

POSSESSION AND SYNTACTIC CATEGORIES: AN ARGUMENT FROM ÄIWOO*

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Abstract This paper argues that possession is syntactically category-flexible. While it's clear that in many languages possession is mostly grounded and operates in the nominal extended projection (Szabolcsi 1983, Kayne 1993), I show that this cannot be universal. The empirical part of this article is a case study of Äiwoo, which I argue has an inherently verbal counterpart of English 's, an abstract transitive verb I label *poss*. This verb can be used by itself to form clausal possession: "I *poss* this boat" ≈ "this boat is mine". Possessed DPs also contain the verb *poss*: the object of this verb is extracted, forming a relative clause. Informally, "my boat" really is "the boat_i [that I *poss* ____i]" ≈ "the boat that is mine". Given this, Äiwoo simply lacks true nominal possessives. The theoretical consequence is that possession can be mapped onto different syntactic categories in different languages. This is a welcome result, as it makes the syntax-semantics mapping as flexible as it needs to be: if possession is just a tool to assert that a certain relation holds between two entities, nothing in our theory of grammar predicts that such a notion should only be limited to a specific syntactic category.

1 INTRODUCTION

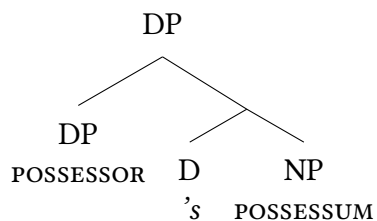
1.1 POSSESSION AND SYNTACTIC CATEGORIES

This paper is about how possession is mapped onto syntactic categories cross-linguistically. In general, "possession" is essentially a way to assert that some kind of asymmetric relation holds between two entities. In English and many other languages, the main syntactic tool at one's disposal to express possession – if not the only one, depending on one's analysis of *of*, *have*, etc. – is a functional head part of the nominal extended projection (a D head in the classic analysis; Abney 1987, Chomsky 1995)¹:

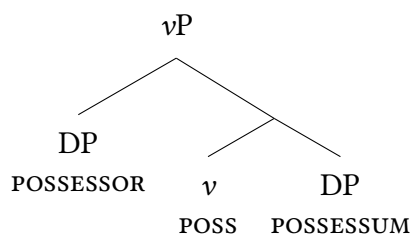
* I wish to thank Åshild Næss for having given me access to all Äiwoo data she has collected through the years, without which this paper could never have existed, and Luke Gitakulu for patiently sharing his knowledge of his language and meta-linguistic intuitions with me. Næss' data collection was funded by the Research Council of Norway, grant no. 148717, and the Endangered Languages Documentation Programme, grant no. SG0308. Furthermore, I would like to thank Norvin Richards, Neil Myler, Sabine Iatridou, David Pesetsky, Amy Rose Deal, Gary Thoms, Michel DeGraff, Amir Anvari, Michelle Yuan, Sandhya Sundaresan, David Adger, Bronwyn Bjorkman, Peter Grishin, Will Oxford, Ksenia Ershova, three anonymous reviewers, and the audiences at the MIT LingLunch reading group and GLOW 45 for precious feedback and thought-provoking discussions. None of these scholars necessarily agree with my claims, and errors are all my own.

¹ The tree in (1) is meant to be a simplified/abbreviated structure, with room for more intermediate projections between NP and D. The same applies to the tree in (2).

(1) Possession as part of the nominal extended projection:



A rather obvious thought at this point is that a D head is not the only syntactic tool human languages have to put two nominal constituents in some asymmetric relation with each other. A clear alternative would be something like a transitive verb (2). One could conceive of a verb, which I abstractly call “poss” here, that would take the possessor as its external argument and the possessum as its internal argument, but that would otherwise have the exact same semantics – whatever that may be – as the nominal head in (1): $[[\text{POSS}]] = [[\text{'s}]]^2$.

(2) Possession as part of the *verbal* extended projection:

One can then ask the (empirical) question of how possession is mapped onto syntactic categories cross-linguistically, that is, whether we actually do find a verb like (2) in natural languages. At first glance, a potential candidate for this would be English *have* or its cross-linguistic equivalents, including related structures like ‘be at’, etc. (henceforth collectively referred to as HAVE). However, an influential family of analyses (Szabolcsi 1981, 1983, 1994, Freeze 1992, Kayne 1993) argue that the various types of clausal possession structures (HAVE, BE AT, etc.) are not in fact an instance of (2), but rather derive from an underlying non-verbal constituent more akin to the one in (1) (a DP for Szabolcsi, a PP for Freeze, a mixed category DP/PP for Kayne). The stronger of these claims, Freeze’s, maintains that this is a syntactic universal: *all* clausal possession, cross-linguistically, has the same underlying structure³. This has several advantages and merits: (i) it accounts for a number of particular properties of HAVE, which are otherwise unexplained under a view where it’s a simple run-of-the-mill transitive verb; (ii) it reduces surface-level cross-linguistic variation to a universal structure (restricting the space of alternatives for the learner).

2 For now I abstract away from the difference between relating two DPs, as in (2), vs. relating a DP and an NP, as in (1). This issue is taken up in section §7.

3 However, Freeze (1992) acknowledges that clausal possession in Hungarian cannot be derived from this universal structure, and sets it thus aside; see fn. 23 and §8. An anonymous reviewer points out how taking Freeze at face value, we already had at least two distinct syntactic categories possession could be formed from (D, and P in Hungarian), so Äiwoo would be contributing to the same point by adding a third one (V).

However, even if we accept this kind of reductionist analysis of HAVE, it would still be a mystery *why* the universalist claim should hold. That is: why shouldn't we expect to find a structure like (2) in a language or another? After all, there's absolutely nothing ill-formed about it. It's a transitive verb, taking two arguments, and expressing the fact that some kind of relation holds between them. Moreover, it would be just another instance of parallelism between clausal and nominal structures, with the possessor and the possessum hierarchically ordered like external and internal arguments. In fact, Szabolcsi's (1981, 1983) original arguments were precisely in this direction, highlighting how possessors are similar to clausal subjects in various ways. In other words: even if the universalist claim were empirically true, our theories have no principled way to prevent something like (2) from existing, so we wouldn't be in a position to understand *why* this universal should hold (see Boneh & Sichel 2010 for a similar point).

In this paper, I offer an empirical argument that (2) does in fact exist. I present a case study from the Äiwoo language, where I show that a verbal POSS not only exists but is, in fact, the only way at all to express possession in the language. Äiwoo simply lacks any possession head that's part of the nominal extended projection, like (1). I propose that Äiwoo POSS has exactly the argument structure outlined above and repeated here in (3a), with the semantics very approximately sketched in (3b). A couple concrete examples are given in (4). To stay maximally neutral and avoid any associations with HAVE, I stick to the label POSS (in fact, I argue that POSS is different from HAVE in important ways; see below⁴). Sentence (4a) showcases POSS used as a transitive verb in a standard main clause (OVS order). In (4b), we see POSS in its DP-internal use.

- (3) a.
- ```

graph TD
 vP --> POSSESSOR
 vP --> v
 v --> POSS
 v --> POSSESSUM

```
- b.  $\llbracket(3a)\rrbracket \approx$  'POSSESSUM is POSSESSOR's'.
- (4) a. [boat enge]<sub>O</sub> nogo [Pita]<sub>S</sub><sup>5</sup>  
 boat this POSS:TO Peter  
 'This boat is Peter's' <sup>(E)</sup>; lit. 'Peter POSS this boat'
- b. [boat [nogo Pita]<sub>RC</sub>]<sub>DP</sub> i-wâ=nâ  
 boat POSS:TO Peter ASP-go=DIST  
 'Peter's boat left' <sup>(E)</sup>; lit. '[the boat<sub>i</sub> [that Peter POSS —<sub>i</sub>]] left'

<sup>4</sup> I discuss the relation between the translation "DP is POSSESSOR's" and the underlying transitive Äiwoo syntax in §1.4. For more details about the semantics of POSS and its relation to 'have', see §7.

<sup>5</sup> I adopt the working Äiwoo orthography that is also used in other recent published literature (Næss 2006 et seq.) and the dictionary (Næss 2017). Most symbols have their predictable IPA value, with the exception of ⟨ä⟩ = /æ/, ⟨â⟩ = /ɑ̃-ɑ̃/, ⟨j⟩ = /<sup>h</sup>dʒ/, ⟨ng⟩ = /ŋ/, ⟨ny⟩ = /ɲ/. All voiced stops are prenasalized (/<sup>h</sup>m̥b, <sup>h</sup>d, <sup>h</sup>n̥dʒ, <sup>h</sup>g/).

At first glance, the possessed DP in (4b) doesn't seem striking in any particular way. In the rest of the paper, however, I offer empirical arguments for an analysis of this DP as containing a relative clause where the object (the possessum) has been extracted, as indicated in the free translation and bracketing. I argue that, in fact, all possessed DPs in Äiwoo contain a relative clause of this kind. Since the only possession-related item in the language is a verb, the only way to create a possessed DP is through relativization. The two main arguments will be based on the pattern of  $\varphi$ -marking and one of voice morphology, both crucially identical between possessive constructions and transitive Undergoer Voice verbs and different from intransitives, transitive Actor Voice verbs and nominal predicates.

The existence of Äiwoo *poss* bears on our understanding of the cross-linguistic mapping of possession onto syntactic categories. Following Szabolcsi (1983), Freeze (1992), and Kayne (1993), we know that certain examples of clausal possession (HAVE) actually derive from underlying non-verbal structures. However, the Äiwoo case can't be reduced to this, because it's the other way around: instead of building clausal possession from a non-verbal constituent, the basic structure is a transitive clause, and possessed DPs are built out of that. This is thus a clear instance of an inherently verbal possessive structure. Given what our theory of UG allows, the Äiwoo structure is, in fact, something we *should* expect to exist. Its absence from natural languages, rather, would be a mysterious gap.

The consequence of the existence of Äiwoo *poss* is that a better theory of grammar holds the mapping of possession onto syntactic categories to be flexible, on a language-specific basis. In fact, a similar idea is entertained by Adger (2013). Based on syntactic differences between Scottish Gaelic and several other languages, he considers how it's conceivable that the functional head that encodes (certain types of) possession, which he labels  $\bar{p}$  or more specifically  $\bar{p}_{poss}$ , might extend into the nominal projection in some languages and into the verbal projection in others<sup>6</sup>. Here, I present explicit empirical arguments that this must indeed be the case.

The core empirical part of the paper (§§3–5) has the general structure of an extended “if it walks like a duck, and it quacks like a duck” argument. I will show that Äiwoo transitive verbs in undergoer voice (UV) show some particular phenomenon *P*, and then show that *P* also happens in the exact same way in the possessive system.

## 1.2 BACKGROUND ABOUT THE LANGUAGE

Äiwoo is an Oceanic (Austronesian) language spoken in the Solomon Islands, more specifically on the Reef Islands in the Temotu province, with about 8 400 speakers (Ross & Næss

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The abbreviations follow the Leipzig Glossing Rules, plus: 12 = first person inclusive, AGR = agreement, ASP = aspect, AUG = augmented number, AV = actor voice, BN = bound noun, CNJ = conjunct order, DIR = directional, DR = drinks (possessive class), FO = food (possessive class), GE = generic (possessive class), IC = initial change, IPFV = imperfective, LO = locational (possessive class), MIN = minimal number, TA = transitive animate, TAM = tense/aspect/mood, TO = tools and utensils (possessive class), TRNS = transitive, UA = unit-augmented number, UNM = unmarked case, UV = undergoer voice.

<sup>6</sup> A similar idea, based on data from Tupari, is discussed by Singerman (2018), who proposes that negation can “live” in either type of extended projection depending on the specific language.

2007). The data this work builds on consists of a corpus of natural speech (approximately 75 000 words) collected by Åshild Næss over several fieldwork trips (2004–2018), whom I thank for making it available to me. During the review process of this paper, it became possible for me to conduct a small amount of fieldwork over Zoom with one native speaker, Mr. Luke Gitakulu, thus supplementing the corpus data in a few crucial missing points. Datapoints marked with <sup>(E)</sup> have been elicited by me; those marked with <sup>(M)</sup> come from a translation of the Gospel of Mark; unmarked ones are from Næss' corpus.

Äiwoo is an underresearched language, and there is no published grammar. This paper builds on and extends the available description and analysis of the language, mostly carried out by Åshild Næss (Næss 2006, 2015, 2018, 2021, Næss & Boerger 2008, Ross & Næss 2007, a.o.). I proceed now to present a few background facts about the grammar of the language, indispensable to follow the argumentation of this paper.

First, a few terminological remarks. Throughout the text, I use the terms 'subject' and 'object' in a loosely defined pre-theoretical sense, equivalent respectively to 'external/internal argument'. Moreover, Äiwoo has a so-called minimal-augmented number system (Næss 2006). Simplifying coarsely, the number labels 'minimal', 'unit-augmented' and 'augmented' loosely correspond to 'singular', 'dual' and 'plural' respectively. The interested reader can refer to Corbett (2000), Cysouw (2003), Harbour (2016), and references therein for more details about minimal-augmented number systems. Finally, like other Austronesian languages, Äiwoo has a symmetrical voice system (Næss 2015). The main contrast is between Actor Voice (AV) and Undergoer Voice (UV); to avoid clutter, I will only gloss voice when relevant<sup>7</sup>.

AV and UV clauses are illustrated in (5)-(6) respectively. Word order is fairly strict: the pivot – the subject in AV, the object in UV – is sentence-initial. AV has SVO order (5a), and the verb carries person/number prefixes (5b). Intransitive verbs also pattern like AV ones (of course, without an object). UV has OVS order (6a), and the verb carries person/number suffixes instead of prefixes (6b). The position of the non-pivot argument – the object in AV, the subject in UV – is asymmetrical with respect to a template-like series of particles that cliticize phonologically to the left, here represented by the TAM clitic =to. AV has S V=CL O order (5), whereas UV has O V S=CL order (6). (Äiwoo shows frequent drop of nominal arguments, as long as the reference is recoverable from the discourse.)

(5) **Actor Voice:** S V=CL O,  $\varphi$ -prefixes

- |    |                                       |                   |                    |    |                                        |            |
|----|---------------------------------------|-------------------|--------------------|----|----------------------------------------|------------|
| a. | [John] <sub>S</sub>                   | <i>i-epave=to</i> | [sii] <sub>O</sub> | b. | <i>i-li-epave=to</i>                   | <i>sii</i> |
|    | John                                  | ASP-cook.AV=TAM   | fish               |    | ASP-3AUG-cook.AV=TAM                   | fish       |
|    | 'John has cooked fish' <sup>(E)</sup> |                   |                    |    | 'They have cooked fish' <sup>(E)</sup> |            |

(6) **Undergoer Voice:** O V S=CL,  $\varphi$ -suffixes

- |    |                                           |                |                         |    |                                            |                      |
|----|-------------------------------------------|----------------|-------------------------|----|--------------------------------------------|----------------------|
| a. | [sii] <sub>O</sub>                        | <i>i-epavi</i> | [John] <sub>S</sub> =to | b. | <i>sii</i>                                 | <i>i-epavi-i=to</i>  |
|    | fish                                      | ASP-cook.UV    | John=TAM                |    | fish                                       | ASP-cook.UV-3AUG=TAM |
|    | 'John has cooked the fish' <sup>(E)</sup> |                |                         |    | 'They have cooked the fish' <sup>(E)</sup> |                      |

<sup>7</sup> The voice morphology itself is highly idiosyncratic and often not segmentable, so I gloss it as fused to the verb stem itself (see Roversi 2019: §3.2 for discussion).

I assume that in UV the subject is base-generated above and asymmetrically c-commands the object, despite the surface OVS word order, which I assume to be a result of later movements. See Roversi (2024) for a detailed argument based on binding.

### 1.3 ÄIWOO POSSESSIVES: A FIRST SURFACE DESCRIPTION

The Äiwoo possessive system shows an alienability split, as do many languages of the same family and geographical area (Lynch et al. 2002: §2.7). In the Oceanist literature, the two different constructions used with the two groups of roots are commonly referred to as “direct possession” (for inalienable roots) and “indirect possession” (for alienable roots). Here, I will use the less language-specific terms “inalienable” and “alienable”.

Inalienably possessed roots take a suffix indexing the possessor’s  $\phi$ -features, attached directly to the root itself. This group consists, chiefly, of kinship terms and body parts. Some inflected forms of ‘father’ are in (7)<sup>8</sup>. There is no non-inflected/non-possessed form of inalienable roots. Alienable possessed roots can’t take a possessor suffix directly (8). Instead, they are followed by a possessive classifier, taking (almost) the same paradigm of suffixes seen on the inalienably possessed roots. See appendix A for full paradigms.

(7) **Inalienably possessed roots:**

|                |                   |                  |                |
|----------------|-------------------|------------------|----------------|
| <i>tumo-mu</i> | <i>tumo-de</i>    | <i>tumwä</i>     | <i>tumwä-i</i> |
| father-2MIN    | father-12AUG      | father.3MIN      | father-3AUG    |
| ‘Your father’  | ‘Our.INCL father’ | ‘His/her father’ | ‘Their father’ |

(8) **Alienably possessed roots:**

|                        |                       |
|------------------------|-----------------------|
| a. <i>nenu na-mu</i>   | b. <i>nenu na-i</i>   |
| coconut POSS:FO-2MIN   | coconut POSS:FO-3AUG  |
| ‘Your coconut’         | ‘Their coconut’       |
| c. <i>nenu numo-mu</i> | d. <i>nenu numä-i</i> |
| coconut POSS:DR-2MIN   | coconut POSS:DR-3AUG  |
| ‘Your coconut’         | ‘Their coconut’       |
| e. <i>nenu no-mu</i>   | f. <i>nenu no-i</i>   |
| coconut POSS:GE-2MIN   | coconut POSS:GE-3AUG  |
| ‘Your coconut’         | ‘Their coconut’       |

There are six possessive classifiers, whose use depends on the intended construal of the relation between the possessor and the possessum<sup>9</sup>. For example, the coconut in (8a,b) is

<sup>8</sup> Äiwoo pronouns and agreement markers do not make any gender distinctions. In this paper, I will consistently use of the forms ‘s/he’ and ‘his/her’ for to translate 3MIN forms, instead of a gender-neutral ‘they(.SG)’ (Bjorkman 2017, Conrod 2019, 2022a,b). Because of the nature of the data under discussion, the reader would face the task of reliably distinguishing between ‘they.SG hit them.PL’ vs. ‘they.PL hit them.SG’, ‘their.SG dog’ vs. ‘their.PL dog’ vs. ‘their.SG dogs’, etc. I choose the variants ‘s/he’ and ‘his/her’ as a clearly less than optimal solution for improved readability, despite the fact that they may actively contribute to enforcing a strictly binary conception of social gender. I thank Kirby Conrod (p.c.) for precious advice about this.

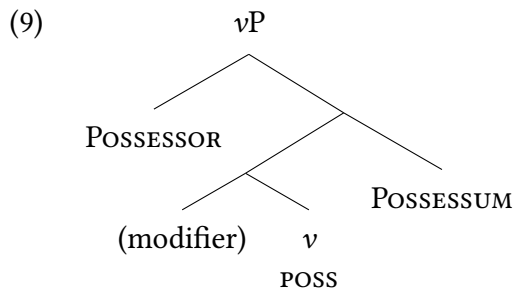
<sup>9</sup> Despite the term ‘classifier’, these are only used to express possession, and not for example in combination with numerals as in many East Asian and South East Asian languages (Aikhenvald 2000, a.o.).

one that the speaker construes as edible, the one in (8c,d) is one that is intended to be drinkable (at the stage where one drinks the coconut water), and the one in (8e,f) only has more generic possession semantics (e.g., it could be a piece of decoration). The six classifiers are: (i) general; (ii) food; (iii) drinks; (iv) betelnuts and related objects; (v) tools and utensils; (vi) “real estate” and other locational nouns (houses, gardens, beaches, etc.).

#### 1.4 THE EMPIRICAL PROPOSAL IN A NUTSHELL

The core claim of this paper is that despite the relatively familiar appearances of the possessive elements in (7)-(8), Äiwoo really only has one abstract possession verb, which I label *POSS*. This predicate is at the base of every possessive construction in the language, whether DP-internally (possessed DPs, both alienable and inalienable) or predicatively (i.e., to convey meanings like ‘I have DP’ or ‘DP is mine’). In other words: unlike more familiar languages, Äiwoo doesn’t have possessive pronouns/determiners like *my/mine*, anything like a Saxon genitive construction, or anything like a verb *HAVE*.

I argue that *POSS* is a transitive UV verb, which lacks an AV counterpart. This is not unique to *POSS*: other verbs are also not attested as having an AV form, such as *kää* ‘know’ and *te* ‘see’. *POSS* takes the possessor as its external argument, and the possessum as its internal argument (9); the optional modifier slot is explained below.



Given its transitive argument structure, it might be tempting to conceptualize *POSS* as the Äiwoo translation of *HAVE*. However, this would be inaccurate, and I explicitly refrain from doing so. The main reason is that *HAVE* poses a definiteness restriction on its object that *POSS* doesn’t share. An English sentence like *Alex has the boat* is simply infelicitous under the standard ownership reading of *HAVE*, and can in fact only have a temporary possession reading (roughly, ‘the boat is available to Alex [at a contextually salient time]’). Differently from *HAVE*, Äiwoo *POSS* has no trouble with definite objects; see §7 for a more detailed discussion. English doesn’t have a clear example of a transitive possession verb that works like *POSS* in being compatible with a definite object. There exists no hypothetical verb *nave* such that  $\llbracket \text{Alex naves the boat} \rrbracket = \llbracket \text{the boat is Alex’s} \rrbracket$ <sup>10</sup>. Therefore, in this paper I will mostly keep translations like “DP is *POSS*ESSOR’s” in the third line of glossed examples, simply because it often happens to be the most idiomatic or natural one in English. However, it ought to be explicit that this translation is not meant to be reflective

<sup>10</sup> Verbs like ‘possess’ and ‘own’ wouldn’t necessarily be good alternatives, because their semantics are somewhat more restricted than the ones conveyed by e.g. the Saxon genitive.

of Äiwoo syntax. Although Äiwoo *POSS* is most readily translated into English with an intransitive/copular construction, it's a fully transitive verb.

I propose that *POSS* can combine with nominals in two ways. In addition to taking a DP as its object, it can be modified by nominal roots, creating morphosyntactically complex predicates with the meaning 'poss.as.{...}'. The possessive classifiers in (8) are the spell-out of *POSS* when modified by six different roots carrying various semantics ('poss.as.food', 'poss.as.drink', etc.). I argue that the same structure also underlies the inalienable possessive system: *POSS* can also be combined with kinship/body parts roots. Consistently, the result is another array of complex possessive predicates, with the meaning 'poss.as.son', 'poss.as.mother', etc. What on the surface looks like inflected nouns, in reality is just null-headed relative clauses: 'my son' is, really, 'the one I have as a son'.

As outlined, possessed DP's like 'my boat' or 'my son' are built through relativization. Intuitively: 'my boat' really has the syntax of 'the boat that is mine/that I possess' (10b).

- (10) a. **Baseline transitive clause:**  
 [[I POSS.as.tool boat]] ≈ "the boat is mine"  
 b. **Possessed DP via relative clause formation:**  
 [[boat [that I POSS.as.tool    ]]] ≈ "the boat that is mine" ≈ "my boat"  
 ↑  
 ϕ

As anticipated, I argue that the syntax of inalienable possessive constructions is entirely parallel. What looks like an inflected noun (*ginou* 'son.1MIN' = "my son") is in fact not a simple noun, but a relative clause with a null head. Given a basic UV clause 'I POSS.as.son him' (≈ "he's my son"), we can extract the theme and create the DP 'he<sub>i</sub> [(whom) I POSS.as.son    ]<sub>i</sub>' ≈ "my son"<sup>11</sup>. An alternative analysis, perhaps superficially more intuitive, would posit the kinship noun as the object of *POSS*, which gets extracted and heads the relative clause: "my son" would be the reading of the structure 'son<sub>i</sub> [(whom I POSS    )]<sub>i</sub>'. However, I explicitly argue against such an analysis in §3.2.2.

## 2 SYNTAX AND WORD ORDER

### 2.1 WORD ORDER IN UV AND POSSESSIVES

First, let's establish that the syntax and word order of possessive structures is not only compatible with a relative clause-based analysis, but in fact exactly what we expect given the syntax of relativization and UV in general. As shown in §1.2, UV clauses have unmarked O V S=CL order, where =CL identifies a fixed series of clitic-like particles. One of these clitics is the negative particle =*gu* (11) (Roversi & Næss 2019).

- (11) [nuwopa]<sub>O</sub> ba i-ve [John]<sub>S</sub>=gu  
 house NEG ASP-buy.UV John=NEG  
 'John didn't buy the house'<sup>(E)</sup>

<sup>11</sup> In fact, I will argue that this is also possible for alienable roots (thus creating predicates like 'poss.as.dog'). I will show the morphosyntactic evidence for this in §3.2.3.



Let's now consider possessives. In predicative constructions, when the conveyed meaning is "POSSESSUM is POSSESSOR's", the attested word order has the possessum in sentence-initial position, and the possessor immediately right-adjacent to the possessive classifier (12). This is expected if we hypothesize that *POSS* is an UV verb with the possessum as its object and the possessor as its subject: it reduces to OVS order. Moreover, introducing negation confirms that an overt possessor DP is in the same structural position as an overt UV subject, to the left of *=gu* (13).

- (12) [*sapulâu*      *tä*      [*penyibe*]  
       men's.house POSS:LO old.men  
       'The *sapulâu* house belongs to the elders', or '... is [the elders]'
- (13) [*lovävei enge ngâgu-de*] *ba nogo*    [*miluwopa*]=*gu*  
       system this to-12AUG NEG POSS:TO Europeans=NEG  
       '[This system/arrangement for us] is not of [the Europeans]'

## 2.2 RELATIVIZATION IN ÄIWO

Let's now turn to the more common use of possessive classifiers (and inalienably possessed nouns), that is, when these are used within DPs. My claim is that these possessed DPs contain a relative clause. The object of the transitive verb *POSS* is extracted, and forms the head of the relative clause. In order to show that this is a feasible analysis of possessive structures, let's now look at what relativization in Äiwoo looks like in general. Relative clauses follow their head noun, and have no overt complementizer (14a). The head noun can also be null (notated here as *pro*, though nothing hinges on this specific choice) (14b)<sup>12</sup>.

- (14) a. [*nuwopa* [<sub>RC</sub> — *i-ve*      *John*]]=*kâ*    *mi=olo-mana*  
       house                      ASP-buy.UV John=DIST BN:one=big-very  
       'The house that John bought is very big' (E)
- b. [*pro* [<sub>RC</sub> — *i-ve-∅<sup>n</sup>*]]=*nâ*                      *mi=olo-mana*  
       ASP-buy.UV-3MIN=DIST BN:one=big-very  
       'The one he bought is very big' (E)

Turning now back to possessives, once again we see that the word order found in possessive structures is entirely compatible with the expected syntax given an UV-based analysis. If the possessum is the extracted object of the UV verb *POSS*, then it should be to the left of the possessive marker, and it is. Moreover, if the possessor is the in-situ subject of the embedded relative clause (whose verb is *POSS*), it should be right-adjacent to the possessive marker, and not preceded by any preposition or any other material. This is also borne out, both in alienable (15a) and inalienable structures (15b):

<sup>12</sup> Although I notate relativization with movement arrows in these examples, I don't intend to make any claims as to whether Äiwoo relative clauses are better analyzed as involving A- or  $\bar{A}$ -movement (Newman 2023), or specifically operator movement (Chomsky 1977, Jackendoff 1977), matching (Lees 1960, 1961, Schachter 1973, Vergnaud 1974, Sauerland 1998), or head raising (Bhatt 2002). In work currently in progress, I am exploring the fine details of relativization and  $\bar{A}$ -movement in Äiwoo.

- (15) a. *nuwopa tä* [Meri]                      b. *isä* [Meri]  
           house POSS:LO Mary                      mother Mary  
           ‘Mary’s house’                              ‘Mary’s mother’

To summarize: the word order and syntax of possessive constructions is compatible with an analysis of possessives as underlyingly containing a transitive UV predicate.

### 3 OBJECT AGREEMENT AND POSSESSUM AGREEMENT

In this section I show how possessives and UV verbs show identical behavior, specifically in the domain of object agreement. First, here I’ll give a concise overview of the argument. UV verbs have a rather complex agreement system. Object agreement surfaces in only a specific set of combinations of subjects and objects, depending on both arguments’  $\phi$ -features (16a). In all other cases, the object is realized as a post-verbal pronoun (16b); this is an exception to the OVS order found in UV clauses (Roversi 2019: §6). (In the notation ‘X > Y’, X/Y represent the  $\phi$ -features of the subject/object respectively.)

- (16) **Object agreement vs. pronouns on UV verbs:**
- |                                                                                                                                                         |                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. 3MIN &gt; 3AUG: <b>object agreement</b><br/> <i>i-togulo-gu-i=laa</i><br/>         ASP-hit.UV-3MIN-3AUG=FUT<br/>         ‘S/he will hit them’</p> | <p>b. 2MIN &gt; 3AUG: <b>object pronoun</b><br/> <i>i-togulo-mu=waa ijii</i><br/>         ASP-hit.UV-2MIN=FUT 3AUG<br/>         ‘You will hit them’</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|

An analysis of possessives as containing the UV verb POSS predicts that, in all and only the configurations where UV verbs show object agreement, we should find a suffix indexing the possessum’s  $\phi$ -features. In all other cases, we should find a pronoun doing the same thing. And in fact, this is once again exactly what we see:

- (17) **Possessum agreement vs. pronouns in possessive structures:**
- |                                                                                                                                               |                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a. 3MIN &gt; 3AUG: <b>possessum agreement</b><br/> <i>kuli no-gu-i</i><br/>         dog POSS:GEN-3MIN-3AUG<br/>         ‘His/her dogs’</p> | <p>b. 2MIN &gt; 3AUG: <b>possessum pronoun</b><br/> <i>kuli no-mu ijii</i><br/>         dog POSS:GE-2MIN 3AUG<br/>         ‘Your dogs’</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

I will now present the UV agreement system in detail (§3.1) and how it’s paralleled in possessive constructions, both when the possessum is 3rd person (§3.2.1) and when it’s 1st/2nd person, in predicative contexts of the type “I am yours” (§3.2.2). This set of facts constitutes a strong argument for the inherently verbal nature of POSS.

#### 3.1 UV VERBS: OBJECT AGREEMENT

The agreement pattern of UV verbs specifically is relevant because the two voices have different agreement systems. Agreement in AV is rather straight-forward: the verb always agrees with the subject, and there’s no object agreement whatsoever. On the other hand,

as we have seen UV is decidedly more complex in terms of agreement (Næss 2006 et seq., Roversi 2020). An UV verb always agrees with the subject. In addition, it may also agree with the object, depending on the  $\varphi$ -features of both arguments, as schematized in (18)<sup>13</sup>.

- (18) **Object agreement** is found iff:
- a. Subject = 1st person; Object = 2nd person
  - b. Subject = 3MIN; Object = non-3MIN

When there is no object agreement, the object is realized as a full pronoun instead (which might be null for 3MIN). The two different constructions are illustrated below. In (19a,b), both arguments are marked by suffixes on the verb. In (19c,d), only the subject is, and the object is a pronoun. The difference between object agreement markers and object pronouns is also supported by their placement with respect to the future clitic =Caa.

- |                                                                                                                                            |                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(19) a. <b>1MIN &gt; 2MIN: object agreement</b><br/> <i>i-togulo-nee-mu=waa</i><br/> ASP-hit.UV-1MIN-2MIN=FUT<br/> ‘I will hit you’</p> | <p>c. <b>2MIN &gt; 1MIN: object pronoun</b><br/> <i>i-togulo-mu=waa</i>     <i>iu</i><br/> ASP-hit.UV-2MIN=FUT 1MIN<br/> ‘You will hit me’</p>                     |
| <p>b. <b>3MIN &gt; 3AUG: object agreement</b><br/> <i>i-togulo-gu-i=laa</i><br/> ASP-hit.UV-3MIN-3AUG=FUT<br/> ‘S/he will hit them’</p>    | <p>d. <b>3AUG &gt; 3MIN: object pronoun</b><br/> <i>i-togulo-i=laa</i>     (<math>\emptyset</math>)<br/> ASP-hit.UV-3AUG=FUT 3MIN<br/> ‘They will hit him/her’</p> |

Regardless of the analysis of this pattern (see Roversi 2020 for one), what is crucial for this paper is only that the set of configurations that trigger object agreement is exactly the same set that triggers “possessum agreement”, which I proceed to discuss now.

### 3.2 OBJECT AGREEMENT IN POSSESSIVES: POSSESSUM AGREEMENT

In this section I show how the UV agreement system is replicated in possessive constructions. Whenever object agreement is triggered on UV verbs, in exactly all and only the same configurations we find “possessum agreement” on possessives. Conversely, whenever a UV clause would have an overt object pronoun, in possessive structures we find an overt pronoun indexing the possessum.

#### 3.2.1 3RD PERSON POSSESSUMS

**3AUG POSSESSUMS** Within possessed DPs, the possessum cannot be anything else than 3rd person and not a 1st/2nd person pronoun (though see fn. 15). First, let’s examine the case of 3AUG possessums. In an UV clause, whether a 3AUG object is realized as a suffix

<sup>13</sup> More precisely: (18a) only applies to 1MIN/1AUG subjects; unit-augmented subjects block object agreement. I abstract away from this detail in what follows. Moreover, this empirical generalization diverges somewhat from the one described in earlier literature (Næss 2006 et seq., Roversi 2020), which was based on partially faulty data; I discuss this matter in appendix B.

on the verb or as a pronoun depends on the  $\phi$ -features of the subject. If this is 3MIN we'll have an object suffix (20a); else, an object pronoun (20b).

- (20) a. **3MIN > 3AUG: object agreement**      b. **2MIN > 3AUG: object pronoun**  
*i-togulo-gu-i=laa*                                      *i-togulo-mu=waa*      *ijii*  
 ASP-hit.UV-3MIN-3AUG=FUT                              ASP-hit.UV-2MIN=FUT      3AUG  
 'S/he will hit them'                                      'You will hit them'

For possessive structures, our prediction is that if the possessum is 3AUG we should see it overtly marked, either as a suffix or as a pronoun, depending on the possessor's features (the subject of our putative POSS verb). This is borne out. The same configurations in (20) are replicated for possessive structures in (21)-(22). In 3MIN > 3AUG, a configuration triggering object agreement on UV verbs (20a), we find that possessives carry the exact same type of marking (21a)-(22a). In 2MIN > 3AUG, object agreement is blocked on verbs, and the object is realized as a full pronoun (20b). Crucially, this also replicates for possessives (21b)-(22b). To highlight the parallel between UV verbal structures and possessive structures, I include an informal rendition of the proposed underlying Äiwoo syntax.

(21) **Alienable possession:**

- a. **3MIN > 3AUG: possessum agreement**  
*kuli no-gu-i*  
 dog POSS:GE-3MIN-3AUG  
 'His/her dogs' < [ $\text{dogs}_i$  [(such that) (s/he) POSS-3MIN-3AUG ( $\text{them}_i$ )]]
- b. **2MIN > 3AUG: possessum pronoun**  
*kuli no-mu ijii*  
 dog POSS:GE-2MIN 3AUG  
 'Your dogs' < [ $\text{dogs}_i$  [(such that) (you) POSS-2MIN  $\text{them}_i$ ]]]

(22) **Inalienable possession:**

- a. **3MIN > 3AUG: possessum agreement**  
*gino-gu-i*  
 son-3MIN-3AUG  
 'His/her sons' < [( $\text{they}_i$ ) [(whom) (s/he) POSS.as.son-3MIN-3AUG ( $\text{them}_i$ )]]
- b. **2MIN > 3AUG: possessum pronoun**  
*gino-mu ijii*  
 son-2MIN 3AUG  
 'Your sons' < [( $\text{they}_i$ ) [(whom) (you) POSS.as.son-2MIN  $\text{them}_i$ ]]]

(For inalienable possessive structures (22), I argue that what looks like a noun is really a null-headed relative clause. The kinship root is a modifier to POSS and not the object itself being extracted, which is a null pronoun. Ergo, I don't assume the underlying structure of (22a) to be '[ $\text{sons}_i$  [(whom) (s/he) POSS-3MIN-3AUG ( $\text{them}_i$ )]]''. See §3.2.2 for arguments.)

**3MIN POSSESSUMS** Let's now go back to the possessive data presented initially – with no possessum agreement nor possessum pronouns – and see how it fits into the picture drawn here. The key observation is that the lack of (overt) marking of possessums parallels the lack of (overt) marking of 3MIN arguments in UV verbs. In UV clauses with 3MIN pronominal objects, the 3MIN object pronoun is nearly always dropped. If the subject is anything else than 3MIN, that's the only overt marking (23a). If both arguments are 3MIN, we see no marking at all (23b)<sup>14</sup>.

(23) **UV verbs with 3MIN objects:**

- |                               |                                          |
|-------------------------------|------------------------------------------|
| a. <i>i-togulo-mu=waa</i> (∅) | b. <i>i-togulo-∅<sup>n</sup>=naa</i> (∅) |
| ASP-hit.UV-2MIN=FUT 3MIN      | ASP-hit.UV-3MIN=FUT 3MIN                 |
| ‘You will hit him/her/it’     | ‘S/he will hit him/her/it’               |

Keeping in mind the parallel subject-possessor and object-possessum, let's now compare (23) to what happens with 3MIN possessums. Across possessive structures, the distribution of null marking – or the absence of marking – is exactly the same as on UV verbs (24)-(25).

(24) **Alienable possessives with 3MIN possessums:**

- |                                                                                      |
|--------------------------------------------------------------------------------------|
| a. <i>kuli no-mu</i> (∅)                                                             |
| dog POSS:GE-2MIN 3MIN                                                                |
| ‘Your dog’ < [the dog <sub>i</sub> [(such that) (you) POSS-2MIN ∅ <sub>i</sub> ]     |
| b. <i>kuli no-∅<sup>n</sup></i> (∅)                                                  |
| dog POSS:GE-3MIN 3MIN                                                                |
| ‘His/her dog’ < [the dog <sub>i</sub> [(such that) (s/he) POSS-3MIN ∅ <sub>i</sub> ] |

(25) **Inalienable possessives with 3MIN possessums:**

- |                                                                                    |
|------------------------------------------------------------------------------------|
| a. <i>gino-mu</i> (∅)                                                              |
| son-2MIN 3MIN                                                                      |
| ‘Your son’ < [him <sub>i</sub> [(whom) (you) POSS.as.son-2MIN ∅ <sub>i</sub> ]     |
| b. <i>gino-∅<sup>n</sup></i> (∅)                                                   |
| son-3MIN 3MIN                                                                      |
| ‘His/her son’ < [him <sub>i</sub> [(whom) (s/he) POSS.as.son-3MIN ∅ <sub>i</sub> ] |

### 3.2.2 1ST/2ND PERSON POSSESSUMS

The kind of marking of 3AUG possessums discussed in the previous section has already been noted: Næss (2018) analyzes it as a (typologically highly unusual) form of number marking on nominals. However, what has not been previously observed is that possessives show the same UV verb-like behavior even when the possessum is *not* 3rd person – something that can't be covered by Næss' analysis. Within a possessed DP this state of

<sup>14</sup> See Roversi (2020: §3.4) for arguments that there is indeed a null 3MIN suffix ∅<sup>n</sup>, detectable through allomorphic alternations it triggers on certain elements that may follow it, like the future clitic =Caa in (23).

affairs is unlikely to occur, as the possessum (the head of the DP) will be 3rd person<sup>15</sup>. However, if POSS is a run-of-the-mill transitive verb, we should expect to at least be able to find 1st/2nd person possessums in predicative possession constructions, like “I am/we are {yours, his, ...}” or “you are {mine, theirs, ...}”. For the sake of the exposition, at this point it’s useful to repeat the generalization about the distribution of object agreement (26). In all other cases ( $2 > 1$ ; 3AUG  $>$  any object), the object is realized as a post-verbal pronoun. A few illustrative examples of both patterns are in (27)-(28). I proceed then to show how this is also paralleled in possessive structures.

(26) **Generalization: object agreement** is found iff

- a. Subject = 1st person; Object = 2nd person
- b. Subject = 3MIN; Object = non-3MIN

(27) **Object agreement:**

- a. *i-togulo-nee-mu=waa*  
ASP-hit.UV-1MIN-2MIN=FUT  
‘I will hit you’
- b. *i-togulo-gu-mu=waa*  
ASP-hit.UV-3MIN-2MIN=FUT  
‘S/he will hit you’

(28) **Object pronoun:**

- a. *i-togulo-mu=waa*      *iu*  
ASP-hit.UV-2MIN=FUT    1MIN  
‘You will hit me’
- b. *i-togulo-i=laa*      *iumu*  
ASP-hit.UV-3AUG=FUT    2MIN  
‘They will hit you’

**POSSESSUM AGREEMENT** In object agreement contexts ( $1 > 2$  “you are mine/ours”; 3MIN  $>$  1/2 “I am/you are his/hers”), we find possessum agreement. This holds across alienables (29) and inalienables (30). For brevity’s sake, I only show a few of the possible relevant combinations of  $\phi$ -features. This specific analysis of (29b) is defended in §3.2.3; I ask a skeptical reader to accomodate this for the time being.

(29) **Alienables:**

- a. *go*      *känä*      *nou-nee-mu*      (1MIN  $>$  2MIN)  
because say.3MIN    POSS:GE-1MIN-2MIN  
‘Because s/he says that you are mine’<sup>(M9:41)</sup>  $<$  I POSS-1MIN-2MIN you
- b. (*iumu=wâ*) *kuli no-gu-mu*      (3MIN  $>$  2MIN)  
2MIN=DIST    dog    POSS:GE-3MIN-2MIN  
[Speaking to a dog] You’re his dog’<sup>(E)</sup>  $<$  ‘He POSS.as.dog-3MIN-2MIN you’

(30) **Inalienables:**

- a. (*iumu=wâ*) *ginou-nee-mu*      (1MIN  $>$  2MIN)  
2MIN=DIST    son-1MIN-2MIN  
‘(You there,) you’re my son’<sup>(E)</sup>  $<$  ‘I POSS.as.son-1MIN-2MIN you’

<sup>15</sup> We don’t know at this stage whether it’s possible in Äiwoo to have relative clauses headed by a 1st/2nd person pronoun (e.g. ‘we<sub>i</sub> [who ... —<sub>i</sub>]’). The prediction is that *iff* it’s possible to relativize a 1st/2nd person pronoun from a verb like ‘hit’, then it should also be possible to do so with POSS, creating DPs like, e.g., ‘you<sub>i</sub> [whom I POSS.as.son —<sub>i</sub>]’ = ‘you who are my son’. I thank Sandhya Sundaresan for discussion of this point.

- b. *lâ iumu=wâ Gino-une-i-gu-mu God* (3MIN > 2MIN)  
 DIST 2MIN=DIST son-true-UV-3MIN-2MIN God  
 ‘You are the true Son of God’<sup>(M3:11)</sup> < ‘God POSS.as.son-truly-3MIN-2MIN you’

Importantly, this agreement pattern is starkly different from that found on nominal predicates. In Äiwoo, nominal predicates abound, and they behave morphosyntactically like intransitive verbs, taking  $\phi$ -prefixes. Consider in this respect (31), with ostensibly the same meaning as (30b). Here, this bona-fide nominal predicate behaves like an intransitive verb, so there is only subject agreement in the form of a prefix. This contrasts with the subject and object agreement suffixes of (30b), which reflect the UV pattern.

- (31) *iumu=wâ mu-[Kraes-une]*  
 2MIN=DIST 2MIN-Christ-true  
 ‘You are the true Christ’<sup>(M8:29)</sup>

**POSSESSUM PRONOUNS** In configurations that block object agreement on UV verbs (2 > 1; 3AUG > any object), the object is realized as a pronoun instead. In this case as well, possessive structures (“I am/we are yours; I/you/we are theirs”) behave in the same way, with the possessum being realized as an overt pronoun. Again, I only report a few relevant combinations of  $\phi$ -features, for alienables in (32) and inalienables in (33).

(32) **Alienables:**

- a. (*iu=nge*) *devalili no-mu iu* (2MIN > 1MIN)  
 1MIN=PROX child POSS:GE-2MIN 1MIN  
 ‘(Me here,) I’m your child’<sup>(E)</sup> < You POSS.as.child-2MIN me
- b. (*iumu=wâ*) *devalili no-i iumu* (3AUG > 2MIN)  
 2MIN=DIST child POSS:GE-3AUG 2MIN  
 ‘(You there,) you’re their child’<sup>(E)</sup> < They POSS.as.child-3AUG you

(33) **Inalienables:**

- a. (*iu=nge*) *gino-mu iu* (2MIN > 1MIN)  
 1MIN=PROX son-2MIN 1MIN  
 ‘(Me here,) I’m your son’<sup>(E)</sup> < You POSS.as.son-2MIN me
- b. (*iumu=wâ*) *tumä-i iumu* (3AUG > 2MIN)  
 2MIN=PROX father-3AUG 2MIN  
 ‘(You there,) You’re their father’<sup>(E)</sup> < They POSS.as.father-3AUG you

### 3.2.3 WHAT POSS CAN COMBINE WITH

Datapoints like (29b), (30b), and (32)-(33) importantly teach us what kind of items POSS can combine with syntactically. In the former sentence (‘you’re his dog’), the object is 2nd person as evidenced by the agreement suffix, and therefore, *kuli* ‘dog’ clearly can’t be the (extracted) theme of POSS. Hence, we have strong evidence for a null-headed relative

clause analysis: the object is a null pronoun, and the nominal stem ‘dog’ is a modifier of POSS, thus forming a complex transitive predicate ‘poss.as.dog’. The relative clause is then more faithfully rendered as ‘he poss.as.dog you’. Similarly, in (30b) the inalienably possessed root *gino* ‘son’ is really being used as a transitive predicate ‘poss.as.son’. (The modifier *une* ‘true’ and the suffix *-i* are discussed in §4). The same logic applies to (32)-(33).

The difference between inalienably possessed roots and all others seems to be that the former must always attach to POSS forming complex predicates, whereas the latter have this as an option, but can also stand alone as non-possessed nouns. Although both root classes can modify POSS, they differ in whether there is overt morphological material (the possessive classifiers) between the root and the inflection: alienable roots have them, and inalienable ones don’t. I assume that this reflects a difference in how much structure POSS is combining with.

For concreteness, here is an implementation following the tenets of Distributed Morphology (Halle & Marantz 1993, 1994), where acategorial roots are first combined with a category head (*v*, *n*, etc.). As for the  $\varphi$ -markers, I assume these are the spell-out of a higher head containing an agreement probe (e.g. T) to which the verb head-moves later, not represented here. For inalienables (34a), POSS (with its verbalizer *v*) combines with a bare root, so the whole constituent is spelled out as one phonological word (as indicated by the arc). Alienable roots can’t combine with POSS as bare, but have a small layer of structure on top of them; in (34b) I notate this as a *n* head, although this choice isn’t crucial to the argument<sup>16</sup>. What’s crucial is that this extra layer of structure triggers spell-out and prosodification of the root  $\sqrt{\text{DOG}}$  as its own phonological word (Sande 2019, Sande et al.

16 An anonymous reviewer raises the issue of what kind of structure we see in (34b), where a phrasal constituent incorporates into a head, *contra* e.g. Baker (1988). Although I’m not committed to very specific details of that structure beyond the existence of some additional layer of structure not shared by (34a), incorporation of phrasal material has been shown to exist in other languages. Chung & Ladusaw (2004: 86) argue that for the possession verbs *gäi/täi* ‘(not) have’ in Chamorro, “the incorporated object has at least the internal structure of an NP. At the same time, the incorporated object is smaller than DP”, and show that the incorporated element can be a noun modified by adjectives, plural marking, relative clauses, and for some speakers even coordinated (modified) nouns; the reader is referred to Chung & Ladusaw’s Appendix A for further details about the syntax of incorporation in Chamorro. Moreover, Yuan (to appear: §3.2.2) shows that incorporated objects in Inuktitut are at least as large as DPs (*contra* earlier proposals that still held them to be phrasal, but only NPs; Compton & Pittman 2010, Branigan & Wharram 2019). Examples of incorporation of phrasal material in Chamorro and Inuktitut are given in (i)-(ii), with bracketing from the original sources.

(i) Chamorro (Chung & Ladusaw 2004: 86):

*täi*-[*amiga ni yä-hu*] *si Carmen*  
 AGR.not.have-friend COMP *wh*<sub>[OBJ]</sub>.like-AGR UNM Carmen  
 ‘Carmen has no women friends who I like’

(ii) Inuktitut (Yuan to appear: 12):

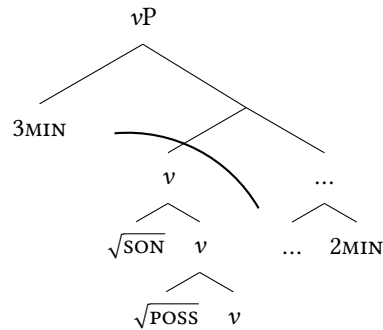
[*niri-ja-tsaq*]-*siuq-tunga*  
 eat-TRNS.PTCP-potential-look.for-1SG.S  
 ‘I am looking for something that can be eaten’

It remains to be seen how permissive a theory of incorporation should be while still descriptively adequate.

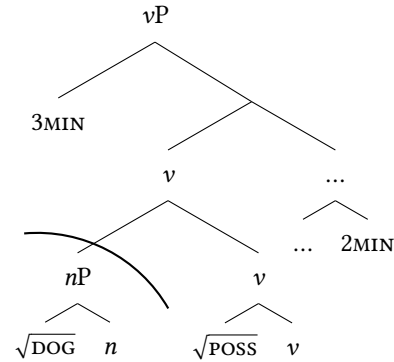


2020). Because the morphological material in *v* can now not be hosted on the nominal portion, a possessive classifier is inserted, with a logic reminiscent of *do*-support (Chomsky 1957, Lasnik 1981, Bobaljik 1995, Bjorkman 2011, a.o.)<sup>17</sup>.

(34) a. **Inalienables:**



b. **Alienables:**



## 4 THE MORPHOLOGY OF MODIFIERS

### 4.1 VOICE CONCORD MORPHOLOGY IN UV VERBS

In this section I describe what I analyze as voice concord morphology, and show that it behaves in the exact same way in UV verbs and in possessives. Äiwoo verbs often show case complex stems, formed by a main stem (the leftmost one) and one or more modifiers (“nuclear-level verb serialization”; Ross & Næss 2007, Næss & Boerger 2008, Næss 2012 et seq.). When a modifier is attached to an UV verb stem, it takes the suffix *-i/-nyii*. This never happens with AV verbs and intransitives (Roversi 2019, Næss 2021, Wu et al. 2023). This is illustrated in (35), where I bracket the whole complex stem. When the modifier *mana* ‘very’ is added to the UV form *ââ* ‘pull’, it carries the *-i* suffix (35a)<sup>18</sup>. When it is added to the AV form of the same verb *âwââ*, it does not (35b).

(35) a. **UV: voice concord**

*ki*-[*ââ*-*mana*-*i*]-*mu*=*wâ*  
 IPFV-[pull.UV-very-UV]-2MIN=DIST  
 ‘You catch a lot (of fish)’

b. **AV: no voice concord**

*mu*-*ki*-[*âwââ*-*mana*]=*kâ*  
 2MIN-IPFV-[pull.AV-very]=DIST  
 ‘You catch a lot (of fish)’<sup>(E)</sup>

17 This has the consequence that a possessed DP like *kuli no-mu* ‘dog POSS:GE-2MIN = your dog’ is technically structurally ambiguous between a parse where ‘dog’ is a noun and the extracted object of POSS (‘the dog [that you poss]’), and one as a null-headed relative (‘the one [that you poss.as.dog]’).

18 If there are several modifiers, concord must appear on every single one:

(i) *ki*-[*eâmole*-*wâtu*-*i*-*pâko*-*i*-*mana*-*i*]-*i*      *ijii*=*le*  
 IPFV-look.UV-COMP-UV-good-UV-very-UV-3AUG    3AUG=PROX  
 ‘They have to look after them more properly’

The form of this suffix is mostly *-i*. However, some modifiers consistently take the allomorph *-nyii* in the same contexts; the alternation seems to be lexically arbitrary. One of these is *mole* ‘exactly’, as shown in (36). Moreover, some modifiers consistently never take any suffix, for reasons currently not understood. One of these is *eopu* ‘also’ (37).

(36) **Modifiers with voice concord as *-nyii*:**

*lâ sime-eângâ ba i-[kää-mole-nyii]-no=gu*  
 DIST person-that NEG ASP-know.UV-exactly-UV-1MIN=NEG  
 ‘I don’t know this person exactly’ (M14:70)

(37) **Modifiers with no voice concord:**

*kele nunugo-ee i-[viteia-eopu]-mu=dä*  
 here tobacco-PROX ASP-sell.UV-also-2MIN=some  
 ‘This tobacco, do you sell some of that too?’

## 4.2 MODIFYING POSSESSIVES: ALSO VOICE CONCORD MORPHOLOGY

As foreshadowed above, the distribution of voice concord morphology in possessive constructions is identical to the one found in UV verbs. Possessives – both alienables and inalienables – can be modified, and when this happens, the modifiers show the suffix *-i* (38) or *-nyii* (39), depending on the specific lexical item. The examples below showcase POSS combined with modifiers both in a DP-internal use (38a)-(39b) and when used as a main-clause transitive predicate (38b)-(39a). Furthering the parallel, those modifiers like *eopu* ‘also’ that don’t carry voice concord morphology with UV verbs also fail to carry it with possessives (40).

(38) **POSS-modifier-*i*:**

a. *nuwopa [to-päko-i]-no kâlâ ngâ ny-ângâ* (Alienable)  
 house POSS:LO-good-UV-1MIN there in place-that  
 ‘My real house is over there’ (E)

b. *ile sime-enge [Gino-une-i] God* (Inalienable)  
 PROX person-PROX son-true-UV God  
 ‘This man is the true Son of God’ (M15:39) (‘God truly-POSS.as.son this person’)

(39) **POSS-modifier-*nyii*:**

a. *mo molâ [nugu-mole-nyii]-ji ile=to* (Alienable)  
 but tradition POSS:TO-exactly-UV-12MIN PROX=TAM  
 ‘But this is exactly our tradition’ (‘we exactly-POSS this tradition’)

b. *[ginou-mole-nyii]-no i-wä ki-skul Nende* (Inalienable)  
 son-exactly-UV-1MIN ASP-go IPFV-school Sta.Cruz  
 ‘My real son goes to school in Santa Cruz’ (E)<sup>19</sup>

<sup>19</sup> It’s not entirely clear what the meaning difference is between *mole* in (39b) and *päko* in (38b).

- (40) *nuwa nyigaa [na-eopu]-de ile Nyiwoo*  
 fruit see.almond POSS:FO-also-12AUG PROX Reef.Islands  
 ‘Nuwa nyigaa is also our fruit here in the Reefs’

Importantly, the presence of voice concord morphology when POSS is modified clearly sets it apart from other nominal modifiers and also from intransitive predicates, including nominal ones. First, note how a modifier used on a non-possessed noun cannot take voice concord morphology (41a), whereas this is obligatory in the context of POSS (41b):

- (41) **Modifiers on nouns vs. on POSS:**  
 a. *nuwopa päko>(\*-i)*  
    house good(-UV)  
    ‘The/a good/real house’<sup>(E)</sup>  
 b. *nuwopa to-päko-\*(i)-no*  
    house POSS:LO-good-UV-1MIN  
    ‘My real house’<sup>(E)</sup>

Finally, remember that nominal predicates behave morphosyntactically like intransitive verbs, taking  $\varphi$ -prefixes. Like all other predicates, they can also be modified, and then they confirm their intransitive-like behavior: their modifiers do not take the voice concord morphology shown by UV verbs and possessives. Consider again the minimal pair (42a)-(42b). In the former, containing a possessive, the modifier *une* ‘true’ takes the voice concord suffix *-i*. In the latter, the bona fide noun *Kraes* ‘Christ’ is used as a predicate; the same modifier *une* here takes no voice concord suffix.

- (42) a. *iumu=wâ [Gino-une-i]-gu-mu God*  
       2MIN=DIST son-true-UV-3MIN-2MIN God  
       ‘You are the true Son of God’<sup>(M3:11)</sup> < ‘God POSS.as.son-truly you’  
 b. *iumu=wâ mu-[Kraes-une]*  
       2MIN=DIST 2MIN-Christ-true  
       ‘You are the true Christ’<sup>(M8:29)</sup>

To summarize: all possessive structures, both inalienable and alienable, show the same type of voice concord pattern that only UV verbs have. This follows naturally from an analysis of possessives as (containing) the UV verb POSS.

## 5 $\Phi$ -MORPHOLOGY ON UV VERBS AND POSSESSIVES

The  $\varphi$ -marking exponents themselves are also similar between the possessive system and UV verbs. The core observation is that not only the agreement pattern, but also the suffix paradigm found on inalienable stems and possessive classifiers (43) is very similar to the one found on UV verbs (44a), and crucially different from the one found on AV (44b):

- (43) a. *tumä-i*  
       father-3AUG  
       ‘Their father’  
 b. *nenu na-i*  
       coconut POSS:FO-3AUG  
       ‘Their coconut’

- (44) a. *ki-lââ-i* (UV) b. *ki-li-lâwââ* (AV/Intr)  
 IPFV-build.UV-3AUG IPFV-3AUG-build.AV  
 ‘They build (it)’ ‘They build (something)’

Let us now take a closer look at the verbal paradigms in both AV and UV (slightly amended from Næss 2015: 74). UV verbs have their subject marked by suffixes (table 1), whereas AV verbs take prefixes (table 2; intransitive verbs pattern like AV verbs in this respect). The morphological form itself of the affixes is also different between the two paradigms for almost all 1st and 3rd person forms, apart from 3MIN  $\emptyset$ .

Table 1: UV agreement suffixes

|    | MIN                                           | UNIT-AUG | AUG              |
|----|-----------------------------------------------|----------|------------------|
| 1  | -no, -nee*, - $\emptyset$ <sup>†</sup>        | -ngo-le  | -ngo(pu), -ngee* |
| 12 | -ji                                           | -de-le   | -de              |
| 2  | -mu                                           | -mi-le   | -mi              |
| 3  | - $\emptyset$ <sup>n</sup> , -gu <sup>‡</sup> | -i-le    | -i               |

\* The allomorphs *-nee*, *-ngee* are only used when preceding a 2nd person object marker. For details on object agreement and *-ngee* specifically, see §3.1 and appendix B.

<sup>†</sup> 1MIN is only  $-\emptyset$  when following the 3MIN subject marker *-gu*.

<sup>‡</sup> 3MIN is only *-gu* when preceding an object marker.

Table 2: AV agreement prefixes

|    | MIN              | UNIT-AUG      | AUG  |
|----|------------------|---------------|------|
| 1  | i-               | me- ... -le   | me-  |
| 12 | ji-              | de- ... -le   | de-  |
| 2  | mu-              | mi- ... -le   | mi-  |
| 3  | ( $\emptyset$ -) | li* - ... -le | li*- |

\* 3AUG *li-* has an allomorph *lu-*, phonologically conditioned.

As can be seen from (43)-(44) above, all possessives take a suffix paradigm that is more similar to the UV one than to the AV one. However, the parallel is not perfect, as some forms deviate from the UV paradigms (only 1MIN and 3MIN forms). In the possessive paradigms, these are most often represented by morphological mutations of the stem itself rather than by segmentable suffixes. I don’t have much to say about these, other than highlighting that the locus of these irregularities is strikingly consistent: it’s always the same two forms, and almost across all possessive paradigms (with the exception of the BETELNUT classifier). The full paradigm of the inalienably possessed root *isä* ‘mother’ is shown in table 3. Apart from 1MIN and 3MIN, the suffix paradigm is identical to the UV verbal paradigm (table 1). (Other nouns have slightly different alternation patterns, but what is consistent is that only 1MIN and 3MIN don’t show overt suffixes.)

Table 3: *Isä* ‘mother’ (Næss in prep.)

|    | MIN    | UNIT-AUG   | AUG         |
|----|--------|------------|-------------|
| 1  | iso    | iso-ngo-le | iso-ngo(pu) |
| 12 | iso-ji | iso-de-le  | iso-de      |
| 2  | iso-mu | iso-mi-le  | iso-mi      |
| 3  | isä    | isä-i-le   | isä-i       |

Table 4: POSS:LOCATIONAL (Næss 2006: 273)

|    | MIN   | UNIT-AUG  | AUG        |
|----|-------|-----------|------------|
| 1  | to    | to-ngo-le | to-ngo(pu) |
| 12 | to-ji | to-de-le  | to-de      |
| 2  | to-mu | to-mi-le  | to-mi      |
| 3  | tä    | tä-i-le   | tä-i       |

As for the possessive classifiers used with alienably possessed nouns, for conciseness I only report the whole  $\varphi$ -paradigm for the locational classifier, in table 4. Once again, 1MIN and 3MIN are the less predictable forms, whereas the rest of the paradigm is the same as the UV verbal paradigm<sup>20</sup>. Full paradigms can be found in appendix A.

Apart from these, the paradigm of  $\varphi$ -suffixes found on possessive forms is the same as the one found on UV verbs, and clearly different from the one found on AV verbs in terms of position of the affixes, and exponents. Rather than being a simple coincidence, this is predicted by an analysis where possessives are built on the UV verb *POSS*.

## 6 INTERIM SUMMARY

Throughout the previous sections, I've argued that Äiwoo has a null transitive possession verb *POSS*, which only occurs in UV. This verb takes the possessor as its external argument, and the possessum as its internal argument. The idea is that *POSS* is nothing more than a verbal/clausal counterpart of the nominal Saxon genitive (45). Example (45a) represents a fairly standard analysis of the Saxon genitive (Abney 1987, Chomsky 1995). I propose that Äiwoo *POSS* really just has the same structure (45b), but belongs to the extended verbal projection instead of the nominal one.

- (45) a. [DP DP<sub>POSS'OR</sub> ['s NP<sub>POSS'UM</sub>]]      b. [<sub>VP</sub> DP<sub>POSS'OR</sub> [v DP<sub>POSS'UM</sub>]]

Äiwoo *POSS* is always found morphologically fused to some other root. It can either be spelled out as the possessive classifiers (*POSS.as.food*, *POSS.as.drink*, etc.), or it can be fused to inalienable roots (*POSS.as.son*, *POSS.as.mother*, etc.). This kind of analysis might potentially provide insights for other languages for which similar phenomena have been reported. One example is Chamorro (chung.ladusaw2003), where the verb *gäi* 'have' can incorporate, or be modified by, various nominal roots, creating verbs meaning 'have as pet', 'have as a child', etc. Similar patterns are more common for kinship terms, having been reported for Algonquian, Iroquoian, Uto-Aztecan, and Australian languages (Sapir 1917, Amith & Smith-Stark 1994, Evans 2000, Koenig & Michelson 2010, 2022). See also the typological overview in Bugaeva et al. (2022), under the heading 'verbal appositive classifier systems'. Finally, perhaps the closest parallel to what I claim for Äiwoo is American Sign Language as analyzed by Abner (2012, 2013). Also in this language, a transitive verbal *POSS* is the only element with possession-related semantics, so that possessed DPs are built through relativization<sup>21</sup>.

<sup>20</sup> These classifiers also showcase a series of seemingly arbitrary stem alternations, and we find similar ones in the inalienable paradigms. A full analysis of the morphology is beyond the scope of this paper.

<sup>21</sup> Interestingly, Abner (2012, 2013) proposes that ASL *POSS* has the opposite argument structure of Äiwoo *POSS*, with the possessum c-commanding the possessor. An anonymous reviewer highlights how it's an interesting question how and why this is possible, especially given a strict conception of UTAH (Baker 1988). However, I leave this as an issue for future research.

## 7 PRELIMINARY NOTES ON THE SEMANTICS OF POSS

In this section, I want to offer a speculation about the semantics of POSS and that of HAVE. Purely intuitively, POSS and HAVE are not translational equivalents of each other. A sentence where POSS is used by itself as a transitive predicate is not translated into English with HAVE (46). Conversely, English HAVE is consistently conveyed by Äiwoo speakers by using a possessed DP as the subject of an existential predicate (47). This is a cross-linguistically attested strategy, in e.g. Nepali and Avar (Stassen 2009: §4.1).

- |      |                                                             |      |                                                                                                                                 |
|------|-------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------|
| (46) | <i>boat nugu</i><br>boat POSS:TO.1MIN<br>'The boat is mine' | (47) | [ <i>boat nugu</i> ] <sub>DP</sub> <i>i-to</i><br>boat POSS:TO.1MIN ASP-exist<br>'I have a boat' (lit. 'a boat of mine exists') |
|------|-------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------|

The idea in this section is to consider whether one could capitalize on the semantics and syntax of POSS to explain why Äiwoo uses the particular construction in (47) to express the equivalent of HAVE, instead of leaving it as a coincidence. However, the reader should note that these ideas are quite speculative and tentative.

Most prominently POSS differs from HAVE is in not sharing the latter's definiteness effect. An old insight in the literature is that HAVE poses some restrictions on the kind of objects it can take (Landman & Partee 1987, Partee 1999, 2004, Keenan 1987, Szabolcsi 1994, Iatridou 1995, Sæbø 2009). More specifically, there's a definiteness effect, similar to that found with existential predicates (Milsark 1974, 1977, Barwise & Cooper 1981; though see Myler 2016: 328-336 for a critique of the idea that the two effects are the same). Simplifying: under its ordinary ownership reading, HAVE cannot take an object containing a strong quantifier (in the sense of Milsark 1974, 1977), such as definite descriptions, demonstratives, or universal quantifiers (48).

- (48) **HAVE's definiteness effect:**
- a. Do you see all the antiques in this room? I own/\*have them. (Iatridou 1995: 197)
  - b. John has \*the/\*that/\*every sister (Partee 2004: 282)

According to a number of analyses of this phenomenon (see references above), the fact that HAVE shares this effect with this existential predicates is no coincidence, but is simply a consequence of the fact that HAVE underlyingly contains an existential predicate.

Differently from HAVE, Äiwoo POSS clearly has no problems taking definite objects. In both (49a,b) the object of POSS (bracketed) is marked by a demonstrative, and thereby it's unambiguously definite. In (50), moreover, the object of POSS is a null pronoun ('it', referring to a baby), again thereby definite.

- (49) **POSS with a theme carrying a demonstrative:**
- |    |                                                                                                                                   |    |                                                                                                                                                               |
|----|-----------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. | [ <i>täpilo enge</i> ] <b>numo</b><br>bowl this POSS:DR.1MIN<br>'This bowl is mine' <sup>(E)</sup> ;<br>(lit. 'I POSS this bowl') | b. | [ <i>ile dekilingä enge</i> ] <b>nä-ji</b><br>PROX food this POSS:FO-12MIN<br>'This food is ours [mine and yours]';<br>(lit. 'We [you and I] POSS this food') |
|----|-----------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

(50) **POSS with a null pronominal object:***nou-de-le*                      *mo na-malei-wâ-ngo-le*

POSS:GE-12AUG-UA    but    IRR-look.after-DIR3-1AUG-UA

[Context: a man and his wife can't have children, so he asks a couple to adopt their newborn] 'It will be ours (us three.INCL), but we (two.EXCL) will raise it for you'

Under the analysis presented in this paper POSS, differently from HAVE, simply lacks any existential import at all. The semantic content of POSS, like other possessive elements attested in more familiar languages (like English 's), would just be that two DPs are in a context-dependent kind of relation with each other (i.e. 'possession', in all its semantic variety). Given the classical explanation of the definiteness effect, the fact that POSS doesn't have an existential predicate inside it would make it compatible with definite objects. Furthermore, since POSS doesn't contain an existential predicate, to convey something like HAVE an existential predicate simply must be added, as in (47).

The seemingly relatively free definiteness properties of Äiwoo POSS might be a consequence of the size of the nominal constituents it takes as arguments. Consider the traditional analysis for the English Saxon genitive compared to the structure I propose for POSS, repeated in (51). In English, while the possessor is a DP, the possessum is an NP (or at least something smaller than a DP). In Äiwoo, there's no reason to doubt that both the possessor and the possessum can be of the same size.

(51) a. [DP DP<sub>POSS'OR</sub> ['s NP<sub>POSS'UM</sub>]]      b. [<sub>v</sub>P DP<sub>POSS'OR</sub> [<sub>v</sub> DP<sub>POSS'UM</sub>]]

Given the smaller size of the possessum in English, we might expect restrictions on its definiteness value. This, of course, shouldn't be the case in Äiwoo, where both DPs' definiteness should in principle be able to vary freely<sup>22</sup>.

## 8 THEORETICAL AND CROSS-LINGUISTIC IMPLICATIONS

This paper's main issue is the mapping between possession and syntactic categories. I have shown that in Äiwoo, DP-internal possession is structurally derived from clausal possession. Such an analysis is potentially significant when seen from the perspective of proposed syntactic universal connected to possessive structures. An influential proposal holds that languages in general do the opposite of Äiwoo: clausal possession, like HAVE, is to be derived from an underlying non-verbal constituent. Important pieces of work arguing in this direction are Freeze (1992), Kayne (1993), and Szabolcsi (1981, 1983, 1994).

In a series of papers, Szabolcsi (1981, 1983, 1994) proposes that Hungarian possessive clauses are derived from an underlying DP constituent. Simplifying: the possessed DP in (52a) has the dative possessor in a high specifier position (c-commanding the possessum),

<sup>22</sup> This is related to the issue of "Possessor Dominance" (Chung 2008), the effect by which the global definiteness of a possessed DP (in English) is determined by the definiteness of the possessor (see Woisetschlaeger 1983 and Adger 2013: §5.3–5.4). This effect, however, is not universal, as Chung shows based on data from Māori and Chamorro.

argued to be parallel to that of a clausal subject. From here, the possessor can be extracted, to create a clausal possession structure (52b).

- (52) a. **Nominal possession:** (Szabolcsi 1994: 180; glosses from Myler 2016: §2.2.1)

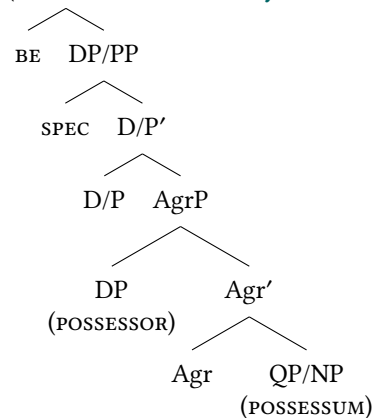
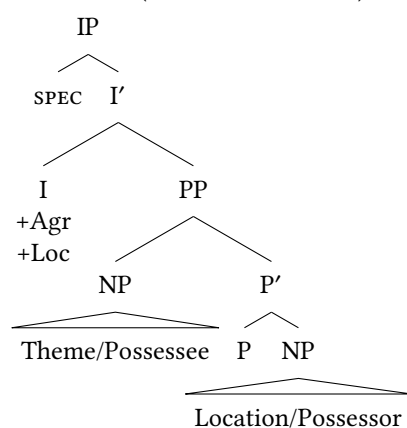
*Mari-nak a kalap-ja-i-Ø*  
 Mari-DAT the hat-POSS-PL-3SG  
 ‘Mari’s hats’

- b. **Predicative possession:** (Szabolcsi 1994: 223; my annotations)

*Mari-nak van-nak [— kalap-ja-i-Ø]*  
 Mari-DAT be-3PL hat-POSS-PL-3SG  
 ‘Mari has hats’

Freeze (1992) extends this idea, arguing that this is actually a language universal: in all languages, clausal predicative possession (HAVE and its cross-linguistic equivalents, including locative constructions like ‘be at’) is based on an underlying non-verbal constituent. Freeze (1992) proposes that the universal underlying structure is that of a locative PP, where the possessum c-commands the possessee (53a). Different surface structures that semantically correspond to HAVE are derived by moving different constituents to the subject position (spec,IP). To derive HAVE, the possessor moves to the subject position, and P head-moves into I; the so-formed complex head is spelled out as HAVE. This contrasts with Kayne’s (1993), whose main focus is to account for HAVE and BE as auxiliary verbs; however, it contains an analysis of possessive HAVE, which is similar in spirit to Freeze’s. The proposed underlying structure is (53b). The element notated as D/P is a ‘prepositional determiner’. HAVE is derived by raising the possessor DP to the subject position (passing through spec,DP), and incorporating D/P into the copula BE, which is then spelled out as HAVE. Note that the asymmetric c-command relation between possessor and possessum is the same as Szabolcsi’s, and the opposite of Freeze’s.

- (53) a. **Proposed universal underlying structure** (Freeze 1992: 558)<sup>23</sup>:      b. **Proposed underlying structure** (elaborated from Kayne 1993: 7):



<sup>23</sup> The tree is as shown in Myler (2016: 113), in a slightly modernized version compared to the original. Freeze sets aside the Hungarian structure in (52b), as it can't be derived from (53a). See also den Dikken (1999) for a proposal as to how to derive the Hungarian construction from Freeze's (1992) structure.



The three approaches just very briefly reviewed can be summarized as in (54), at least for what is relevant to the issues in this paper ( $X \gg Y = X$  c-commands  $Y$ ):

- (54) **Proposed underlying structures for predicative possession:**
- a. Szabolcsi (1981, 1983, 1994): DP; possessor  $\gg$  possessum (Hungarian-specific)
  - b. Freeze (1992): PP, possessum  $\gg$  possessor (universal)
  - c. Kayne (1993): DP/PP, possessor  $\gg$  possessum

Freeze's proposal specifically aims to derive all clausal possession from one universal underlying structure. Contrary to this, more recently it has been argued that the view under which all predicative possession is to be derived from one single underlying structure is untenable. Levinson (2011) analyzes the Icelandic *vera með* 'be with' construction, and concludes that it's impossible to derive from Freeze's underlying argument structure (53a). Therefore, that structure cannot be universal. A similar claim is made in Boneh & Sichel (2010), who argue that various possessive constructions in Palestinian Arabic are derived from several different underlying argument structures. They make a theoretical point that's rather similar to mine: these structures *should* be able to exist given what UG allows, so we shouldn't be surprised to find them. Finally, Myler (2016) – based on novel data from closely-related varieties of Quechua – also argues that not all possessive constructions across languages can be universally derived from the same underlying structure, *contra* Freeze (1992) and Kayne (1993).

There is an obvious tension between what I claim and a Freezian/Kaynian universalist approach. Their claim is that clausal possession is derived from a non-clausal constituent (PP or DP). In Äiwoo, the exact opposite happens: DP-internal possession is derived from a transitive clausal structure. Äiwoo is then incompatible with the analyses sketched so far. Freeze's approach is ruled out immediately, because the asymmetric c-command relation between the two arguments is reversed: in Äiwoo, the possessor c-commands the possessum, whereas Freeze assumes the opposite configuration. Moreover, Szabolcsi's and Kayne's analyses are also very hard to square with the Äiwoo evidence. This can be shown schematically as in (55). Szabolcsi and Kayne argue that possessive clauses are derived from an underlying DP; in Äiwoo, the opposite is true. Therefore, a Szabolcsi/Kayne-style analysis of Äiwoo would entail a sort of Duke-of-York syntactic derivation (55c). The transitive clausal structure I assume to be at the base of possessed DPs would itself derive from a DP. Although such a derivation can plausibly be implemented mechanically, it's unclear to me how it could be motivated.

- (55) **Derivational history of possessive structures:**
- a. Szabolcsi/Kayne: DP  $\rightarrow$  clause
  - b. Äiwoo: clause  $\rightarrow$  DP
  - c. Äiwoo under Szabolcsi/Kayne: DP  $\rightarrow$  clause  $\rightarrow$  DP

Given this tension, the logical possibilities at this point are two. On one hand, we could follow Levinson (2011) and Myler (2016) and conclude that a Szabolcsi/Freeze/Kayne-style

analysis can't hold universally. Äiwoo is yet another language that cannot be reduced to the same underlying structure proposed for English, Hungarian, etc. Possession is not universally tied to a specific syntactic category, but may simply vary.

The only logically possible alternative analysis, if we want to maintain a universalist approach, is to entertain the hypothesis that all languages, in fact, work like Äiwoo, and that our analyses of English, Hungarian, etc., are wrong. However, I argue that this is untenable, using arguments of the same logic that I used for Äiwoo. I propose that in some languages, possessives *cannot* receive an Äiwoo-style analysis.

The concrete case study I offer is Passamaquoddy (Algonquian; Maine, USA and New Brunswick, Canada), although the same arguments extend to most other Algonquian languages. The data below is based on [Francis & Leavitt \(2008\)](#)<sup>24</sup>. Passamaquoddy is a useful language to look at in this context because its verbs are highly inflected, and, crucially, look rather different in main clauses vs. in relative clauses. It then becomes easy to see that possessed DPs simply cannot involve relativization, because the morphology surfacing in possessive constructions is clearly not the same as on verbs in relative clauses.

First, let's take a look at what possessed DPs look like in Passamaquoddy. In what follows, to aid reading I notate morphology indexing the possessor's/subject's features in **bold type**, whereas affixes indexing the possessum's/object's features are underlined. In a possessed DP (56), there will be a prefix indexing the possessor (*k(t)*- 2nd person), and – for certain  $\phi$ -values – a suffix as well (*-onnu* 1PL<sup>25</sup>). Finally, if the noun itself (the possessum) is plural, a plural suffix will be added (here *-k*). For some nouns, an additional 'possessed' suffix *-om* is optionally used (56b).

(56) **Possessed DPs:**

- |                                                                                              |                                                                                                           |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <p>a. <i>k-posum-onnu-k</i><br/>         2-cat-1PL-3PROX.PL<br/>         'Our.INCL cats'</p> | <p>b. <i>kt-emqan-om-onnu-k</i><br/>         2-spoon-POSS-1PL-3PROX.PL<br/>         'Our.INCL spoons'</p> |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|

Crucially, this morphology looks nothing like that found on verbs in relative clause. Verbs in relative clauses in Passamaquoddy – and most other Algonquian languages – are consistently inflected with so-called 'conjunct' morphology ([Bloomfield 1946](#), [Oxford 2014](#), [Bruening 2001, 2004](#), [Brittain 2001](#), [Richards 2004](#), [Cook 2008](#)), different from the 'independent' morphology found e.g. on main clause verbs. The conjunct verb form in (57) has the same combination of subject and object as the nouns in (56) have possessor and possessum: respectively, 12PL and 3PROX.PL. The difference in morphology between this verb and the possessed nouns is glaring: here we have no prefix, and the two arguments are jointly indexed by one portmanteau suffix. Even the final suffix *-ik*, although similar to the one found on nouns, still shows different morphophonology, and moreover it's optional (something it never is on nouns)<sup>26</sup>.

<sup>24</sup> The language is also referred to as Malecite/Maliseet or Wolastoqey, often hyphenated with Passamaquoddy.

<sup>25</sup> Across Algonquian, first person inclusive is often formed by using both 1PL and 2nd person morphology.

<sup>26</sup> Possessive morphology is in fact similar to a type of verbal morphology, but it's the "wrong" type for an Äiwoo-style analysis to work. In fact, it's very similar (though not identical) to 'independent' verbal in-

(57) **Relative clause verbs:***nemiy-oq(-ik)*

IC.see.TA-12&gt;3.CNJ-3PROX.PL

'We.INCL see them'; '[The ones] that we.INCL see'

The bottom line is that possessed nouns cannot be reduced in any way to, or cannot contain, clausal structure. An Äiwoo-style analysis of Passamaquoddy possession is untenable, and hence, the Äiwoo possessive construction can't be universal either.

## 9 CONCLUSION

Possession in Oceanic languages, though fairly well-described in the typological literature (Lichtenberk 2009a,b), is largely uncharted territory for generative syntax, especially outside of better-studied Polynesian languages (though see den Dikken 2003, Pearce 2010, von Prince 2012, 2016 a.o.). This paper presents a study of Äiwoo, where the empirical contribution is to show that all possessive structures in this language involve a transitive UV verb poss. This includes not only predicative possession (i.e. clausal possession), but also DP-internal possession, which involves relativization. The evidence from this comes from three aspects that are identical between possessives and UV verbs: (i) word order and syntax; (ii) a particular agreement pattern; (iii) voice concord morphology on modifiers.

The theoretical contribution bears on the mapping between possession and syntactic categories. In English, Hungarian, and other better-studied languages, possession is part of the extended nominal projection (e.g. the Saxon genitive), and even what prima facie seems to be instances of clausal/verbal possession (HAVE and similar constructions) has been analyzed as deriving from an underlying non-verbal constituent. I argue that in Äiwoo, in contrast, possession is part of the *verbal* extended projection, to the point that even possessed DPs are derived from (or built on top of) clausal structure. The existence of the Äiwoo structure thus fills a gap predicted by the theory, as there's no principled reason, grounded in UG, why an inherently verbal possessive head shouldn't exist. Moreover, although languages like Äiwoo do exist, it can be shown that not all languages are amenable to an Äiwoo-style analysis. In some other languages, like Passamaquoddy, possessed DPs demonstrably *cannot* contain clausal structure. This further supports the idea that possession cannot be exclusively mapped onto a unique syntactic category, but this mapping varies cross-linguistically.

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flection. The reason is diachronic, as this inflectional morphology originates from nominalizations in Pre-Proto-Algonquian (Goddard 1974, 2007, Proulx 1982, Oxford to appear), but at the synchronic level the two morphological sets are nonetheless distinct.

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## A FULL POSSESSIVE PARADIGMS

In this appendix, I report the full  $\phi$ -paradigms of the possessive classifiers and of various classes of inalienable roots (data from Næss 2006, in prep.). First, table 5 reports the paradigms for all possessive classifiers. Then, tables 6–8 show various types of inalienable root paradigms. Almost all of these paradigms show an alternation between two different stems (58). The distribution of these two stems can be characterized in terms of person features; number does not seem to play a role. Apart from pattern (58a), all these are also found in inalienable root paradigms.

Table 5: Possessive classifiers, full paradigm (Næss 2006: 273)

|       | GENERAL     | FOOD         | DRINK        | BETELNUT   | UTENSILS     | LOCATION   |
|-------|-------------|--------------|--------------|------------|--------------|------------|
| 1MIN  | nou         | nugo         | numo         | da-no      | nugu         | to         |
| 12MIN | nou-ji      | nä-ji        | numo-ji      | dä-ji      | nugu-ji      | to-ji      |
| 2MIN  | no-mu       | na-mu        | numo-mu      | da-mu      | nugu-mu      | to-mu      |
| 3MIN  | no          | na           | numä         | da         | nogo         | tä         |
| 1UA   | nou-ngo-le  | nugo-ngo-le  | numo-ngo-le  | da-ngo-le  | nugu-ngo-le  | to-ngo-le  |
| 12UA  | nou-de-le   | nä-de-le     | numo-de-le   | dä-de-le   | nugu-de-le   | to-de-le   |
| 2UA   | no-mi-le    | nä-mi-le     | numo-mi-le   | dä-mi-le   | nugu-mi-le   | to-mi-le   |
| 3UA   | no-i-le     | na-i-le      | numä-i-le    | da-i-le    | nogo-i-le    | tä-i-le    |
| 1AUG  | nou-ngo(pu) | nugo-ngo(pu) | numo-ngo(pu) | da-ngo(pu) | nugu-ngo(pu) | to-ngo(pu) |
| 12AUG | nou-de      | nä-de        | numo-de      | dä-de      | nugu-de      | to-de      |
| 2AUG  | no-mi       | nä-mi        | numo-mi      | dä-mi      | nugu-mi      | to-mi      |
| 3AUG  | no-i        | na-i         | numä-i       | da-i       | nogo-i       | tä-i       |

(58) **Stem alternation patterns in possessive paradigms:**

- a.  $\{1\} \neq \{12, 2, 3\}$ : FOOD (+ possible vowel harmony)
- b.  $\{1, 12\} \neq \{2, 3\}$ : GENERAL; also table 7
- c.  $\{1, 12, 2\} \neq \{3\}$ : DRINK, UTENSILS, LOCATION; also table 8
- d.  $1 = 12 = 2 = 3$ : BETELNUT (+ possible vowel harmony); also table 6

Table 6 shows a paradigm where all forms are built on the same stem (58d). In table 7, on the other hand, we see the pattern as in (58b), with 1st person forms (both exclusive and inclusive) contrasting with 2nd/3rd person forms. Finally, other nouns show the alternation pattern in (58c), where all participant forms share one stem, and 3rd forms have

a different one. Exactly how the two stems are different, however, varies. The consistent generalization is that the final vowel in the 3rd person stem is lower than the one in the participant stem. All known alternations are shown in table 8 (‘mat.’ stands for ‘maternal’).

Table 6: 1 = 12 = 2 = 3 (‘body’)

|    | MIN      | UNIT-AUG     | AUG           |
|----|----------|--------------|---------------|
| 1  | nyisi    | nyisi-ngo-le | nyisi-ngo(pu) |
| 12 | nyisi-ji | nyisi-de-le  | nyisi-de      |
| 2  | nyisi-mu | nysii-mi-le  | nyisi-mi      |
| 3  | nyisi    | nyisi-i-le   | nyisi-i       |

Table 7: {1, 12} ≠ {2, 3} (‘daughter’)

|    | MIN      | UNIT-AUG     | AUG           |
|----|----------|--------------|---------------|
| 1  | sipeu    | sipeu-ngo-le | sipeu-ngo(pu) |
| 12 | sipeu-ji | sipeu-de-le  | sipeu-de      |
| 2  | sipe-mu  | sipe-mi-le   | sipe-mi       |
| 3  | sipe     | sipe-i-le    | sipe-i        |

Table 8: {1, 12, 2} ≠ {3}

|       | ‘Mouth’<br>u~e | ‘Man’s sister’<br>ou~e | ‘Man’s brother’<br>i~e* | ‘Mat.uncle’<br>u~ä† | ‘Mother’<br>o~ä | ‘Mat.grandma’<br>u~o |
|-------|----------------|------------------------|-------------------------|---------------------|-----------------|----------------------|
| 1MIN  | nedu           | siwou                  | gisi                    | giângu              | iso             | ipebu                |
| 12MIN | nedu-ji        | siwou-ji               | gisi-ji                 | giângu-ji           | iso-ji          | ipebu-ji             |
| 2MIN  | nedu-mu        | siwou-mu               | gisi-mu                 | giângu-mu           | iso-mu          | ipebu-mu             |
| 3MIN  | nede           | siwe                   | gite                    | giängä              | isä             | ipebo                |
| 1UA   | nedu-ngo-le    | siwou-ngo-le           | gisi-ngo-le             | giângu-ngo-le       | iso-ngo-le      | ipebu-ngo-le         |
| 12UA  | nedu-de-le     | siwou-de-le            | gisi-de-le              | giângu-de-le        | iso-de-le       | ipebu-de-le          |
| 2UA   | nedu-mi-le     | siwou-mi-le            | gisi-mi-le              | giângu-mi-le        | iso-mi-le       | ipebu-mi-le          |
| 3UA   | nede-i-le      | siwe-i-le              | gite-i-le               | giängä-i-le         | isä-i-le        | ipebo-i-le           |
| 1AUG  | nedu-ngo(pu)   | siwou-ngo(pu)          | gisi-ngo(pu)            | giângu-ngo(pu)      | iso-ngo(pu)     | ipebu-ngo(pu)        |
| 12AUG | nedu-de        | siwou-de               | gisi-de                 | giângu-de           | iso-de          | ipebu-de             |
| 2AUG  | nedu-mi        | siwou-mi               | gisi-mi                 | giângu-mi           | iso-mi          | ipebu-mi             |
| 3AUG  | nede-i         | siwe-i                 | gite-i                  | giängä-i            | isä-i           | ipebo-i              |

\* The consonant alternation is predictable, as /t/ and /s/ consistently neutralize to /s/ before /i/.

† The vowel alternation in the first syllable (*giä- ~ giä-*) is predictable in terms of vowel harmony.

## B UV AGREEMENT IN 1AUG > 2 CONFIGURATIONS

In this paper I have proposed the following generalization regarding the distribution of object agreement on UV verbs (repeated from (18)):

- (59) Object agreement is found iff:
- Subject = 1st person; Object = 2nd person
  - Subject = 3MIN; Object = non-3MIN

As mentioned in §3.1, this generalization is slightly different from the one proposed in Næss (2006, 2015) et seq., and analyzed in a Minimalist framework in Roversi (2020).

Specifically, the first clause (59a) is different. In these earlier works, the generalization has it that only 1MIN > 2 configurations trigger object agreement, whereas 1AUG > 2 block it. However, since then new data has emerged showing that 1AUG > 2 is also one of the configurations that trigger object agreement. The older generalization was formulated on the basis of this one single naturally occurring example:

- (60) *go ku-wobii-ngopu=to=we iumu, ä jelâ nugu-ngo*  
 for IPFV-follow.UV-1AUG=TAM=PROX 2MIN, and thing POSS:TOOL-1AUG  
*i-meli-du-kâ-ngo*  
 ASP-let.go.UV-all-DIR3-1AUG  
 ‘We have left everything to follow you’ (M10:28) (lit. ‘in order for us to follow you, we have left all our things’)

However, both a small number of naturally occurring attestations and elicited examples show that 1AUG > 2 configurations do have object agreement (61)-(62). Verb forms like these are also reliably produced and accepted in elicitation contexts.

- (61) *i-kää-ngee-mu*  
 ASP-know.UV-1AUG-2MIN  
 ‘We know you’ (M1:24)
- (62) *ki-viteiâ-ngee-mu=to*  
 IPFV-sell.UV-1AUG-2MIN=TAM  
 ‘We will sell you’ (said by parents to their child as a threat for bad behavior)

As for the form *-ngée* itself, it’s reasonable to believe it to be a 1AUG marker. 1MIN has the allomorphs *-no* and *-nee*, where the former is the default and the latter is only used when preceding a 2nd person object marker. 1AUG has *-ngo(pu)* as its default allomorph. Therefore, it seems plausible to assume that *-ngée* would be the 1AUG counterpart of 1MIN *-nee*. Schematically, *-no : -nee = -ngo(pu) : -ngée*.

The original datapoint (60) shows no object agreement because the first clause, introduced by *go* ‘for, so that’, is in fact an object cleft ([‘the one we follow] is you’). This is confirmed by the presence of the PROX clitic =*we* intervening between the verb and the object pronoun. Although the proximal/distal clitics =*Câ*/=*Ce* have a rather complex distribution, (i) they don’t intervene between a UV verb and a pronominal object, and (ii) they reliably occur in clefting contexts.

This revision of the empirical landscape prompts a reconsidering of the theoretical proposal in Roversi (2020), since this was based on a faulty generalization. In fact, it’s not immediately clear to me how to capture the now established distribution of object agreement in Äiwoo within current Minimalist theories of agreement. I leave this interesting puzzle open for future inquiry. However, Roversi’s (2020) broader theoretical claim in that probes can have a disjunctive satisfaction condition has since been confirmed by work on other languages. Even just limiting the empirical domain to  $\phi$ -agreement, Bondarenko & Zompì (2021) analyze agreement in Svan (Kartvelian) as showing disjunctive satisfaction. Moreover, Oxford (2022) proposes various types of probes with a disjunctive satisfaction condition to model agreement phenomena in a series of Algonquian languages.