Contents

1 The Basic Clause

1.1 Syntactic Predication

Like many languages of the Pacific Northwest, Nuuchahnulth is a predicate-initial language, with a great deal of flexibility in what can be used predicatively.

However, because the term "predicate" (and associated derivations "predicative" and so on) is often ambiguous between the syntactic position and the semantic concept, I will use special vocabulary to distinguish syntactic and semantic phenomena. I will use *predication* to refer to the atomic semantic unit used in compositional semantics, and write the predication in small capital letters. For example, the English word *see* has the predication SEE. Predications may have some number of semantic *arguments*. For example, I can model the predication SEE as having three arguments: an event variable, and two entities representing the *seer* and the *seen-thing*: SEE(e, x, y). Note that the predication itself (SEE) is conceptually separate from the number and type of its arguments. This cartoon representation reflects the fuller semantic modeling that I will use later, Minimal Recursion Semantics Copestake et al. (2005).

Contrasting with semantic *predications* and *arguments* are syntactic *predicates* and *participants*. A *predicate* is the word or phrase that heads a clause. A syntactic predicate may have one more *participants* associated with it. A participant is the word or phrase in a clause that is associated with the predicate's semantic arguments. It is however possible for a predication's semantic *argument* to not be realized in the clause by an overt syntactic *participant*.

This terminology is important for Nuuchahnulth in particular because, while there are syntactic categories like verb, noun, and adjective, any of these may function as either syntactic predicate or participant, depending on where they fall in the sentence. The terms "verb phrase," "noun phrase," and "adjective phrase" are valid but not illuminating for predication, as any of these may be predicates.

(1) ẖaacsiičiƛʔiš haɬmiiḥa quuʔas.
ẖaacs-iˑčiƛ=ʔiˑš haɬmiiḥa quuʔas
see-IN=STRG.3SG drowning person
'He sees a drowning person.' (**N**, Fidelia Haiyupis)

In (1), the verb *ẖaacsiičiƛ* 'see' is serving as the clausal predicate, while the clause *haɬmiiḥa quuʔas* 'drowining person' is serving as the participant. While all three words have semantic predications (SEE, DROWN, PERSON), only one is the syntactic predicate of the sentence.

(2) qʷaćałʔiš ḥaakʷaaƛ̓ʔi.
qʷaćał=ʔi·š ḥaakʷaaƛ̓=ʔi·
beautiful=STRG.3 young.girl=ART
'The young girl is beautiful.' (**C**, *tupaat* Julia Lucas)

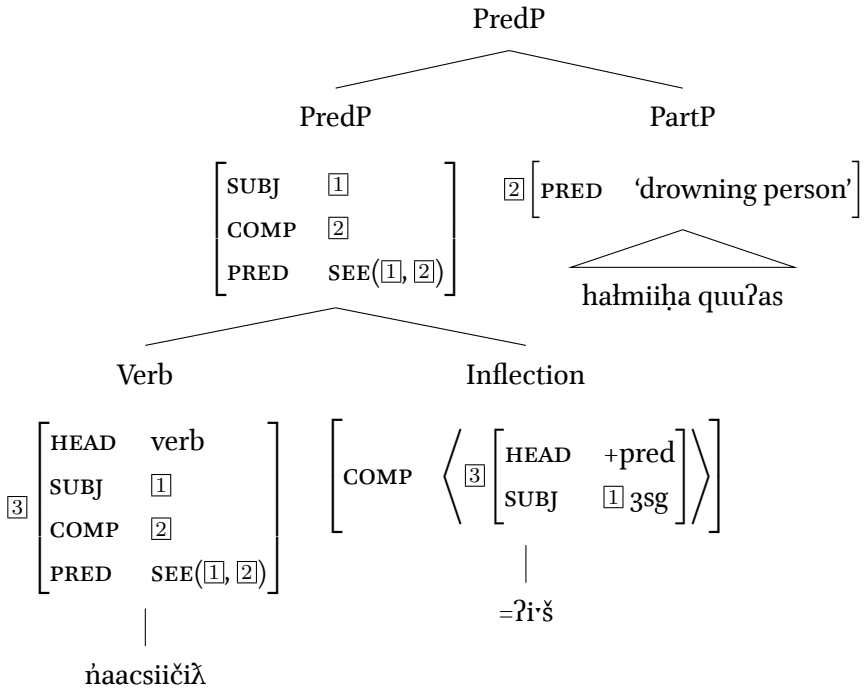
(2) shows the adjective *qʷaćał* 'beautiful' as the predicate of the sentence, with the noun *ḥaakʷaaƛ̓* 'young girl' serving as the participant.

(3) pisatuwiłma ʔaanaḥi.
pisatuwił=ma· ʔaanaḥi
gym=REAL.3 only
'It's only a gym.' (**B**, Marjorie Touchie)

(3) shows a noun predicate *pisatuwił* 'gym' without any participants. Postposed *ʔaanaḥi* 'only' is a predicate-modifying adverb and not a participant being linked with an argument role for the predication GYM.

The way I model this ambiguity is by declaring that clauses are headed by their second-position inflection, which selects for (and does argument composition with) anything that is [PRED +]. The syntactic categories of Noun, Verb, and Adjective are all [PRED +], so they may all be the immediate complement of the second position clitic and create a predicate phrase (PredP). Syntactic sketches in an HPSG style are given for (1, 2, 3) are given in (4, 5, 6) below.

(4)



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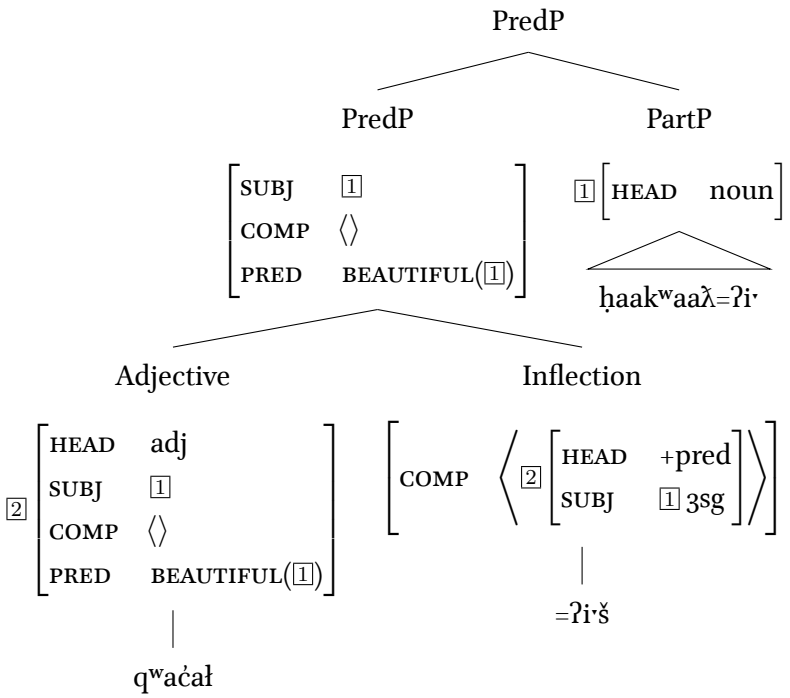

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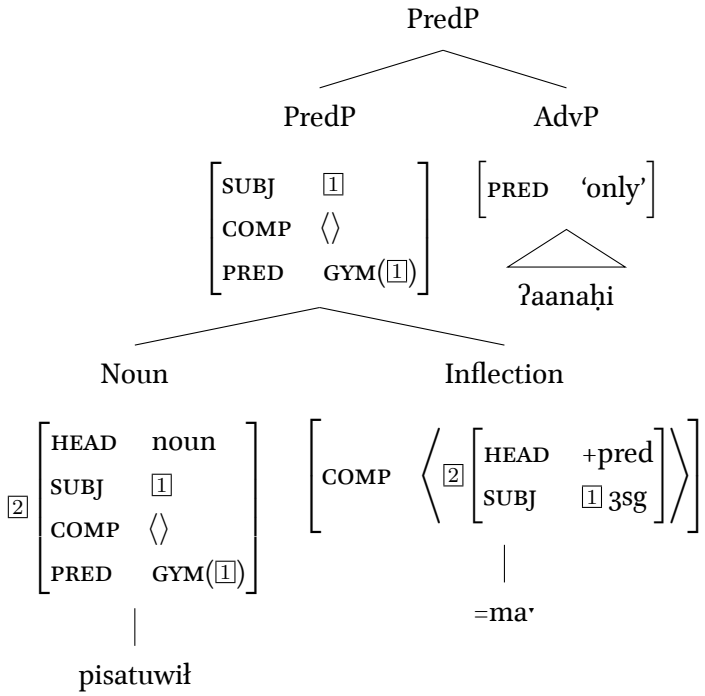


In these cases, there appears to be no difference between the categories of ‘verb’, ‘adjective’, and ‘noun’, and this is by design. In creating predicate phrases, this distinction becomes irrelevant. However, nouns differentiate themselves from adjectives and verbs when creating participant phrases (PartP) which I turn to now.[1]

[1]Adjectives differ from verbs in their behavior when serving as a root for a suffix verb, and other morphological behavior.

1.2 Participant Phrase

Just as verbs, nouns, and adjectives may all be predicates, they may also all be participants. (2) has a straightforwardly nominal participant, the noun and article *ḥaakʷaaƛʔi* 'the young girl.' However, verbs (7) and adjectives (8) may also serve in the predicate position.

(7) ʔuḥʔiiš ʕiḥak kamatqukʔi.
ʔuḥ=ʔi·š ʕiḥak kamatq-uk=ʔi·
be=STRG.3 cry.DR run-DR=ART
'The running one is crying.' (**C**, *tupaat* Julia Lucas)

(8) wiḵiičʔaaɬ ƛ̓iixċus ƛaƛuuʔi.
wik=ɬi·č=ʔaaɬ ƛ̓iixċus ƛaƛuu=ʔi·
NEG=CMMD.2PL=HABIT laugh.at.DR other.PL=ART
'Don't laugh at others.' (**C**, *tupaat* Julia Lucas)

TODO: check the source of (8) for sharing permissions, look for another example if necessary

As detailed in Jacobsen (1979) and Wojdak (2001), when an adjective or verb is used as a participant, as in (7, 8), the article *=ʔi·* is required to make the sentence grammatical. When the participant is headed by a noun, however, as in (1), the article is optional. Proper nouns differentiate themselves from common nouns in that they may never take the article (Inman, 2018).[2] They are also never in predicate position.

My analysis of these facts is that the article *=ʔi·* is relativizing a full predicate and allowing it to be a participant (Inman, 2018).[3] Noun phrases may be relativized without the article, but other phrases may not, so that they must be headed by the relativizing second position article *=ʔi·*. The article, like other second position inflection, I model as requiring its complement to be [PRED +]. I model proper nouns as [PRED −], so that they do not unify with the article.

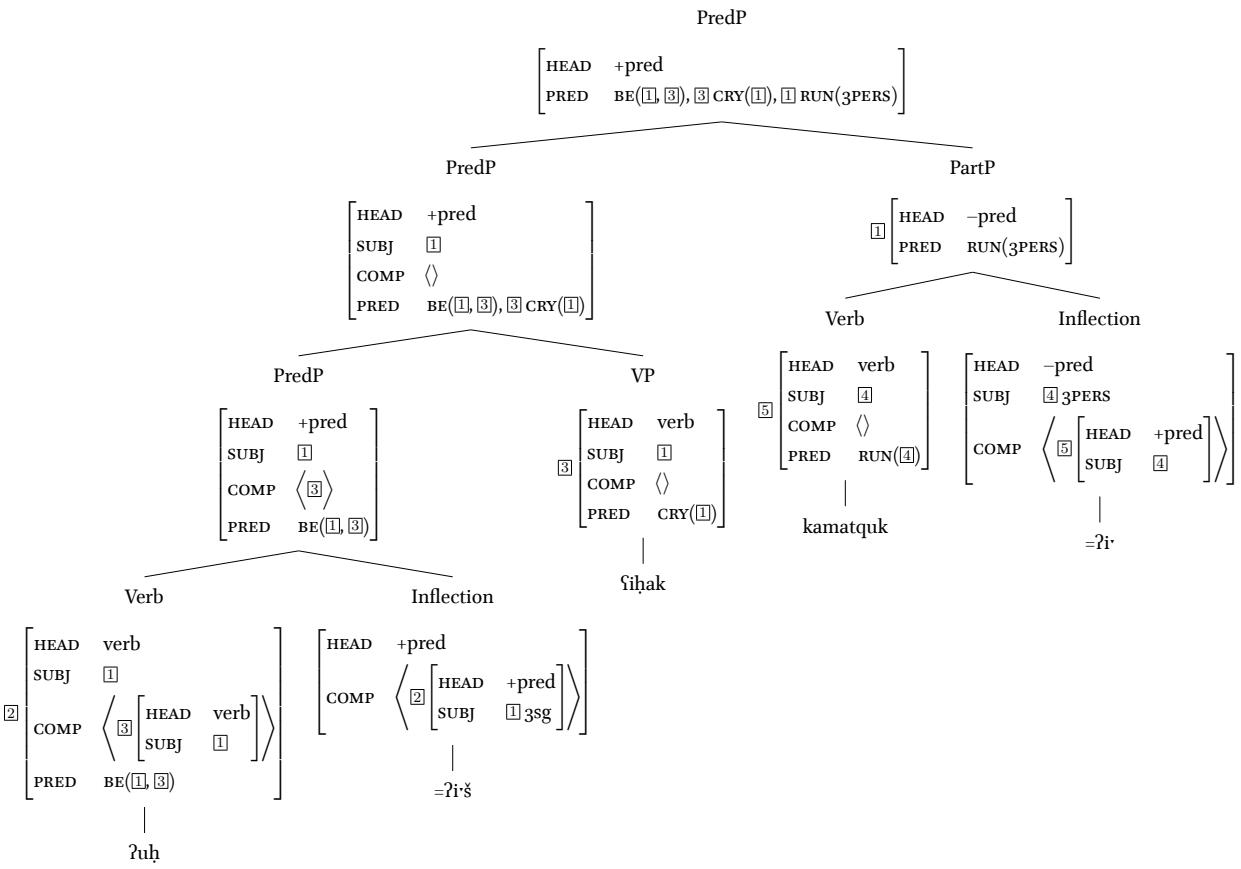
Sketch trees demonstrating the syntax of the verbal and adjectival participants of (7, 8) are given in (9, 10) below.

However a full analysis of this distinction is beyond the scope of this work.

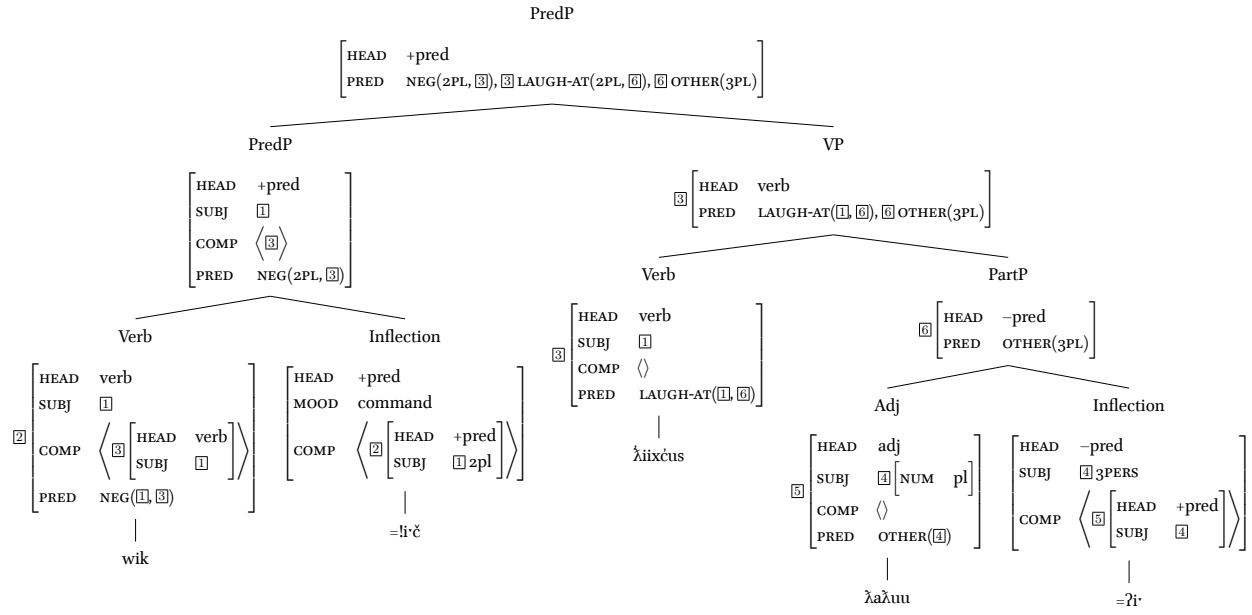
[2] TODO enter into .bib once published.

[3] This ultimately is original to Werle, *p.c.*, who has also documented that *=ʔi·* is morphologically in the same position as mood portmanteaus, and has supplanted the third person definite mood in some dialects. TODO: Ask Adam if there is some way I can cite him for this.

(9)



(10)



In (10) the PartP is filling a complement role (through a head-complement rule) while in (9), the PartP is filling a subject role (through a head-subject rule). Importantly, both of these rules are selecting for a non-head-daughter that is [PRED −]. This guarantees that either the article will appear on the

participant, or the participant will be of a category that is non-predicative.

To account for nouns ambiguously functioning as both predicates and participants, I model nouns as being luk-valued for PRED. That is, common nouns are neither specified for [PRED +] nor [PRED −], so they may happily unify in a predicative position without an article (taking on a − value) or with the predicative clitics, including the article (taking on a + value). This means that in sentences like (1), the participant phrase *haɬmiiḥa quu?as* 'drowning person' is in fact an NP. Since it is [HEAD noun], and noun is [PRED ?], the NP happily unifies through the head-complement rule that is expecting a [PRED −] complement. In the same way, NPs may be selected for by the article =ʔɪˑ, and so the PartP *ḥaakʷaaƛ̓=ʔiˑ* 'the young woman' in (2) may be built up in the same way as in (9, 10) above. Common nouns are unique in this way.

1.3 Participant Ordering

There is a strong tendency in Nuuchahnulth for each clause to have one overtly-expressed participant,[4] but if there are two participants expressed, they can come in any order. There is a preference in the southernmost dialects (Barkley sound and Central) for VSO ordering, and a preference in the northern dialect (Northern and Kyuquot) for VOS ordering.[5] This preference is not absolute, and to make the sentence unambiguous, speakers can use *ʔuukʷiɬ* to mark the non-agentive or non-highest argument (Woo 2007).

Although the language is generally predicate-first, It is possible for speakers to move a participant in front of the predicate for focus. This left-dislocated participant is outside the normal second position of the sentence.

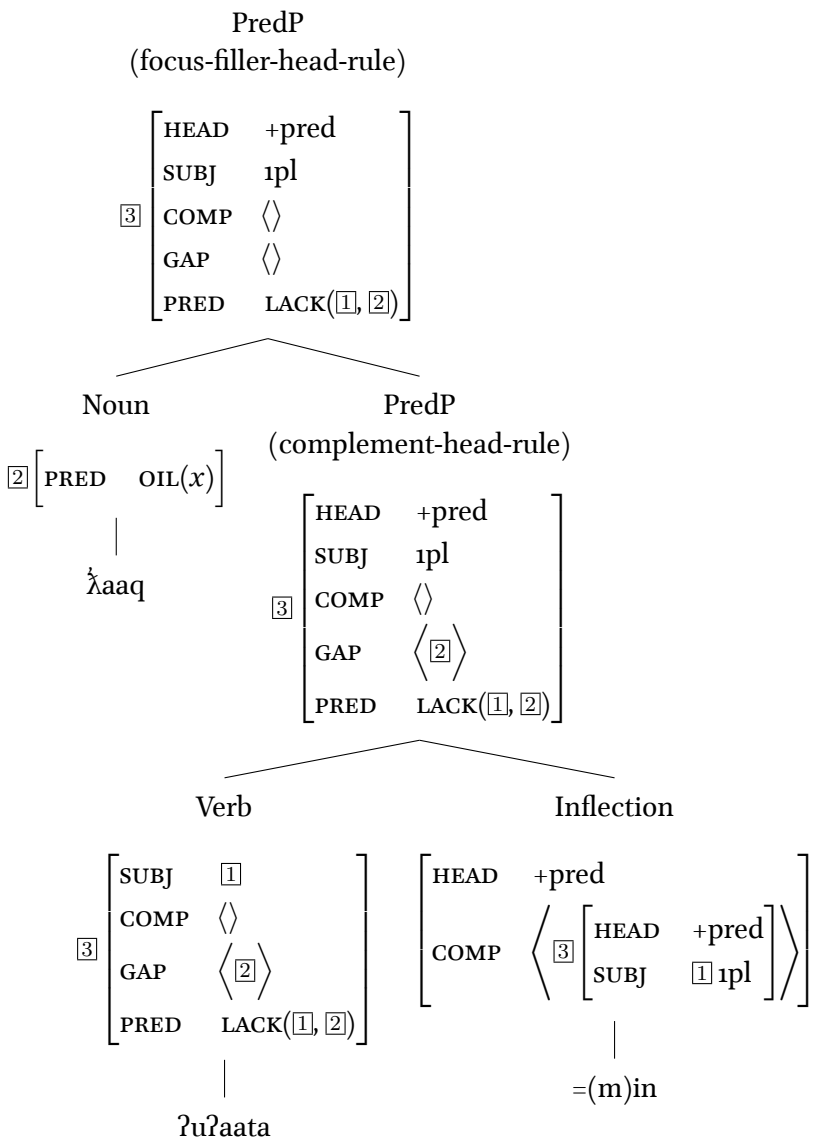
(11) ƛ̓aaq ʔuʔaatamin, waaʔaƛ̓weʔin quʔušin.
ƛ̓aaq ʔu-ʔaˑta=(m)in waa=!aƛ̓=weˑʔin quʔušin
oil x-lack=REAL.1PL say=NOW=HRSY.3 raven
' "We need oil," said Raven.' (**B**, Marjorie Touchie)

The best model for this is a gap-filler construction, which avoids the problem having to recalculate how the clitics behave in sentence like (11). A sketch of the tree is given below.

[4] TODO: is there a good canonical citation for this? Rose (1981) mentions it, and it is true in my experience.

[5] Again, Rose (1981) mentions this for Kyuquot but this is a novel claim about Northern. Is there a good citation?

(12)



TODO: Adam believes that participant-predicate ordering is possible in dependent clauses, citing ʔuyi. I believe that ʔuyi is an incipient adposition, and this is a postposition structure in these cases. It is extremely hard (impossible?) to find clear dependent clause participant-predicate ordering outside of ʔuyi. Ask Adam if he knows of non-ʔuyi examples.

1.4 Clitics attaching to modifiers

The examples so far have shown clitics attaching directly to a predicate. However, as second-position elements, these clitics may also attach to modifiers. In the case of the main clause predicates, they may attach to preceding adverbs (13), conjunctions (14), and adpositives (15),[6] and the participant article may attach to a modifying adjective (16).

[6]The claim that (15) is an adpositive is somewhat controversial. Woo (2007) analyzes these as little-*v*, a category which does not exist in HPSG analyses. An analysis that treats this particle as an adposition can generate the same set of sentences. In this model, non-agentive arguments may be realized by a Participant Phrase or an Adposition Phrase headed by *-L.(č)iɬ*.

(13) ẏuuqʷaaʔaqƛs ṅaačuk.
ẏuuqʷaa=ʔaqƛ=s ṅaačuk
also=FUT=1SG look.for
'I will also look for it.' (**C**, *tupaat* Julia Lucas)

(14) ʔaḥʔaaʔaƛna huʔacačiƛ ʔaḥkuu.
ʔaḥʔaaʔaƛ=naˑ huʔa-ca-čiƛ ʔaḥkuu
and.then=STRG.1PL back-go-MO D1
'And then we came back here.' (**C**, *tupaat* Julia Lucas)

(15) hiišiłʔaƛ ʔiiqḥuk, ʔumaḥsiičiƛs ḥaakʷaaƛ.
hiš-L.(č)ił=ʔaƛ ʔiiqḥ-uk ʔumaḥsiičiƛ=s ḥaakʷaaƛ
all-DO.TO=NOW tell-DR want.to.marry.MO=STRG.1SG young.woman
'He told everyone, "I want to marry that young woman." ' (**C**, *tupaat* Julia Lucas)

(16) ṁuyaa ḥaa ƛaʔuuʔi maḥt̓ii.
ṁuy-aˑ ḥaa ƛaʔuu=ʔiˑ maḥt̓iˑ
burn-DR D3 other=ART house
'The other house was burning.' (**C**, *tupaat* Julia Lucas)

TODO: Find a two-word analytic *ʔuukʷiɬ* version of (15), which only has the suffix version *-L.čiɬ*.

Because there is no movement in HPSG, my analysis cannot simply say that the clitics in (13–16) "move" into position of the leftmost item in the phrase. There are benefits to this design decision (faster computation, fidelity to the ordering of the surface string, bidirectionality of parsing and generation), but second position phenomena is one of the areas that requires extra analytical work in HPSG.

In both (13) and (16), the second position clitic containing the subject information is attaching to a modifier of a later predicate. In the lexical rules seen so far, these clitics are selecting for predicate complements and assigning values (such as subject and tense) to their complements. In these cases, I need the clitics to select for a predicate modifier complement, and assign those same values to their complement modifier's modified value. That is, the AVM for the predicate complex *=ʔaqƛ=s* in (13) should look something like this:

(17)
$$\begin{bmatrix} \textsc{head} & +\text{pred} & \\ \textsc{comp} & \left\langle \begin{bmatrix} \textsc{head} & +\text{mod} & \\ \textsc{mod} & \left\langle \begin{bmatrix} \textsc{head} & +\text{pred} \\ \textsc{subj} & 1\text{sg} \\ \textsc{tense} & \text{future} \end{bmatrix} \right\rangle \end{bmatrix} \right\rangle \end{bmatrix}$$

One way to create the structure in (17) is to create different lexical entries for every clitic, with alternate structures for predicate complements and modifier complements. Because Nuuchahnulth has literally hundreds of these clitics, this is perhaps not the best solution. Instead, I create a lexical rule which modifies the a predicate complement structure as in (12) to the structure seen in (17).

(TODO: Actually implement this. Can this kind of type-raising be implemented? Also, it seems reasonable to say that the final subject-mood portmanteau is the head of the clitic complex, so this would mean (I think) that the other clitics can be treated as prefixes to the head clitic.)

1.5 Summary

Because of the predicate flexibility in Nuuchahnulth grammar, I have defined special terminology to distinguish between semantic and syntactic phenomenon. I use *predication* to refer to atomic semantic units and *argument* to refer to the variables that those semantic units relate. I refer to syntactic *predicates*, which are the position in the clause where semantic arguments may be filled. *Participants* are the syntactic units that fulfill a predicate's semantic arguments.

I model syntactic predicates and participants as a luk-valued feature [PRED +|–|?]. Predicate phrases and participant phrases are defined as units that are [PRED +] and [PRED –] respectively. The clausal clitics, including the article, select for [PRED +], while the head-complement and head-subject rules select for [PRED –]. Verbs and adjectives are [PRED +] and so verb and adjective phrases are definitionally predicate phrases. Common nouns are [PRED ?] and so may head both predicate and participant phrases. Proper nouns are [PRED –] and so may not be predicates.

When participants occur to the left of the verb, they fall outside the second position of the clausal clitic complex. I model this as a gap-filler rule that focuses the left-dislocated element.

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