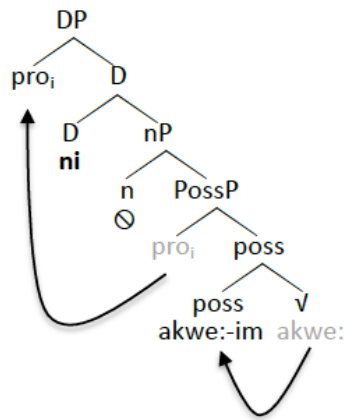


(3) Structure of (1a) *nidakw:em* ‘my wife’



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 & Zubizarreta 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 be separated from the possessor prefix by a modifier, while inalienably 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)).

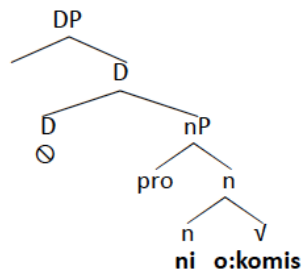
- | | | |
|--------|--|---------------------|
| (4) a. | <p>nigitjiogima:m
 ni-gitji-ogima:-im
 1-great-leader-POSS
 ‘my great chief’</p> | Ojibwe: Alienable |
| b. | <p>*nigitjio:komis
 ni-gitji-ogima:-im
 1-great-grandmother-POSS
 ‘my great grandmother’</p> | Ojibwe: Inalienable |
| (5) a. | <p>nidakw:em
 ni-akwe:-im
 1-woman-POSS
 ‘my wife’</p> | Ojibwe: Alienable |

- b. **no:komis**
ni-o:komis
 1-grandmother
 ‘my grandmother’

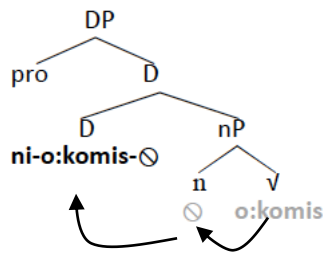
Ojibwe: Inalienable

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).³

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- te
3.M.SG-tapir- POSS
'his tapir' | Nanti: Alienable | |
| b. | i-banko
3.M.SG-house
'his house' | Nanti: Inalienable | (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. | dogga
dog-na
mouth-1SG
'my (animal) mouth' | Lango: Alienable |
| b. | doga
dog-na
mouth-1SG
'my (own)mouth' | Lango: Inalienable |

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

³ 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).⁴ 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 ^h inaχ
REFL-bed
'one's own bed' | Nivkh: Alienable | |
| b. | p ^h naχ
REFL-bed
'one's own eyes' | Nivkh: Inalienable | (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 outer domain to facilitate syllabification of the prefix ([p^hi[naχ]]).⁵

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.

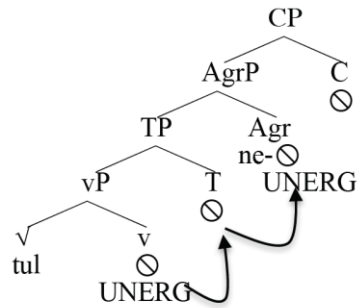
⁴ The pattern of repair strategies within Ojibwe, and within any language, is proposed in Newell & Piggott (2014) to be due to the principle of Prosodic Persistence (PP). Newell (2016) details how PP underlies the cross-linguistic uniformity of the patterns that these language-internal conspiracies can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

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

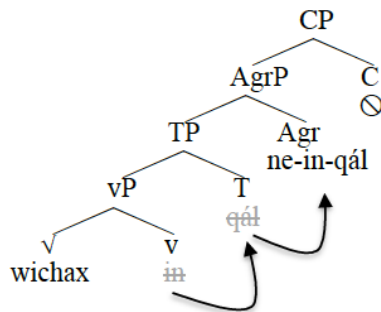
light verb is phonologically null, and (18b) a derivation where the light verb is phonologically overt.

(18) **Complex verb derivation**

a.



b.



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. | súpuli | péyik | | Cupeño: Relational Construction |
| | supul-i | pe-yik | | |
| | other-OBJ | 3SG-to | | |
| | ‘to the other one’ | | | |
| b. | étimel | éyik | máxetim. | Cupeño: Relational Construction |
| | e-t-im=el | e-yik | maxe-t-im | |
| | DEM-NPN-PL=3PL.ABS | 2SG-to | give-NPN-PL | |
| | ‘They were given to you.’ | | | |
- (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.⁹ 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

⁹ 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 = **3SG.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 = ‘**ep** e-tew-‘a Kavaly miyax-wene
 2SG.PRO = **2SG.ERG** 2SG-name-N Kavaly be-FUT.IMP.STATIVE
 ‘Your name will be Kavaly’

(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 external arguments. We conclude that Cupeño inalienable possessives are derived as in (7) rather than as in (6).

3 Conclusions: Cross-linguistic uniformity

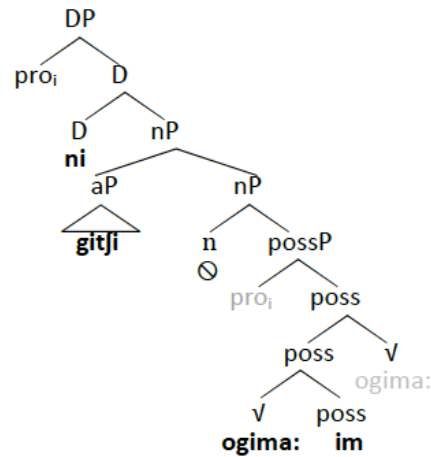
If we combine the conclusions in Section 2 regarding the derivation of Cupeño possessives with the cross-linguistic uniformity of the morphology and phonology of possessive constructions in Section 1 we have indirect evidence that inalienable possessive derivations are as in (7) rather than as in (6). 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 & Zubizarreta 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.¹⁰

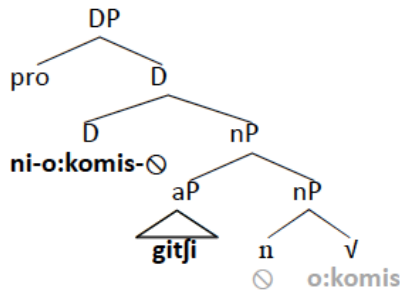
With this conclusion in mind, we can speculate on the motivation for the ban on modification in the inalienable possessive constructions in Ojibwe (see (4b) above). An inalienable root that must move to be interpreted will not be subject to reconstruction at LF, as it is uninterpretable in its reconstructed 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.¹¹

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



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

*



¹⁰ 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).

¹¹ 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.

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