# The possessive structure of Ojibwe: Support from Cupeño\*

Heather Newell	Glyne Piggott	Lisa Travis□
UQAM	McGill University	McGill University

Abstract: The general consensus in the literature on possessive syntax (e.g. Vergnaud & Zubizaretta 1992; Saxon & Wilhelm 2016) is that possessor arguments of inalienable nouns are merged low in the structure to satisfy the argument restrictions of these nouns. This coincides with a tight semantic relationship between the inalienable noun and its possessor. Newell & Piggott (2014) present a competing analysis based on data from Ojibwe (Algonquian), where the possessive argument of both alienable and inalienable nouns is merged high in the structure. In this account the semantic and phonological intimacy of the inalienable noun and its possessor argument is interpreted. The present article presents data from another language, Cupeño (Uto-Aztec), that supports an analysis whereby the possessor arguments of alienable and inalienable nouns emerge at the periphery of the nominal domain (DP).

Keywords: Ojibwe, Cupeño, Possession, phonology-syntax interface, alienable, inalienable

# 1 Alienable vs. inalienable possession

In many languages possessive constructions can be divided into those headed by alienable or inalienable nouns. Inalienable nouns generally refer to body parts, part-whole relations, or kinship terms, but inalienability may be specified for other nouns (e.g. *da:s* 'sock' (Ojibwe) or *tew* 'name' (Cupeño)). It is often the case that these nouns cannot be used outside of a possessive construction; they are inherently possessed. Alienable nouns, on the other hand, are those nouns that may either be possessed or not.

The relationship between the alienable noun and the possessor in many languages is mediated by possessive morphology (overt or null), while the inalienable relationship does not display such a requirement. Cross-linguistically, many inalienable constructions have the property of not being morphologically marked for possession with a separate POSS morpheme. This pattern is exemplified in the construction in (1) from Ojibwe, and (2) from Cupeño.

(1)	a.	nidakw:em ni-akwe:- <b>im</b> 1-woman- <b>POSS</b> 'my wife'	Ojibwe: Alienable
	b.	no:komis ni-o:komis	Ojibwe: Inalienable

<sup>&</sup>lt;sup>\*</sup> We thank the audience of WSCLA 2016, especially Leslie Saxon and Martina Wiltschko, for questions and comments, as well as input from the McGill/UQAM Words Group.

<sup>&</sup>lt;sup>C</sup> Contact info: <u>newell.heather@uqam.ca</u>, <u>glyne.piggott@mcgill.ca</u>, <u>lisa.travis@mcgill.ca</u>

In Proceedings of the Workshop on the Structure and Constituency of Languages of the Americas 21, University of British Columbia Working Papers in Linguistics 46,

Megan Keough, Natalie Weber, Andrei Anghelescu, Sihwei Chen, Erin Guntly, Khia Johnson, Daniel Reisinger, and Oksana Tkachman (eds.), 2018.

1-grandmother 'my grandmother'

- (2) a. nepaxaki'am
  ne-paxa-ki-'a-m
  1-cradle-POSS-N-PL
  'my cradles'
  - b. pe'eyewek'a pe-'eyewek-'a 3-chin-N 'his/her chin'

Cupeño: Alienable

# Cupeño: Inalienable

This distinction is taken to indicate that there is (at least generally; see Piggott, Travis & Newell 2016) more structure in an alienable construction than in an inalienable construction; the relation between the alienable noun and its possessor is mediated by a possessive phrase (PossP), the head of which may be overtly realized.<sup>1</sup>

#### **1.1** The structure of possession

The alienable constructions in (1a) and (2a) are proposed by many authors who work on possession to have a fairly straightforward structure, in that the possessive argument is introduced by a separate syntactic head (e.g. D or POSS) and not by the root morpheme (e.g. Kanerva 1987; den Dikken 1999; Kayne 1993; Cardinaletti 1998; Chung 1991; Español-Echevarría 1997; Bernstein & Tortora 2005). Abstracting away from the language-specific realization of nominalizing and inflectional (agreement, number) heads, an alienable noun merges with a possessive phrase, wherein the possessor argument is introduced, as shown in (3). The possessor then raises to Spec, DP to satisfy the EPP.<sup>2</sup> The person marker in D is a reflex of the possessive argument in Spec,DP.

<sup>&</sup>lt;sup>1</sup> There are some languages that have extra morphology for the inalienable (rather than the alienable) construction, such as in Chol where the suffix -Vl appears on inalienably possessed nouns (*bak* 'bone', *k*-*bak* 'my bone (as in food)', *k*-*bäkel* 'my bone (of my body)' (Vasquez-Alvarez 2011: 117). This pattern seems rarer but needs to be examined in future work.

<sup>&</sup>lt;sup>2</sup> The EPP here is used as it generally is in the literature, as a shorthand for the mechanism by which phrasal elements such as subjects raise to higher positions.

(3) Structure of (1a) nidakw:em 'my wife'



Inalienable constructions are proposed to be such that the possessive argument has a close relationship with the noun; an inalienable noun is uninterpretable without its possessor argument. Many authors working on inalienable possession propose that this closeness is due to the possessor merging directly with the root/noun rather than via a PossP intermediary (e.g. Vergnaud & Zubizaretta 1992; Barker 1995; Español-Echevarría 1997). Some authors propose that inalienable possession constructions may include PossP (Saxon & Wilhelm 2016; Piggott, Travis & Newell 2016), but these constructions appear to be exceptional and will not be considered herein. There are at least two pieces of evidence from Ojibwe that clearly demonstrate the close relationship between an inalienable noun root and its possessor. First, alienably possessed nouns may not, as shown in (4), and second, hiatus between a possessive prefix and the noun is resolved by epenthesis in alienable constructions, but by deletion in inalienables, as shown in (5) (repeated from (1)).

(4)	a.	ni <b>git∫i</b> ogima:m ni- <b>git∫i</b> -ogima:-im 1-great-leader-POSS 'my great chief'	Ojibwe: Alienable
	b.	*ni <b>git∫i</b> o:komis ni- <b>git∫i</b> -ogima:-im 1-great-grandmother-POSS 'my great grandmother'	Ojibwe: Inalienable
(5)	a.	n <b>ida</b> kw:em n <b>i-a</b> kwe:-im 1-woman-POSS 'my wife'	Ojibwe: Alienable

b. no:komis Ojibwe: Inalienable ni-o:komis 1-grandmother 'my grandmother'

Newell & Piggott (2014) propose that hiatus resolution in Ojibwe is effected through deletion only if the two vowels concerned are both interpreted in the same cycle. Working within a syntactico-centric cyclic framework such as phase theory (Chomsky 2001; Marantz 2007), they propose that nP in (3) defines a cyclic domain. All morphemes within nP will be interpreted together (both semantically and phonologically), and any morphemes within the DP but outside of nP (here the D head) will be interpreted separately. This explains why the hiatus in (5a) is resolved through epenthesis, and why the alienable noun does not have an inherently possessed semantic interpretation. It raises, however, a question about how the inalienable noun and the possessor prefix are interpreted. There are two options that will supply the necessary phonological and semantic closeness in an inalienable construction. Either the possessor is merged low and remains low so that both morphemes are interpreted within nP, as shown in (6), or the possessor is merged high and the inalienable root raises out of nP so that both morphemes are interpreted in D, as shown in (7).

#### (6) Low attachment of the possessor



(7) High attachment of the possessor



In both (6) and (7) the possessive argument induces agreement on the head of its sister, and in both derivations the root o:komis and the possessive agreement morpheme, here ni-, are interpreted in the same cycle.

The question taken up in this article is how to determine which of the above derivations accurately accounts for the possessive constructions in Ojibwe and languages with possessive derivations akin to those in Ojibwe. Before taking up this question, we will briefly document the cross-linguistic uniformity of possessive constructions.

# **1.2** Cross-linguistic uniformity

In the following three languages we see the same type of morphological, phonological and semantic patterns in alienable and inalienable constructions as seen above in Ojibwe. As in Ojibwe, in no case do the possessive structures in these languages help us to decide between the derivations of the type in (6) and (7).<sup>3</sup>

In Nanti (Arawakan) it is the case, as in Ojibwe, that a possessive suffix may appear in an alienable possession construction, as shown by *-te* in (8a). This affix never appears in inalienable derivations, as in (8b).

(8)	a.	i-gemari- <b>te</b> 3.M.SG-tapir- <b>POSS</b> 'his tapir'	Nanti: Alienable	
	b.	i-banko 3 M SG-bouse	Nanti: Inalienable	
		'his house'		(Michael 2013)

Nanti, however, does not display any purely phonological distinctions, such as seen in Ojibwe. Nonetheless, the structures in (8) are consistent with the proposed derivations in (3) and (6)/(7) morphologically and semantically.

In Lango (Nilotic) we see another correlate of the Ojibwe pattern. The possessive morpheme in alienable constructions in this language is phonologically null, yet we have evidence from the phonology of possessive constructions that it is there nonetheless. Dobler (2008) notes that in alienable possessive constructions a disallowed consonant-nasal cluster is repaired through gemination (9a), while the same melodic sequence in an inalienable construction is repaired by deletion.

(9)	a.	do <b>gg</b> a	Lango: Alienable
		dog-na	
		mouth-1SG	
		'my (animal) mouth'	
	b.	doga	Lango: Inalienable
		dog-na	
		mouth-1SG	
		'my (own)mouth'	

This distinction is explained in the same way that the deletion/epenthesis distinction is accounted for in Ojibwe. One repair strategy is triggered when both morphemes are interpreted simultaneously (deletion), and the other is effected when the noun and the possessive affix are

<sup>&</sup>lt;sup>3</sup> Throughout this article we are examining only synthetic possessive constructions. Analytic constructions, or language-internal synthetic-analytic contrasts are beyond the scope of the present work.

interpreted in separate domains (gemination).<sup>4</sup> Therefore in Lango the alienable derivation is as depicted in (3) (modulo morpheme order), and the inalienable again does not distinguish between the derivations in (6/7).

Nivkh (isolate/Paleosiberian) offers additional phonological evidence for the difference between alienable and inalienable derivations as outlined above. Consider the following minimal pair.

(10)	a.	p <sup>h</sup> inaχ REFL-bed 'one's own bed'	Nivkh: Alienable	
	b.	p <sup>h</sup> nax REFL-bed	Nivkh: Inalienable	
		'one's own eyes'		(Shiraishi 2006)

In the alienable (10a) the monoconsonantal possessive prefix triggers epenthesis of a vowel between itself and the root-initial consonant. Interestingly, if one considers (10b) it becomes evident that this epenthesis is not due to the phonotactic restrictions of the language, as  $/p^hn/$  is a perfectly licit onset in the inalienable construction. This pattern demonstrates again that the prefix in an alienable construction is interpreted separately from the possessed noun. Assuming that the output of each cycle must be able to be syllabified, and assuming that in Nivkh the boundary between cycles is maintained throughout the derivation (as is the domain of stress-assignment in English Level two derivations such as [[párent]hood]) we expect the insertion of the vowel in the output of facilitate syllabification of the prefix ([p<sup>h</sup>i[na\chi]]).<sup>5</sup>

In the preceding four unrelated languages, Ojibwe, Nanti, Lango, and Nivkh, we have evidence for the same structural and derivational distinctions between alienable and inalienable possessive structures. In none of these languages, however, do we have evidence to distinguish between the low or high merger of the possessive argument in inalienable constructions. In the next section we turn to a fifth language that offers clues to the desired disambiguation.

### 2 Cupeño: Alienable vs. inalienable possession

This section presents evidence from Cupeño (Uto-Aztec) that supports a head movement derivation of inalienable possessive constructions, as in (7). Section 2.1 presents the morphophonological distinctions between alienable and inalienable constructions in Cupeño. In Section 2.2 we see that the same phonological distinctions seen in the possessive system are also evidenced in the verbal system. That the verbal distinction must be explained through head movement supports a parallel analysis of inalienable possessives. Further supporting evidence from a comparison between inalienable and relational nouns and from clitic doubling of possessive arguments is given in Section 2.3.

<sup>&</sup>lt;sup>4</sup> The pattern of repair strategies within Ojibwe, and within any language, is proposed in Newell & Piggott (2014) to be due to the principle of Prosodic Persistence (PP). Newell (2016) details how PP underlies the cross-linguistic uniformity of the patterns that these language-internal conspiracies can take.

<sup>&</sup>lt;sup>5</sup> For a more detailed analysis of this pattern within the framework of Government Phonology, see Piggott, Travis, & Newell (2016).

#### 2.1 Cupeño: Alienable vs. inalienable possession

Cupeño (Uto-Aztec) displays the same type of morpho-syntactic and phonological patterns seen above that distinguish alienable and inalienable constructions. First we will see that there is a possessive morpheme that appears in alienable constructions, and then we will see that stress assignment behaves differently depending on whether the construction is alienable or inalienable.

In (11) we see that only alienable constructions contain an overt possessive marker.

(11) a.	nepaxaki'am ne-paxa- <b>ki</b> -'a-m 1-cradle- <b>POSS</b> -N-PL 'my cradles'	Cupeño: Alienable
b.	pe'eyewek'a pe-'eyewek-'a 3-chin-N 'his/her chin'	Cupeño: Inalienable

It is important to note, here, that -a, contrary to the proposal of Hill (2005), is not a possessive head. A closer examination of the data shows that it is, instead, a nominalizing suffix. First, Cupeño has a series of Non-Possessed-Noun (NPN) suffixes that are found on alienable nouns, and which may also transform inalienable nouns into alienable nouns. Interestingly, the -ki possessive morpheme may attach to nouns bearing an NPN suffix (PERSON-ROOT-NPN-ki), but -ia may not (\*PERSON-ROOT-NPN-ki-'a). It is proposed here that the NPN and N affixes are both nominalizing heads, explaining why they cannot co-occur. In Cupeño, then, a nominalizing head may appear either inside (NPN) or outside (N) of the possessive -ki. Notably, the inner NPN suffixes display allomorphy determined by the root (ti '*i*-ly 'bone-NPN' vs. *ne-t* 'chief-NPN'), as is the case for lexical nominalizers in English (cf. *destruct-ion vs. revers-al*), while the outer nominalizing affix is unchanging, as is the outer, productive nominalizing affix *-ing (destroying, reversing*). The -ia morpheme, as it is not possessive, is licit (but not obligatory) in inalienable constructions, as shown in (11b). The possessive *-ki* affix, however, is categorically banned from inalienable possessive structures, as would be expected given the patterns we have established in Section 1.

Additionally, as with the possessive constructions in Section 1, Cupeño alienable and inalienable constructions evidence a phonological contrast. In Cupeño, default word stress may fall either on the first syllable of the root or on the first syllable of the phonological word (including prefixes but excluding proclitics). Whether stress falls on the former or the latter is dependent on the syntactic structure and derivational history of the word in question (Barragan & Newell 2003, Newell 2008), but default stress assignment may be blocked by lexicalized stress on certain morphemes (indicated in the examples below as a stress on a segment in the interlinear gloss). Important for our concerns is that there is a stress distinction between alienable and inalienable possessive constructions. In alienable possessive constructions in Cupeño default stress falls on the first syllable of the root, as in (12). Inalienably possessed constructions may also display stress on the first syllable of the root, as in (13a), but, unlike alienably possessed constructions may in (13b).

(12) ne?éşhwe ne-?eşhwe 1SG-eagle 'my eagle'	Cupeño: Alienable
(13) a. etéw'a e-téw-'a 2SG-name-N 'your name'	Cupeño: Inalienable
b. púyu pe-yu 3SG-hair 'his/her hair'	

We account for this asymmetry in the distribution of stress by proposing that the prefix is outside of the domain of main stress in alienable constructions and inside the domain of main stress in inalienable constructions, mirroring the phonological patterns seen in Ojibwe, Lango, and Nivkh.

This phonological pattern, as was the case with the other languages presented above, does not in and of itself distinguish between the derivations in (6) and (7). However, the distinction between structures that may and may not bear stress on a syllable other than the initial syllable of the root is also seen in the verbal system of Cupeño. As we will see below, this parallel structure does indicate evidence for this disambiguation. Stress may appear on the agreement prefix in a verbal structure, similar to what we have seen for inalienable possessive structures. Following Barragan & Newell (2003), and Newell (2008), we argue that when stress falls on this prefix, head movement out of the lowest phase has occurred, supporting an analysis of inalienable derivations like the one seen in (7).

#### 2.2 Cupeño: verbal derivations

We start by noting the presence of stress on the agreement prefix in some verbal constructions. In (14) below, we can see that in certain verbal conjugations the same person prefixes that track the possessor in the constructions above track the subject of the verb and these prefixes may receive stress.

(14) **né**yax Cupeño: Simplex verb ne-yax 1SG-say 'I say'

In other constructions, the prefix remains unstressed, and stress falls generally on the first syllable of the root.

(15) netúl ne-tul-🛇 **1SG-finish-UNERG** 'I finished.'

(Alderete 2001:50)

The distinction between (14) and (15) is due to the underlying morpho-syntax of each construction. In (14) we have a simplex verbal construction lacking a light verb, as demonstrated by the tree in (17). In (15) the verb is combined with a null unergative suffix, and has a structure as in (18a).<sup>6</sup> Stress placement on the prefix occurs only in simplex verbal constructions; those containing a single verb root. When the verb is complex, containing a main verb as well as a light verb, stress always falls on the main verb root.<sup>7</sup> An example containing an overt light verb can be seen in (16).

(16) wíchaxnenqal Cupeño: Complex verb wichax-ne-in-qál throw-1SG-TRANS-PAST.SG
 'I was throwing it'

This phonological distinction within the verbal system has been analyzed as being determined by whether the verbal root is interpreted in the same cycle as its affixes (Barragan & Newell 2003; Newell 2008). The highest verb always raises out of vP and into the inflectional domain. In the case of the simplex verb, the sole verb moves out of the lower phase to the inflectional domain, as shown in (17).

#### (17) Simplex verb derivation



In complex derivations, it is the light verb (the highest verb) that moves out of the lower phase into the inflectional domain where the agreement prefix has been generated. Here the main verb always remains low in the structure, as shown in (18).<sup>8</sup> (18a) shows a derivation where the

<sup>&</sup>lt;sup>6</sup> A detailed account of the distinction between these two types of constructions can be found in Newell (2008). The prefix that merges in AgrP in (15) prefixes to the verbal root within the vP as there is no overt morphology to host the prefix in the CP phase. (16) demonstrates the normal behaviour of an Agr prefix when it emerges in the CP domain with other overt morphemes.

<sup>&</sup>lt;sup>7</sup> Stress on *qal* 'PST.SG' is lexical and only emerges in simplex verbal constructions.

<sup>&</sup>lt;sup>8</sup> This distinction parallels constructions with auxiliary verbs in English, where Tense is realized only on the highest verb.

light verb is phnologically null, and (18b) a derivation where the light verb is phonologically overt.

#### (18) Complex verb derivation



Within a framework where cyclic phonological domains are determined by syntactic phases, and where vP is a phase, it is evident that in (17) the verb root and the prefix are interpreted in the same cycle, while in (18) the main verb root is interpreted alone within vP, while the light verb is interpreted in the higher domain with the agreement and tense heads. Stress is assigned to the first syllable in the most embedded domain containing overt phonological material: the prefix in the Agr head in (17), and the first syllable of the root in (18). Note that this analysis is dependent on the movement of the light verb root to the head of AgrP. The affix order in (14/17) and (16/18b) supports this proposal. The Agr head is a prefix on the moved verb in both constructions. The placement of the prefix in (18a) is exceptional for a complex derivation. We would expect it to follow the main verb. It cannot, as there is no phonological material within its phase to be the target of prefixation.

The simple construction in (17) is most similar to the inalienable possessive construction in (13b) since stress is able to fall on the agreement prefix. The complex structures in (18) show that, for phonologically overt material, attachment of this prefix must occur after movement of the light verb out of the lower phase which contains the verbal root.

#### 2.3 Cupeño: Additional evidence for head movement

Now we will see two types of evidence that inalienables are encoded as being external rather than internal arguments, providing further support for an analysis of inalienables where the possessive prefix is merged high as in (7) rather than a low-merger derivation such as (6).

The first type of evidence comes from an additional construction in the language that tracks certain arguments using the agreement prefixes already seen in possessive and verbal derivations. Relational nouns in the language (glossed as prepositions below) look remarkably like inalienably possessed nouns in that they are prefixed with agreement markers, and the agreement markers in these constructions bear stress. In (19a) we see that the prefix on the relational noun *-yik* tracks the features of the internal argument, *súpuli*, and in (19b) the internal (null) argument *e-* 'you'.

(19) a.	súpulipéyiksupul-ipe-yikother-OBJ3SG-to'to the other one'			Cupeño: Relational Construction
b.	étimel e-t-im=el DEM-NPN-PL=3PL.ABS	éyik e-yik 2sG-to	máxetim. maxe-t-im give-NPN-PL	Cupeño: Relational Construction
	'They were given to yo	u.'	6	(Hill 2005:363, 299)

It is clear that the person prefixes track the internal objects of the relational nouns, agreeing in number and person with them.<sup>9</sup> What is also clear is that internal arguments in Cupeño are marked with objective (accusative) case (-i/-y) as in (19a) above. In inalienable constructions, however, the possessor is never marked as an object (see (20) below), suggesting that it is selected for by a head that is not the inalienable root, and therefore it is not an internal argument. A single argument selected for by a root would always be a structural object.

(20) nét	péki	Inalienable	
ne-t(*-i)	pe-ki		
chief-NPN(*-OBJ)	3sG-house		
'the chief's house'			(modified from Hill 2005:363)

If the possessor argument in (20) is merged in Spec,DP (not Spec,PossP; remember that no possessive morphology is found in inalienable constructions), and the possessive agreement head is in D, the movement analysis in (7) is necessary to account for the fact that the inalienable root emerges in the same phonological domain as the agreement prefix.

Additional evidence for the inalienable possessor emerging at the outside of nP comes from the case-marking pattern of second-position clitics in the language. Cupeño has a series of second-position clitics that evidence an Ergative-Absolutive alignment (unique among Uto-Aztec languages). Notably (although not necessarily surprisingly, see, e.g. Johns 1992) these clitics mark possessor arguments as Ergative. The examples in (21) demonstrate that "The ergative

<sup>&</sup>lt;sup>9</sup> We leave aside for now the syntactic details of the relational nominal construction and what head houses the agreement morphology.

series of PN clitics encodes the person and number of the agents of transitive verbs. The absolutive series encodes the person and number of the subjects of intransitive verbs and the objects of transitive imperative verbs." (Hill 2005:77)

(21) a.	Me = t	pe' = e	kumu	awá-l-i	yax-we
	and = 3SG.ABS	3SG.PRO = CF	like	dog-NPN-O	say-PRES
	'And he is just ]	like a dog'			

b. Eye-t = pe itú-qa ne-'ách-i gayíina'a-y thief-NPN = **3**SG.ERG steal-PRES 1SG-pet-OBJ chicken-OBJ 'A thief stole my chicken just last night' (Hill 2005:78)

That the alienable and inalienable possessive arguments trigger ergative case on the clitic, as shown in (22), suggests that both are external arguments.

(22) E = <b>'ep</b>	e-tew-'a	Kavaly	miyax-wene	
2SG.PRO = $2$ SG.ERG	2sg-name-N	Kavaly	be-FUT.IMP.STATIVE	
'Your name will be K	avaly'			(Hill 2005:79)

### 2.4 Summary of Cupeño evidence

The evidence above all points toward an analysis of Cupeño inalienable possession structures where the possessive argument is merged high, in Spec,DP and the inalienable noun raises to D to be interpreted. The inalienable and alienable constructions parallel the simplex and complex verbal constructions in the language, and the possessor arguments are not marked as arguments of the nominal root, but rather they trigger the same clitic agreement as exteral arguments. We conclude that Cupeño inalienable possessives are derived as in (7) rather than as in (6).

### 3 Conclusions: Cross-linguistic uniformity

If we combine the conclusions in Section 2 regarding the derivation of Cupeño possessives with the cross-linguistic uniformity of the morphology and phonology of possessive constructions in Section 1 we have indirect evidence that inalienable possessive derivations are as in (7) rather than as in (6). We therefore conclude that the movement analysis of Ojibwe possessive phonology in Newell & Piggott (2014) is correct.

If the above is correct, we can propose that, rather than selecting for a possessive argument (as proposed in Vergnaud & Zubizaretta 1992, among others), inalienable roots have an unvalued POSS(essed) feature that must be checked before the root may be interpreted semantically (at LF). As possessive arguments are introduced by a higher functional head (POSS in the case of alienables, and D in the case of inalienables) this valuation will be effected only after movement of the inalienable root. The inalienable root must escape the nP phase within which it is merged to enable it to be interpreted with its possessor. This syntactic motivation for movement has visible

implications for the phonology as the inalienable root will be interpreted with its possessor at PF.<sup>10</sup>

With this conclusion in mind, we can speculate on the motivation for the ban on modification in the inalienable possessive constructions in Ojibwe (see (4b) above). An inalienable root that must move to be interpreted will not be subject to reconstruction at LF, as it is uninterpretable in its reconstructed position (supporting Lechner 2006, who also proposes derivations in which head movement does not reconstruct). Assuming adjectives in Ojibwe are nP modifiers (as evidenced by their position following the possessive prefix situated in D in alienable constructions), merger of an adjective into an inalienable construction will not be possible, as it will not scope over the position in which the inalienable root is interpreted.<sup>11</sup>

#### (22) Grammatical alienable modification at LF (4a)



# (23) Ungrammatical inalienable modification at LF (4b)



<sup>&</sup>lt;sup>10</sup> This analysis therefore also offers evidence that head movement may allow a morpheme to escape interpretation within its phase, contra Embick (2010) and Marantz (2013). Further support for this conclusion can be found in Dobler et al. (2011), Newell (in press), and Kilbourne-Ceron et al. (in press). <sup>11</sup> An alternative to (22) and (23) can be found in Piggott and Travis (2013), where the modifier is a complex head and adjoins to the nominal head.

In this article we have attempted to demonstrate how a cross-linguistic analysis shows a consistent uniformity of structure in possessive constructions, distinguishing inalienable possessive constructions from alienable possessive constructions. The claim is that the former contains obligatory (unreconstructable) head movement triggered by a feature on the root requiring an argument. The latter, having no such feature, has no head movement out of nP. This uniformity allows for the use of data from one language to illuminate the analysis of another. The head movement analysis of Ojibwe possessive constructions, initially intended to account for the varying hiatus resolution strategies in the language, raised questions that found answers in the nominal and verbal systems of Cupeño. While looking at the Cupeño nominal possessive constructions raised the same questions as those encountered in Ojibwe, when paired with similar effects in verbal and relational nominal constructions, evidence for obligatory head movement was uncovered. Having established the need for head movement of inalienable roots, we were able to sketch an analysis of the patterns of modification in these constructions.

The larger goal of this paper has been to demonstrate the importance of studying interactions at the syntax-phonology and syntax-semantics interfaces in parallel, as a pattern of interpretation on one side may aid in the elucidation of a pattern on the other.

#### References

- Alderete, J. (2001). *Morphologically governed accent in Optimality Theory*. Outstanding Dissertations in Linguistics. London: Routledge.
- Barker, C. (1995). Possessive descriptions. Stanford: CSLI Publications.
- Barragan, L., & Newell, H. (2003). Cupeño morphology is inherently stressful. In B. Abagyani, V. Samiian & B. Tucker (Eds.), *Proceedings of WECOL* (Vol. 15), 10–22.
- Bernstein, J. B., & Tortora, C. (2005). Two types of possessive forms in English. *Lingua* 115:1221–1242.
- Cardinaletti, A. (1998). On the deficient/strong opposition in possessive systems. In A. Alexiadou, and C. Wilder (Eds.), *Possessors, predicates and movement in the determiner phrase: Linguistics Today Vol 22.* Amsterdam/Philadelphia: John Benjamins, 17–53.
- Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.), *Ken Hale, a life in language*. Cambridge, MA: MIT Press, 1–52.
- Chung, S. (1991). Functional heads and proper government in Chamorro. Lingua 85:85-134.
- den Dikken, M. (1999). On the structural representation of possession and agreement: The case of (anti-)agreement in Hungarian possessed nominal phrases. In I. Kenesi (Ed.) Crossing boundaries: Advances in the theory of Central and Eastern European languages. Amsterdam: John Benjamins, 137–179.
- Dobler, E., Newell, H., Piggott, G., Skinner, T., M. Sugimura, M., & Travis, L. (2011). Narrow syntactic movement after spell-out. ms. McGill University.
- Dobler, E. (2008). The morpho-phonology of (in)alienable possession. In S. Jones (Ed.), *Proceedings of the 2008 annual conference of the Canadian Linguistic Association.*
- Español-Echevarría, M. (1997). Inalienable possession in copulative contexts and the DPstructure. *Lingua* 101:211–244.

- Embick, D. (2010). *Localism versus globalism in morphology and phonology* (Vol. 60). Cambridge, MA: MIT Press.
- Hill, J. H. (2005). *A grammar of Cupeño* (Vol. 136). Berkeley & Los Angeles, CA: University of California Press.
- Johns, A. (1992). Deriving ergativity. Linguistic Inquiry 23:57-87.
- Kanerva, J. M. (1987). Morphological integrity and syntax: The evidence from Finnish possessive suffixes. *Language* 63:498–521.
- Kayne, R.S. (1993). Toward a modular theory of auxiliary selection. Studia Linguistica 47:3–31.
- Kilbourne-Ceron, O., Newell, H., Noonan, M., & Travis, L. (in press). Phase domains at PF: Root suppletion and its implications. In H. Harley, H. & D. Siddiqi (Eds.), *Morphological metatheory*. Amsterdam: John Benjamins.
- Lechner, W. (2006). An interpretive effect of head movement. In M. Frascarelli (Ed.), *Phases of interpretation*. Berlin: Walter de Gruyter, 45–70.
- Marantz, A. (2013). Locality domains for contextual allomorphy across the interfaces. In O. Matushansky & A. Marantz (Eds.), *Distributed Morphology today: Morphemes for Morris Halle*. Cambridge, MA: MIT Press, 95–115.
- Marantz, A. (2007). Phases and words. In S.-H. Choe (Ed.), *Phases in the Theory of Grammar*. Seoul: Dong In, 191–222.
- Michael, L. (2013). Possession in Nanti. In A. Aikhenvald & R. M. W. Dixon (Eds.), Possession and ownership. Oxford: Oxford University Press, 149–166.
- Newell, H. (in press). Nested phase interpretation and the PIC. In H. Newell, M. Noonan, G. Piggott, & L. Travis (Eds.), *The structure of words at the interfaces*. Oxford: Oxford University Press.
- Newell, H. (2016). The shape of phonological rules, conspiracies, and the Elsewhere Principle. (ms. submitted to *Phonology*).
- Newell, H. (2008). Aspects of the morphology and phonology of phases. Doctoral dissertation, McGill University.
- Newell, H., & Piggott. G. (2014). Interactions at the syntax-phonology interface: Evidence from Ojibwe. *Lingua* 150:332–362.
- Piggott, G., Travis, L. & Newell, H. (2016). The phonology and morphology of possession: Case studies. ms. McGill University and UQAM.
- Piggott, G., & Travis, L. (2013). Adjuncts within words and complex heads. In R. Folli, C. Sevdali & R. Truswell (Eds.), *Syntax and its limits*. Oxford: Oxford University Press, 157–174.
- Saxon, L., & Wilhelm, A. (2016). The "Possessed Noun Suffix" and possession in two Northern Dene (Athabaskan) languages. *International Journal of American Linguistics* 82:35–70.
- Shiraishi, H. (2006). *Topics in Nivkh phonology*. Doctoral dissertation, University Library Groningen.

- Vergnaud, J. R., & Zubizarreta, M. L. (1992). The definite determiner and the inalienable constructions in French and in English. *Linguistic Inquiry* 23:595–652.
- Vasquez-Alvarez, J. J. (2011). A grammar of Chol, a Mayan language. Doctoral dissertation, University Texas at Austin.