hierarchical superiority, but the determination of residence.

5 Direct and indirect adnominal possessive constructions with verbal lexemes used as event nouns in the role of head

When verbal lexemes used as event nouns fulfill the function of head in the adnominal possessive construction, the choice between direct and indirect construction is determined by a very straightforward syntactic rule in which, contrary to the general case, animacy plays no role.

Contrary to ordinary nouns, which can fulfill the role of head in adnominal possessive constructions expressing any possible kind of semantic relationship between head and modifier, verbal lexemes used as event nouns can only combine with

possessors corresponding to the subject and/or the object of the corresponding clause. The rule, which suffers no exception, is that subjects (irrespective of the transitive vs. intransitive distinction, and of their possible semantic roles) are transposed as flagged possessors, whereas objects are transposed as unflagged possessors. No difference is made between intransitive subjects whose referent is relatively agent-like or relatively patient-like. Example (19b) illustrates the use of a transitive verbal lexeme as an event noun.

- (19) a. *Ñĩŋ kèê yè dínđínò-lú dóoyáa kúnùŋ.*
 DEM man.D CPL.TR child.D-PL scold yesterday
 ‘This man scolded the children yesterday.’
- b. *Ñĩŋ kèê lá dínđínò-lú dóoyàa m̃aŋ díyáa í yè.*
 DEM man.D GEN child.D-PL scold.D CPL.NEG be.pleasant 1SG BEN
 lit. ‘This man’s scold(ing) of children is not pleasant for me.’
 → ‘I don’t like the way this man scolds children.’

Example (20) illustrates the fact that even inanimate subjects are transposed as flagged possessors, in spite of the general rule according to which the indirect adnominal possessive construction is normally impossible with inanimate possessors.

- (20) a. *Sáñjí-fólò ké-tà lè.*
 rain-first.D occur-CPL.ITR FOC
 ‘The first rain has arrived.’
- b. *sáñjí-fólò lá kèe*
 rain-first.D GEN occur(ring).D
 ‘the arrival of the first rain’

6 Discussion and conclusions

The aim of this article was to discuss the possibility of a functional explanation of the coding split in the adnominal possessive construction of Mandinka on the basis of a comprehensive description of the choice between the direct and the indirect construction.

As already discussed, the locative origin of the postposition *lá* and the particular behavior of the four pairs of nouns ‘husband’/‘wife’, ‘host’/‘guest’, ‘master’/‘slave’, and ‘teacher’/‘pupil’ in adnominal possession constructions suggest that the *lá*-construction was used initially with reference to situations where the referent of the modifier (the possessor) DETERMINES THE RESIDENCE of the head (the possessee). Crucially, determining the residence of the possessee can be viewed as a particular case of a

broader notion of control exerted by the possessor in its relation to the possessee. In order to explain the situation observed in present-day Mandinka, one may imagine an intermediary stage in which the use of the *lá*-construction was extended to situations characterized by the more abstract feature of CONTROL exerted by the possessor on various aspects of its relationship to possessee, i.e., on aspects of the relationship between the possessor and the possessee not limited to location. Starting from that, apart from a few pairs of nouns referring to interpersonal relationships that have maintained the original situation, the distinction grammaticalized differently depending on the grammatical nature of the head noun and the semantic nature of the modifier.

With verbal lexemes used as event nouns in the role of head, the choice is conditioned now by the syntactic role of the modifier in the corresponding clause, and the fact that objects are transposed as unflagged possessors, whereas subjects are transposed as flagged possessors, is consistent with the lack of control that characterizes the semantic roles typically expressed by objects, contrasting with the control that characterizes the semantic role of agent, prototypically associated with the syntactic role of subject.

With ordinary nouns (i.e., nouns other than verbal lexemes used as event-denoting nouns without any morphological marking) in the role of head, inanimate modifiers (i.e., modifiers whose referent is conceived as inherently devoid of the ability to control anything) have continued to occur exclusively in the direct construction, except in the presence of a demonstrative modifier, which may perhaps be explained by the high degree of individuation implied by the demonstrative.

Finally, with ordinary nouns in the role of head and animate modifiers, the fact that animates are inherently characterized by their ability to exert control on other entities resulted in that the *lá*-construction has become the default construction, with, however, two groups of exceptions, for which two kinds of explanation can be considered. On the one hand, configurations in which the head noun is particularly prone to fulfill the role of head in the adnominal possessive construction by virtue of its lexical meaning, which is the case for body part terms and kinship terms, may tend to resist innovation. On the other hand, the situations with reference to which animate modifiers do not require the *lá*-construction typically involve lack of control on the part of the referent of the modifier. In fact, these two explanations are not exclusive of each other.

According to Nichols (1988):

There is no invariant semantic content to ‘alienability’. It is simply a formal split in the marking of adnominal constructions, with the more fused or archaic of the two marking types associated with exactly those nouns that are most often possessed. (1988: 31)

The analysis of the Mandinka data confirms that coding splits in the adnominal possessive construction are not always analyzable as a reflection of the alienability contrast, but at the same time shows the limits of explanations in terms of discourse frequency (as proposed by Haspelmath 2017), and the need to admit that semantic features such as animacy and control may play an important role in the genesis of coding splits in the adnominal possession construction.

As regards the possible role of discourse frequency in the development of the coding split observed in the adnominal possessive construction of Mandinka, it is true that discourse frequency may have favored the maintenance of the direct construction with head nouns referring to body parts or kinship terms. However, discourse frequency effects cannot be invoked to explain that, in Mandinka, the direct construction was also maintained with inanimate modifiers, irrespective of the head noun. Quite obviously, adnominal possessive constructions with inanimate modifiers are much less frequent in discourse than adnominal possessive constructions with animate modifiers. Consequently, the fact that they have maintained the direct construction is clearly an exception to the trend towards heavier morphological marking in configurations characterized by a relatively low discourse frequency.

Acknowledgments: I am very grateful to the editors of this special issue of *Linguistics* and to the anonymous reviewers for their insightful comments and suggestions, which greatly helped improve the final version of this article.

Abbreviations

Adnom.Poss.	adnominal possessor
Attr.	attributive adjective
BEN	benefactive
CPL	completive
D	default determiner
DEM	demonstrative
Det.	determiner
emph.	emphatic
FOC	focalization
GEN	genitive
ICPL	incompletive
ITR	intransitive
KIN	classifying suffix optionally added to kinship terms
LCOP	locational copula
LOC	locative
N	noun
NEG	negative

n.emph.	non-emphatic
NP	noun phrase
Num.	numeral
O	object
PL	plural
POSTP	postposition ⁶
PROPR	propriative pronoun
S	subject
SG	singular
TR	transitive
V	verb
X	oblique

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⁶ The generic gloss POSTP is used for multifunctional postpositions with a range of uses that cannot be analyzed straightforwardly as extensions of an identifiable basic meaning.



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Explaining alienability splits in the use of overt and zero possessive marking: a source-oriented approach

<https://doi.org/10.1515/ling-2022-0034>

Received February 28, 2022; accepted September 2, 2023; published online November 3, 2023

Abstract: A well-known pattern in the encoding of adnominal possession crosslinguistically involves splits in the use of overt and zero marking for alienable and inalienable possession. Overt marking may be restricted to alienable possession, but it is not usually restricted to inalienable possession. Zero marking may be restricted to inalienable possession, but it is not usually restricted to alienable possession. This has been explained in terms of principles pertaining to general properties of alienable and inalienable possession, such as the relative degree of conceptual contiguity between possessor and possessee or the relative need to disambiguate the possessive relation. These principles, however, have generally been formulated based on the synchronic crosslinguistic distribution of overt and zero marking across alienable and inalienable possession, rather than diachronic phenomena that shape this distribution from one language to another over time. This paper discusses several developmental processes that have been shown to recurrently give rise to the possessive markers involved in the alienability splits in question crosslinguistically. These markers develop through metonymization processes whereby various types of pre-existing elements take on a possessive meaning originally associated with their context of occurrence, independently of alienability. The distribution of these markers across alienable and inalienable possession follows from restrictions in the distribution of the source construction, unrelated to possession. Principles pertaining to alienability may possibly play a role in the extension, retention or loss of particular markers across alienable and inalienable possession contexts once they are in place in a language, thus ultimately contributing to the relative crosslinguistic frequency of particular alienability splits. This, however, remains to be investigated. These facts call for a new, source-oriented approach to alienability splits and recurrent crosslinguistic patterns in general. In this approach, individual patterns and their relative crosslinguistic frequency are explained in terms of the properties

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of multiple source constructions and diachronic phenomena that give rise to the pattern and shape its crosslinguistic distribution over time, rather than particular synchronic properties of the pattern in themselves.

Keywords: alienability splits; diachrony; overt marking; typology; zero marking

1 Introduction

A well-known pattern in the encoding of adnominal possession crosslinguistically involves splits in the use of overt and zero marking for alienable and inalienable possession. The notions of alienable and inalienable possession are used here, in a maximally general sense, to refer to a semantic opposition between non-inherent and inherent possessive relations between two entities (e.g., ‘John’s house’, ‘John’s books’ vs. ‘John’s mother’, ‘John’s hand’, or ‘the branch of the tree’), independently of how these relations are encoded in particular languages.¹ While these two relation types can be treated in the same way in terms of overt and zero marking (both overtly marked, both zero marked, or both overtly or zero marked in different cases), languages also recurrently display splits where overt marking is restricted to alienable possession, or zero marking is restricted to inalienable possession.²

Some of these patterns are illustrated in (1) and (2) below. In the Imonda construction in (1), both alienable possession (‘father’s house’) and inalienable possession (‘my father’) are encoded by the possessive marker *-na*.

¹ These notions are also often used in the literature not only in a semantic sense, but also in a structural sense, that is, to identify particular constructions that encode relations of alienable or inalienable possession in individual languages. Sometimes, there is an assumption that the use of these constructions is determined by some semantic notion of alienability that is psychologically relevant for speakers. In other cases, the relevant constructions are described in terms of alienable or inalienable possession because they encode at least some types of alienable or inalienable possession, regardless of whether this reflects some psychologically relevant notion of alienability. This approach to alienability is not directly relevant to the arguments developed in this paper, but the reader is referred to Chappell and McGregor (1989), Chappell and McGregor (1996), Heine (1997: Chap. 1), and Nichols (1988) for detailed discussion and exemplification.

² By overt marking is meant here any overt form that may be used in a language to encode a possessive relation between two entities. This definition includes both forms that encode the possessive relation only (possessive markers proper, such as adpositions, case marking or possessive classifiers), and forms that also encode the possessor or the possessee (e.g., possessive pronominal forms or the construct state of the noun in Afro-Asiatic languages). The latter forms, however, are usually not taken into account in the literature on alienability splits, and will not be discussed here.

- (1) *ka-na aia-l-na ièf*
 1-POSS father-NOMLZ-POSS house
 ‘the house of my father’
 (Seiler 1985: 63) (Imonda, Border)

In the Manam constructions in (2), on the other hand, alienable possession (‘the chief’s garden’) is encoded by the possessive marker *-?aná*, whereas inalienable possession (‘their father’) is zero marked.

- (2) a. *tanépwa úma ?aná-na-lo*
 chief garden POSS-BF-in
 ‘in the chief’s garden’
 b. *táma-di*
 father-3PL.ADN
 ‘their father’
 (Lichtenberk 1983: 310) (Manam, Oceanic)

Languages, however, do not usually display splits where overt marking is restricted to inalienable possession, or zero marking is restricted to alienable possession.

A classical and very influential explanation for this phenomenon, originally proposed by Haiman (1983, 1985), is in terms of iconicity. Relations of inalienable possession are determined by inherent properties of the possessee, and hence involve higher conceptual contiguity between possessor and possessee than relations of alienable possession. This will be iconically reflected by the relative linear distance between possessor and possessee in the constructions used to encode these two relation types, as well as by the relative degree of morphosyntactic complexity of these constructions. The use of overt marking will be avoided in inalienable possession constructions, both because overt markers are often placed between possessor and possessee, thus increasing the linear distance between the two (as in (1)), and because they increase the morphosyntactic bulk of the construction, even when they are not placed between possessor and possessee (as in (2a)).

Alternatively, the distribution of overt and zero marking across alienable and inalienable possession has been explained in terms of the relative need to disambiguate the possessive relation (Dahl and Koptjevskaja-Tamm 1998, 2001; Haspelmath 2008, 2017; Koptjevskaja-Tamm 1996; Nichols 1988). The semantics of inalienable nouns implies that their referents are in a specific relation with some other referent, so this relation does not need to be overtly specified, and can be zero marked. By contrast, the referents of alienable nouns need not be involved in a relation with other referents, so this relation is more difficult to identify and hence

more in need to be specified through overt marking. This explanation involves a principle of economy whereby speakers will use overt marking only when this is really necessary, that is, for meanings that are more in need of disambiguation.³

Both of these explanations imply that alienability splits are motivated by a functional match between the use of overt versus zero possessive marking and general properties of alienable and inalienable possession, either in the sense that this use matches the relative degree of conceptual contiguity between possessor and possessee, or in the sense that it matches the relative need to disambiguate the possessive relation. These matches favor overt marking in alienable possession contexts over inalienable possession ones, and zero marking in inalienable possession contexts over alienable possession ones.

These explanations, however, are generally based on the synchronic distribution of overt and zero marking across alienable and inalienable possession crosslinguistically, not diachronic phenomena that shape this distribution from one language to another over time (though some grammaticalization processes involved in the development of overt marking have been assumed to be triggered by the higher need to disambiguate the possessive relation: Dahl and Koptjevskaja-Tamm 1998; Heine 1997: Chap. 3; Koptjevskaja-Tamm 1996). In this paper, a number of crosslinguistic developmental processes will be discussed that have been shown to recurrently give rise to the possessive markers involved in the alienability splits in question, that is, splits where the use of possessive markers is restricted to alienable possession, or zero marking is restricted to inalienable possession. Such processes, it will be argued, provide no evidence that these splits reflect general properties of alienable and inalienable possession.

As will be shown in Section 2, data from grammaticalization studies and studies of possessive constructions in individual languages worldwide show that the relevant possessive markers are derived from elements originally used for other functions (attributive or appositive demonstratives, various types of appositive nouns, indefinite pronouns, locative elements). These elements evolve into possessive markers as they take on a possessive meaning originally associated with

³ In some of these accounts (Haspelmath 2008, 2017; Nichols 1988), the relation between the semantics of alienable and inalienable nouns and the use of overt and zero marking is mediated by the frequency of these nouns occurring in a possessive construction. Due to their semantics, inalienable nouns are typically used in possessive constructions, so they will usually be expected to be in a possessive relation with a co-occurring nominal, and this does not have to be overtly specified. Alienable nouns, on the other hand, do not typically occur in possessive constructions, so, if they are in a possessive relation with a co-occurring nominal, this is not expected and should be overtly specified.

their context of occurrence. This is basically a metonymization process triggered by the co-occurrence of the source element and the possessive meaning, independently of alienability.

The distribution of individual markers across alienable and inalienable possession is also plausibly a result of factors other than alienability, as will be shown in Section 3. The fact that particular markers are not used for inalienable possession ultimately reflects the distribution of the source construction, which is also not used in inalienable possession contexts, for reasons unrelated to possession. This is confirmed by the fact that, in several languages, possession is or is not overtly marked depending on factors that cut across alienability distinctions and are related to the distribution of the constructions that gave rise to the relevant possessive markers, such as the animacy of the possessor. In addition, possessive markers may develop in inalienable, rather than alienable possession contexts, which goes against the idea that the use of overt marking is favored in the latter contexts as opposed to the former. This phenomenon too can be explained in terms of the distribution of the source constructions that give rise to individual markers.

In this scenario, as will be discussed in Section 4, the attested differences in the crosslinguistic frequency of different alienability splits can be a possibly combined result of several distinct factors, which need not be related to alienability and whose role remains to be investigated. These include the relative crosslinguistic frequency of the source constructions or the developmental processes that can give to possessive markers in alienable and inalienable possession contexts, as well as how often existing possessive markers are extended, retained or lost across these contexts.

These facts, as will be argued in Section 5, call for a new, source-oriented approach to alienability splits and recurrent crosslinguistic patterns in general (as discussed, for example, in Cristofaro 2013, 2017, 2019). In this approach, individual patterns and their relative crosslinguistic frequency are explained in terms of the properties of several distinct source constructions and diachronic phenomena that can give rise to the pattern and shape its crosslinguistic distribution over time, rather than particular synchronic properties of the pattern in themselves.

2 On the diachronic origins of overt marking

If particular alienability splits reflect general properties of alienable and inalienable possession, as assumed in classical explanations, these properties should play a role in the diachronic phenomena responsible for the presence of these splits in individual languages, for example, phenomena that give rise to overt marking and shape its distribution across alienable and inalienable possession. In what follows, a

number of recurrent crosslinguistic developmental processes will be discussed that have been shown to give rise to the possessive markers involved in the alienability splits in question, that is, splits where overt marking is restricted to alienable possession, or zero marking is restricted to inalienable possession. These processes, it will be argued, provide no evidence that the relevant markers arise because of principles pertaining to properties of alienable and inalienable possession, such as the relative degree of conceptual contiguity between possessor and possessee, or the relative need to disambiguate the possessive relation.

2.1 Crosslinguistic developmental processes

Possessive markers are known to usually develop from elements originally used for other functions (see, for example, Heine 1997; Heine et al. 1991). This has been shown to also be the case for markers involved in splits where overt marking is restricted to alienable possession, or zero marking is restricted to inalienable possession. A recurrent source for such markers are elements that are originally part of a possessive construction, but do not encode a relation between possessor and possessee. Instead, these elements are used to refer to the possessee, or, in some cases, some other entity involved in the situation being described, and they take on the possessive meaning associated with the construction as a whole as their original meaning is bleached.

Sometimes, the source is a demonstrative element, that is, constructions of the type ‘X *that/this* Y’, where X and Y are a possessee and a possessor respectively, become ‘the X *of* Y’. While the exact syntactic structure of the source construction cannot always be reconstructed for individual languages, it is generally assumed that the original function of the demonstrative is to single out the possessee, either by modifying it, e.g., ‘that X (of) Y’, ‘(of) Y, that X’, or by denoting it in an appositive expression, that is, ‘X, that (of) Y’, ‘that (of) Y, X’ (see, for example, Eksell Harning 1980; Pennacchietti 1968 for Arabic and Semitic in general; Schuh 1983, 1990 for Chadic; Hoch 1997: 152 for Ancient Egyptian; and Yap et al. 2010 for Mandarin Chinese).

As illustrated in (3) and (4), for example, a number of Chadic languages display a pattern where possession is overtly marked for alienable nouns and some inalienable nouns ((3a), (4a)), and zero marked for other inalienable nouns ((3b), (4b); these nouns are sometimes quite limited in number). The possessive markers often agree in gender with the possessee, and are ultimately derived from demonstrative roots (Schuh 1977, 1983, 1990).

- (3) a. *ākū-tk-ii;* *mii-tk-ja*
 goat-POSS.F.SG-2SG mother-POSS-1.PL.EXCL
 ‘your goat; our mother’ (cf. *-tkū* ‘this’)
 (Schuh 1977: 72, 1990: 603)
- b. *bâ-anāi*
 co-wife-1SG
 ‘my co-wife’
 (Schuh 1977: 42) (Gashua Bade, West Chadic)
- (4) a. *bili ma lowoi*
 horn POSS.M.SG boy
 ‘the boy’s horn’ (cf. *me* ‘this’)
- b. *bil kîmne; mɔ Miyim*
 horn buffalo wife Miyim
 ‘buffalo’s horn; Miyim’s wife’
 (Schuh 1983: 183–184) (Kanakuru, West Chadic)

In Ancient Egyptian, pronominal possession is either zero marked or marked by the elements *p3y/t3y/n3y*, which agree with the possessee in gender and number and are derived from the demonstrative forms *p3/t3/n3*. The use of these elements is strongly favored in alienable possession contexts such as the one in (5a), whereas inalienable possession contexts such as the one in (5b) strongly favor zero marking (Gardiner 2017; Kammerzell 2000).

- (5) a. *n3y=sn* *ħk3-w*
 POSS.PL=3PL sorcerer-M.PL
 ‘their sorcerers’
 (Gardiner 2017: 645)
- b. *sn=j*
 brother=1SG
 ‘my brother’
 (Gardiner 2017: 645) (Ancient Egyptian, Afro-Asiatic)

In Mandarin Chinese, the possessive marker *de* can be used for both alienable and inalienable possession. As illustrated by the contrast between (6a) and (6b), however, its use is disfavored by particular types of inalienable nouns, such as kin terms (Chappell and Thompson 1992; Li and Thompson 1981: 113–116; Shi and Li 2002). The marker is derived from the demonstrative element *di* illustrated in (6c) (Shi and Li 2002; Yap et al. 2010).

- (6) a. *xuéxiào de jiào*
 school POSS teach
 ‘school’s teaching staff’
 (Li and Thompson 1981: 114)
- b. *nǐ (de) mèimei*
 2SG POSS younger.sister
 ‘your younger sister’
 (Li and Thompson 1981: 116)
- c. *Dì shì cāng chūn chū*
 that be store spring place
 ‘This is a warm and pleasant place.’
 (*Mò shān xī cǐ*, c. AD 900)
 (Shi and Li 2002: 8) (Mandarin Chinese, Sinitic)

In other cases, the source of the possessive marker is a noun in an appositive relation with the possessee, which is used to specify some semantic property of the latter. For example, constructions of the type ‘X, *food/drink/tree/thing/property* Y’, where X and Y are a possessee and a possessor respectively, become ‘the X of Y’. This process has been found to be at the origin of the possessive classifiers attested in a number of Oceanic languages, as illustrated in (7)–(9) below (Lichtenberk 2018, among several others). The use of these classifiers is limited to alienable possession (see the cases of inalienable possession in (7e), (8b), and (9b), where no classifier is used), and individual classifiers generally occur in contexts directly related to the meaning of the source, so that different classifiers are used depending on whether the construction encodes general possession, possession of a food item, a drink item, a vegetable item, and so on, as can be seen from (7a)–(7d). Sometimes, for example, in (7d), the classifier is derived from the noun encoding the possessee, so that this noun is actually originally used in apposition to itself. The same noun may or may not take classifiers depending on whether the referent is alienably or inalienably possessed, as illustrated by the contrast between (8a) and (8b).

- (7) a. *ropi-qi niu*
 POSS.CLASS-1SG.POSS coconut
 ‘my coconut for drinking’ (cf. *ropi* ‘drink’)
 (Ross 2001: 157)
- b. *uma-qi uri eteba*
 POSS.CLASS-1SG banana SG
 ‘my banana plant’ (cf. *uma* ‘soil’ from Proto-Oceanic **quma* ‘garden’)
 (Ross 2001: 157)

- c. *ane-qi* *uri* *eteba*
 POSS.CLASS-1SG banana SG
 ‘my banana to eat’ (cf. *ane* ‘food’)
 (Ross 2001: 157)
- d. *ai-qi* *ai*
 POSS.CLASS-1SG tree
 ‘my (tall) tree’
 (possessive classifier derived from possessed noun, lit. ‘my tree, the tree’)
 (Ross 2001: 157)
- e. *tama-qi*
 father-1SG
 ‘my father’
 (Ross 2001: 156) (Mussau, Oceanic)
- (8) a. *aji-n* *jəə*
 POSS.CLASS-3SG bone
 ‘its bone’ (dog playing with a bone, possessive classifier derived from noun
 meaning ‘thing’)
 (Ozanne-Rivierre 1976: 159)
- b. *jeie-n*
 bone-3SG
 ‘its bone’ (anatomical)
 (Ozanne-Rivierre 1976: 159) (Iaai, Oceanic)
- (9) a. *ā mwà tɛ-n*
 the house POSS.CLASS-his
 ‘his house’ (cf. *tɛ* ‘property, goods’)
 (Moyses-Faurie and Ozanne-Rivierre 1983: 119)
- b. *pūnī-n*
 head-his
 ‘his head’
 (Moyses-Faurie and Ozanne-Rivierre 1983: 118) (Cèmuhi, Oceanic)

DeLancey (1986) assumes that a similar process gave led to the use of the marker *-gu* for alienable possession in Newari. This marker, he submits, is derived from an element meaning ‘thing’, so that the source construction was ‘Y’s thing, X’. The marker (usually described as a nominalizer) may or may not be used with the

same nouns depending on whether they are alienably or inalienably possessed, as illustrated by the contrast between (10a) and (10b).⁴

- (10) a. *ram-ya-gu tasbir*
 Ram-GEN-NOMLZ picture
 ‘Ram’s picture’
 (a picture belonging to Ram; originally, ‘Ram’s thing, a picture’)
 (DeLancey 1986: 6)
- b. *ram-ya tasbir*
 Ram-GEN picture
 ‘a picture of Ram’
 (DeLancey 1986: 7) (Newari, Tibeto-Burman)

In yet other cases, the possessive marker is derived from an indefinite form. This pattern has been described for languages where particular referents can be alienably or inalienably possessed, and overt marking is used in the former case but not in the latter (Thompson 1996; Young and Morgan 1980). In Navajo, for example, the construction in (11a) involves alienable possession, ‘my milk (from the store)’. In this case, as can be seen from (11b), possession is encoded through a marker derived from the indefinite form ‘*a-*’, so that the meaning of the construction is, literally, ‘my something(s)/somebody(s) milk’. This reflects the fact that, in such cases, there actually are three entities involved, the possessor, the possessee, and the unknown source of the latter, which is encoded by the indefinite form (Young and Morgan 1980: 7). When the referent in question is inalienably possessed, as in (11c), ‘my milk (from my breast)’, on the other hand, the possessor and the source of the possessee overlap, and the marker is not used.

- (11) a. *she-’a-be*
 1SG-3INDEF-milk
 ‘my milk’ (from a secondary source, as milk purchased at the store)
 (Young and Morgan 1980: 7)

⁴ In Newari, as can be seen from Example (10), both alienable and inalienable possession are marked by the genitive case affix, and alienable possession is further marked by *-gu*. Thus, the use of overt marking involves an alienability split in the sense that alienable possession is marked by more morphemes than inalienable possession, not in the sense that alienable possession is overtly marked whereas inalienable possession is zero marked. While alienability splits in the use of overt marking are usually defined in terms of an opposition between overt and zero marking, this pattern is in line with classical explanations of these splits in terms of iconicity and economy. If the use of overt marking is related to the lower conceptual contiguity between possessor and possessee, or the higher need to disambiguate the possessive relation, then it is to be expected that individual markers should be used for alienable, rather than inalienable possession, even when both possession types are overtly marked already (see on this point Croft 2003: Chap. 4).

- b. *'a-be*
 3INDEF-milk
 'something's milk'
 (Young and Morgan 1980: 7)
- c. *shi-be*
 1SG-milk
 'my milk' (from my own breasts)
 (Young and Morgan 1980: 28) (Navajo, Na-Dene)

Another recurrent source for the possessive marker are elements that encode a relation between two entities, but not one of possession. In such cases, the elements in question develop a possessive meaning as a result of context-driven inferences. A case in point are constructions that describe the location of some entity X in relation to some other entity Y, of the type 'X at Y', 'X at the *place/home* (of) Y'. The relevant constructions can be reinterpreted as possessive ones, plausibly because an entity described in terms of its location with respect to some other entity can be inferred to belong to the latter (Claudi and Heine 1989; Heine 1997: chap. 2). As a result, a locative element within the construction becomes a possessive marker, 'the X of Y'. This is illustrated in (12)–(14) below for Ngiti, Acholi, and Kabyie. In these languages, the relevant markers are limited to alienable possession, and they may or may not be used with the same noun depending on whether the referent is alienably or inalienably possessed. This contrast is illustrated by (13a) and (13b), as well as by (14a) and (14b).⁵

- (12) a. *àba bhà idzalı-nga*
 father POSS courtyard-NOMLZ
 'my father's courtyard' (cf. *ibhà* 'at home')
 (Kutsch Lojenga 1994: 154)
- b. *ɔtsu-du*
 hand-1SG.INAL.POSS
 'my hand'
 (Kutsch Lojenga 1994: 202) Ngiti (Nilo-Saharan)

⁵ Elements encoding a relation between two entities have been shown to be a recurrent source for possessive markers crosslinguistically. This is the case not only with locative elements, but also, for example, with ones marking beneficiaries, recipients or sources ('the X for Y', 'the X to Y', 'the X from Y': see Heine 1997 for a detailed overview). These elements, in fact, also function as possessive markers in many languages, but in many cases there are no alienability splits, or descriptions of the language do not establish a link between the different functions of individual elements. The cases discussed here have been selected both because they involve alienability splits, and because descriptions of the language make explicit hypotheses about how the relevant elements developed a possessive function.

- (13) a. *wiic pā látēēn*
 head POSS child
 ‘the head of the child’ (e.g., a sheep’s head belonging to the child, cf. *pā* ‘house’)
 (Claudi and Heine 1989: 5; Crazzolara 1955: 47)
- b. *wiic látēēn*
 head child
 ‘the child’s (own) head’
 (Claudi and Heine 1989: 5; Crazzolara 1955: 47) (Acholi, Nilo-Saharan)
- (14) a. *kólú té píya*
 blacksmith POSS children
 ‘the blacksmith’s children’ (typically those living in his compound but not his own, cf. *té* ‘home’)
 (Heine et al. 1991: 148)
- b. *kólú píya*
 blacksmith children
 ‘the blacksmith’s (own) children’
 (Heine et al. 1991: 148) (Kabyie, Niger-Congo)

2.2 On the motivations for individual processes

The various processes just discussed provide no evidence that the development of the relevant possessive markers is related to alienability. Sometimes, the source element is used in a possessive construction, but it does not encode a relation between possessor and possessee. Instead, it is used to refer to some entity involved in the situation being described (the possessee, or sometimes, as in the Navajo example in (11), its source), and it takes on the possessive meaning associated with the construction as a whole. Alternatively, the source element encodes a relation between two entities, but not one of possession, and it takes on a possessive meaning that can be inferred from the context. In both of these cases, the evolution of the source element into a possessive marker is a result of a process of metonymization (Traugott and Dasher 2005): some form takes on a meaning associated with its context of occurrence, in this case a possessive meaning. Metonymization has been shown to play a pivotal role in processes of constructional reiteration, particularly grammaticalization, and it is usually assumed to be triggered by the contextual co-occurrence of particular forms and particular meanings, not properties of the resulting grammatical patterns (see, for example, Bybee et al. 1994; Heine 2003; Slobin 2002; Traugott and Dasher 2005). Under this analysis, there is no reason to

assume that the metonymization processes that give rise to the possessive markers in question reflect principles pertaining to the use of overt marking for alienable and inalienable possession. Instead, these processes are triggered by the contextual co-occurrence of the elements undergoing metonymization and the possessive meaning.

In principle, alienability could play a role in the use of the source elements, in the sense that these elements might or might not be used depending on the relative degree of conceptual contiguity between possessor and possessee, or the relative need to disambiguate the possessive relation. In this case, alienability would ultimately still be responsible for the development of the relevant possessive markers. This could be the case when the semantics of the source element involves the notion of possession, for example, ‘X, property (of) Y’, as in (9a) above. This does not apply to other source elements, however. Some of these elements denote possessors, but they are used to single out the relevant referents (‘X, that (of) Y’ or ‘that X (of) Y’) or to specify particular semantic properties of these referents (‘X, thing/food/drink ... (of) Y’), not to signal their possessor status. Other source elements denote additional participants involved in the situation being described, as in the Navajo example in (11). Yet other elements are used to encode relations other than possession (such as locative relations). While the relevant constructions are possessive ones, or may acquire a possessive meaning as a result of context-driven inferences, these various functions are unrelated to possession, so it is difficult to see how they could be affected by principles pertaining to alienability.⁶

In fact, the idea that such principles are responsible for alienability splits is crucially based on the fact that they provide an explanation for two synchronic distributional patterns. The first pattern involves the synchronic distribution of overt and zero marking in particular alienability splits, that is, the fact that overt marking is restricted to alienable possession, or zero marking is restricted to inalienable possession. The second pattern involves the synchronic distribution of these splits crosslinguistically, that is, the fact that they are significantly more frequent than splits where overt marking is restricted to inalienable possession, or

6 In the case of locative constructions (e.g. ‘the X at Y’) or other constructions used to encode a relationship between two entities (‘the X from Y’, ‘the X to Y’), one could assume that these constructions are actually used by speakers in order to convey the idea that the entities in question are in a possessive relation, so that the use of these constructions might ultimately depend on properties of alienable and inalienable possession. In this case, however, it is not clear why speakers would not use constructions that explicitly convey the notion of possession, e.g., appositive constructions such as ‘X, property (of) Y’ or the like.

zero marking is restricted to alienable possession. In the following two sections, it will be shown that neither of these patterns can actually be taken as evidence for such principles.

3 Explaining the distribution of individual markers

If the development of particular possessive markers is indeed independent of the properties of alienable and inalienable possession, as argued in the previous section, the question arises as to why the distribution of these markers is constrained by alienability, in the sense that they are restricted to alienable possession, or are not used for some cases of inalienable possession. The literature on the origins of these markers is based on a general (if often implicit) assumption that this is a result of a diachronic scenario where they develop in alienable possession contexts and are either not extended or only partially extended to inalienable possession ones (rather than being initially used and then lost in the latter contexts: see, for example, Claudi and Heine 1989; Creissels 2001; Koptjevskaja-Tamm 1996; Schuh 1983). In this case, explanations for the distribution of individual markers should ultimately account for why they develop in alienable, rather than inalienable possession contexts. In what follows, it will be shown that this is a direct reflection of the distribution of the source construction, which is usually not used in inalienable possession contexts due to various types of incompatibilities unrelated to possession.

3.1 Alienability splits follow from the distribution of the source construction

In some cases, inalienable possession contexts are relatively incompatible with the function of the constructions that give rise to particular markers. As observed by Schuh (1983, 1990) in regard to Chadic, for example, constructions of the type ‘that X (of) Y’, ‘X, that (of) Y’, which are at the origin of the possessive markers illustrated in (3)–(6), are not usually used with inalienable nouns, that is, expressions such as ‘that mother of John’, ‘that arm of John’, ‘the mother, that of John’, ‘the arm, that of John’ are usually anomalous, except in highly particularized contexts. A possible explanation for this is that these constructions are used to single out particular referents. The referents of inalienable nouns such as kin terms and body part terms do not usually need singling out, in the case of kin terms because they are highly

individuated, and in the case of body part terms because they are not salient discourse referents (Dahl and Koptjevskaja-Tamm 1998; Koptjevskaja-Tamm 1996).

A comparable example is represented by constructions such as the Navajo one in (11). These constructions are originally used to encode both the possessor and the external source of some item (e.g., ‘my something(’s) milk’ in the sense of ‘my milk from some external source’). This is incompatible with inalienable possession contexts, because in these contexts there is no external source for the possessee, for example, in (11c), ‘my milk (from my breast)’, the possessor is also the source of the milk.

In other cases, there are incompatibilities between inalienable possession contexts and the lexical semantics of the construction. The various appositive nouns illustrated in (7)–(10), ‘thing’, ‘food’, ‘drink’, ‘tree’, ‘property’ and the like are all semantically incompatible with kin terms, body part terms, and other terms designating parts of a whole, as these terms do not display the relevant semantic properties. For example, kins and body parts cannot be characterized as objects belonging to somebody or as somebody’s food or drink. Locative constructions such as the ones in (13)–(14), ‘the X at Y’, ‘the X at Y(’s) place/home’, are incompatible with body parts, as these cannot be described as being located at the possessor’s home (so that constructions of the type ‘the head at the child’s place’, for example, will be interpreted as referring to some alienably possessed item, as in (13a)). These constructions are in principle compatible with kin terms, e.g., ‘the mother at John’s place’, but it is to be expected that they will usually not be used with these terms, both because kins are often not located at the possessor’s place (though see the discussion of Example (16) below), and because location is immaterial to the characterization of kinship relations anyway.

These incompatibilities provide a ready explanation for the alienability splits in the use of the relevant markers. Individual markers will initially be used in contexts compatible with the distribution of the source construction. This phenomenon has been shown to be pervasive in grammaticalization processes, and is often referred to as persistence: the distribution of the source construction determines the initial distribution of the resulting grammatical markers (Hopper and Traugott 2003). If some source construction is not used in inalienable possession contexts, it is to be expected that the resulting possessive markers will not be used in those contexts either, at least initially. These incompatibilities, however, originate from properties of inalienable possession contexts unrelated to possession, such as the fact that inalienable nouns do not usually need to be singled out in discourse, the fact that there is no external source for the possessee, or a contrast between the semantics of particular inalienable nouns and that of various types of appositives.

Over time, the use of individual markers may gradually be extended beyond their original contexts of occurrence (see, for example, Eksell Harning 1980; Koptjevskaja-Tamm 1996; Schuh 1983). This explains both why some markers are

also used in some inalienable possession contexts, and why the distribution of these markers across such contexts often varies in a seemingly arbitrary fashion crosslinguistically. As discussed in relation to Examples (3)–(6) above, for instance, some markers can be used for inalienable possession in general, but this use is disfavored, while others are used for a subset of inalienable nouns, which varies from one language to another.

Extension could be influenced by various properties of the relevant contexts, potentially including general properties of alienable and inalienable possession. For instance, given that inalienable nouns inherently convey the concept of possession, specific inalienable nouns might resist the extension of an existing possessive marker. This resistance could arise because these nouns are typically used with a possessor, resulting in the entrenched use of the old possessive construction with zero marking (Dahl and Koptjevskaja-Tamm 1998; Koptjevskaja-Tamm 1996).⁷ In this case too, however, the fact that the relevant markers are not used in particular inalienable possession contexts ultimately stems from the fact that the source construction was not used in those contexts, for reasons unrelated to possession.

3.2 Some further distributional evidence

Some further facts about the crosslinguistic distribution of possessive markers also support the idea that this distribution depends on the distribution of the source constructions that give rise to individual markers, rather than general properties of alienable and inalienable possession.

In several cases, the use of specific markers is influenced by semantic factors that cut across alienability distinctions. This results in patterns where the same type of possession (either alienable or inalienable) is either overtly marked or not in different contexts. Additionally, some instances of inalienable possession are overtly marked, while certain cases of alienable possession are not. These patterns contrast with both the assumption that overt marking depends on general properties of alienable and inalienable possession and the assumption that overt marking inherently favors one possession type over the other.

⁷ This hypothesis resembles explanations of alienability splits in terms of economy, in that it presupposes that the fact that inalienable nouns imply the notion of possession plays a role in the use of zero possessive marking with these nouns. In contrast to these explanations, however, the semantics of inalienable nouns is assumed to ultimately motivate the entrenchment and retention of an existing zero marking strategy, not the use of this strategy in the first place.

The first assumption implies that all instances of alienable or inalienable possession should be treated uniformly in terms of overt marking. The second assumption implies that if overt marking is employed for inalienable possession at all, it should be employed in all cases of alienable possession as well. However, these patterns find their explanation in the distribution of the source constructions that give rise to the relevant possessive markers.

In Old French, for example, the possessive marker *de* was used in contexts where the possessor was inanimate (Palm 1977). Inalienable possession with inanimate possessors was overtly marked, as illustrated in (15a), whereas inalienable and alienable possession with animate possessors were not, as illustrated in (15b) and (15c).

- (15) a. *ele vint au mur del castel*
 she came to.the wall of.the castle
 ‘She came to the wall of the castle’
 (Aucassin et Nicolette XVI) (Old French, Romance)
 (Palm 1977: 108)
- b. *Les os Eumon et Agolant*
 the bones Eumon and Agolant
 ‘The bones of Eumon and Agolant’
 (La chanson d’Aspremont, 4391)
 (Palm 1977: 43)
- c. *La maison l’ emperor*
 the house the emperor
 ‘The house of the emperor’
 (Le roman de la rose, 1038)
 (Palm 1977: 54) (Old French, Romance)

This distribution is consistent with the origin of the possessive marker, as *de* originally encoded motion away from some point of origin (‘from’, ‘away from’, ‘out of’: Heine 1997, among others), and points of origin are usually inanimate entities.

In Mandinka (see also Creissels, this volume), possession may or may not be overtly marked for different nouns involving the same type of relation between possessor and possessee, for example, as illustrated in (16), ‘slave’ versus ‘master’, ‘wife’ versus ‘husband’, or ‘pupil’ versus ‘teacher’.

- (16) a. *à la jòŋo*
 3 POSS slave
 ‘his slave’
 (Creissels 2001: 446)

- b. à *màario*
 3 master
 'his master'
 (Creissels 2001: 446)
- c. à **la** *mùsoo*
 3 POSS wife
 'his wife'
 (Creissels 2001: 446)
- d. à *kèe*
 3 husband
 'her husband'
 (Creissels 2001: 446)
- e. à **la** *kàrandiŋo*
 3 POSS pupil
 'his pupil'
 (Creissels 2001: 446)
- f. À *kàammoo*
 3 teacher
 'his teacher'
 (Creissels 2001: 446)

(Mandinka, Niger-Congo)

This pattern is explained by the fact that the possessive postposition, *la*, was originally a locative postposition (ultimately derived from a non meaning 'mouth', 'opening', 'edge'). The postposition is used for possessees that can be described as being located at the possessor's place, for example, slaves, wives, or pupils, as these live at the master's, husband's or teacher's place respectively, but not masters, husbands, or teachers, as these do not usually live at the slave's, wife's, or pupil's place (Creissels 2001; Grégoire 1984).

In Ngiyambaa, kinship relations are marked by the dative affix *-gu*, also used for alienable possession, goals, and purpose. Other cases of inalienable possession, on the other hand, are zero marked (Donaldson 1980). This is consistent with the fact that, in kinship relations, the possessee can be conceptualized as performing a specific function for the possessor, for example, being a parent, child, or sibling to someone. This is, in fact, paralleled by English expressions such as 'mother/brother to John', 'secretary to the minister', or 'queen to Henry the Eight'.

- (17) a. *bura:y-gu ba:ba:*
 child-DAT father
 'child's father'
 (Donaldson 1980: 230)

- b. *ɲadhu giyanhddha-nha ɲidji-la: winar-gu-dhi miri-dji*
 I fear-PRES this.CIRC-EST woman-DAT-CIRC dog-CIRC
 ‘I am frightened of this woman’s dog’
 (Donaldson 1980: 107)
- c. *ɲani-la: mayi waɾaɲun*
 that-EST person waɾaɲun
 ‘that person’s waɾaɲun (spirit)’
 (Donaldson 1980: 231) (Ngiyambaa, Australian)

Some languages also display patterns where the use of particular markers is restricted to inalienable possession, whereas alienable possession is encoded by different markers. In Faroese, for example, the dative preposition *til* ‘to’ is mostly used for kinship relations, whereas alienable possession is encoded by the locative preposition *hja* ‘at’ (Stolz et al. 2008: 231).

- (18) a. *mamma til Kjartan*
 mum to Kjartan
 ‘Kjartan’s mum’
 (Stolz et al. 2008: 223)
- b. *eg havi [...] gamla gandastavin hjá Charlie*
 I have:1SG old:ACC wand:DEF at Charlie
 ‘I have got Charlie’s old wand’
 (Stolz et al. 2008: 222–223) (Faroese, North Germanic)

From a synchronic perspective, such patterns are entirely consistent with the hypothesis that there are general principles that favor the use of overt marking for alienable rather than inalienable possession. This hypothesis allows for overt marking to be used for inalienable possession as well, as long as it is also used for alienable possession. Diachronically, however, one possible scenario for the emergence of these patterns (to be investigated in each particular case) is one where distinct developmental processes give rise to possessive markers in alienable and inalienable possession contexts, respectively. If there were some general preference for the use of overt marking for alienable possession, one would expect new possessive markers to originate in alienable possession contexts and possibly be extended to inalienable possession ones, rather than originating in the latter contexts.⁸ The fact that some marker develops in inalienable possession contexts, however, may be a result of the distribution of the source construction. For example,

⁸ Another possible diachronic pathway for such patterns is one where some marker is originally used for both inalienable and alienable possession, but becomes restricted to the former as a new marker develops for the latter. This scenario would be fully compatible with the assumption that the

as observed earlier in regard to Ngiyambaa, the use of dative markers for kinship relations is consistent with the semantic nature of these relations, so it is to be expected that dative markers may be used for these relations even if they are not used for alienable possession, as in Faroese.

4 Accounting for the crosslinguistic frequency of different alienability splits

The idea that the distribution of possessive markers across alienable and inalienable possession reflects the distribution of the source construction provides no specific explanation for the attested differences in the crosslinguistic frequency of various alienability splits. As described earlier, splits where overt marking is limited to alienable possession or zero marking is confined to inalienable possession are significantly more frequent than ones where overt marking is restricted to inalienable possession or zero marking is restricted to alienable possession. These frequency differences are traditionally regarded as evidence for principles favoring the former splits because they comply with general properties of alienable and inalienable possession.

Diachronically, however, the crosslinguistic frequency of different alienability splits will be a result of the frequency of those splits arising in particular languages, or being retained across different generations of speakers once they are in place in a language. As illustrated in Figure 1, alienability splits can arise as zero marking is replaced by overt marking either in alienable possession contexts but not in inalienable possession ones (diagram (i)), or vice versa (diagram (ii)). This may be a result of the development of a new possessive marker, or the extension of an existing one (for example, in a situation where alienable and inalienable possession are both zero or overtly marked in different cases, some marker may be extended to the cases of alienable possession that are zero marked, leading to zero marking becoming restricted to inalienable possession). Another possible developmental path for alienability splits is the replacement of overt marking with zero marking either in inalienable possession contexts but not in alienable possession ones (diagram (iii)), or vice versa (diagram (iv)), as a result of the loss of existing possessive markers.

use of overt marking is favored for alienable, as opposed to inalienable possession, but it too should be investigated on a case-by-case basis.

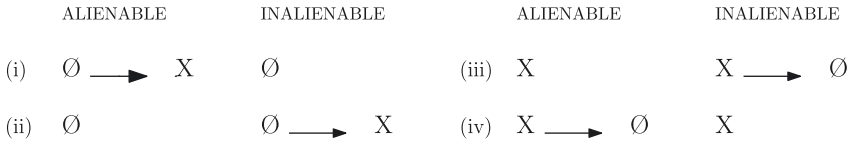


Figure 1: The development of alienability splits (\emptyset = zero marking; X = overt marking).

Existing splits will be retained or lost depending on whether overt marking or zero marking continues to be used in their respective contexts, as illustrated in Figure 2. Overt marking will be lost when existing possessive markers are replaced by zero marking, either in alienable possession contexts (diagram (i)) or in inalienable possession contexts (diagram (ii)). Zero marking will be lost as a result of the development of a possessive marker or the extension of an existing one, either in inalienable possession contexts (diagram (iii)) or in alienable possession contexts (diagram (iv)).

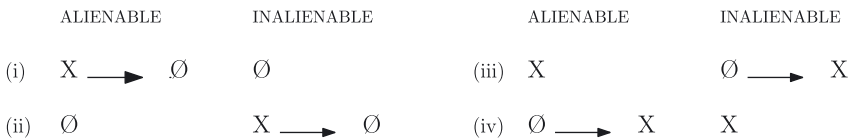


Figure 2: The loss of alienability splits (\emptyset = zero marking; X = overt marking).

These facts mean that any differences in the crosslinguistic frequency of different alienability splits will be a result of how frequently possessive markers develop in alienable and inalienable possession contexts, or are retained, lost or extended across these contexts. The relative crosslinguistic frequency of these phenomena is logically independent of the properties of alienable and inalienable possession, and should therefore be investigated in its own right.

In particular, one possible diachronic scenario that may explain the observed differences in the crosslinguistic frequency of different alienability splits is one where possessive markers develop more frequently in alienable possession contexts compared to inalienable possession ones. This results in zero marking being more frequently replaced by new possessive markers in the former contexts than in the latter. To achieve this, two possibilities exist: either the source constructions giving rise to possessive markers are more frequently employed in alienable possession contexts than in inalienable possession ones, or the developmental processes whereby these constructions actually give rise to such markers are more frequent in the former contexts than in the latter.

As discussed in Section 3, whether a source construction is used in alienable or inalienable possession contexts can be linked to properties of that construction that are independent of possession. In such cases, alienability will not influence the crosslinguistic distribution of individual constructions across these contexts. Similarly, if specific developmental processes are unrelated to alienability, as argued in Section 2, this factor won't affect how these processes are distributed across alienable and inalienable possession contexts.

Consequently, understanding the relative crosslinguistic distribution of particular source constructions or developmental processes across alienable and inalienable possession contexts should rely on an analysis of the properties of those constructions and processes themselves, rather than general properties of alienable or inalienable possession.

As detailed earlier, for example, in several cases where a possessive marker is not used for inalienable possession, this is explained by the fact that the marker is derived from an appositive or a locative construction relatively incompatible with inalienable possession contexts, of the type illustrated in (7)–(10) and (12)–(14) above. Other types of appositive or locative constructions, however, could in principle be used in such contexts, e.g., 'the mother, the parent of John', 'the arm, the body part of John', 'the heart in John', or 'the cover on the book'. These constructions could give rise to possessive markers used for, or possibly restricted to inalienable possession.

If possessive markers consistently develop from the former type of appositive or locative constructions but not from the latter, this can be because the former type of constructions are more frequent crosslinguistically, or because they more frequently give rise to possessive markers. Yet, the relative crosslinguistic frequency of different locative or appositive constructions and that of the developmental processes in which they are involved need not be related to alienability, so these phenomena should be investigated independently.⁹

Another possible diachronic scenario that may explain why specific alienability splits are significantly more common than others crosslinguistically involves

9 For instance, a possible hypothesis about why particular appositives are not used with semantically compatible inalienable nouns could be that the meaning of the appositive is implied by the meaning of the inalienable noun, as is the case in constructions such as 'the mother, the parent of John' or 'the arm, the body part of John'. Appositive expressions, however, are often redundant crosslinguistically. As illustrated in (7)–(10), for example, expressions meaning 'thing' are used in apposition to nouns denoting objects, and expressions meaning 'food', 'drink', or 'tree' are used in apposition to nouns denoting food, drink, and vegetable items respectively (to the point that particular nouns can be used in apposition to themselves, as in (7d)). Thus, the explanation of why particular appositive constructions fail to give rise to markers used for inalienable possession requires a more precise understanding of the function of appositive constructions in general.

changes in the distribution of existing possessive markers, either through extension or loss. For instance, it's possible that existing markers are more frequently extended from inalienable to alienable possession contexts than the reverse, resulting in zero marking being more frequently replaced by these markers in alienable possession contexts than in inalienable possession ones. Alternatively, existing markers might be more commonly lost in inalienable possession contexts than in alienable possession ones, leading to zero marking emerging more frequently in the former than the latter.

The extension, retention and loss of existing markers are much less investigated than the development of new ones, and they are arguably independent of the origins of individual markers. It is possible, then, that these phenomena are related to general properties of alienable and inalienable possession, such as the relative degree of conceptual contiguity between possessor and possessee, the relative need to disambiguate the relation between the two, or the relative degree of entrenchment of an existing possessive construction, as mentioned in Section 3.1 in regard to extension.

These properties, for instance, could favor the extension of an existing marker to alienable possession contexts, or its loss in inalienable possession ones. This resembles the concept of natural selection in biological evolution: the distribution of genetic traits in a population is influenced by a preference for certain traits, driven by their adaptiveness to the environment, regardless of the processes that initially gave rise to those traits. Nevertheless, this idea should be thoroughly investigated through an examination of actual instances of extension, retention, and loss of existing possessive markers crosslinguistically.

The two scenarios just outlined have not really been investigated so far, so there is no evidence about which of the two is actually the case. The data discussed in this paper show that possessive markers recurrently develop in alienable possession contexts and fail to be extended to at least some inalienable possession ones. This, however, does not tell anything about the relative crosslinguistic frequency of these phenomena compared to the development of possessive markers in inalienable possession contexts, the extension of existing markers from these contexts to alienable possession ones, or the loss of existing markers in both types of contexts.

Ultimately, differences in the crosslinguistic frequency of different alienability splits cannot be taken as evidence for principles that favor or disfavor these splits because of general properties of alienable and inalienable possession. These differences will be a possibly combined of several different phenomena that need not be related to alienability, namely the differential development, extension, retention or loss of possessive markers across alienable and inalienable possession contexts. These phenomena remain largely unexplored, and their respective role should be disentangled in order to account for the relative crosslinguistic frequency of individual splits.

5 Concluding remarks

Classical explanations of alienability splits in the use of overt and zero possessive marking imply that this use reflects principles of optimization of grammatical structure, either in the sense that it iconically matches the relative degree of conceptual contiguity between possessor and possessee, or in the sense that it economically matches the relative need to disambiguate the possessive relation. These principles are assumed to be responsible both for the distribution of overt and zero marking across alienable and inalienable possession in particular languages, and for the relative crosslinguistic frequency of different alienability splits.

Diachronic evidence about the origins of the relevant alienability splits shows, however, that the possessive markers involved in these splits recurrently arise through the reinterpretation of pre-existing elements originally performing other functions in various types of source constructions. These constructions are all associated with the notion of possession, either inherently or contextually, so they recurrently give rise to possessive markers from one language to another.

The development of such markers, however, is a result of metonymization processes triggered by the contextual co-occurrence of the source element and the possessive meaning, independently of the assumed optimization principles. The distribution of individual markers across alienable and inalienable possession ultimately reflects the distribution of the source construction, also independently of such principles. When particular markers are not used for inalienable possession, the source construction is one not used in inalienable possession contexts, for reasons unrelated to possession. When the source construction is used in particular alienable or inalienable possession contexts, the resulting possessive markers are used in those contexts, irrespective of whether possession is zero or overtly marked elsewhere in the language.

This is in line with standard accounts of grammaticalization processes and processes of constructional reinterpretation in general, in that the development and initial distribution of the constructions resulting from such processes are usually assumed to be driven by the properties of particular source constructions and their contexts of use. Similar source constructions and developmental processes will recurrently give rise to constructions with similar distributions crosslinguistically, but this is independent of the synchronic properties of the resulting grammatical patterns (see, for example, Bybee 2006; Bybee et al. 1994).

This analysis makes it possible to account for a number of synchronic patterns that go against the assumed optimization principles, for example, patterns where the same possession type (either alienable or inalienable) is not always treated in the same way in terms of overt or zero marking, ones where overt marking is used for

inalienable possession while zero marking is used for at least some cases of alienable possession, or ones where possessive markers may have originated in inalienable, rather than alienable possession contexts.

This analysis also provides an explanation for the notorious difficulties in defining crosslinguistically valid grammatical categories of alienable and inalienable possession (Chappell and McGregor 1996; Nichols 1988, among many others). Possessive markers are not used for the same range of alienable or inalienable nouns crosslinguistically, which makes it difficult to define some general category of alienable or inalienable possession that could account for the synchronic distribution of such markers in different languages. This is naturally explained by the fact that individual markers continue the distribution of the source, and are gradually extended to more and more contexts over time. Markers with different distributions will be derived from different sources, or will be at different stages of extension from one possession context to another.

In this analysis, the explanation of the emergence of particular alienability splits is distinct from the explanation of why some splits are significantly more frequent than others crosslinguistically. Particular splits can be a result of the properties of multiple source constructions and their contexts of use, rather than general properties of alienable and inalienable possession. The attested differences in the crosslinguistic frequency of different splits will reflect differences in the frequency of multiple source constructions, multiple developmental processes whereby these constructions give rise to possessive markers, or multiple processes of extension, retention or loss of these markers once they are in place in a language. The latter differences may or may not be related to alienability, and they remain to be investigated.

In accordance with prior diachronically oriented typological research (Bybee 2008; Claudi and Heine 1989; Creissels 2001; Aristar 1991), these facts call for a novel, source-oriented approach both to alienability splits in the use of overt and zero possessive marking and recurrent crosslinguistic patterns in general (for detailed discussion, see Cristofaro 2013, 2017, 2019; Schmidtke-Bode and Grossmann 2019). This approach is similar to Evolutionary Phonology and other diachronically oriented approaches to crosslinguistic phonological patterns (Blevins 2004; Ohala 1993, 2003). In language typology, recurrent crosslinguistic patterns are generally assumed to be a result of recurrent diachronic phenomena that give rise to the pattern and shape its crosslinguistic distribution (Bybee 1988, 2008, 2009; Givón 1975, 1979; Greenberg 1969, 1978). Yet, explanations for individual patterns and their relative crosslinguistic frequency are usually framed in terms of synchronic properties of these patterns, such as whether they comply with some assumed principle of optimization of grammatical structure. This

implies that the development, retention or loss of particular patterns crosslinguistically will ultimately depend on their synchronic properties. These phenomena, however, can be a result of several distinct diachronic factors, often unrelated to the synchronic properties of the pattern. Explanations of individual patterns and their crosslinguistic frequency should then be informed by an understanding of these factors, rather than particular synchronic properties of the pattern in themselves.

Acknowledgments: I would like to thank Hilary Chappell, Denis Creissels, Martin Haspelmath, Françoise Rose, An Van linden, and two anonymous referees for their valuable feedback on earlier versions of this paper. The usual disclaimers apply.

Abbreviations

ADN	adnominal
BF	buffer
CIRC	circumstantive
EST	established reference
EXCL	exclusive
F	feminine
INAL	inalienable
M	masculine
NOMLZR	nominalizer
PL	plural
POSS	possessive
SG	singular

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