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. 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.

In (1), the verb *ńaacsiičiƛ* 'see' is serving as the clausal predicate, while the clause *haɬmiiḥa quuʔas* 'drowning 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) shows the adjective *qʷaćaɬ* 'beautiful' as the predicate of the sentence, with the noun *ḥaakʷaaƛ* 'young girl' serving as the participant. (3) shows a noun predicate *pisatuwiɬ* '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.

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

(2) qʷaćaɬʔiš ḥaakʷaaƛʔi.
     qʷaćaɬ=ʔiˑš   ḥaakʷaaƛ=ʔiˑ
     beautiful=STRG.3   young.girl=ART
     'The young girl is beautiful.' (**C**, *tupaat* Julia Lucas)

(3) pisatuwiɬma ʔaanaḥi.
     pisatuwiɬ=maˑ   ʔaanaḥi
     gym=REAL.3   only
     'It's only a gym.' (**B**, Marjorie Touchie)

The way I model this ambiguity is by declaring that clauses are headed by their second-position inflection, which selects for 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)
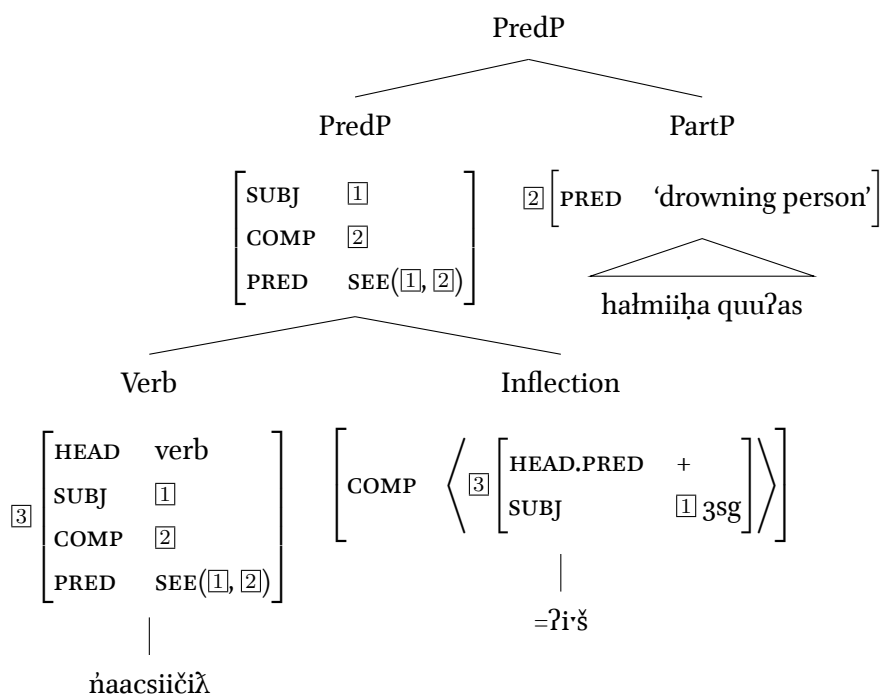
```
                              PredP
                   ┌────────────┴────────────┐
                 PredP                      PartP
      ┌─────────────────────────┐    ┌──────────────────────────────┐
      │ SUBJ    ①               │    │                              │
      │ COMP    ②               │  ② │ PRED   'drowning person'     │
      │ PRED    SEE(①, ②)       │    └──────────────────────────────┘
      └─────────────────────────┘           ╱‾‾‾‾‾‾‾‾‾╲
          ┌──────────┴──────────┐          ḥałmiiḥa quuʔas
        Verb                Inflection
   ┌──────────────────┐  ┌──────────────────────────────────────┐
   │ HEAD   verb      │  │        ⟨  ┌─────────────────────┐ ⟩  │
   │ SUBJ   ①         │  │ COMP   ③ │ HEAD.PRED   +        │    │
 ③ │ COMP   ②         │  │          │ SUBJ        ① 3sg    │    │
   │ PRED   SEE(①, ②) │  │        ⟨  └─────────────────────┘ ⟩  │
   └──────────────────┘  └──────────────────────────────────────┘
            │                              │
       ṅaacsiičiƛ                        =ʔi·š
```
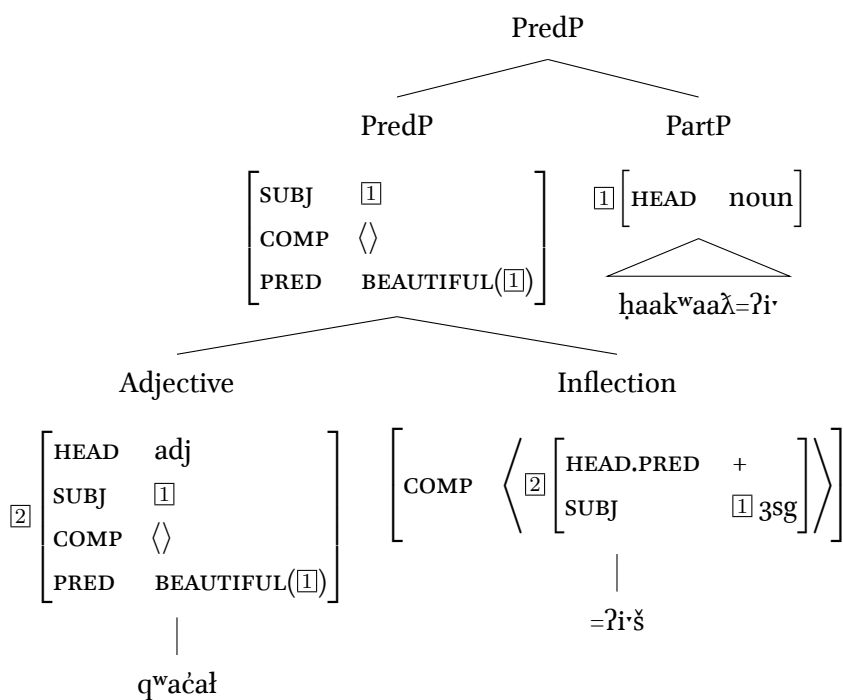
(5)

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                              PredP
                   ┌────────────┴────────────┐
                 PredP                      PartP
      ┌─────────────────────────┐    ┌──────────────────────────────┐
      │ SUBJ    ①               │  ① │ HEAD   noun                  │
      │ COMP    ⟨ ⟩             │    └──────────────────────────────┘
      │ PRED    BEAUTIFUL(①)    │           ╱‾‾‾‾‾‾‾‾‾╲
      └─────────────────────────┘          ḥaakʷaaƛ=ʔi·
          ┌──────────┴──────────┐
       Adjective            Inflection
   ┌──────────────────────┐  ┌──────────────────────────────────────┐
   │ HEAD   adj           │  │        ⟨  ┌─────────────────────┐ ⟩  │
   │ SUBJ   ①             │  │ COMP   ② │ HEAD.PRED   +        │    │
 ② │ COMP   ⟨ ⟩           │  │          │ SUBJ        ① 3sg    │    │
   │ PRED   BEAUTIFUL(①)  │  │        ⟨  └─────────────────────┘ ⟩  │
   └──────────────────────┘  └──────────────────────────────────────┘
            │                              │
        qʷaċał                           =ʔi·š
```

(6)

PredP
├── PredP
│   ⎡ SUBJ   ⎵1⎵   ⎤
│   ⎢ COMP   ⟨⟩   ⎢
│   ⎣ PRED   GYM(⎵1⎵) ⎦
│   ├── Noun
│   │   ⎵2⎵ ⎡ HEAD   noun   ⎤
│   │   ⎢ SUBJ   ⎵1⎵   ⎢
│   │   ⎢ COMP   ⟨⟩   ⎢
│   │   ⎣ PRED   GYM(⎵1⎵) ⎦
│   │   │
│   │   pisatuwił
│   └── Inflection
│   ⎡ COMP   ⟨ ⎵2⎵ ⎡ HEAD.PRED   +   ⎤ ⟩ ⎤
│   ⎣   ⎣ SUBJ   ⎵1⎵ 3sg⎦   ⎦
│   │
│   =maˑ
└── AdvP
    ⎡ PRED   'only' ⎤
        ʔaanaḥi

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]

1.2   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.
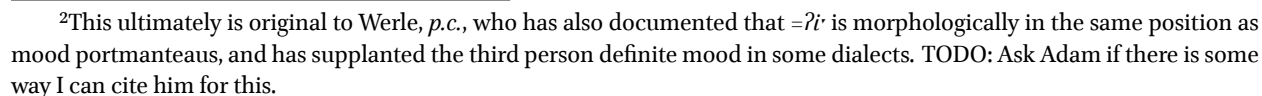
(7)   ʔuḥʔiiš ʕiḥak kamatqukʔi.
      ʔuḥ=ʔiˑš   ʕiḥak   kamatq-uk=ʔiˑ
      be=STRG.3 cry.DR   run-DR=ART
      'The running one is crying.' (C, *tupaat* Julia Lucas)

(8)   wik̓iičʔaał ƛiixćus ƛaƛuuʔi.
      wik=!iˑč=ʔaał   ƛiixćus   ƛaƛuu=ʔiˑ
      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

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[1] Adjectives differ from verbs in their behavior when serving as a root for a suffix verb, and other morphological behavior. However a full analysis of this distinction is beyond the scope of this work.

As detailed in Jacobsen (1979) and Wojdak (2001), when an adjective or verb is used as a participant, as in (7, 8), the article =*ʔiˑ* 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). They are also never in predicate position.

My analysis of these facts is that the article =*ʔiˑ* is relativizing a full predicate and allowing it to be a participant Inman (2018).[2] 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 =*ʔiˑ*. 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.

(9)

PredP

$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{PRED} & \text{BE}(\boxed{1}, \boxed{3}), \boxed{3}\,\text{CRY}(\boxed{1}), \boxed{1}\,\text{RUN}(\text{3PERS}) \end{bmatrix}$

PredP

$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & \boxed{1} \\ \text{COMP} & \langle\,\rangle \\ \text{PRED} & \text{BE}(\boxed{1},\boxed{3}), \boxed{3}\,\text{CRY}(\boxed{1}) \end{bmatrix}$

PredP

$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & \boxed{1} \\ \text{COMP} & \langle\,\boxed{3}\,\rangle \\ \text{PRED} & \text{BE}(\boxed{1},\boxed{3}) \end{bmatrix}$

Verb

$\boxed{2}\begin{bmatrix} \text{HEAD} & \text{verb} \\ \text{SUBJ} & \boxed{1} \\ \text{COMP} & \langle\,\boxed{3}\begin{bmatrix}\text{HEAD} & \text{verb} \\ \text{SUBJ} & \boxed{1}\end{bmatrix}\,\rangle \\ \text{PRED} & \text{BE}(\boxed{1},\boxed{3}) \end{bmatrix}$

|

ʔuḥ

Inflection

$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{COMP} & \langle\,\boxed{2}\begin{bmatrix}\text{HEAD.PRED} & + \\ \text{SUBJ} & \boxed{1}\,\text{3sg}\end{bmatrix}\,\rangle \end{bmatrix}$

|

=ʔiˑš

VP

$\boxed{3}\begin{bmatrix} \text{HEAD} & \text{verb} \\ \text{SUBJ} & \boxed{1} \\ \text{COMP} & \langle\,\rangle \\ \text{PRED} & \text{CRY}(\boxed{1}) \end{bmatrix}$

|

ʕiḥak

PartP

$\boxed{1}\begin{bmatrix} \text{HEAD.PRED} & - \\ \text{PRED} & \text{RUN}(\text{3PERS}) \end{bmatrix}$

Verb

$\boxed{5}\begin{bmatrix} \text{HEAD} & \text{verb} \\ \text{SUBJ} & \boxed{4} \\ \text{COMP} & \langle\,\rangle \\ \text{PRED} & \text{RUN}(\boxed{4}) \end{bmatrix}$

|

kamatquk

Inflection

$\begin{bmatrix} \text{HEAD.PRED} & - \\ \text{SUBJ} & \boxed{4}\,\text{3PERS} \\ \text{COMP} & \langle\,\boxed{5}\begin{bmatrix}\text{HEAD.PRED} & + \\ \text{SUBJ} & \boxed{4}\end{bmatrix}\,\rangle \end{bmatrix}$

|

=ʔiˑ

5

(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 *haɫmiiħa quuʔas* '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 =ʔiˑ, and so the PartP *ħaakʷaaƛ=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,[3] 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.[4] This preference is not absolute, and to make the sentence unambiguous, speakers can use *ʔuukʷiɫ* 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.

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

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

(11) ƛaaq ʔuʔaatamin, waaʔaƛweʔin quʔušin.

ƛaaq ʔu-ʔaˑta=(m)in   waa=!aƛ=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.

(12)

PredP
(focus-filler-head-rule)

$$[3] \begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & \text{1pl} \\ \text{COMP} & \langle\rangle \\ \text{GAP} & \langle\rangle \\ \text{PRED} & \text{LACK}([1], [2]) \end{bmatrix}$$

Noun

$$[2] \begin{bmatrix} \text{PRED} & \text{OIL}(x) \end{bmatrix}$$

ƛaaq

PredP
(complement-head-rule)

$$[3] \begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & \text{1pl} \\ \text{COMP} & \langle\rangle \\ \text{GAP} & \langle [2] \rangle \\ \text{PRED} & \text{LACK}([1], [2]) \end{bmatrix}$$

Verb

$$[3] \begin{bmatrix} \text{SUBJ} & [1] \\ \text{COMP} & \langle\rangle \\ \text{GAP} & \langle [2] \rangle \\ \text{PRED} & \text{LACK}([1], [2]) \end{bmatrix}$$

ʔuʔaata

Inflection

$$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{COMP} & \langle [3] \begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & [1]\,\text{1pl} \end{bmatrix} \rangle \end{bmatrix}$$

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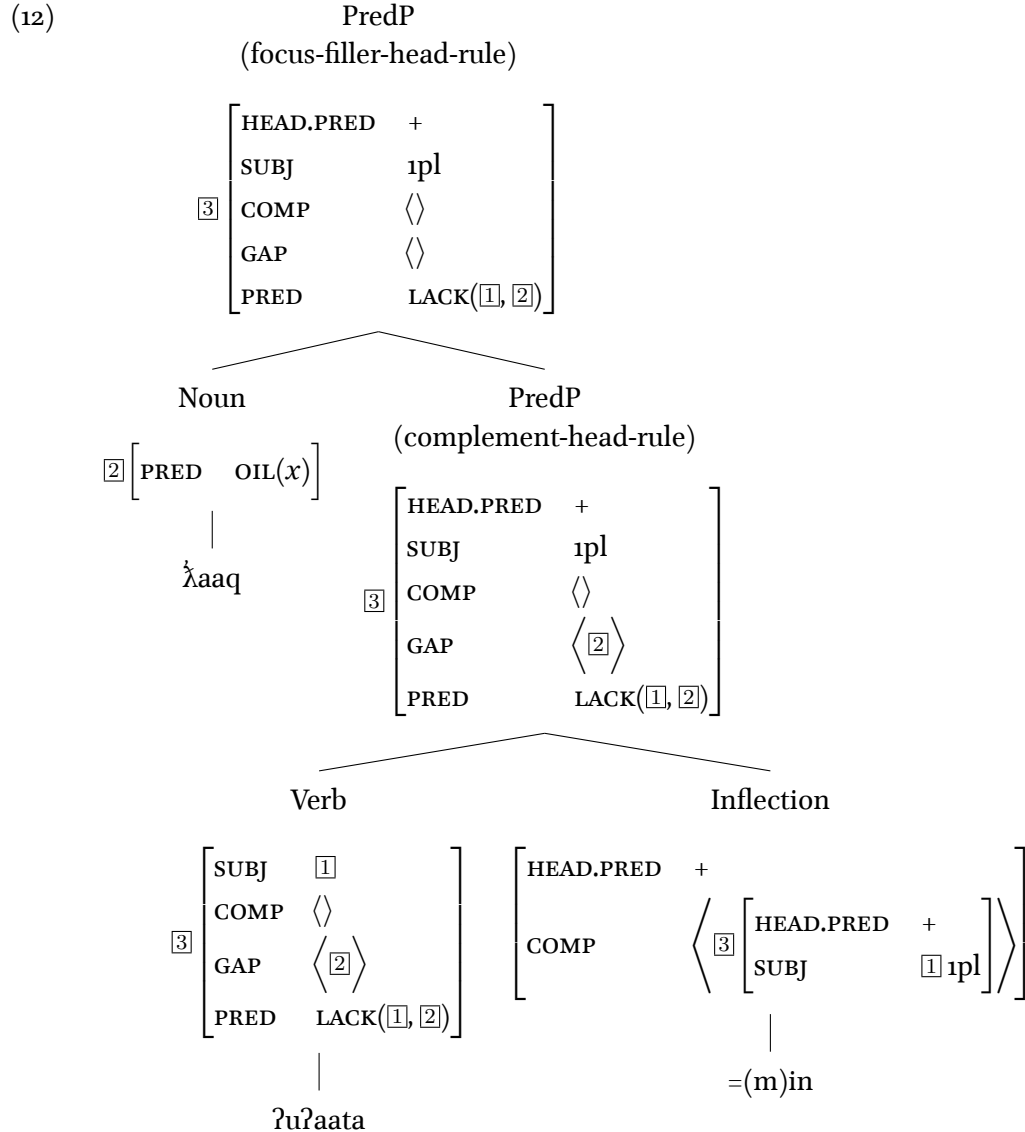
TODO: Adam believes that participant-predicate ordering is possible in dependent clauses, citing ʔuyi. I believe that ʔuyi is an incipient adposition, and this is a postposition structure in these cases. It is extremely hard (impossible?) to find clear dependent clause participant-predicate ordering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

1.4 Second-position clitics

1.5 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),[5] and the participant article may attach to a modifying adjective (16).

(13) ẏuuqʷaaʔaqƛs ńaačuk.
      ẏuuqʷaa=ʔaqƛ=s   ńaačuk
      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) ḿuyaa ḥaa ƛaʔuuʔi maḥtii.
      ḿuy-aˑ   ḥaa ƛaʔuu=ʔiˑ   maḥtiˑ
      burn-DR   D3   other=ART   house
      'The other house was burning.' (**C**, *tupaat* Julia Lucas)

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

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:

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[5]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)ił*.

(17)
$$\begin{bmatrix} \text{HEAD.PRED} & + \\ \text{COMP} & \left\langle \begin{bmatrix} \text{HEAD} & +\text{mod} \\ \text{MOD} & \left\langle \begin{bmatrix} \text{HEAD.PRED} & + \\ \text{SUBJ} & \text{1sg} \\ \text{TENSE} & \text{future} \end{bmatrix} \right\rangle \end{bmatrix} \right\rangle \end{bmatrix}$$
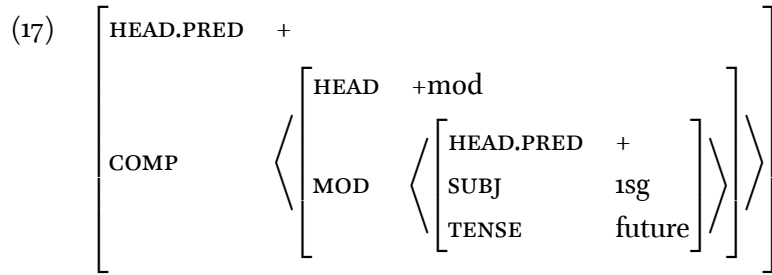
One way to create the structure in (17) is to create different lexical entries for every clitic, with alternate structures for predicate complements and modifier complements. Because Nuuchahnulth has literally hundreds of these clitics, this is perhaps not the best solution. Instead, I create a lexical 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.)

1.6 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 boolean-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, adjectives, and common nouns are [PRED +]. 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.

2 The Linker

2.1 Data

In this section I give my collected data on the linker -$(q)ḥ$. I present how the construction is used and draw some conclusions about how it behaves. However I try to keep this section fairly theory-neutral, saving the specifics of an HPSG analysis for §2.3.

The morpheme -$(q)ḥ$ is the last possible suffix on a word. It is typically pronounced as the sequence *qḥ* following a vowel or nasal, and otherwise as *ḥ*. The Central Ahousaht elder *tupaat* Julia Lucas almost always pronounces the linker as the full *qḥ* regardless of the phonological environment, with the exception of certain light verbs. I do not know if this reflects a sub-dialect of Ahousaht, or if this pronunciation is unique to her, but I transcribe her speech faithfully.

The suffix is translated as 'meanwhile' in Sapir & Swadesh (1939), and was first dubbed the "linker" by Adam Werle (*p.c.*), on the understanding that it "links" two predicates together. In this section I will first look at the attachment properties of the linker (§2.1.1), followed by its syntactic properties (§2.1.2–2.1.7).

2.1.1 Attachment properties

The linker shows considerable flexibility in the stems it attaches to, attaching to nouns (18), adjectives (19), verbs (20), and adverbs (21), but not complementizers (22, 23).

(18)   ɬuucmaqḥitqačaʔaaɬ taakšiƛ ṗiišmita.

       ɬuucma-(q)ḥ=(m)it=qača=ʔaaɬ   taakšiƛ   ṗiišmit-aˑ

       woman-LINK=PST=INFR=HABIT   always   gossip-DR

       'There was a woman who kept gossiping.' (**C**, *tupaat* Julia Lucas)

(19)   ƛikʷaamitwaʔiš čims ḥaaʔakqḥ.

       ƛikʷ-aˑ=mit=waˑʔiš   čims   ḥaaʔak-(q)ḥ

       dig-DR=PST=HRSY.3   bear   strong-LINK

       'The bear was digging and strong.' (**C**, *tupaat* Julia Lucas)

(20)   ciqinḱaƛna ƛiḥaaqḥ.

       ciq-(č)ink=!aƛ=naˑ   ƛiḥ-aˑ-(q)ḥ

       speak-with=NOW=NEUT.1PL   drive-DR-LINK

       'We talked while driving.' (**C**, *tupaat* Julia Lucas)

Context for (21): My friend is going bald. I'm also going bald but I don't look in the mirror much and haven't noticed.[6]

(21)   ẏuuqʷaaqḥs ʕasqii ʔaanaḥi wik hinʔaɬšiƛ.

       ẏuuqʷaa-(q)ḥ=s   ʕasqii ʔaanaḥi wik   hinʔaɬ-šiƛ

       also-LINK=STRG.1SG bald   only   NEG   realize-MO

       'I'm also bald but I don't know it.' (**C**, *tupaat* Julia Lucas)

(22)   ʔuuščukʔisit ʔani ʔunaḥʔisitqa.

       ʔuuščuk=ʔis=(m)it   ʔani   ʔunaḥ=ʔis=(m)it=qaˑ

       hard=DIMIN=PST   COMP   small=DIMIN=PST=SUB

       'It's a little hard (to do) because it's small.' (**B**, Bob Mundy)

(23)   *ʔuuščukʔisit ʔaniqḥ ʔunaḥʔisitqa.

       ʔuuščuk=ʔis=(m)it   ʔani-(q)ḥ   ʔunaḥ=ʔis=(m)it=qaˑ

       hard=DIMIN=PST   COMP-LINK   small=DIMIN=PST=SUB

       Intended: 'It's a little hard (to do) because it's small.' (**B**, Bob Mundy)

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[6]This scenario was constructed to mirror an example present in Sapir & Swadesh (1939).

From only this data, the linker appears to distinguish morphologically between content and function categories. Another way of expressing this content/function division is by appealing to what can serve as a syntactic predicate in Nuuchahnulth. Nouns, adjectives, and verbs may all be predicative, and while adverbs are not syntactic predicates themselves, they along with their verb create a main predicate. (I return to this point in §2.1.6.) Complementizers, on the other hand, are only connective material and cannot be the main predicate of a clause, nor can they be part of the predicative phrase.

2.1.2   Clause Heading

A predicate with a linker attached may not head a matrix or dependent clause. I first give some evidence on the flexibility of the relative ordering of linked predicates, and then examine when they are and are not allowed in matrix and dependent clauses.

In a sentence with two predicates, one with the linker and one without, the ordering does not typically make a difference.[7] It is possible for either predicate in an utterance to host the linker, as in (24, 25).

(24)   hitaasḥitaḥ ciiqciiqa.
    hitaas-(q)ḥ=(m)it=(m)aꞏḥ   ciq-LR2L.a
    be.outside-LINK=PST=REAL.1SG speak-RP
    'I was speaking outside.' (**B**, Bob Mundy)

(25)   ciiqciiqaqḥitaḥ hitaas.
    ciq-LR2L.a-(q)ḥ=(m)it=(m)aꞏḥ hitaas
    speak-RP-LINK=PST=REAL.1SG   be.outside
    'I was speaking outside.' (**B**, Bob Mundy)

Just as either predicate may take the linker, the linked predicate may occur either on the first (26) or second (27) predicate in the utterance.

(26)   ƛaaʔaasḥintniš ciiqciiqa.
    ƛaaʔaas-(q)ḥ=int=niš   ciq-LR2L.a
    be.outside-LINK=PST=STRG.1PL speak-RP
    'We were speaking outside.' (**N**, Fidelia Haiyupis)

(27)   ciiqciiqamitniš ƛaaʔaasḥ.
    ciq-LR2L.a=mit=niꞏš   ƛaaʔaas-(q)ḥ
    speak-RP=PST=STRG.1PL be.outside-LINK
    'We were speaking outside.' (**N**, Fidelia Haiyupis)

Although there is flexibility as to which predicate is linked and what their relative ordering is, clauses may not be headed by a single predicate with a linker. This can be seen for main clauses in (28, 29) below.

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[7]There are some cases where altering the ordering affects grammaticality judgments. I believe this has to do with a preference for the linked predicate to come first and, between two predicates, for certain semantic classes to host the linker over others. I address these in §2.1.8.

(28)   qiiʔiɬs ƛupkaaqḥ.

qii-°iɬ=s   ƛupk-aˑ-(q)ḥ
long.time-indoors=STRG.1SG   awake-DR-LINK
'I lay awake inside for a long time.' (**N**, *yuuɬnaak* Simon Lucas)

(29)   *ƛupkaaqḥs qii.

ƛupk-aˑ-(q)ḥ=s   qii
awake-DR-LINK=STRG.1SG   long.time
Intended: 'I lay awake for a long time.' (**N**, *yuuɬnaak* Simon Lucas)

(29) has undergone two changes relative to (28): (i) the words have been rearranged, and (ii) the ending -°*iɬ*, a predicative location (Davidson, *forthcoming*; TODO get the full paper from Matt) has been taken off the adverb *qii*. The former change should not affect the grammaticality of the sentence, as demonstrated in (26, 27). But the latter change creates an utterance with a linked verb followed by the syntactically non-predicative adverb *qii* (29), in contrast to the two verbs present in (28). (29) is ungrammatical because the linked verb *ƛupkaaqḥ* has no main predicate to attach to, since the adverb *qii* cannot be a syntactic predicate.

Like main clauses, a dependent clause may not be headed by a single linked predicate, as shown in (30, 31).

(30)   ʔuuʕaqstuƛaḥ ʔanik hiɬ ʔaḥkuu.

ʔuuʕaqstuƛ=(m)aˑḥ   ʔani=k   hiɬ   ʔaḥkuu
be.happy.MO=REAL.1SG   COMP=2SG   be.at   D1
'I'm happy you're here.' (**B**, Bob Mundy)

(31)   *ʔuuʕaqstuƛaḥ ʔanik hiɬḥ ʔaḥkuu.

ʔuuʕaqstuƛ=(m)aˑḥ   ʔani=k   hiɬ-(q)ḥ   ʔaḥkuu
be.happy.MO=REAL.1SG   COMP=2SG   be.at-LINK   D1
Intended: 'I'm happy you're here.' (**B**, Bob Mundy)

Although the word *hiɬ* 'be at' frequently takes the linker in texts, it is ungrammatical in (31), where it is the sole predicate of the dependent clause. I was able to replicate a similar example with a Checkleseht speaker from the other end of the dialect continuum (32, 33).

(32)   ṅaacsiičƛintiis ʔin hiɬ čimsʔii maḥtееʔakʔitk.

ṅaacs-°iičƛ=int=(y)iis   ʔin   hiɬ   čims=ʔiˑ   maḥtii=ʔak=ʔiˑtk
see-IN=PST=WEAK.1SG   COMP   be.at   bear=ART   house=POSS=DEFN.2SG
'I saw there was a bear at your house.' (**Q**, Sophie Billy)

(33)   *ṅaacsiičƛintiis ʔin hiɬḥ čimsʔii maḥteeʔakʔitk.

ṅaacs-°iičƛ=int=(y)iis   ʔin   hiɬ-(q)ḥ   čims=ʔiˑ   maḥtii=ʔak=ʔiˑtk
see-IN=PST=WEAK.1SG   COMP   be.at-LINK   bear=ART   house=POSS=DEFN.2SG
Intended: 'I saw there was a bear at your house.' (**Q**, Sophie Billy)

From these examples, I conclude that clauses must be headed by a non-linked syntactic predicate, to which linked predicates may attach.

2.1.3 Sharing second position suffixes and clitics

Nuuchahnulth has a series of clausal second-position clitics, which include tense and subject-mood portmanteaus. The later predicate in a linker construction shares the same subject, mood, and tense as the predicate on which these clitics appear.

(34) hiłḥʔum maḥtiiʔakqs wiinapuƛ.

hił-(q)ḥ=!um   maḥtiˑ=ʔak=qs   wiinapuƛ

be.at-LINK=CMMD.FUT.2SG house=POSS=DEF.1SG stop.MO

'Stop at my house.' (**N**, Fidelia Haiyupis)

The command portmanteau *=!um* in (34) scopes over both predicates. My consultant did not accept this utterance as possibly meaning that someone else was stopping. If these clitics belong to the clause as a whole, which there is good independent reason to believe (Rose 1981:35–36, Woo 2007:42–50), the linker coordinates predicates below the clause.

In addition to the clausal second-positions, there are some suffixes which I claim appear in a predicative second position (TODO: cite published ICSNL paper, maybe make the argument here too? This is something that keeps coming up...). These include modals and, importantly, the linker itself. The modals in this predicative second position seem to be shared across linked predicates, in a similar fashion to the clitics.

Context for (35): I am taking a friend home and we are leaving a gathering.

(35) waałšiƛẇiłasniš ƛiḥaaqḥ.

wał-šiƛ-LS-ẇiłas=niˑš   ƛiḥ-aˑ-qḥ

go.home-MO-GRAD-going.to=STRG.1PL drive-DR-LINK

'We're going to drive home.' (**C**, *tupaat* Julia Lucas)

Both verbs in (35) share the semantics of the modal suffix *-ẇiłas*, because both the driving and the going home are intentional, not-yet-occurred events. I confirmed the sharing of the subject portmanteau *=niˑš* by asking if it were possible to say (35) to mean that we were going to walk home but someone else was driving elsewhere. My consultant said no: (35) must mean that it is we who are going to go home and we who are doing it driving in a car.

(36) and (37) provide a situation where the obligatory subject sharing creates an odd interpretation. I was asking about different activities depending on the weather. The felicitous expression is in (36). My rephrase in (37) was met with an immediate laugh.

(36) ṅačaałaḥʔaała ṁiƛaaʔaƛquu.

ṅačaał=(m)aˑḥ=ʔaała ṁiƛ-aˑ=!aƛ=quu

read=REAL.1PL=HABIT rain-DR=NOW=PSSB.3

'I read whenever it rains.' (**B**, Bob Mundy)

13

(37) #ńačaałaḥʔaała m̓iƛaaqḥ.

ńačaał=(m)aˑḥ=ʔaała   m̓iƛ-aˑ-(q)ḥ

read=REAL.1PL=HABIT   rain-LINK

'I read and I am raining.' (**B**, Bob Mundy)

Both predicates in a linker construction share the semantics of the second-position clitics, which importantly means they share a subject. They also share at least modal suffixes from what I term the second-position predicate position (TODO: Should I introduce this concept/the second positions in the introduction?).

2.1.4   Linkers on non-verbs

The examples so far have focused on linkers attached to verbs. This is perhaps the easiest example for English speakers of two syntactic predicates being linked and sharing inflectional properties. However, as detailed in §2.1.1, it is possible for the linker to attach to a wide variety of non-verbs. The properties of the linker are identical on non-verbs, but it is worthwhile to look at how this works.

Perhaps the most common type of non-verbal predicate that receives the linker is quantifiers. The presence or absence of the linker on the quantifier significantly changes the possible interpretations for the sentence. With a bare (non-linked) quantifier, the quantifier may be interpreted as a syntactic object (38) and may not come before the verb (39). When a linker is attached, the quantifier must be interpreted as the subject and may either come before (40) or after the verb (41).

Context for (38–41): My family and I are looking for a Christmas present for my sister.

(38) ʔuuwaʔaƛ ʔuuš.

ʔu-L.waƛ=!aƛ   ʔuuš

x-find=NOW   some

'He/she found something.' (*? Someone found it) (**C**, *tupaat* Julia Lucas)

(39) *ʔuuš ʔuuwaʔaƛ.

ʔuuš   ʔu-L.waƛ=!aƛ

some   x-find=NOW

Intended: 'He/she found something.' (**C**, *tupaat* Julia Lucas)

(40) ʔuuwaʔaƛ ʔuušqḥ.

ʔu-L.waƛ=!aƛ   ʔuuš-qḥ

x-find=NOW   some-LINK

'Someone found it.' (*He/she found something) (**C**, *tupaat* Julia Lucas)

(41) ʔuušqḥʔaƛ ʔuuwaƛ.

ʔuuš-qḥ=!aƛ   ʔu-L.waƛ

some-LINK=NOW   x-find

'Someone found it.' (*He/she found something) (**C**, *tupaat* Julia Lucas)

In (40, 41), the two predicates being linked are *some* and *find*. Because quantifiers are possible predicates in Nuuchahnulth, the same analysis applied to two linked verbs can apply here: These are two predicates that share a subject. That is, there is a (null) third-person subject that is shared between the predicates *some* and *find*: "There exists an *x* such that *some(x)* and *find(x,y)*." This subject sharing makes the objective reading impossible in (40, 41).

Julia rejected an interpretation of (38) where non-linked *Ɂuuš* 'some' was interpreted as the subject. However, in another context she produced (42), where a non-linked *Ɂuuš* 'some' is in fact given a subjective interpretation.

(42)   ɁuušɁiišɁaał wiċik, Ɂuuš ʕaċik, Ɂuuš Ɂumaaqƛ Ɂuuẏip.

   Ɂuuš=Ɂi·š=Ɂaał   wiċik,   Ɂuuš ʕaċik, Ɂuuš Ɂumaaqƛ Ɂu-i·ẏip
   some=STRG.3=HABIT not.talented, some talented, some able.to   x-get

   'Some are not talented, some are talented, some are able to get (the challenge).' (**C**, *tupaat* Julia Lucas)

In (42), the first two verbs are intransitive, so there is no other syntactic interpretation for *Ɂuuš* 'some' other than the subjective one. The final verb is transitive, but the parallelism with the first two clauses primes the listener to interpret *Ɂuuš* as subjective. The fact that Julia did not add a linker in (42) shows that a subjective interpretation is possible for non-linked quantifiers. However, when there is an ambiguity, as in (38), the absence of the linker is a clue that the speaker had an objective interpretation in mind because the presence of a linker would force an unambiguous subjective reading.

This observation about quantifiers holds true for other adjectives and also nouns, as seen in (43–45). The initial sentence puts two clauses together with a complementizer (43), but can be rephrased without a complementizer by using the linker (44, 45).

Context for (43–45): I arrived on the beach in a canoe. I left my canoe and went into town. While I'm inside, my canoe is carried out on the tide and capsizes. One person left behind on the beach sees it. (43) was suggested by my consultant, and we worked to rephrase it as (44) and (45).

(43)   ċawaakitwaɁiš Ɂin ṅaacsa niiɁatu čapac.

   ċawaak=it=wa·Ɂiš Ɂin   ṅaacsa niiɁatu čapac
   one=PST=HRSY.3   COMP see.DR sink   canoe

   'I hear that he or she saw the canoe sink.' (**C**, *tupaat* Julia Lucas)

(44)   ċawaakḥitwaɁiš ṅaacsa niiɁatu čapac.

   ċawaak-(q)ḥ=it=wa·Ɂiš ṅaacsa.DR niiɁatu čapac
   one-LINK=PST=HRSY.3   see.DR   sink   canoe

   'I hear that one (person) saw the canoe sink.' (**C**, *tupaat* Julia Lucas)

(45)   quuɁasqḥitwaɁiš ṅaacsa niiɁatu čapacɁi.

   quuɁas-(q)ḥ=it=wa·Ɂiš   ṅaacsa niiɁatu čapac=Ɂi·
   person-LINK=PST=HRSY.3 see   sink   canoe=ART

   'I hear that a person saw the canoe sink.' (**C**, *tupaat* Julia Lucas)

My consultant was adamant that (43) and (44) meant exactly the same thing. If this is true, then the linker is not adding any deep semantic content.[8] It is important that the complementizer is present in (43), creating an overt subordinate clause, while in the rephrase with the linker (44), there is no complementizer. This supports the data from §2.1.2 suggesting that the linker itself forms a subordinate (and not a matrix) clause. (45) simply shows, again, that nouns are valid hosts for the linker, just as much as adjectives.

Using the same setup as (43–45), I elicited sentences from another speaker. This consultant initially proposed the sentence in (46). I proposed (47) by removing the linker, which he rejected, and then (48), which he accepted.

(46) ṅaacsiičiƛweʔin ćawaakḥ niiʔatu čapac.

ṅaacs-°iˑčiƛ=weˑʔin ćawaak-(q)ḥ niiʔatu čapac
see-IN=HRSY.3   one-LINK   sink   canoe

'I hear that one (person) saw the canoe sink.' (**B**, Bob Mundy)

(47) *ṅaacsiičiƛweʔin ćawaak niiʔatu čapac.

ṅaacs-°iˑčiƛ=weˑʔin ćawaak niiʔatu čapac
see-IN=HRSY.3   one   sink   canoe

Intended: 'I hear that one sees the canoe sink.' (**B**, Bob Mundy)

(48) ṅaacsiičiƛweʔin ćawaakḥ quuʔas niiʔatu čapac.

ṅaacs-°iˑčiƛ=weˑʔin ćawaak-(q)ḥ quuʔas niiʔatu čapac
see-IN=HRSY.3   one-LINK   person sink   canoe

'I hear that one person sees the canoe sink.' (**B**, Bob Mundy)

Bob's response to removing the linker in (47) was to say, "It's not complete. One what? What did one see?" Following the basic structure of the Nuuchahnulth clause (TODO: ref to introduction), the participants of the syntactic predicate *ṅaacsiičiƛ* 'see' should be *ćawaak* 'one' and *niiʔatu čapac* 'sink canoe'. But *ćawaak*, as an adjective, cannot be a full NP participant without an article (Wojdak 2001). So it is stranded and the utterance (47) is nonsensical. The presence of the linker in my consultant's initial proposed sentence (46) forces 'one' to be coreferenced with the subject of 'see', as already shown for the quantifiers in (38–41). The other participant of the seeing act (what is seen) is the dependent clause 'sink canoe'.

Example (48) shows that the linked clause not headed by a verb can include more than one word. Here *ćawaak* 'one' is predicating the noun *quuʔas* 'person'. The dependent clause interrupts the matrix predicate *ṅaacsiičiƛ* 'see' and its clausal object *niiʔatu čapac* 'the canoe sink.' A rough bracketing of (48) is given in (49).

(49) [ṅaacs-°iˑčiƛ=weˑʔin [ćawaak-(q)ḥ quuʔas]linked_clause [niiʔatu čapac]participant_of_see]
      see-IN=HRSY.3   one-LINK   person   sink   canoe

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[8]My analysis ends up putting in a predication AND. While this may not be totally meaningless, it is extremely semantically bleached.

2.1.5 Ordering of linked phrases and particpants

A linked predicate may be separated from its direct object by the predicate it is linked to. In (50) the verb *hił* 'be at' and its object 'my house' are contiguous, but in if (51) they are separated by the second predicate *mamuuk* 'work'.

(50) hiłḥitin maḥt̓iiʔakqas mamuuk.

  hił-(q)ḥ=(m)it=(m)in   maḥt̓ii=ʔak=qas   mamuuk
  be.at-LINK=PST=REAL.1PL house=POSS=DEFN.1SG work

  'We worked at my house.' (**B**, Bob Mundy)

(51) hiłḥitin mamuuk maḥt̓iiʔakqas.

  hił-(q)ḥ=(m)it=(m)in   mamuuk   maḥt̓ii=ʔak=qas
  be.at-LINK=PST=REAL.1PL work   house=POSS=DEFN.1SG

  'We worked at my house.' (**B**, Bob Mundy)

Not only is (51) grammatical but this is sometimes the structure speakers prefer. In the above examples, the linked predicate is the one separated from its direct object, but it can also be the non-linked predicate that is separated from its object, as already seen in (46, 48).

For one of my consultants, Northern dialect speaker Fidelia Haiyupis, this kind of object separation was acceptable when the linked predicate was separated from its object (52) but not when it the non-linked predicate was separated from its object (53, 54). I can only note that this may be a feature of Northern dialects, but it is unclear from the small amount of data that I have.

(52) hiłḥsiiš ʔukʷiił čupč̓upšumł maḥt̓iiʔakʔik.

  hił-(q)ḥ=si·š   ʔu-(č)iił čupč̓upšumł maḥt̓ii=ʔak=ʔik
  be.at-LINK=STRG.1SG   X-make   sweater   house=POSS=DEFN.2SG

  'I am making a sweater at your house.' (**N**, Fidelia Haiyupis)

(53) ʔuuct̓iiḥs Queens Cove ƛiḥaaqḥ.

  ʔuuct̓iiḥ=s   Queens Cove ƛiḥ-a·-(q)ḥ
  go.to.DR=STRG.1SG   Queens Cove drive-DR-LINK

  'I am driving to Queens Cove.' (**N**, Fidelia Haiyupis)

(54) *ʔuuct̓iiḥs ƛiḥaaqḥ Queens Cove.

  ʔuuct̓iiḥ=s   ƛiḥ-a·-(q)ḥ   Queens Cove
  go.to.DR=STRG.1SG   drive-DR-LINK   Queens Cove

  Intended: 'I am driving to Queens Cove.' (**N**, Fidelia Haiyupis)

For most speakers, however, it is possible in linker constructions to interrupt a verb and its direct object with the a secondary (linked or non-linked) predicate.

2.1.6 The linker and the predicate complex

Like many particles in Nuuchahnulth, the linker appears to attach to the first word in some clause. This has already been seen in (21), repeated as (55) below.

(55) ẏuuqʷaaqḥs ʕasqii ʔaanaḥi wik hinʔałšiƛ.

ẏuuqʷaa-qḥ=s   ʕasqii ʔaanaḥi wik   hinʔał-šiƛ
also-LINK=STRG.1SG bald   only   NEG realize-MO

'I'm also bald but I don't know it.' (**C**, *tupaat* Julia Lucas)

The two predicates being tied together in (55) sentence are "also bald" and "only not know (it)." The linker appears on the preposed adverb *ẏuuqʷaa* of the first predicate. Examples like this are difficult to gather directly, but a few examples occur in the Nootka Texts. In (56) the linker also attaches to the preceding adverb of its linked predicate 'still at war', and links that to the still later predicate 'grab their guns.'

(56) ʔeʔimqḥʔaƛquuweʔin hitaḥtačiƛ sukʷiʔaƛ puuʔakʔiʔał.

ʔeʔim-(q)ḥ=!aƛ=quu=weˑʔin   hitaḥta-čiƛ   su-kʷiƛ=!aƛ   puu=ʔak=ʔiˑ=ʔał
first-LINK=NOW=PSSB.3=HRSY.3 go.out.to.sea-MO hold-MO=NOW gun=POSS=ART=PL

'As soon as they left the land, they would take their guns.' (**B**, Sapir & Swadesh 1955:395)

In (57), the linker again attaches to an adverb *ʔiiqḥii* 'still', and links the entire predicate 'the tribes still at war' to the earlier predicate *qʷis* 'do thus.'

(57) qiiḥsṅaakcḱin ʔaḥ qʷiyiič [[qʷis] [ʔiiqḥii**qḥ** hitačink maatmaasʔi]] qaḥsaaṗaƛquuweʔin čamuʔałʔaƛquu yuułuʔiłʔatḥ⁹huuʕiiʔatḥuʔałʔaƛquu.

qiiḥsṅaak-cḱin   ʔaḥ   qʷiyii=č   [[qʷis]   [ʔiiqḥii-**(q)ḥ** hitačink maatmaas=ʔiˑ]]
long.time-DIMIN DDYN when=HRSY do.thus still-link   war   tribe.PL=ART

  qaḥ-saˑp=!aƛ=quu=weˑʔin   čam-uʔał=!aƛ=quu   yuułuʔiłʔatḥ huuʕiiʔatḥ-uʔał=!aƛ=quu.
  kill-MO.CAUS=NOW=PSSB.3=HRSY.3 vessel-see=NOW=PSSB.3 Ucluelet   Huuayaht-see=PSSB.3=HRSY.3

'For a little longer after this happened, while the tribes were still at war, the Ucluelets would kill Huu-ay-ahts when they saw their canoes.' (**B**, Sapir & Swadesh 1955:392)

These examples, as well the case of modal suffix scoping (TODO: publish data from Morphosyntactic Misfits presentation somewhere? Repeat here? Make a separate section?) have led me to believe there is a phrasal unit between the clause (where the second position clitics scope) and the main predicate. I have dubbed this the "predicate phrase." This phrase consists maximally of the predicate word and preceding adverbs. The predicate linker will attach to the first word in the predicate phrase, whether that is the predicate word itself or a preceding adverb.

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⁹Corrected from *yuułuʔiłʔatqḥ*.

2.1.7 Dangling linkers

There are a small number of cases where the linker does not appear to be linking its predicate to anything. I believe that the interpretation of these cases shows that there is an elided phrase. The most common is in a formulaic farewell (58).

(58) ʔuʔaałukḥʔiʔał.
      ʔu-ḷaałuk-(q)ḥ=ḷiˑ=ʔał
      x-look.after-LINK=CMMD.2SG=HABIT
      'Take care!' (**N**, Fidelia Haiyupis)

The meaning of (58) is "Farewell, look after yourself in whatever you're doing." But "whatever you're doing" is dropped from the sentence. I think that the linker is a leftover from the elided phrase. These kinds of "dangling" linkers are uncommon, and in my experience speakers won't accept them out of the blue unless it is a formulaic expression.

2.1.8 Semantic and ordering preferences

Despite the relative flexibility of which predicate in a construction gets the linker (§2.1.2), there are some cases where speakers strongly prefer the linker to go on one versus the other predicate.

In a sentence expressing action at a location, speakers I worked with preferred to put the linker on the location word, and not on the action word. Sometimes speakers rejected other orderings. (59–61) are a particularly strong case.

(59) ƛaaʔaasḥiis ciiqmałap.
      ƛaaʔaas-(q)ḥ=(y)iis   ciiqmałap
      outide-LINK=WEAK.1SG speak.publicly
      'I'm speaking outside.' (**Q**, Sophie Billy)

(60) ciiqmałapiis hiłḥ ƛaaʔaas.
      ciiqmałap=(y)iis   hił-(q)ḥ   ƛaaʔaas
      speak.publicly=WEAK.1SG be.at-LINK   outside
      'I'm speaking outside.' (**Q**, Sophie Billy)

(61) *ciiqmałapḥiis ƛaaʔaas.
      ciiqmałap-(q)ḥ=(y)iis   hił-(q)ḥ   ƛaaʔaas
      speak.publicly-LINK=WEAK.1SG be.at-LINK   outside
      Intended: 'I'm speaking outside.' (**Q**, Sophie Billy)

I was unable to get Sophie to use a linker in such cases on any word other than the location word, and in the (small) corpus of speech I have from her, there are no instances of it. Sophie uses the linker construction much less than all other language consultants I worked with, and rejected many constructions that other speakers used. She is the youngest known fluent speaker, and her speech represents a very innovative Checkleseht dialect. In my experience, the linker was most productive for her on quantifiers and location words, and rarely occurred elsewhere.

With other consultants who did have a more productive use of the linker, they would sometimes reject reorderings or sample sentences that occurred within a set. The following series is from Bob Mundy, a Ucluelet elder, who preferred linked predicates to be the first predicate in the sentence. (62) and (63) are repeated from (25) and (24) respectively.

(62) ciiqciiqaqḥitaḥ hitaas.
      ciq-LR2L.a-(q)ḥ=(m)it=(m)aˑḥ   hitaas
      speak-RP-LINK=PST=REAL.1SG   be.outside
      'I'm speaking outside.' (**B**, Bob Mundy)

(63) hitaasḥitaḥ ciiqciiqa.
      hitaas-(q)ḥ=(m)it=(m)aˑḥ   ciq-LR2L.a
      be.outside-LINK=PST=REAL.1SG   speak-RP
      'I'm speaking outside.' (**B**, Bob Mundy)

(64) *hitaasitaḥ ciiqciiqaqḥ.
      hitaas=(m)it=(m)aˑḥ   ciq-LR2L.a-(q)ḥ
      be.outside=PST=REAL.1SG   speak-RP-LINK
      Intended: 'I'm speaking outside.' (**B**, Bob Mundy)

While Bob was adamant about his ungrammatical judgment, I think the context of rephrasing is important, as this transforms the grammaticality question into something like a ranked choice task. I do not think (64) is truly ungrammatical, as Bob would still generate this kind of ordering in fluent speech. Despite his judgment about here, in another context Bob unprompted produced sentences with the second-predicate linked, as in (46) and (107).

Both the rephrasing data from Bob and the restricted use of the linker by Sophie suggests some general preferences: all else being equal, a location word should not be the one linked (TODO: I could generate statistics on this easily across speakers, I am sure it is a strong preference), and the first word should be the one with the linker (TODO: ditto).

2.1.9   Data Summary

The data presented so far leads to the following conclusions:

1. The linker may attach to any content word of Nuuchahnulth. This includes nouns, adjectives (including quantifiers), verbs, and adverbs, and excludes complementizers.[10] (§2.1.1)

2. The phrase that includes the linked predicate may not be a matrix clause heading a sentence, which must be headed by a non-linked predicate. Nor may a dependent clause consist of only a linked predicate. (§2.1.2)

3. The linked predicate shares its second-position inflectional information (including subject) with the matrix predicate. (§2.1.3)

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[10]There is more to say about a possible class of adpositions. This is addressed in §2.2.3.

4. The linker does not add semantic content to the linked predicate. (§2.1.3)

5. The properties of the linker do not alter depending on whether it attaches to a verb or other part of speech. (§2.1.4)

6. It is possible for a predicate in a linker construction to be separated from its direct object by the other predicate. (§2.1.5)

7. The linker attaches to the first word in its predicate complex, including an adverb if the adverb precedes the predicate. (§2.1.6)

8. In certain pragmatically restricted environments, the linker can be used without attaching to a matrix clause. The interpretation is always of an elided predicate. (§2.1.7)

9. There seems to be a preference for linked predicates to occur first and on location words (§2.1.8).

2.2 Application of the linker to categoricity questions

There are some words in Nuuchahnulth whose part of speech properties are not entirely clear. Woo (2007) examines Nuuchahnulth's large (but closed) set of adpositive-like words, and ends up categorizing them as special types of verbs (some of them little-*v*, from a Minimalist perspective). There are other words whose status is somewhat unclear, such as *ʔuunuuƛ*/*ʔunw̓iiƛ* 'because of an event', *ʔuusaḥi* 'because of a thing', and *ʔuyi* 'at a time'. Some of these words accept the linker and others do not. Recall that the linker typically occurs freely on content words such as verbs (2.1.1), so if these words are verbs, or at least normal verbs, the linker should be able to attach.

Briefly, I show here that *ʔuunuuƛ*/*ʔunw̓iiƛ* 'because of an event' do accept the linker, while *ʔuusaḥi* 'because of a thing' may not (2.2.1). Similarly, *ʔuyi* 'at the time' only accepts the linker marginally (2.2.2). Most of the adpositive-like verbs can also accept the linker (2.2.3), but not the special non-subject marking[11] adpositives *ʔuukʷił* and *ʔuḥta*. This aligns with Woo's findings.

The marginal cases of *ʔuusaḥi* and *ʔuyi* suggest words moving from a simple verb to another category, either a restricted verb type or an incipient category of prepositions. On the other hand, evidence from the linker suggests that *ʔuukʷił* and *ʔuḥta* are members of a special syntactic category, either a very small class of prepositions or little-*v*, depending on one's syntactic framework.

2.2.1 'Because' words

There are three words in Nuuchahnulth that roughly translate to English 'because': *ʔuusaḥi* (all dialects), *ʔuunuuƛ*[12] (Barkley and Central, recognized but rare in Northern and Kyuquot-Checleseht) and *ʔunw̓iiƛ* (Northern and Kyuquot-Checleseht only).

To lay some terminological groundwork, I will be using the technical terms *protasis* and *apodosis*. The *protasis* is the part of the sentence describing the condition, and the *apodosis* is the part of the sentence describing the consequence or result. I will call the words relating these propositions *becausitives*.

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[11]The marking properties of these words and are somewhat more complex than this simple story. TODO: flesh it out? It's just non-ARG1.

[12]Elder *tupaat* Julia Lucas, who is an Ahousaht speaker, consistently pronounces this word as *ʔunʔuuƛ*. I do not know whether this is a feature of her particular idiolect or a sub-Ahousaht dialect feature of which she is the only known (to me) speaker. I transcribe the word as she pronounces it.

Ɂuunuuƛ and *Ɂunẃiiƛ* appear to be dialectal variants with the same in meaning and use patterns. Both these words take two full clauses and relate them (65, 67, 68). But these becausatives cannot relate a noun phrase to a clause (66, 69).

Context for (65, 66): A baby was crying last night. I didn't sleep well, and am explaining it to someone.

(65) Ɂuunuuƛitaḥ wik ƛuɫ weɁič ʕiḥakita naẏaqak.

Ɂuunuuƛ=(m)it=(m)aˑḥ wik ƛuɫ weɁič ʕiḥak=(m)it=maˑ naẏaqak
because=PST=REAL.1SG NEG good sleep cry=PST=REAL.3 baby

'I didn't sleep well because of the baby.' (**B**, Bob Mundy)

(66) *wikitaḥ ƛuɫ weɁič Ɂuunuuƛ naẏaqakɁisɁi.

wik=(m)it=(m)aˑḥ ƛuɫ weɁič Ɂuunuuƛ naẏaqak=Ɂis=Ɂiˑ
because=PST=REAL.1SG NEG good sleep cry=PST=REAL.3

Intended: 'I didn't sleep well because of the baby.' (**B**, Bob Mundy)

Context for (67, 68): Two teams are playing tug of war. Our team is strongest and we won.

(67) hiteɁitapin Ɂuunuuƛ našukqin.

hiteɁitap=(m)in Ɂuunuuƛ našuk=qin
win=REAL.1PL because strong=DEFN.1PL

'We won because we are strong.' (**B**, Marjorie Touchie)

(68) tunuumitniš Ɂunẃiiƛ ḥaaɁakin.

tunuumit=niˑš Ɂunẃiiƛ ḥaaɁak=(y)in
win=STRG.1PL because strong=WEAK.1PL

'We won because we are strong.' (**N**, Fidelia Haiyupis)

TODO: (67, 68) are sort of classic serial verb constructions. The becausatives here are in a serial verb construction with their apodosis. Given that this requires the SVC to understand, maybe this section should be moved after the SVC section?

Context for (69): A bunch of kids are racing. A fast boy wins the race.

(69) *hitaɁapweɁin kaatkimqsuptaaɫ ɫaṅeɁisɁi Ɂuunuuƛ našuk.

hitaɁap=weˑɁin kaatkimqsuptaaɫ ɫaṅa=Ɂis=Ɂiˑ Ɂuunuuƛ našuk
win=HRSY.3 race child=DIMIN=ART because strong

Intended: 'The kid won the race because he is strong.' (**B**, Bob Mundy)

It is possible for the protasis to be introduced by the complementizer (70–72).

(70) Ɂunẃiiƛiis mačiiɫ Ɂin ṁiƛaa.

Ɂunẃiiƛ=(y)iis mačiiɫ Ɂin ṁiƛ-aˑ
because=WEAK.1SG inside.DR COMP rain-DR

'I'm inside because it is raining.' (**Q**, Sophie Billy)

(71) ʔuunuuƛs hiniiʔiƛ ʔin m̓iƛaa.

   ʔuunuuƛ=s   hiniiʔiƛ   ʔin   m̓iƛ-aˑ
   because=STRG.1SG   inside.MO   COMP   rain-DR

   'I came inside because it is raining.' (**N**, Fidelia Haiyupis)

(72) ʔunʔuuƛḥitqač̓aʔał hitaʔap ʔin ʕuy̓inak.

   ʔunʔuuƛ-(q)ḥ=(m)it=qač̓a=ʔał hitaʔap ʔin   ʕuy̓i-naˑk
   because-LINK=PST=INFR=PL   win   COMP   medicine-have

   'They won because they had medicine.' (**C**, *tupaat* Julia Lucas)

The apodosis, however, may not be introduced by complementizer (73).

(73) #* ʔunʔuuƛḥitqač̓aʔał ʕuy̓inak ʔin hitaʔap.

   ʔunʔuuƛḥitqač̓aʔał   ʕuy̓inak   ʔin   hitaʔap
   because-LINK=PST=INFR=PL   medicine-have COMP   win

   Intended: 'They won because they had medicine.' (**C**, *tupaat* Julia Lucas)

Recall that the clausal clitics attach to the first word in a clause, and that both predicates in a linker construction share the subject (2.1.2). (74) thus gives good evidence that the becausitive is linking with the apodosis and not the protasis, since the protasis ('it is raining') has a different subject.

(74) hiniiʔiƛs ʔunw̓iiƛḥ m̓iƛšiƛ.

   hiniiʔiƛ=s   ʔunw̓iiƛ-(q)ḥ   m̓iƛ-šiƛ
   inside.MO=REAL.1SG   because-LINK   rain-MO

   'I am inside because it started raining.' (**N**, Fidelia Haiyupis)

There was some difference between speakers about the grammaticality of non-initial becausitives. One of my Ucluelet consultants, Marjorie Touchie produced non-initial becausitives without the linker (67), and Fidelia Haiyupis, an Ehattesaht woman, produced such an example once (68). However, on other occasions Fidelia rejected such examples without the linker (75, 76), as did Julia Lucas, an Ahousaht speaker (77, 78). My guess would be that the obligatorily-linked version is the older pattern, and this reflects a change in progress that is at different points of progression for different speakers and different dialects.

(75) hitaʔapintniš ʔunw̓iiƛḥ ʕuuy̓aałintin.

   hitaʔap=int=niš   ʔunw̓iiƛ-(q)ḥ   ʕuuy̓aał=int=(y)in
   inside.MO=REAL.1SG   because-LINK   take.medicine=PST=WEAK.1PL

   'We won because we had medicine.' (**N**, Fidelia Haiyupis)

(76) *hitaʔapintniš ʔunw̓iiƛ ʕuuy̓aałintin.

   hitaʔap=int=niš   ʔunw̓iiƛ   ʕuuy̓aał=int=(y)in
   inside.MO=REAL.1SG   because   take.medicine=PST=WEAK.1PL

   Intended: 'We won because we had medicine.' (**N**, Fidelia Haiyupis)

(77) wikits ƛuł waʔič ʔunʔuuƛḥ wawaałwiqa ʕiniiƛ.
      wik=(m)it=s   ƛuł   waʔič ʔunʔuuƛ-(q)ḥ wawaałwiqa ʕiniiƛ
      NEG=PST=REAL.1SG good sleep because-LINK bark   dog
      'I didn't sleep well because the dog was barking.' (**C**, Julia Lucas)

(78) *wikits ƛuł waʔič ʔunʔuuƛ wawaałwiqa ʕiniiƛ.
      wik=(m)it=s   ƛuł   waʔič ʔunʔuuƛ wawaałwiqa ʕiniiƛ
      NEG=PST=REAL.1SG good sleep bark   dog
      Intended: 'I didn't sleep well because the dog was barking.' (**C**, Julia Lucas)

I asked one consultant, Bob Mundy, directly about the difference between *ʔuunuuƛ* and *ʔuunuuƛḥ*. He translated *ʔuunuuƛ* as 'because' and *ʔuunuuƛḥ* as 'that's why.' This is a fairly succinct way of translating the presence of a subordinating linker.

The evidence so far suggests that the words *ʔuunuuƛ* and *ʔunẁiiƛ* behave like verbs. They have two complement clauses, a protasis and an apodosis. For some speakers, the only way that the becausative can appear without a linker is if it is in predicate position: that is, the first word in the sentence. The apodosis shares its subject with the becausitive, and when the predicate linker appears on the becausative it must link it with with the apodosis. In keeping with this specialness of the apodosis argument, the protasis (but not the apodosis) can be introduced with a complementizer.

Where *ʔuunuuƛ* and *ʔunẁiiƛ* behave as verbs with two complement clauses, *ʔuusaḥi* requires its complements to be a noun representing the protasis and a clause representing the apodosis. Examples (79, 80) below are a rephrasing of (65, 66), demonstrating that, opposite from *ʔuunuuƛ/ʔunẁiiƛ*, *ʔuusaḥi* must take a noun phrase protasis and not a clause.

(79) ʔuusaḥimta naẏaqakʔi wikitaḥ ƛuł weʔič.
      ʔuusaḥi=imt=(m)aꞏ   naẏaqak=ʔiꞏ wik=(m)it=(m)aꞏḥ   ƛuł   weʔič
      because.of=PST=REAL.3   baby=ART   NEG=PST=REAL.1SG   good sleep
      'I didn't sleep well because of the baby.' (**B**, Bob Mundy)

(80) *ʔuusaḥimta ʕiḥak naẏaqakʔi wikitaḥ ƛuł weʔič.
      ʔuusaḥi=imt=(m)aꞏ   ʕiḥak   naẏaqak=ʔiꞏ wik=(m)it=(m)aꞏḥ   ƛuł   weʔič
      because.of=PST=REAL.3   cry.DR   baby   NEG=PST=REAL.1SG   good sleep
      Intended: 'I didn't sleep well because of the baby.' (**B**, Bob Mundy)

The noun phrase protasis must also occur immediately following *ʔuusaḥi*, as shown in (81, 82).

(81) ʔuusaḥi ʕuẏi hitaʔap.
      ʔuusaḥi   ʕuẏi   hitaʔap
      because.of medicine win
      'They won because of the medicine.' (**C**, *tupaat* Julia Lucas)

(82)   *Ɂuusaḥi hitaɁap Ɂuẏi.

       Ɂuusaḥi   hitaɁap Ɂuẏi
       because.of   win   medicine
       Intended: 'They won because of the medicine.' (**C**, *tupaat* Julia Lucas)

Ɂuusaḥi can take a clausal protasis if the protasis is preceded by the complementizer (83, 84).

(83)   Ɂuusaḥi hitaɁap Ɂin Ɂuẏinak.

       Ɂuusaḥi   hitaɁap Ɂin   Ɂuẏi-na·k
       because.of   win   COMP   medicine-have
       'They won because they had medicine.' (**C**, *tupaat* Julia Lucas)

(84)   Ɂuusaḥis wik λuɬ waɁič Ɂin wawaaɬwiqa Ɂiniiλ.

       Ɂuusaḥi=s   wik λuɬ   waɁič Ɂin   wawaaɬwiqa Ɂiniiλ
       because.of=STRG.1SG   NEG good sleep COMP bark   dog
       'I didn't sleep well because of the dog.' (**C**, *tupaat* Julia Lucas)

I was unable to determine if *Ɂuusaḥi* can take the linker. This investigation came late during my field work, and I only checked with Bob Mundy. I attempted to add a linker to the sentence in (79), and he was unsure about the grammaticality of the sentence, calling it "iffy."

(85)   ?? Ɂuusaḥiqḥita naẏaqakɁi wikitaḥ λuɬ weɁič.

       Ɂuusaḥi-(q)ḥ=(m)it=(m)a·   naẏaqak=Ɂi· wik=(m)it=(m)a·ḥ   λuɬ   weɁič
       because.of-LINK=PST=REAL.3   baby=ART   NEG=PST=REAL.1SG   good   sleep
       Intended: 'I didn't sleep well because of the baby.' (**B**, Bob Mundy)

Like *Ɂuunuuλ/Ɂunẇiiλ*, *Ɂuusaḥi* behaves in many ways like other verbs. It has two complements, one of which must be a noun phrase protasis (unlike *Ɂuunuuλ/Ɂunẇiiλ*, which must have clausal protases). Like *Ɂuunuuλ/Ɂunẇiiλ*, *Ɂuusaḥi* shares its subject with its apodosis complement. It may be open to linker attachment, but this is unclear. The word does not occur in the Nootka Texts (Sapir & Swadesh 1939, 1955), so appeals to published historical Nuuchahnulth cannot resolve the matter. If *Ɂuusaḥi* cannot accept the linker, it is one of very few verbs (if any) with this property, and is perhaps in the midst of a change in progress, from verb-like to preposition or conjunction-like.

2.2.2   *Ɂuyi*

Of the possibly-verbal, possibly-adpositional words in Nuuchahnulth, *Ɂuyi* and *Ɂuukʷiɬ* are perhaps the most ambiguous cases (Adam Werle, *p.c.*). The meaning of *Ɂuyi* is 'at (a time)' and it typically cooccurs with another predicative word in a sentence. In this case, the clausal clitics scope over both predicates (86–90). The temporal complement of *Ɂuyi* can be a nominal either occurring after (86) or before (87) *Ɂuyi* itself, it can be expressed in a clause with a dependent mood such as the possible mood (88) or the definite mood (89), or it can be dropped from the clause entirely (90).

(86) ʔuyiẃiƛsiis saantii ʔucičƛ ciquwłi.

ʔuyi-ẃiƛs=(y)iis   saantii   ʔu-ci-čiƛ   ciq-uwł=ʔiˑ
at.a.time-going.to=WEAK.1SG Sunday X-go.to-MO pray-building=ART

'I'm going to church on Sunday.' (**Q**, Sophie Billy)

(87) waałakin yuułuʔiłʔatḥ kuʔał ʔuyi.

wałaak-LS=(m)in   yuułuʔiłʔatḥ   kuʔał   ʔuyi
walk-GR=REAL.1PL Ucluelet   morning at.a.time

'We're going to Ucluelet in the morning.' (**B**, Bob Mundy)

(88) ʔuyimaḥʔaała ṅaṅaṅič kuʔiičiʔaƛquu.

ʔuyi=maˑḥ=ʔaała   ṅaṅaṅič kuʔał-ºiˑčiƛ=!aƛ=quu
at.a.time=REAL.1SG=HABIT read   morning-IN=NOW=PSSB.3

'I read in the mornings.' (**B**, Bob Mundy)

(89) ʔuyimtaḥ ʕimtnaakšiƛ čakupšiʔeƛqas.

ʔuyi=imt=(m)aˑḥ   ʕimt-naˑk-šiƛ   čakup-šiƛ=!aƛ=qaˑs
at.a.time=PST=REAL.1SG name-have-MO man-MO=NOW=DEFN.1SG

'I was a full man when I got my name.' (**B**, Bob Mundy)

(90) ʔuyiʔum kitḥšiƛ siičił.

ʔuyi=!um   kitḥ-šiƛ   si-L.(č)ił
at.a.time=CMMD.FUT.1PL ring-MO 1SG-do.to

'Call me then.' (**C**, *tupaat* Julia Lucas)

ʔuyi has a tendency to double in fluent speech: as the first predicate of a two-utterance, then later following its object (91, 92). This could be described grammatically as the first *ʔuyi* occurring with a dropped argument and the second with its object. Note that the sentence in (92) is grammatical without the doubling (93).

(91) ʔuyimtinʔaała wałaak May ʔuyiʔeƛ.

ʔuyi=imt=(m)in=ʔaała   wałaak May ʔuyi=!aƛ
at.a.time=PST=REAL.1PL=HABIT go   May at.a.time=NOW

'We would go (there) in May.' (**B**, Bob Mundy)

(92) ʔuyisʔaał yaacuk kuʔał ʔuyi.

ʔuyi=s=ʔaał   yaacuk kuʔał   ʔuyi
at.a.time=STRG.1SG=HABIT walk   morning at.a.time

'I walk in the morning.' (**C**, *tupaat* Julia Lucas)

(93)   ʔuyisʔaał yaacuk kuʔał.

 ʔuyi=s=ʔaał   yaacuk kuʔał
 at.a.time=STRG.1SG=HABIT walk   morning
 'I walk in the morning.' (**C**, *tupaat* Julia Lucas)

The features of *ʔuyi* so far are in line with other verbs. The clitic-sharing across predicates and the structure of (93) in particular is identical to other serial verb constructions (see TODO serial verb section). However, the doubling in (91, 92) is unique. One point of differentiation is that *ʔuyi* only marginally accepts the linker. After attempting to elicit and construct examples of linked *ʔuyiqḥ*, Barkley speakers Bob Mundy and Marjorie Touchie said that *ʔuyiqḥ* was not a word. They rejected a construction that added a linker to an expression for 'tomorrow' (94), as did Central speaker Julia Lucas when I presented her with the same construction (95). Marjorie Touchie immediately corrected (94) by telling me that the way to say this would be with *ʔuyi ʔaḿii*.

(94)   *ʔuyiqḥʔaƛaḥ ʔaḿii mamuuk hił makuuł.

 ʔuyi-(q)ḥ=!aƛ=(m)aˑḥ   ʔaḿii   mamuuk hił   makuuł
 at.a.time-LINK=NOW=REAL.1SG one.day.away work   at.a.location store
 Intended: 'I will go to work at the store tomorrow.' (**B**, Bob Mundy & Marjorie Touchie)

(95)   *ʔuyiqḥʔaƛs ʔaḿii mamuuk hił makuwił.

 ʔuyi-(q)ḥ=!aƛ=s   ʔaḿii   mamuuk hił   makuuł
 at.a.time-LINK=NOW=STRG.1SG one.day.away work   at.a.location store
 Intended: 'I will go to work at the store tomorrow.' (**C**, *tupaat* Julia Lucas)

Unlike Bob and Marjorie, Julia did believe that *ʔuyiqḥ* was a possible word and offered up this sentence as an example case:

(96)   ʔuyiqḥẃiƭass ʔaƛṗit tinʕaƛ huʔacačiƛ.

 ʔuyi-(q)ḥ-ẃiƭas=s   ʔaƛ-ṗit   tin-ʕaƛ   huʔa-ca-čiƛ
 at.a.time-LINK-going.to=STRG.1SG two-times bell-sound.of back-go-MO
 'I will come back at two o'clock.' (**C**, *tupaat* Julia Lucas)

I am unable to explain why (96) is grammatical and (95) is not. In all of the Nootka Texts, there is only one example of linked *ʔuyiqḥ*, out of approximately 746 instances of *ʔuyi*.

(97)   minkšiʔaƛquu činaaqḥčik nunuuk ʔuʔuyiqḥ ʔuʔuuštaqyuqʷałšẏakukʔi.

 mink-šiƛ=!aƛ=quu   čin-aˑ-(q)ḥčik   nunuuk   R-ʔuyi-(q)ḥ
 around-MO-NOW=PSSB.3   pull.hair-DR-along.the.way sing.DR PL-at.the.time.of-LINK

   R-ʔuuštaqyu-qałš-ẏak=uk=ʔiˑ
   PL-doctor-take.action.on-for.the.purpose.of=POSS=ART

 'As they make the circuit, dragging them along by the hair, they sing his doctoring songs.' (Sapir
 & Swadesh 1939:105)

The marginality of linkers on *ʔuyi* – and its capacity for grammatical doubling – suggests that there is something special about this word, although it behaves in most other ways like a verb entering into a serial verb construction. Like *ʔuusaḥi* (§2.2.1), *ʔuyi* may be a change-in-progress, from a verb to something preposition-like.

2.2.3 Adpositive-like words

In her dissertation, Woo (2007) examines the syntax of what she terms "prepositional predicates" and, ultimately, agrees with previous researchers that these words are verbs. The words she considers are: (1) *ʔuuḥẇał* 'using', (2) *ʔuuʔink* 'using', (3) *ʔuucḥin* benefactive, (4) *ʔuʔatup* benefactive/recipient, (5) *ʔuukčamałčiqḥ* 'do together with someone', (6) *ʔukʷink* 'go with', (7) *ʔuukʷił* 'do to', (8) *ʔuḥta* 'do to', and (9) *ʔuḥ* subject marker.

Woo separates out the last three of the list from the rest. The first six of these prepositional predicates introduce an extra argument into the clause, and using the Minimal Framework, Woo categorizes them as full verbs (V) which, when working in concert with a main verb, coordinate at the level of *v*P. This is supported in part by the first set of words can occur as the sole predicate of a sentence.

However, the latter three words (*ʔuukʷił*, *ʔuḥta*, and *ʔuḥ*) optionally mark arguments already inherent in the main verb. They require a main predicate to form a grammatical sentence (or may only be used alone in special circumstances, like question-answering). These Woo categorizes as flavors of *v*.

Although I approach my analysis from within a different framework, I agree with Woo's broad categorization. I checked speaker's intuitions about attaching the linker -(q)ḥ to these adpositive-like words and the judgments I received support Woo's bifurcation into two categories, and importantly that the first category are in fact verbs. Not all speakers recognize or use all of these adpositive-like words, so I was only able to test a subset. There is also a morphophonological problem testing *ʔuḥ* (which would be a *?*?*ʔuḥḥ* with the linker). However, I have collected data on (1) *ʔuuḥẇał*, (3) *ʔuucḥin*, (4) *ʔuʔatup*, (not in Woo's list) *ʔuupaał*, (7) *ʔuukʷił*, and (8) *ʔuḥta*. In short, the words Woo's calls verbs mostly accept the linker, while all of her "little-*v*" words do not.

2.2.3.1 *ʔuuḥẇał* The adpositive verb *ʔuuḥẇał* 'using' can accept the linker in a sentence without any change of meaning.

(98)   wikcuk̓ʷapʔic λiisλiisa ʔuuḥẇał λiisc̓uuẏak.

    wikcuk=!ap=ʔic   λis-LR2L.a ʔuuḥẇał   λiisc̓uuẏak

    easy=CAUS=STRG.2SG write-RP   using   computer

    'It's easy for you to write using a computer.' (**N**, Fidelia Haiyupis)

(99)   wikcuk̓ʷapʔic λiisλiisa ʔuuḥẇałḥ λiisc̓uuẏak.

    wikcuk=!ap=ʔic   λis-LR2L.a ʔuuḥẇał-(q)ḥ   λiisc̓uuẏak

    easy=CAUS=STRG.2SG write-RP   using-LINK   computer

    'It's easy for you to write using a computer.' (**N**, Fidelia Haiyupis)

2.2.3.2 *ʔuucḥin* The adpositive verb *ʔuucḥin* 'for, on the behalf of' can also accept the linker, although my consultant was less sure about it. She said that I could "get away with" (101) but thought it was unnecessary.

(100) ʔuucḥins mamuuk ʔuušḥy̓umsukqs.

    ʔuucḥin=s   mamuuk ʔuuš-ḥy̓ums=uk=qs
    BENEF=STRG.1SG work   some-related.or.friend=POSS=DEFN.1SG

    'I'm working for my friend.' (**N**, Fidelia Haiyupis)

(101) ʔuucḥinqḥʔaƛs mamuuk ʔuušḥy̓umsukqs.

    ʔuucḥin-(q)ḥ=!aƛ=s   mamuuk ʔuuš-ḥy̓ums=uk=qs
    BENEF-LINK=NOW=STRG.1SG work   some-related.or.friend=POSS=DEFN.1SG

    'I'm working for my friend.' (**N**, Fidelia Haiyupis)

2.2.3.3 *ʔuʔatup* There is speaker disagreement on whether the adpositive verb *ʔuʔatup* 'on the behalf of, for the benefit of' freely accepts the linker. My consultant *tupaat* Julia Lucas, a Central speaker, accepted it (102, 103) but my Barkley Sound consultants Bob Mundy and Marjorie Touchie did not (104, 105). This may be another case of a change in progress, where for my Barkley consultants, *ʔuʔatup* is coming to more closely resemble *ʔuukʷił* grammatically (§2.2.3.5), something approaching a true adposition.

(102) ʔak̓uułis suẃa ḥiy̓aḥi čapac ʔuʔatup ḥaakʷaaƛukʔitk.

    ʔak̓uułi=s   suẃa ḥiy̓aḥi čapac ʔuʔatup ḥaakʷaaƛ=uk=ʔitk.
    loan=STRG.1SG 2SG D3   canoe BENEF   daughter=POSS=DEFN.2SG

    'I'm loaning you that canoe for your daughter.' (**C**, *tupaat* Julia Lucas)

(103) ʔak̓uułis suẃa ḥiy̓aḥi čapac ʔuʔatupḥ ḥaakʷaaƛukʔitk.

    ʔak̓uułi=s   suẃa ḥiy̓aḥi čapac ʔuʔatup-(q)ḥ ḥaakʷaaƛ=uk=ʔitk.
    loan=STRG.1SG 2SG D3   canoe BENEF-LINK   daughter=POSS=DEFN.2SG

    'I'm loaning you that canoe for your daughter.' (**C**, *tupaat* Julia Lucas)

(104) huyaałaḥ ʔuʔatup t̓aatńeʔis.

    huyaał=(m)a·ḥ ʔuʔatup t̓aatńa=ʔis.
    dance=REAL.1SG BENEF   child.PL=DIM

    'I dance for the children.' (**B**, Bob Mundy, Marjorie Touchie)

(105) *huyaałaḥ ʔuʔatupḥ t̓aatńeʔis.

    huyaał=(m)a·ḥ ʔuʔatup-(q)ḥ t̓aatńa=ʔis
    dance=REAL.1SG BENEF-LINK   child.PL=DIM

    Intended: 'I dance for the children.' (**B**, Bob Mundy, Marjorie Touchie)

2.2.3.4 *ʔuupaał*   Though this does not appear in Woo (2007), it is another adpositive-like verb that appʻears to have the same meaning as *ʔukʷink* ʻwithʼ. My consultants familiar with the word used it both with and without the linker.

(106)   ʔuupaaɫẁiṫasaḥ yaqsčiʕinukqas ḱanisẁiṫas.

       ʔuupaaɫ-ẁiṫas=(m)aˑḥ   yaqsčiʕin=uk=qaˑs   ḱanis-ẁiṫas
       with-going.to=REAL.1SG   friend=POSS=DEFN.1SG   camp-going.to

       ʻIʼm going to go camping with my friends.ʼ (**B**, Marjorie Touchie)

(107)   ƛiiḥpanačẁiṫasaḥ ʔuupaaɫḥ yaqsčaʕinqas.

       ƛiḥ-L.panač-ẁiṫas=(m)aˑḥ   ʔuupaaɫ-(q)ḥ   yaqsčaʕin=qaˑs
       drive-drift.around-going.to=REAL.1SG   with-LINK   friend=DEFN.1SG

       ʻIʼm going to go driving around with my friends.ʼ (**B**, Bob Mundy)

2.2.3.5 *ʔuukʷił*   Unlike the fully predicative verbs above, *ʔuukʷił* ʻdo toʼ does not accept the linker.

(108)   haɫiiɫintʔiš ʔiiḥatisʔatḥ ʔuukʷił ċišaaʔatḥ čiicsṫaɫẁiṫas.

       haɫiiɫ=int=ʔiˑš   ʔiiḥatisʔatḥ   ʔu-L.(č)iɫ   ċišaaʔatḥ   čiicsṫaɫ-ẁiṫas
       ask=PST=STRG.3   Ehattisaht   DO.TO   Tseshaht   do.tug.of.war-going.to

       ʻThe Ehattesahts invited the Tseshahts to play tug of war.ʼ (**N**, Fidelia Haiyupis)

(109)   *haɫiiɫintʔiš ʔiiḥatisʔatḥ ʔuukʷiłḥ ċišaaʔatḥ čiicsṫaɫẁiṫas.

       haɫiiɫ=int=ʔiˑš   ʔiiḥatisʔatḥ   ʔu-L.(č)iɫ-(q)ḥ   ċišaaʔatḥ   čiicsṫaɫ-ẁiṫas
       ask=PST=STRG.3   Ehattisaht   DO.TO-LINK   Tseshaht   do.tug.of.war-going.to

       Intended: ʻThe Ehattesahts invited the Tseshahts to play tug of war.ʼ (**N**, Fidelia Haiyupis)

2.2.3.6 *ʔuḥta*   Like the more common object marker *ʔuukʷił*, *ʔuḥta* ʻdo toʼ also does not accept the linker.

Context for (110, 111), discussing family relations.

(110)   ʔuḥta Jane ʔuʔukʷił Alexandra ẏuukʷiiqsu.

       ʔuḥta   Jane   ʔuʔukʷił   Alexandra   ẏuukʷiiqsu
       DO.TO   Jane   call   Alexanda   younger.sibling

       ʻOnly Jane can call Alexandra youngest.ʼ (**C**, *tupaat* Julia Lucas)

(111)   *ʔuḥtaqḥ Jane ʔuʔukʷił Alexandra ẏuukʷiiqsu.

       ʔuḥta-(q)ḥ   Jane   ʔuʔukʷił   Alexandra   ẏuukʷiiqsu
       DO.TO-LINK   Jane   call   Alexanda   younger.sibling

       Intended: ʻOnly Jane can call Alexandra youngest.ʼ (**C**, *tupaat* Julia Lucas)

2.2.4 Summary of the linker and class-ambiguous words

I believe that this data about the attachment of the predicate linker can help shed light on the categoricity of these words. *ʔuunuuƛ* and *ʔunẃiiƛ* 'because' behave like verbs, and I believe they should be treated as such. *ʔuyi* appears verbal but more marginally so, and is possibly in the process of transitioning to a preposition. The adpositive-like words that can accept the linker seem to be clearly verbal, which agrees with Woo (2007)'s categorization. However the argument-marking words *ʔuukʷił* and *ʔuḥta* behave differently, as befitting non-predicative words belonging to a different category.

2.3 HPSG Analysis and Implementation

3 Serial Verbs

3.1 Serial Verb Definition

The definition of serial verb is somewhat contested. In their typological survey, Aikhenvald & Dixon (2006) give several definitions, some of which conflict or overlap. Among their key proposed criteria is multiple verbs that (i) are monoclausal; (ii) from a "single predicate"; (iii) form a "single event"; (iv) form one unit phonologically; (v) are negated singly.

Most of these definitions are problematic, however. Aikhenvald & Dixon give no clear definition for a single predicate or a single event. Without a formal semantic representation, these are left vague, and for the most part a single predicate (when it is not synonymous with a single event) seems to come down to monoclausality. While serial verbs may be phonologically connected, they give several examples where the serial verbs are separated by intervening words (such as a direct object), and give instances of (what they term) serial verbs where one verb is negated while the other is not.

Butt (1995) gives an analysis of serialization in Urdu within the structure of Lexical-Functional Grammar (LFG). Since her work is grounded in a specific analysis of a specific language, Butt can be more specific in the definition of a serial verb. A key component of Butt's analysis is the notion of a "complex predicate," which is the creation of a new atomic unit of meaning from two separate words. The two components of a complex predicate can have a syntactically hierarchical relation. The semantic relation for the word 'write' might be WRITE(x, y), but when combined with the permissive, the new semantic relation is LET-WRITE(x, y, z), with a syntactic subordination. The predicate composition has created a new, higher-order relation with a different number of arguments, which is necessary in the event that there is evidence (as in Urdu) that the combined verbs have a larger number of arguments than either of the individual verbs.

There are reasons to disprefer this kind of analysis, if possible. One is that this form of complex predicate makes semantic composition much more difficult to model. In the typical lexicalist framework, each content morpheme is associated with an elementary predication, which is a shorthand for the 'meaning' of that morpheme, conventionally written as the morpheme in upper-case letters. This convention is for human readability: we could easily label word meanings as MEANING1647, MEANING1648, etc., with no loss of specificity. Butt's analysis creates a situation where there is a new mathematical operation in the semantic representation: 'let' LET + 'write' WRITE = LET-WRITE. Despite the similarity in labels, there is no formal relationship between these three meaning representations except by that equation, just as if the equation had been MEANING308 + MEANING2119 = MEANING8780. The meaning of the "complex predicate" is non-compositional with respect to its member verbs.

On its own, this is not necessarily a bad thing. Some sort of arbitrariness like this could be used to model idioms, for example, where individual lexical meanings are non-compositional. However, when this kind of combination is productive (as in the case of serialization), it is preferable not to introduce such semantic non-compositionality, or one ends up with a list of semantic equations, as above, which nearly the size of the set of verbs in the lexicon (if not larger).

In LFG, the elementary predication of a word is linked to its argument exponence. That is, the meaning of 'write' isn't merely WRITE, but WRITE(x, y). In this framework, to add an argument to a predication, it is necessary to change the predication itself. In HPSG-MRS, the semantic meaning and its arguments are separated from each other. That is, the meaning of 'write' is schematized as below:

$$\begin{bmatrix} \text{PRED} & \text{WRITE} \\ \text{ARG0} & e \\ \text{ARG1} & x \\ \text{ARG2} & y \end{bmatrix}$$

In this way, it is possible to separately alter the number of arguments of the predication WRITE without having to create a new predication. (This is something the formalism shares with Neodavidsonian representations.) This difference between LFG and HPSG semantic representations will allow me to maintain strict semantic compositionality in my analysis of serial verbs in Nuuchahnulth. This method of changing the arguments of a predicate, or moving them to a higher predicate, is called *argument composition* [TODO: cite appropriate Sag paper].

Serial verbs are not clearly defined in the literature, and attempts to generate cross-linguistic definitions quickly run into problems. Even monoclausality, so central to Aikhenvald & Dixon (2006), is thrown out in Butt (1995), who gives good reasons for syntactic subordination in a structure that otherwise falls into the umbrella of a serialization construction. I will use a very narrow definition of a serial verb construction for Nuuchahnulth.

Any clause containing two verbs without an overt coordinator is a clause containing a "serial verb construction." The structure of Nuuchahnulth is such that determining the boundaries of a clause is relatively straightforward. Each matrix and dependent clause is marked with a second-position clitic, and so the boundaries of a clause are fairly easy to determine.[13] Because of the restriction that serial verb constructions lack an overt coordinator, the linker (§**??**) does not count as a SVC.

3.2 Data

3.2.1 Semantic Types of Serial Verb Constructions

Descriptively, I categorize observed serial verb constructions into four broad semantic types.

I. Manner and Action

The broadest semantic type of SVC links actions and manner. By "manner" what I mean is words that express intention of a main action, or clarify or specify that main action in some way. In Nuuchahnulth, this is typically expressed verbally. I include in this category manner of motion (112), actions performed under motion (113), emotional affect (114), some kinds of adverbial-like expressions using semantically light verbs like "do" and "go ahead" (115, 116), and "go back" in the sense meaning "return" 117.

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[13]The one exception to this is that the third-person neutral mood is null-marked. For this reason, I will use examples that are not in this person-mood combination.

(112) ʔuucuẏukẇiƛasaḥ yaacuk ċuumaʕas .

ʔuucuẏuk-ẇiƛas=(m)aḥ   yaacuk   ċuumaʕas

go.to.DR-going.to=REAL.1SG   walk.DR   Port.Alberni

'I'm going to walk to Port Alberni.' (**B**, Bob Mundy)

(113) hiniiċaƛna ṗatquk ʔucačiƛ Qualicum.

hina-iic=!aƛ=na·   ṗatquk   ʔu-ca-čiƛ   Qualicum

EMPTY-carry=NOW=STRG.1PL   belongings   X-go.to-MO   Qualicum

'We are taking our belongings going to Qualicum.' (**C**, *tupaat* Julia Lucas)

(114) wiḳiis x̣ax̣aał łaakʷiił siẏa.

wik=!i·s   x̣ax̣aał   łakʷ-L.(č)iił   siẏa

NEG=CMMD.2SG>1SG   feel.sorry   pathetic-make   1SG

'Don't feel sorry for me, mistreating me.' (**C**, *tupaat* Julia Lucas)

(115) ʔanisłintwaʔš ṫawiłšƛ.

ʔani-sł=int=waʔš   ṫawił-šiƛ

only-do=PST=HRSY.3   lie.down-MO

'He just laid down.' (**Q**, Sophie Billy)

(116) naẏiiʔaḳaƛin kuẇiła wałaak.

naẏiiʔak=!aƛ=(m)in   kuẇiła   wałaak

immediately=NOW=REAL.1PL   go.ahead   go.DR

'We immediately went ahead and went.' (**B**, Marjorie Touchie)

(117) huʔacačiʔaaqƛsuuk tiičačiƛ.

huʔa-ca-čiƛ=!aaqƛ=suuk   tiič-°ačiƛ

back-go-MO=FUT=NEUT.2PL   live-IN

'You will come back to life.' (**C**, *tupaat* Julia Lucas)

This kind of SVC can "stack" beyond coordinating just two verbs, to at least three.

(118) ʔanasiłaʔi kuẇiła ʔucačiƛ makuʔał.

ʔana-siła=ʔi·   kuẇiła   ʔu-ca-čiƛ   makuʔał

only-do=CMMD.2SG   go.ahead   X-go.to-MO   store

'Only go to the store.' (**C**, *tupaat* Julia Lucas)

(119) huʔacačiƛẇiƛasaḥ šiiƛuk wałaak yuułuʔiłʔatḥ.

huʔa-ca-čiƛ-ẇiƛas=(m)aḥ   šiiƛuk   wałaak   yuułuʔił-ʔatḥ

back-go-MO-going.to=REAL.1SG   move.house.DR   go   Ucluelet-live.at

'I'm going to move back to Ucluelet.' (**Q**, Sophie Billy)

It is possible for one of the verbs to interrupt the other (120), along with its object, if it has one (121).

(120) ʔuucⱦiiḥs ƛiḥaa Queens Cove.

      ʔuucⱦiiḥ=s   ƛiḥ-aˑ   Queens Cove

      go.to.DR=STRG.1SG drive-CT Queens Cove

      'I am driving to Queens Cove.' (**N**, Fidelia Haiyupis)

(121) hiniicintiisʔinⱡ ʔucičƛ ciquwⱡi ⱦaatⱡaʔiskqs.

      hina-iic=int=iis=ʔinⱡ   ʔu-ci-čiƛ   ciq-uwⱡi   L.<t>-ⱦaⱡa=ʔis=uk=qaˑs

      EMPTY-carry=PST=WEAK.1SG=HABIT X-go.to-MO pray-building PL-child=DIMIN=POSS=DEFN.1SG

      'I would always take my children to church.' (**Q**, Sophie Billy)

The verbs in this type of SVC, for most speakers, must agree in perfectiveness. Nuuchahnulth has a great many verbal aspects which follow the root, but they can be broken into two categories: perfective aspect (momentaneous and inceptive) and imperfective aspect (continuative, durative, repetitive, iterative, and graduative). The requirements on SVC aspectual agreement only seem to extend to the level of perfective vs imperfective.

(122) ʔuucuẏukẇiⱦass yuuⱡuʔiⱡʔatḥ yaacuk.

      ʔuucuẏuk-ẇiⱦas=s   yuuⱡuʔiⱡ-ʔatḥ   yaacuk

      go.DR-going.to=STRG.1SG Ucluelet-live.at walk.DR

      'I'm going to walk to Ucluelet.' (**C**, *tupaat* Julia Lucas)

(123) *ʔuucuẏukẇiⱦass yuuⱡuʔiⱡʔatḥ yaacšiƛ.

      ʔuucuẏuk-ẇiⱦas=s   yuuⱡuʔiⱡ-ʔatḥ   yaacšiƛ

      go.DR-going.to=STRG.1SG Ucluelet-live.at walk.MO

      Intended: 'I'm going to walk to Ucluelet.' (**C**, *tupaat* Julia Lucas)

(124) ƛiḥaamitniš siẏa ⱡuucⱦuupukqs waaⱡšiƛ.

      ƛiḥ-aˑ=(m)it=niˑš   siẏa ⱡuucⱦuup=uk=qs   waⱡ-šiƛ-LS

      drive-CT=PST=STRG.1PL 1SG sister=POSS=DEFN.1SG go.home-MO-GR

      'We were driving home in the car.' (**C**, *tupaat* Julia Lucas)

(125) *waⱡšiƛẇiⱦasniš ƛiḥaa.

      waⱡ-šiƛ-ẇiⱦas=niˑš   ƛiḥ-aˑ

      go.home-MO-going.to=STRG.1PL drive-CT

      Intended: 'We will drive home.' (**C**, *tupaat* Julia Lucas)

However, for one of my consultants, Sophie Billy, who is the youngest speaker, the only Checkleseht speaker I worked with, and typically the most innovative in her speech patterns, two verbs in this kind of SVC may differ in aspect. I do not know if this is a Checkleseht feature, a Kyuquot-Checkleseht feature, a feature of her generation, or a feature of her idiolect. But this pattern is productive for her.

(126) ʔucičƛsiš šiiƛuk mituuni.

ʔu-ci-čiƛ=si·š   šiiƛuk   mituuni
x-go-MO=STRG.1SG move.house.DR Victoria

'I moved to Victoria.' (**Q**, Sophie Billy)

(127) ʔuucḷiiḥsiš šiiƛuk mituuni.

ʔuucḷiiḥ=si·š   šiiƛuk   mituuni
go.DR=STRG.1SG move.house.DR Victoria

'I moved to Victoria.' (**Q**, Sophie Billy)

II. Location and Action

Perhaps the most common semantic type of serialization is location-action. Most descriptive locations in Nuuchahnulth are verbs, 'be at a place' and locations are simply juxtaposed with the action performed there. This strategy is used for transitive *hiƛ* 'be at' as well as intransitive locations like *hitaas* or *ƛaaʔaas* 'be outside' and *hitinqis* 'be at the beach.'

(128) hiƛʔii wiinapuƛ.

hiƛ=!i·   wiinapuƛ
be.at=CMMD.2SG stop.MO

'Stop there.' (**B**, Bob Mundy)

(129) hitaasitaḥ ciiqciiqa.

hitaas=(m)it=(m)a·ḥ   ciq-LR2L.a
be.outside=PST=REAL.1SG speak-RP

'I was outside speaking.' (**B**, Bob Mundy)

(130) qiiʔaƛintiis mamuuk ƛaaʔaas.

qii=!aƛ=int=iis   mamuuk ƛaaʔaas
long.time=NOW=PST=WEAK.1SG work.DR   be.outside

'I was working outside for a long time.' (**Q**, Sophie Billy)

(131) haptsaapaqƛiis suutiƛ hiƛaayiƛkʷ.

hapt-sa·p=ʔaqƛ=iis   sut-L.(č)iƛ hiƛ-a·yiƛ=uk.
hide-MO.CAUS=FUT=WEAK.1SG 2SG-do.to be.at-on.a.roof=POSS

'I will hide you on the roof.' (**Q**, Sophie Billy)

Like in Type I, is possible in this construction for the transitive location verb *hiƛ* 'be at' to be split from its object by the other verb (132). It is also possible for the location word can also be the interrupting element (133).

(132) hiłqiimitʔišʔaał huuxsʔatu nučii.

hił-qii=(m)it=ʔiˑš=ʔaał   huuxsʔatu nučii
be.at-on.top-PST=STRG.3=HABIT rest.DR   mountain

'He rests on top of mountains.' (**N**, Fidelia Haiyupis)

(133) huptsaapckʷaλ hinałčił ʔiiḥmisukʔi p̓atquk.

hupt-saˑp=ckʷiˑ=!aλ   hina-ałčił   ʔiiḥmis=uk=ʔiˑ   p̓atquk
hide-MO.CAUS=remains.of=NOW   EMPTY-in.wall important=POSS=ART   belongings

'They hid their belongings in the walls.' (**B**, Bob Mundy)

Unlike Type I SVCs, there is no requirement that the verbs match in their aspect. This is partly because most locatives do not inflect for aspect. For the basic verb *hił* 'be at' there is no perfective form of *hiłšiλ* [[TODO: confirm]], and *hił* can serialize with both perfective (128) and imperfective verbs (132). There exist perfective forms for some of the other location words, for instance *hitinqsaλ* 'go to the beach' from *hitinqis* 'be at the beach.' However, there is no requirement for aspectual agreement here, as these words serialize with both perfective (131, 133) and imperfective verbs (130).

Some speakers have very strong preferences on the ordering of locative SVCs. When presented with alternative ways of expressing a sentence, Bob Mundy (Barkley dialect) rejected an ordering of action-location, strongly preferring location-action (134, 135).

(134) hitaasitaḥ ciiqciiqa.

hitaas=(m)it=(m)aˑḥ   ciq-LR2L.a
outside-PST=REAL.1SG speak-RP

'I was speaking outside.' (**B**, Bob Mundy)

(135) *ciiqciiqamitaḥ hitaas.

ciq-LR2L.a=(m)it=(m)aḥ   hitaas
speak-RP=REAL.1SG   outside-PST

Intended: 'I was speaking outside.' (**B**, Bob Mundy)

However, he did spontaneously generate the "ungrammatical" ordering of action-location in running text in ex (133). My interpretation of this is that there is a strong preference for the locative verb to come first, although it may not be strictly ungrammatical. Elder Fidelia Haiyupis (Northern dialect) agreed with Bob's judgments, while other consultants accepted either ordering.

I believe this is part of a larger preference in Nuuchahnulth for modifying expressions to precede what they modify. The same pattern can be seen with adverbs, which preferentially precede the verb (and speakers will correct themselves and others by moving adverbs before to a verb) but can, in the right circumstances, occur post-verbally.

III. Adpositive-likes

A fuller discussion of adpositive-like words will have to wait for §2.2.3. It is enough here to mention that, according to the analysis in (Woo 2007), a series of words with meanings that in English are expressed with prepositions are, in Nuuchahnulth, expressed with verbs (136, 137). This includes verbs

with basic commitive, benefactive, and instrumentive meanings. These constructions have the same property of the above SVCs, where an intransitive verb may "interrupt" a transitive verb (in this case, the adpositive-like verb) and its object (138).

(136) hiinasinƛayaʔiš haẁacsaċumʔi ʔuuḥẁał kʷaacsaċum.

hiinasinƛ-aya=ʔiˑš   haẁacsaċum=ʔiˑ   ʔu-L.ḥẁał   kʷaacsaċum
climb-CT=STRG.3SG   table=ART   x-use   chair

'Using the chair he climbed onto the table.' (**N**, Fidelia Haiyupis)

(137) ʔuupaałẁiłasniš ẏukʷiiqsu ʔucačiƛ Campbell River.

ʔuupaał-ẁiłas=niˑš   ẏukʷ-iˑqsu   ʔu-ca-čiƛ   Campbell River
with-going.to=STRG.1PL   younger.sibling-relation   x-go.to-MO   Campbell River

'I'm going with my younger sister to Campbell River.' (**C**, *tupaat* Julia Lucas)

(138) ʔucḥins mamuuk Trudeau.

ʔu-cḥin=s   mamuuk Trudeau
x-do.for=STRG.1SG   work.DR Trudeau

'I'm working for Trudeau.' (**N**, Fidelia Haiyupis)

None of the adpositive-like verbs inflect for aspect, and in this way are similar to the locative verb *hił*. Like *hił* and like Type II SVCs, adpositive-likes can serialize with both perfective (137, 139) and imperfective verbs (136, 138). Unlike Type I and II SVCs, the "interrupting verb" cannot be a transitive verb with its argument. [[TODO: Run this by Julia to make sure this isn't a Bobism, doublecheck with Bob & Marj. If this holds up this will have to be a different construction from I, II, and IV]]

(139) ʔucačiʔaƛukʷitaḥ łaṅeʔis ċuumaʕas ʔukʷink yaqsčaʕinʔitq.

ʔu-ca-čiƛ=!aƛ=uk=(m)it=(m)aḥ   łaṅa=ʔis   ċuumaʕas   ʔu-(č)ink   yaq-sčaʕin=ʔiˑtq
x-go-MO=NOW=POSS=PST=REAL.1SG   child=DIMIN   Port.Alberni   x-with   who-friendly=DEFN.3

'My child is going to Port Alberni with his friend.' (**B**, Bob Mundy)

(140) *ʔukʷinḱaƛukʷitaḥ ʔucačiƛ łaṅeʔis yaqsčaʕinʔitq.

ʔu-(č)ink=!aƛ=uk=(m)it=(m)aḥ   ʔu-ca-čiƛ   łaṅa=ʔis   yaq-sčaʕin=ʔiˑtq
x-with=NOW=POSS=PST=REAL.1SG   x-go-MO   child=DIMIN   who-friendly=DEFN.3

Intended: 'My child is going with his friend.' (**B**, Bob Mundy)

IV. Transitive-Intransitive Repetition

Nuuchahnulth has a series of words with similar or identical meanings that differ only or mostly in transitivity. These include transitive and intransitive eat (-*!iis* and *haʔuk*, as in 141) and cry and cry for (*ʕiḥak* and *ʔuʔuuẏuk*, as in 142). Speakers frequently will use both versions in a sentence.

(141) ʔuʔiiċaʔ̓ƛ haʔuk.

ʔu-!iic=!aƛ=!iˑ   haʔuk
x-eat=NOW=CMMD.2SG   eat

'Eat it!' (**Q**, Sophie Billy)

(142) ʕiiḥakitʔiš ʔuʔuuẏuk ʔumʔiiqsakʔi.

ʕiḥ-ak-LS=(m)it=ʔi·š   ʔuʔuuẏuk   ʔumʔiiqsu=ʔak=ʔi·
cry-DR-GRAD=PST=STRG.3   cry.for   mother=POSS=ART

'She cried for her mother.' (**C**, *tupaat* Julia Lucas)

While *waa* 'say' can be used as a transitive quotative, it can be used intransitively as well, similar to English *speak*. It can enter into this kind of SVC in this capacity, doubling with another verb of speaking (143). This characteristic doubling can also occur with *ʔiiqḥuk* 'tell' (144).

(143) waaʔaλiič ʔuumaċ ʔuušḥẏimsukqs.

waa=!aλ=ii=č   ʔuumaċ   ʔuuš-ḥẏims=uk=qas
say=NOW=WEAK.3=HRSY   talk.about   some-be.related.or.friends=POSS=DEFN.1SG

'I heard he was talking about my friends or family.' (**Q**, Sophie Billy)

(144) ʔuḥʔaλiič ṅuẇiiqskqs ʔuumaċkʷ ʔiiqḥuk ʔumʔiiqskqs.

ʔuḥ=ʔaλ=ii=č   ṅuẇiiqsu=ʔak=qa·s   ʔuumacuk ʔiiqḥuk ʔumʔiiqsu=ʔak=qa·s
be=NOW=WEAK.3=HRSY   father=POSS=DEFN.1SG   talk.about tell   mother=POSS=DEFN.1SG

'It was my father who told my mother about it.' (**Q**, Sophie Billy)

Like the other SVCs, the transitive verb can be separated from its object.

(145) ʔuʔiisʔaλin haʔuk suuḥa.

ʔu-!iis=!aλ=!in   haʔuk suuḥa
x-eat=NOW=CMMD.1PL   eat   spring.salmon

'Let's eat spring salmon!' (**B**, Bob Mundy and Marjorie Touchie)

TODO: Check for aspectual agreement (hypothesis: it is required for most speakers, although Sophie Billy already shows that she doesn't require it)

V. Sequential or Separable Action

In all the above types of serialization, the verbs are describing in some way "the same action" or something that is at least simultaneous. Type I and Type III both describe in some way the manner of an action (answering what-with, how, by what means, etc) or simultaneity (carrying and walking). Type II serial verbs describe location, and Type IV describes literally the same action twice. When Aikhenvald & Dixon (2006) talk about serial verbs describing the "same event" I believe this is attempting to capture the sort of unity seen in these (and other) types of serialization. When I model the semantics of these constructions (§3.3) I will preserve compositionality and thus the different verbs will each have separate semantic event variables, and so they are not the "same event" in this formal way. But in all these SVCs there is, at minimum, some kind of "meanwhile" interpretation applied to the two verbs.

The sequential/separable action subtype of SVC is different in this respect. In these constructions, there is no interpretation of simultaneity and there is sometimes a (perhaps pragmatic) interpretation of sequentiality. This is by far the least common type of SVC, but speakers do produce them spontaneously. For instance, (146) is from an exhortative text, and immediately follows the command "Don't throw your clothes on the floor."

(146) sukʷiʔi k̓aššaap

      suk-iƛ=!iˑ   k̓aš-saˑp

      hold-MO=CMMD.2SG put.away-MO.CAUS

      'Take it and put it away.' (**C**, *tupaat* Julia Lucas)

When presented with a possible reordering (147), my consultant said it was in the wrong order, and didn't make sense.

(147) # k̓aššaapʔi sukʷiƛ

      k̓aš-saˑp=!iˑ   suk-iƛ

      put.away-MO.CAUS=CMMD.2SG hold-MO

      # 'Put it away, then take it.' (**C**, *tupaat* Julia Lucas)

This ordering effect is apparent in other such construcctions where one action leads to another. (148) was a sentence given by a consultant, and when I asked about (149) her response was that it sounded backwards.

(148) ʔuwičiʔim pankuupa ẏakšiƛ siičił.

      ʔu-ci-čiƛ=!im   pankuupa ẏak-šiƛ   si-L.(č)ił

      X-go.to-MO=CMFU.2SG Vancouver appear-MO 1SG-do.to

      'Come to Vancouver and see me.' (**Q**, Sophie Billy)

(149) ?? ẏakšiʔim siičił ʔuwičƛ pankuupa.

      ẏak-šiƛ=!im   si-L.(č)ił   ʔu-ci-čƛ   pankuupa

      appear-MO=CMFU.2SG 1SG-do.to X-go.to-MO Vancouver

      Intended: 'Come to Vancouver and see me.' (**Q**, Sophie Billy)

It is also possible to get speakers to produce or agree to sequential SVCs in the right context, for example in planning actions (150) or giving formal instructions to children (151).

(150) ƛiptqšiʔin k̓anisẏakukqin wałaak hitinqisʔi.

      ƛiptq-šiƛ=!in   k̓anis-ẏak=uk=qin   wałaak hitinqis=ʔiˑ

      pack-MO=CMMD.1SG camp-for=POSS=DEFN.1SG go   at.beach=ART

      'Let's pack our camping stuff and go to the beach.' (**B**, Marjorie Touchie)

(151) naʔaataḥʔatmaʔaała nunuukʔi ṅaacsa huyaałʔi.

      naʔaataḥ=!at=maˑ=ʔaała   nunuuk=ʔiˑ ṅaacsa huyaał=ʔiˑ

      listen=PASS=REAL.3=HABIT sing=ART   watch dance.DR=ART

      'One listens to the singing and watches the dancing.' (**B**, Marjorie Touchie)

(151) does not necessarily have a sequential interpretation: it is possible (indeed, likely) that the children will be watching dancers and listening to singing at the same time.

    It is possible for both these verbs to share a single direct object.

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(152) naʔaataḥʔaaqƛiʔaał ʔiisak ʔuukʷił ʔaʔiičim.

naʔaataḥ=ʔaaqƛ=!iˑ=ʔaał　　　　ʔiisak　　　ʔu-L.(č)ił　ʔaʔiičim
listen.DR=FUT=CMMD.2SG=HABIT　respect.DR　X-do.to　　elder.PL

'Listen to and respect the elders.' (**C**, *tupaat* Julia Lucas)

As with other SVCs, it is possible to get more than two verbs in this construction.

(153) naʔaatḥiʔ ṅaacsuuḥ huuḥtikšiiḥ.

naʔaatḥ=ʔiˑ　　　　ṅaacsuuḥ　huuḥtikšiiḥ
listen.DR=CMMD.2SG　watch.DR　learn.MO

'Listen, watch, and learn.' (**Q**, Sophie Billy)

Aspect does not have to agree, which makes sense if this SVC has a sequential (or at least, not neces-sarily simultaneous) interpretation. The examples below show the verbs in this construction disagreeing (154) and then agreeing (155) in aspect. There is a slight difference in meaning.

(154) ʔuʔukʷaqḥʔi ƛiptqšiƛ hiniic mučičtup.

ʔuʔukʷaqḥ=!iˑ　　　　　ƛiptq-šiƛ　hina-iic　　　mučič=(s)tuˑp
on.your.own=CMMD.2SG　pack-MO　EMPTY-carry.DR　clothing-kind

'Pack and carry your own clothes.' (**C**, *tupaat* Julia Lucas)

(155) ʔuʔukʷaqḥʔi ƛiptqšiƛ hiniicšiƛ mučičtup.

ʔuʔukʷaqḥ=!iˑ　　　　　ƛiptq-šiƛ　hina-iic-šiƛ　　mučič-(s)tup
on.your.own=CMMD.2SG　pack-MO　EMPTY-carry-MO　clothing-kind

'Pack and take along your own clothes.' (**C**, *tupaat* Julia Lucas)

While object sharing is permitted (153), Type V SVCs do not allow verbs and their object to be "inter-rupted," as is seen in Types I–IV. The context for (156–158) is having a picnic that you brought in a pail. A dog comes to eat your food, and you chase it off. (156) was suggested by my consultant, and I suggested (157) and (158).

(156) cassaaps ʕiniiƛ čaxʷaciis.

cas-saˑp=s　　　　　　　ʕiniiƛ　čaxʷac-iis
chase-MO.CAUS=STRG.1SG　dog　　bucket-hold.DR

'I chased the dog, (I) carrying the bucket.' (**C**, *tupaat* Julia Lucas)

(157) čaxʷaciicsiš cassaap ʕiniiƛ.

čaxʷac-iic=siˑš　　　　　cas-saˑp　　　　ʕiniiƛ
bucket-hold.DR=STRG.1SG　chase-MO.CAUS　dog

'Carrying the bucket, I chased the dog.' (**C**, *tupaat* Julia Lucas)

(158) *cassaaps c̓axʷaciis ʕiniiƛ.

cas-sa·p=s c̓axʷac-iis ʕiniiƛ
chase-MO.CAUS=STRG.1SG bucket-hold.DR dog

Intended: 'Carrying the bucket, I chased the dog.' (**C**, *tupaat* Julia Lucas)

My intention in (156–158) had been to elicit a Type I (manner-action) serialization structure, but note the aspectual mismatch of the verbs. Since Type I SVCs require matching aspects, I believe this means that these are actually Type V (separable action) SVCs. Despite my consultant's translation, I think that there is a possible interpretation of these sentences where the actions occur one after another. The ungrammaticality of (158), which was very strongly rejected by my consultant, demonstrates that Type V SVCs are connecting two VPs, which cannot be discontinuous.

Finally, there are a few properties which span all constructions. Cross-serial dependencies are never possible (159, 160).

(159) ʔuuḥw̓ałʔiš kʷaacsac̓um ƛaamaas-iƛ haw̓acsac̓umʔi.

ʔu-L.ḥw̓ał=ʔi·š kʷaacsac̓um ƛaamaas-iƛ haw̓acsac̓um=ʔi·
x-use=STRG.3 chair climb-MO table=ART

'Using a chair he climbed onto the table.' (**C**, *tupaat* Julia Lucas)

(160) *ʔuuḥw̓ałʔiš ƛaamaasiƛ kʷaacsac̓um haw̓acsac̓umʔi.

ʔu-L.ḥw̓ał=ʔi·š ƛaamaas-iƛ kʷaacsac̓um haw̓acsac̓um=ʔi·
x-use=STRG.3 climb-MO chair table=ART

Intended: 'Using a chair he climbed onto the table.' (**C**, *tupaat* Julia Lucas)

Multiple types of serialization can cooccur in a clause. (161) is an example of Type V (separable action) serialization and Type III (adpositive-like) serialization in a single clause.

(161) ƛiptqši̓ʔi hiniic muc̓ič̓tup ʔuʔatup ʔuumʔi.

ƛiptq-ši̓ƛ-!i· hina-iic.DR muc̓ič̓-(s)tup ʔuʔatup ʔuum-ʔi
pack-MO=CMMD.2SG EMPTY-carry clothing-stuff do.for mother-your.relation

'Pack and carry clothes for your mother.' (**C**, *tupaat* Julia Lucas)

3.2.2 Interaction with Valency Changing Operations

All serialization strategies can have a mismatch in the causative. This has already been seen for Type II (location-action) SVCs in (131), but it is not a feature only of Sophie Billy's speech. Other speakers also allow for causative mismatches, as shown in (162) and (163) below (Types I and II).

(162) ʔaḥʔaaʔaƛna ƛič̓iƛ ʔucaap ḥaa hupałʔi.

ʔaḥʔaaʔaƛ=na· ƛi-č̓iƛ ʔu-ca=!ap ḥaa hupał=ʔi·
and.then=NEUT.1PL shoot-MO x-go=CAUS DDYN sun.or.moon=ART

'Then he shot (his arrows) toward the moon.' (**C**, *tupaat* Julia Lucas)

(163) ʔuċaaʔaṗat ṫuḥċiti hiɫ ʔapẃinʔatʔi.

 ʔu-ca=!ap   ṫuḥċiti hiɫ   ʔapẃin=!at=ʔiˑ

 x-go=CAUS   head   be.at   back=PASS[15]=ART

 'He put his head on his back.' (**C**, *tupaat* Julia Lucas)

The passive can scope over both verbs in an SVC, as seen previously in (151). In this construction, the passive can also optionally "copy" onto both verbs.

(164) ƛawiičʔats ɫuučḿuupukqs hiɫ ċuumaʕaas.

 ƛaw-ᵒiˑčλ=!at=s   ɫuučḿuup=uk=qas   hiɫ   ċuumaʕaas

 near-IN=PASS=STRG.1SG sister=POSS=DEFN.1SG be.at   port.alberni

 'My sister came to visit at Port Alberni.' (**Q**, Sophie Billy)

(165) ƛawiičʔats ɫuučḿuupukqs hiɫʔat ċuumaʕaas.

 ƛaw-ᵒiˑčλ=!at=s   ɫuučḿuup=uk=qas   hiɫ=!at   ċuumaʕaas

 near-IN=PASS=STRG.1SG sister=POSS=DEFN.1SG be.at=PASS port.alberni

 'My sister came to visit at Port Alberni.' (**Q**, Sophie Billy)

It is also possible for the passive morpheme to scope only over the verb it attaches to. This is significant when one of the verbs is intransitive, as with intransitive *kamitquk* 'run' in (166) below.[16]

(166) ʔuḥʔats ʕiniiƛ ƛawiičiʔat kamitquk.

 ʔuḥ=!at=s   ʕiniiƛ ƛaw-ᵒiˑčiλ=!at kamitq-uk

 be=PASS=STRG.1SG   dog   near-IN=PASS   run-DR

 'It was the dog that ran toward me.' (**C**, *tupaat* Julia Lucas)

[TODO: Attempt an example where both verbs are transitive and one is passive and the other is not]

3.2.3 Summary

I have defined the serial verb constructions (SVCs) in Nuuchahnulth broadly: Any clause that contains two verbs without a coordinator, and where one verb is not clearly subordinating the other, is a serial verb construction. I have further broken this construction type into five semantic subtypes: (I) manner and action, (II) location and action, (III) adpositive-like verb and main verb, (IV) transitive-intransitive repetition, and (V) separable or sequential events.

For most speakers, Type I requires aspectual agreement of the verbs involved. Types II and III do not require aspectual agreement, but this may be due to an underspecification of aspect on adpositive and locative verbs. Types I-IV all allow one verb to be separated from its object, in a V1 V2 (Obj2) Obj1 pattern. [TODO: may be a restriction on transitivity for Type III adpositive SVCs.] Type V stands out in allowing aspectual mismatching, and disallowing this kind of object separation. It appears that modificational elements (such as location and manner) are preferred to come first.

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[15]The passive is here being used as a marker of inalienable possession.

[16]In (166) the passive also appears on the clefting copula *ʔuḥ*. Voice agreement is a required feature of clefts.

As I turn to analysis, I will model these facts with two grammatical serial verb constructions: One which covers Types I-IV, and one which covers Type V. I will model the semantics of Types I-IV as necessarily simultaneous, and account for the aspectual mismatching of Types II and III by underspecifying locatives and adpositives for aspect. Type V will be underspecified temporally, allowing the semantics of AND to give rise to sequential interpretations. [TODO: There has definitely been work on the temporal pragmatics of and, maybe cite that here.]

3.3 HPSG Analysis

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