Evidentiality in Nuu-chah-nulth

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Abstract

This thesis proposes that evidentiality is made up of three factors, a relation between an origo and a situation, a relation between an origo and a proposition, and a relation between a situation and a proposition. This claim is motivated empirically by the set of evidentials in the Ahousaht dialect of Nuu-chah-nulth, a Wakashan language spoken on the west coast of Vancouver Island in Canada. This language has seven evidentials, each of which encodes at least one of the three factors of evidentiality.

The thesis begins by laying out the claim (Chapter 1), giving a brief outline of the grammar of Nuu-chah-nulth (Chapter 2), and going over the relevant literature on evidentiality (Chapter 3).

Chapter 4 looks at the morphological and syntactic classification of the evidentials in Nuu-chah-nulth. I show that evidentials occur in several different syntactic domains, and are thus able to co-occur.

I present a model-theoretic semantic analysis of my proposal in Chapter 5. The notions of origo, situation and proposition are formalized, as are the relations that hold between them. I also give the semantics of each of the evidentials in Nuu-chah-nulth.

Chapter 6 addresses the question of how the origo is determined. I argue that three mechanisms are involved: 1) matrix-clause mood suffixes specify the origo; 2) embedding verbs lexically encode that their subject argument is the origo of their complement clause; and 3) in the absence of either of the previous two mechanisms, the origo is contextually determined.

In Chapter 7 I show that the evidential component of meaning in a sentence does not have the same status as the propositional component of meaning. I propose a modification to the model given in Chapter 5 to account for this.

Chapter 8 looks at the interactions between the semantics of temporal suffixes and evidentials. I show that the semantics of sensory evidentials requires them to precede tense, while the semantics of other evidentials do not impose any ordering with respect to tense.

Finally, in Chapter 9 I summarize the claims of the thesis and turn to some unresolved questions.
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The botanists plants are not the flowers of the hedgerow
— Martin Heidegger
Chapter 1

Introduction

1.1 Introduction

This thesis is about “evidentiality”, and more specifically about the semantics of evidentiality. To get a sense of what evidentiality does, imagine I say the sentence in (1) below.

(1) There’s supposed to be a craft fair at Echo Centre this weekend.

In uttering a sentence like (1), I express a proposition—namely that there is a craft fair at Echo Centre this weekend—but I also provide information about how I came to know the proposition. For example, I could say (1) if someone told me about it.

Now consider the sentence in (2). I could not say this in scenario where I was told about it. I could say it if I saw people setting up a room at Echo Centre in the usual way for a craft fair.

(2) There must be a craft fair at Echo Centre this weekend.

Sentences (1) and (2) express the same proposition, namely that there is going to be a craft fair at Echo Centre this weekend. But (1) and (2) differ in the evidentiality they express: different kinds of evidence form the basis of the speaker’s knowledge of the proposition. Part of this evidence is a situation that was experienced or observed by the speaker: in (1) I experienced someone telling me about the craft fair, and in (2) I observed a room being set up in a certain way. Thus, evidentiality involves a relation between a knowledge-holder, a situation, and a proposition. In this thesis I will refer to the knowledge holder as the origo (Garrett 2001), the situation as the perceived situation, and the proposition as the prejacent proposition (von Fintel and Gillies 2010). More specifically, I will show that evidentiality indicates three things:

(3) a. whether the origo believes the prejacent proposition is true
   b. how the origo perceived the perceived situation
   c. how the perceived situation supports the prejacent proposition

These three factors of the evidentiality of a proposition can be specified in different ways. To see how this works, consider more carefully how individual sentences are used in the following two scenarios:
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(4) **Scenario A**: Linda told me there was going to be a craft fair this weekend.
    **Scenario B**: I saw people setting up a room for a craft fair.

Consider the sentences in (5). While sentence (5a) is only compatible with Scenario A, sentence (5b) is only compatible with Scenario B. In sentences like (5a) and (5b), how the perceived situation supports the prejacent proposition is fully specified. But this is not always so. For example, sentence (5c) is compatible with both Scenario A and Scenario B. This shows that, in some sentences, evidentiality is only partially specified.

(5) a. There’s supposed to be a craft fair at Echo Centre this weekend.
    Scenario A: ✓ Scenario B: ×

b. There must be a craft fair at Echo Centre this weekend.
    Scenario A: × Scenario B: ✓

c. I guess there’s a craft fair at Echo Centre this weekend.
    Scenario A: ✓ Scenario B: ✓

So, while some sentences specify evidentiality partially, others specify it more fully. But there is yet another possibility: evidentiality might not be specified overtly at all, as in (6) below.

(6) There’s a craft fair at Echo Centre this weekend.

The sentence in (6) is compatible with a wide range of scenarios, including the ones listed in (7) below. In each of these scenarios the evidentiality is different—a spoken report, a written report, and being a participant—but nothing in the sentence indicates what it is.

(7) **Scenario C**: One of the people setting up the room told me it was for a craft fair. **Scenario D**: I read about it in the newspaper. **Scenario E**: I’ve been involved in the planning of it.

More broadly, evidentiality is present in every clause in every language. This is because, in every clause in every language, someone is expressing a thought about their experiential relation to the world. The question I address in this dissertation is, how do languages encode evidentiality? To answer this question I examine the morphemes which encode different factors of evidentiality in a single language, Nuu-chah-nulth, a member of the southern branch of the Wakashan language family. In particular, I focus on the Ahousaht dialect, a member of the central dialect group, spoken primarily on Flores Island, off the west coast of Vancouver Island.

1.1.1 Evidential morphemes in Nuu-chah-nulth

Nuu-chah-nulth has three properties which make it a good language to look at with a view to answering the question of how languages encode evidentiality; the first two were pointed out by Jacobsen (1986). First, it has a large number of evidential morphemes which encode a variety of evidential relations. Second, the evidential morphemes do not form a single
1.1. Introduction

morphological paradigm. They are instead distributed across a number of morpho-syntactic domains. By looking at the commonalities and differences in the meaning of evidentials across these domains we can more clearly see what their core properties are. Third, some of the evidential morphemes can occur in embedded clauses. Thus, we can also look at the commonalities and differences in their meaning across different syntactic contexts.

I focus on seven evidential morphemes in the Ahousaht dialect of Nuuchahnulth, which are listed in Table 1.1. I discuss their morphosyntactic and semantic properties more fully in chapter 4, but I introduce them briefly here.

I focus on seven evidential morphemes in the Ahousaht dialect of Nuuchahnulth, which are listed in Table 1.1. I discuss their morphosyntactic and semantic properties more fully in chapter 4, but I introduce them briefly here.

<table>
<thead>
<tr>
<th>Morpheme</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-waʔiš</td>
<td>‘quotative’</td>
</tr>
<tr>
<td>-hač</td>
<td>‘indirect interrogative’</td>
</tr>
<tr>
<td>-qača</td>
<td>‘dubitative’</td>
</tr>
<tr>
<td>-matak</td>
<td>‘inference’</td>
</tr>
<tr>
<td>-ckv</td>
<td>‘past inference’</td>
</tr>
<tr>
<td>-kuk</td>
<td>‘visual inference’</td>
</tr>
<tr>
<td>naʔa:t</td>
<td>‘auditory evidence’</td>
</tr>
</tbody>
</table>

Table 1.1: The evidential morphemes of Nuuchahnulth

The speaker of (8) below is beginning to tell a story she heard from someone else, the story of a mother turning into a bluejay. Anyone hearing this sentence will know that the speaker is not describing anything she witnessed personally. It contains the reportative evidential -waʔiš which indicates that she heard about it from someone else.

(8) mamuukʷitwaʔiš ʔuʔiʔuqsuʔ
    mamu:k-(m)it-waʔiš ʔuʔiʔ-iq-suʔ-ʔi:
    work-PAST-3.QUOT mother-kin-kin-DEF
    ‘It is said the mother was working.’

Evidentiality can also be specified in questions, as it is in (9). Here the speaker wants to know how the girls got sick, but she is not asking the girls themselves, she is asking someone else, Bill. She assumes that he doesn’t know the answer for sure, since he wasn’t there with the girls, but he has some idea because he spoke to them earlier. Thus, the speaker assumes the addressee isn’t certain and heard about it from someone else. The interrogative reportative evidential -hač encodes this, and is essentially the interrogative form of the quotative -waʔiš.

(9) ʔaʔaqumíθač ḥaʔθaakʷaʔkʔi qʷiʔuʔiʔimitiʔaɬ tатɨpik
    ʔaʔa-(m)it-ʔač ḥaʔθaakʷaʔkʔi qʷiʔiʔ-ʔaɬ-(y)i-ʔaɬ tатɨpik(k)
    ‘How did the girls say they got sick?’

The speaker in (10) below is watching Ken’s boat coming in, and she can see that it is
1.1. Introduction

sitting high in the water. From this fact, and her general knowledge of the world, she infers that he didn’t catch any fish. Nevertheless, she is not certain that he didn’t get any. The inferential evidential -qa’č’a indicates that the speaker is not sure, and is inferring that he didn’t get any fish. Notice that in both (8) above and (10) below, the speaker is agnostic about the proposition they are presenting. Where these two examples differ is in how the speaker obtained the proposition: in one case from a report, and in the other case from an inference. This is one of four Nuu-chah-nulth suffixes which indicate that someone made an inference, but isn’t certain of the truth of their conclusion.

(10) ?ihíyuuc?iš  Ken hiitaπiŋ,  wikaahasqač’a
    ?í:h-ýuč-ʔiš  Ken hita-[LS]-piŋ  wík-’a’hš-qač’a
    big-sticking.out-3.IND Ken loc-grad-in.passing NEG-in.vessel-3.DUB

‘Ken’s boat is sitting high in the water, I guess he didn’t get any (fish).’

The speaker of (11) thinks the food has been on the barbecue for long enough, but she has not cut into it to see whether it’s cooked all the way through or not. The inferential evidential -matak indicates that she is uncertain of the truth, and is inferring from the amount of time that has passed that the food is cooked. Thus, -matak and -qa’č’a ‘dubitative’ have identical meanings with respect to evidentiality. They are not always interchangeable, however, because -qa’č’a has additional semantics related to the fact that it is a mood suffix, which -matak lacks.

(11) sisačį̈matakakʷ
    sisa-ši(κ)-matak-’aκ-Ø
    cooked-mom-ind.evid-now-3.abs

‘Maybe it’s cooked now.’

In (12) below, the speaker was not aware that she was hungry until she noticed how much she had eaten. The use of the suffix -ck’iː indicates that her being hungry was in the past, and that she was not aware of it at the time, and she inferred it after the fact. Like -qa’č’a ‘dubitative’ and -matak ‘inference’, it encodes the origo’s agnostic state and inference, but -ck’iː differs by also encoding a temporal relationship between what was observed and what was inferred: the observation has to have occurred after whatever was inferred.

(12) hawiŋkʷck’siš  ?ayaqša
    hawiŋkʷ-ck’iː-siš  ?aya-’aqš-sa
    hungry-past.evid-1sg.ind many-in.body-1sg.abs

‘I must have been hungry; I ate lots.’

The fourth suffix that indicates the origo’s agnostic state and inference is -kuk, which appears in (13) below. The speaker here is not certain that Ken is drunk, but she can see him staggering, which leads her to conclude that he is. What -kuk encodes is the origo’s agnostic
1.2. Proposal

state and inference based on something that was observed visually. The other suffixes encoding the origo’s agnostic state and inference did not specify whether the inference was made on something that was seen, or heard, or tasted, or smelled, or felt. Those other suffixes could be used to indicate an inference based on a sound, while -kuk cannot. It can only be used when the inference is based on something that was seen.

\[(13)\]
\[
\text{naqču} - \text{kuk}\text{-iš} \quad \text{Ken, ĕi?):uk} \\
\text{naqču: -} - \text{kuk}\text{-iš} \quad \text{Ken ĕi?):uk} \\
\text{intoxicat-ed-v13_evid-3.ind Ken staggering} \\
\text{‘Ken looks drunk, he’s staggering.’}
\]

Finally, in (14) below the speaker is inside and has the curtains closed, so she can’t see whether it’s raining or not, but she can hear it hitting the windows. The particle na?at is used to indicate that the speaker perceived something using her auditory sense, and not her visual sense. This suffix differs from all the other evidential morphemes described so far in that it does not encode the origo’s agnostic state. The report and inference suffixes can only be used when someone is agnostic about the truth of the proposition. All that na?at encodes is that the speaker used something she heard, and did not see, when she obtained the proposition. It is compatible with reports and inferences, with certainty and the origo’s agnostic state. The example in (14) involves an inference from the sound to its cause, and the speaker is certain that her conclusion is true (regardless of whether we think she is justified in her certainty).

\[(14)\]
\[
\text{míšaa}\text{-iš} \quad \text{na?aat} \\
\text{míš-}(y)a\text{-iš} \quad \text{na?at} \\
\text{rain-cont-3.ind aud.evid} \\
\text{‘It’s raining.’}
\]

1.2 Proposal

Conceptually, we can think of evidentiality as a set of relations between a person (the origo), the prejacent proposition, and the world, or rather, the small part of the world that the origo perceives. This is illustrated in Figure 9.1. Between the origo and the proposition we have a perspectival status, which indicates whether the origo is agnostic or not about the truth of the prejacent proposition. Between the origo and the world we have perceptual grounding, which indicates which sense the origo is using in relation to the prejacent proposition. Strictly speaking, this is a relation between the origo and a part of the world, a situation (Barwise and Perry 1981, Kratzer 1989). We do not perceive the entire world, we only perceive a small part of it. The final relation, between the perceived situation and the prejacent proposition, represents the manner in which the situation supports the proposition.
1.2. Proposal

Garrett (2001) introduced the notion of the origo in his discussion of Tibetan evidentials to handle phenomena like that exemplified in (15) and (16) below. Being hungry is an unobservable state, in the sense that only the person who is hungry can observe the hunger directly. In Tibetan, the direct imperfective morpheme *-dug* can be used with such a predicate in a declarative matrix clause only if the *speaker* is the subject, as shown in (15). The addressee or a non-speech-act participant cannot be the subject here.
1.2. Proposal

(15) **Tibetan (Tibeto-Burman) declarative** (adapted from Garrett 2001, 227)

a. nga grod.khog lto gs-gi-‘dug
   I stomach hunger-DIR.IMP
   ‘I’m hungry.’

b. *khyed.rang grod.khog lto gs-gi-‘dug
   you stomach hunger-DIR.IMP

c. *kho grod.khog lto gs-gi-‘dug
   he stomach hunger-DIR.IMP

However, in an interrogative matrix clause, ‘dug can only be used if the addressee is the subject. The speaker or a non-speech-act participant cannot be the subject here.

(16) **Tibetan (Tibeto-Burman) interrogative** (adapted from Garrett 2001, 228)

a. *nga grod.khog lto gs-gi-‘dug-gas
   I stomach hunger-DIR.IMP-Q

b. khyed.rang grod.khog lto gs-gi-‘dug-gas
   you stomach hunger-DIR.IMP-Q
   ‘Are you hungry?’

c. *kho grod.khog lto gs-gi-‘dug-gas
   he stomach hunger-DIR.IMP-Q

Garrett’s claim is that ‘dug refers to the the origo, regardless of what kind of clause it occurs in. The origo is the person whose point of view is being represented in the clause, and the person whose point of view is represented in a declarative is the speaker, while in an interrogative it is the addressee.

Nuu-chah-nulth provides further evidence for Garrett’s approach, because while Tibetan evidentials can neither 1) be embedded under propositional attitude verbs nor 2) occur in adjunct clauses (Garrett 2001, ch. 5), there are some evidentials in Nuu-chah-nulth which can. Nuu-chah-nulth shows that the origo associated with a given clause is determined in specific ways. Propositional attitude verbs assign the attitude holder, usually their subject, as the origo of their complement clause, while the origo in an adjunct clause is some contextually determined individual. In (17) below, the visual inferential -kuk is embedded under a propositional attitude verb. Here it is not the speaker who had seen lights on at Ken’s house, it is the attitude holder Linda.

(17) ?uq’tɑamit?iš Linda [waɬyuukukq Ken]
    ?uq’tɑp-(m)it-ʔiš Linda waɬyu-ʔuk-q Ken
    think-PAST-3.IND Linda home-VIS.EVID-3.SUB Ken
    ‘Linda thought Ken was home.’
1.2. Proposal

In (18) below, -kuk occurs in an adjunct clause, namely a reason clause. Again, here it is not the speaker who saw bread on the counter, it is Linda.

(18) nučḥakʔiš Linda [ʔin ʕačiʔkuʔaʔuk t’aʔa saapniqiʔ]  
nučḥakʷ-ʔiš Linda [ʔin ʕačiʔ-kuʔ-ʔaʔ-uk-Ø]  
‘Linda is proud because it appears her daughter knows how to make bread now.’

1.2.2 Perspectival status

The origo has a perspective—a point of view on the world (Kölbel 2002). There are things one origo believes are true that another origo does not. Whether or not a proposition is in an origo’s perspective is the perspectival status of a proposition for an origo. Perspectival status is related to certainty, in that if a proposition is in an origo’s perspective, that origo is certain the proposition is true. This is the distinction that is often made between “direct” and “indirect” evidentials (Willett 1988). If Kay sees Ken drive up, get out of his car, and come up the steps and enter the house, she is considered to have direct evidence for Ken arriving. But if she was in the backyard and heard the car drive up, the car door shut, and the front door shut, and inferred that Ken had arrived, she is considered to have indirect evidence for it.

Most of the evidential morphemes in Nuuchahnulth specify a perspectival status, namely that the prejacent proposition is not in the origo’s perspective (see Table 1.2 above). Thus, most would be classified as indirect evidentials. No evidential morpheme in Nuuchahnulth specifies that the prejacent proposition is in the origo’s perspective: there are no direct evidentials in Nuuchahnulth.

1.2.3 Manner of support

Returning to the scenario from §1.2.4 where I saw the woodpecker on the apple tree, what I perceived was a particular situation. That perceived situation is one which supports the proposition conveyed by (19). Witnessing is one manner of support through which an origo is connected to a proposition.

(19) There’s a woodpecker on the apple tree.

Another manner of support is a contingent inference. Contingent inference is a kind of default reasoning; that is, reasoning with defeasible or contingent rules, rules that are usually valid, but which may not hold in any particular instance. When I first heard the woodpecker on the apple tree, I was not certain that that was what it was. What I heard was a particular sound, and from that sound I inferred that it was a woodpecker. But this reasoning is not based solely on logic—it was based on my experience of the world. I had seen woodpeckers on the tree in the past, and knew that the noise I heard was most likely an animal pecking at
wood. My past experience licenses the inference from hearing that sound to there probably being a woodpecker on the apple tree. However, I could have been mistaken: a different kind of bird could have been doing the pecking, and there is a also a wooden fence, and a wooden deck in my backyard that could have been on the receiving end of it. I made a contingent inference from the sound to the proposition.

Westmoreland (1998) uses a similar concept, “deduction”, to describe the conditions of use of some evidentials, including the English epistemic modal must. A deduction occurs when the prejacent proposition is not known, but rather is inferred. Westmoreland also argues that deduction needs to allow the use of contingent rules of inference, but it is not clear whether it is limited to inference using contingent rules or can include other processes. For example, he suggests in section 3.3 that it should also include hunches. On the other hand, I take contingent inference to be limited to inferences where contingent rules are used.

Modelling default reasoning is also the aim of Kratzer's (1981) use of an ordering source in her analysis of epistemic modal müssen in German, and which she extended to English must in her 1991 article on modality. This ordering source ranks possible worlds according to whether the things that happen in them are what normally happens. In other words, worlds are ranked according to whether some contextually determined contingent rules of inference hold. For Kratzer then, an epistemic modal indicates an inference to a conclusion which may not be true in the actual world. Kratzer's account does not account for the fact that the felicitous use of must requires that the prejacent situation cannot have been directly perceived.

While some evidential morphemes encode a contingent inference manner of support, others encode that of a report. Rather than witnessing something myself, I can have someone else tell me about it. The other person may have witnessed it personally, or they could have been told about it as well. In Nuu-chah-nulth a speaker can signify that they are passing along something that they were told by using the suffix -waʔiš ‘quotative’.

Reportatives—evidentials which encode a report manner of support—occur in many languages, including Quechua and Lillooet. Faller (2002) analyzes the reportative in Quechua as a speech act modifier, changing the speech act type from assertion to presenting, and changing the sincerity conditions from requiring that the speaker believe the prejacent to requiring that someone else asserted the prejacent. Matthewson et al. (2007) analyze the reportative in Lillooet as a modal, where the modal base is a contextually determined set of reported propositions.

Evidential morphemes in Nuu-chah-nulth which encode a manner of support, either inference or report, also happen to encode the origo’s belief state. This does not have to be the case. For example, Faller (2006) gives evidence to show that the reportative -si in Quechua encodes manner of support, but not any particular perspectival status (namely, -si can be used when the origo knows the prejacent is false).
1.3. Issues addressed

1.2.4 Perceptual grounding

Propositions are about the world, and people are connected to the world by way of their senses. For example, I know that there is a woodpecker on the apple tree in my backyard because I can see it. I can also hear it, which is how I know to look out the window. There are two perceptual grounding relations between me and the proposition that there is a woodpecker on the apple tree: it is visually grounded, and it is auditorily grounded.

Some of the evidential morphemes in Nuu-chah-nulth, namely -kuk `visual inference' and naʔaːt `auditory evidence', indicate the perceptual grounding between the origo and the perceived situation. The others do not specify any particular perceptual grounding.

1.3 Issues addressed

I analyze evidentials as encoding one or more of the three factors of evidentiality—perspectival status, manner of support, and perceptual grounding. Perspectival status is a relation between the origo and the prejacent proposition. It indicates whether the origo is agnostic about the truth of it. Manner of support is a relation between the perceived situation and the prejacent proposition. It indicates how the perceived situation supports the prejacent proposition—whether it is the situation in which the prejacent holds, or it is an utterance situation in which someone asserted the prejacent, or it gives the origo the means to infer the prejacent proposition. Perceptual grounding is a relation between the origo and the perceived situation. It indicates what sense the origo used in perceiving the situation—whether he or she perceived it visually, auditorily, etc.

The presence of any one of the three factors is sufficient to identify a morpheme as an evidential, but it is also possible for an evidential to encode more than one factor. For example, reportatives universally encode the manner of support, and in some languages, as in Nuu-chah-nulth, they also encode the perspectival status. This accounts for the contrast between languages where a reportative can be used felicitously when the origo believes the prejacent to be false (e.g., Quechua (Faller 2002)) and those where a reportative cannot be felicitously used in such a case (e.g., Lillooet (Matthewson et al. 2007) and Nuu-chah-nulth). Both -si in Quechua and -waʔiš in Nuu-chah-nulth indicate there was an utterance situation perceived by the origo in which someone asserted the prejacent proposition, but while -si can be used when the origo knows the prejacent is false (20a), -waʔiš can only be used when the origo does not know whether the prejacent is true or false (20b).
1.3. Issues addressed

1.3.1 The morpho-syntactic distribution of evidentials in Nuu-chah-nulth

This factorial analysis of evidentiality predicts that a combination of morphemes can be used to indicate the evidentiality of a particular scenario. For example, in Nuu-chah-nulth, the auditory evidential *naʔa:t* codes perceptual grounding, and can combine with the reportative, which codes manner of support. An illustrative example is given in (21). Here the quotative -waʔiš indicates that the Kay inferred that Ken and his brother left, and the auditory evidential *naʔa:t* adds to this, indicating that Kay’s inference is based on something she heard.

(21) Scenario: Kay lives next door to Ken and his brother, and she hears them getting ready to leave for work every morning. After they’ve left, it gets quiet. One morning she was talking to Bill, and she noticed it got quiet, so she said this to him.

\[
\begin{align*}
\text{Neg-in.house.mom-now-3.dub-pl-3.ind} & \quad \text{aud.evid} \\
\text{wikipediaqačaʔaʔiš} & \quad \text{naʔaat} \\
\text{wikipedia-ʔaʔiš} & \quad \text{naʔaat} \\
\end{align*}
\]

‘It sounds like they all left.’

The occurrence of multiple evidentials in a single clause, as illustrated in (21) above, is only possible because the evidentials in Nuu-chah-nulth do not belong to a single morphological paradigm. Rather, Nuu-chah-nulth evidential morphemes are recruited from four distinct morpho-syntactic classes: (i) mood suffixes; (ii) mode suffixes; (iii) derivational suffixes (essentially bound verbs); (iv) particles. This multiplicity and heterogeneity is compatible with Blain and Déchaine’s (2006) Evidential Domain Hypothesis, which claims that evidentials can occur in a range of different syntactic domains. This is discussed further in Chapter 4.
1.3.2 Model theoretic analysis of the factors of evidentiality

In Chapter 5 I present an analysis of the factorization of evidentiality in model theoretic semantics. There I give the translations of the Nuuchahnulth evidentials, which are summarized briefly below.

I begin with the evidential mood suffices, whose translations are given in Table 1.3. Each mood suffix is a portmanteau morpheme, marking both clause type and subject agreement (see §2.5.3 for further details). The dubitative mood -qa’ča indicates that the origo can make an inference from the perceived situation to the prejacent proposition. The quotative mood -waʔišš indicates that the origo perceived an utterance situation in which someone asserted the prejacent proposition. The indirect interrogative mood -ha’č yields a question which assumes that the answer will be in the quotative mood. The evidential moods also specify who the origo is, with -qa’ča and -waʔišš indicating it is the speaker at the time of the utterance situation, while -ha’č indicates it is the addressee at the time of his or her response.

<table>
<thead>
<tr>
<th>Evidential</th>
<th>Gloss</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-qa’ča₁</td>
<td>‘dubitative’</td>
<td>λpλω[cont.inf(o)(s₁)(p) ∧ w = w₁]</td>
</tr>
<tr>
<td>-waʔišš₁</td>
<td>‘quotative’</td>
<td>λpλω[report(o)(s₁)(p) ∧ w = w₁]</td>
</tr>
<tr>
<td>-ha’č₁</td>
<td>‘indirect interrogative’</td>
<td>λp[Intλω[report(ο)(s₁)(p) ∧ w = w₁]]</td>
</tr>
</tbody>
</table>

Table 1.3: Translations of Nuuchahnulth evidential mood morphemes

Mode suffixes are inflectional, and include a number of morphemes with modal meanings. The two evidential mode suffixes have the translations given in Table 1.4. The general inferential -matak indicates that the origo can make an inference from the perceived situation to the prejacent proposition. The past inferential -ck”i also indicates that the origo can make an inference from the perceived situation to the prejacent proposition, but in addition specifies that the prejacent proposition held before the perceived situation occurred.

<table>
<thead>
<tr>
<th>Evidential</th>
<th>Gloss</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-matak₁</td>
<td>‘inference’</td>
<td>λPλsλoλw[cont.inf(o)(s₁)(P(s)) ∧ w = w₁]</td>
</tr>
<tr>
<td>-ck”i₁</td>
<td>‘past inference’</td>
<td>λPλsλoλw[cont.inf(o)(s₁)(P(s)) ∧ t ≤ t₁ ∧ w = w₁]</td>
</tr>
</tbody>
</table>

Table 1.4: Translations of Nuuchahnulth evidential mode suffixes

The derivation suffix -kąk ‘visual inference’ has the translation in Table 1.5. It indicates that the origo saw the perceived situation, and can make an inference from that situation to the prejacent proposition.
1.3. Issues addressed

<table>
<thead>
<tr>
<th>Evidential</th>
<th>Gloss</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-kuku₁</td>
<td>‘visual inference’</td>
<td>( \lambda P \lambda s \lambda o \lambda w [\text{grounding}<em>{\text{vis}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1))] \land t</em>{s_1} = t_s \land w = w_s] )</td>
</tr>
</tbody>
</table>

Table 1.5: Translation of Nuu-chah-nulth evidential derivational suffix

Particles are free-standing words which cannot host any affixes. The particle naʔaːt ‘auditory evidence’ has the translation in Table 1.6. It indicates that the origo has heard the perceived situation, but does not specify how that situation supports the prejacent proposition.

<table>
<thead>
<tr>
<th>Evidential</th>
<th>Gloss</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>naʔaːt₁</td>
<td>‘auditory evidence’</td>
<td>( \lambda P \lambda s \lambda o \lambda w [\text{grounding}<em>{\text{aud}}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s_1))] \land t</em>{s_1} = t_s \land w = w_s] )</td>
</tr>
</tbody>
</table>

Table 1.6: Translation of Nuu-chah-nulth evidential particle

1.3.3 The origo: how it gets its value

The origo has functions beyond those involved in evidentiality. It is in effect a centred world, in the terms of Lewis (1979), or rather, a centered situation (Stephenson 2010), which Lewis uses to handle the distinction between \textit{de dicto} and \textit{de se} attitudes. This is illustrated by the following. Ken hears a car alarm going off, and says “I hope someone is stealing his car.” What he doesn’t realize is that it’s his car. He has a \textit{de dicto} belief about someone who happens to be him as the owner of the car whose alarm is going off. He certainly doesn’t mean “I hope someone is stealing my car,” which would be a \textit{de se} belief about himself. The origo is thus necessary for the evaluation of the truth of a proposition. Having a belief about oneself as a centring individual is different from having a belief about oneself objectively.

The origo is also conceptually related to the judge argument of predicates of personal taste (Lasersohn 2005, Stephenson 2007b), which Stephenson (2007b,a) extends to epistemic modals. As I explain in Chapter 5, an origo is a sentient individual paired with a particular situation; a judge is simply that individual. “Onions taste horrible” is evaluated with respect to an origo, and can be true or false depending on who the origo is. The origo there is the speaker, but it does not have to be, as in “Guy Maddin thinks onions taste horrible.” Here the truth of the sentence depends on evaluating “onions taste horrible” with respect to Guy Maddin.

In Chapter 6 I discuss the properties of the origo, focussing on how it is determined, and how the readings of evidential morphemes change in different environments. As with judges and centred worlds, an origo variable can be bound. For example, in complement clauses
1.4 Methodology and data presentation

Most of the data on Nuuchahnulth in this dissertation comes from original fieldwork I conducted with two speakers of the Ahousaht dialect. Both elders are women, and Nuuchahnulth is their first language. Together with these consultants I built Nuuchahnulth sentences and a scenario where they could be used felicitously (see Matthewson (2004) on fieldwork practices for semantics). A scenario is like a small model of the world, containing all

the origo is the subject of the embedding verb.

1.3.4 Levels of meaning: differences between the evidential relations and the prejacent proposition

It is generally assumed that evidential relations do not have the same pragmatic effect as the prejacent proposition (Aikhenvald 2004). They instead behave as if they consist of “not-at-issue” content, projecting through various operators, such as negation Simons et al. (2010). Not-at-issue content is a different level of meaning from standard truth-conditional, or “at-issue” content. While evidentials contribute not-at-issue content, their prejacent propositions are at-issue content. We can therefore compare the semantic contribution of evidential morphemes with that of their prejacent propositions. I look at this in Chapter 7, where I give tests showing that Nuuchahnulth evidentials are not-at-issue. I also present a modification of the analysis of Chapter 5 which is based on Potts’s (2005) treatment of conventional implicatures.

1.3.5 The perceived situation: interactions between evidentials and temporal morphemes

A perceived situation is a small part of the world, and it is limited in time. In Chapter 8 I look at the temporal aspect of situations and their interaction with evidential morphemes. Different evidential morphemes interact differently with temporal morphemes, depending on how the evidential morpheme makes use of the perceived situation in its semantics. One evidential morpheme, -čkʷi: ‘past inference’ also explicitly encodes a temporal relationship between the perceived situation and the time of the prejacent proposition.

I argue that sensory evidentials—those which encode perceptual grounding—must be composed with the predicate before tense because they add a restriction on the situation argument of the predicate. In addition, the situation argument of the function resulting from the composition of a sensory evidential with the predicate is not the event situation, but the perceived situation. This limits the ways in which temporal morphemes and sensory evidentials can interact.

1.4 Methodology and data presentation

Most of the data on Nuuchahnulth in this dissertation comes from original fieldwork I conducted with two speakers of the Ahousaht dialect. Both elders are women, and Nuuchahnulth is their first language. Together with these consultants I built Nuuchahnulth sentences and a scenario where they could be used felicitously (see Matthewson (2004) on fieldwork practices for semantics). A scenario is like a small model of the world, containing all
1.5. Organization of the dissertation

the relevant pieces of information.

When I present data, I give both a scenario and a sentence, as in (22) below. I have also standardized the names of people across all scenarios, to help the reader keep track of who is who. In every example the speaker is named Kay, and the addressee is Bill. If Kay has a report, it comes from Linda.

Kay speaker
Bill addressee
Linda embedded speaker/attitude holder
Ken/Ann main event participant
John other event participant

Table 1.7: Cast of characters

Thus, in (22) below, Linda first told Kay something like ʼmiλaaʔiš ‘It’s raining’, and then Kay is telling Bill the sentence given, namely ʼmiλaawaʔiš ‘It’s raining (reportedly)’.

(22) Scenario: Kay and Bill were inside, where there were no windows, when she had a phone call from Linda who told her that it was raining out. Afterwards, Kay said this to Bill.

ʼmiλaawaʔiš
ʼmiλ-athlon-
rain-CONT-3.QUOT

‘It’s raining (reportedly).’

The subject of a sentence will be called Ken, or Ann if the context requires a female. When an additional person is required by the scenario, I call him John.

1.5 Organization of the dissertation

The remainder of this dissertation is organized as follows. Chapter 2 presents some basic properties of Nuu-chah-nulth grammar which will aid the reader in following the examples. Chapter 3 discusses other accounts of evidentials in the literature. Chapter 4 presents the evidential morphemes in Nuu-chah-nulth in descriptive terms, and also contrasts them with similar kinds of morphemes, highlighting the criterial properties of evidentials. Chapter 5 lays out a theory of the semantics of evidential morphemes, and gives the semantics of those in Nuu-chah-nulth. Chapters 6, 7 and 8 each look at how the theory handles certain interactions between evidentiality and other aspects of grammar. In Chapter 6 I look at how the origo is determined in different clauses. In Chapter 7 I compare the prejacent proposition and the evidential relations, arguing that the evidential relations are not-at-issue, while the prejacent proposition is at-issue. In Chapter 8 I examine the interactions between evidential morphemes
1.5. *Organization of the dissertation*

and temporal morphemes. Finally, I discuss a number of unresolved issues and other areas for further research in Chapter 9.
Chapter 2

Some basic facts about Nuuchahnulth

2.1 A user’s guide to Nuuchahnulth

This chapter serves two purposes. First, to acquaint the reader with the basic facts of Nuuchahnulth grammar in order to facilitate understanding of the data presented throughout this dissertation. Second, to acquaint the reader with properties of the grammar which will be used to make certain arguments about the nature of the origo (Chapter 6), and about tense (Chapter 8).

If any readers wish a broader discussion of Nuuchahnulth grammar, I refer them to Swadesh (1933), Rose (1981), Nakayama (1997, 2001) and Davidson (2002). Of these authors, only Nakayama is writing specifically about the Ahousaht dialect, though much of what the others say holds for Ahousaht as well. Many of the morphological processes are also discussed and analyzed by Stonham (1999) and Kim (2003). A number of works on various sub-parts of the grammar of Nuuchahnulth have also been published; see Davis and Wojdak (2007) for a summary. There is a multi-dialect word-list (Nuuchahnulth Tribal Council 1991) as well as a dictionary of the Tseshaht dialect (Stonham 2005).

2.2 Phonemic inventory

Nuuchahnulth has a relatively large consonant inventory, with a total count of 34 consonants. The vowel inventory is more modest: there are five vowels, with a length contrast. I present each inventory in turn.

2.2.1 Consonant inventory: 38 consonants

The consonant inventory of Nuuchahnulth is given in Figure 2.1. In addition to a plain series of stops /p, t, k, kw, q, qw, ɲ, ň/, fricatives /s, š, ʃ, x, xw, ħ, h/, affricates /c, č, ʰč/, nasals /m, n/, and glides /y, w/, Nuuchahnulth also has a corresponding glottalized series. This includes glottalized stops /p, ʰp, t, ʰt, k, ʰk, kw, ɲ, ʰɲ, ň, ʰň/, glottalized fricatives /č, ʰč, ʰĉ/, glottalized nasals /m, ʰm, ɲ, ʰɲ/, and glottalized glides /y, ʰy, w, ʰw/.
2.2. Phonemic inventory

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>alveolar</th>
<th>palatal</th>
<th>lateral</th>
<th>velar</th>
<th>uvular</th>
<th>pharyngeal</th>
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<tr>
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<td>ʰ k ʰ kʷ</td>
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<td>h h</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>glottalized</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>ʰ c ʰ c ʰ ʰ k</td>
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<tr>
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<td>m n</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>ʰ m ʰ n</td>
<td>ʰ m ʰ n</td>
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<td>y w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>ʰ y ʰ w</td>
<td>ʰ y ʰ w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2.1: Nuuchahnulth Consonant inventory

Glottalized resonants—namely the glottalized nasals /ʰm/, ḳ/ and glides /ʰy/, ʰw/—are phonetically realized as a sequence of a glottal stop and a resonant (Carlson et al. 2001, Kim 2003).

Note that there is a rounding contrast in the velar and uvular series. The velars /k/ and /x/ contrast with the rounded velars /kʷ/ and /xʷ/. Similarly, the uvulars /q/ and /ɬ/ contrast with the rounded uvulars /qʷ/ and /ɬʷ/.

Uvular fricatives are a locus of dialect variation. In Ahousaht (which is the focus of this thesis), unrounded and rounded uvular fricatives—namely /ɬ/ and /ɬʷ/—occur in a number of roots and suffixes. This contrasts with the Kyuquot dialect, where uvular fricatives are almost entirely absent (Rose 1981, 13).

2.2.2 Vowel inventory: five vowels and a length contrast

Nuuchahnulth has a basic five-vowel inventory, with two high vowels /i/ and /u/ two mid vowels /e/ and /o/, and one low vowel /a/. In addition, there is phonemic length contrast, so each vowel has a contrasting long and short form. This yields a total inventory of 10 vowels, as shown in Figure 2.2.2.

In the orthography, short vowels are written as a single vowel (i, u, e o, a), while long vowels are written as doubled vowels (ii, uu, ee, oo, aa).

In addition to phonemic vowel length, vowel length is also affected by the morphology: some morphological contexts require that the vowel of the target form be short, while other contexts require that the vowel of the target form be long. This gives rise to variable length
2.3. Morphophonology

<table>
<thead>
<tr>
<th>Short vowels</th>
<th>Long vowels</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>i:</td>
</tr>
<tr>
<td>u</td>
<td>u:</td>
</tr>
<tr>
<td>e</td>
<td>e:</td>
</tr>
<tr>
<td>o</td>
<td>o:</td>
</tr>
<tr>
<td>a</td>
<td>a:</td>
</tr>
</tbody>
</table>

Figure 2.2: Nuuchahnulth vowel inventory

vowels; these are discussed below in §2.3.2.2.

Although Nuuchahnulth has a five-vowel system, the three outermost vowels—namely /i/, /u/ and /a/ of the short series, and /i:, /u:/ and /a:/ of the long series—have a privileged status. These outermost vowels are the most common, and can occur in any word. On the other hand, the mid vowels—namely /e/ and /o/ of the short series, and /e:/ and /o:/ of the long series—are much more restricted in their distribution. For example, the mid vowels occur solely in borrowings (e.g. /e:pinis/ ‘apple’), interjections and expressive particles (e.g., /e:ko/ ‘thank you’). There is also a phonological process in vocatives that changes /i:i/ to [e:] and /u:u:/ to [o:] (Stonham 1999).

2.3 Morphophonology

The surface form of stems and affixes is determined by a number of morpho-phonological processes. Here I briefly survey the processes that affect the realization of stems (§2.3.1) and affixes (§2.3.2).

2.3.1 Morphophonology of stems

Morphological processes that alter the form of the stem divide into two classes according to whether they target the left edge or right edge of the stem. I consider each in turn.

2.3.1.1 At the left edge: templatic reduplication and vowel length

Two processes target the left edge of the stem: templatic reduplication, and templatic vowel-length. They may occur independently of each other, in combination with each other, or in combination with a suffix (Kim 2003).

An example of templatic vowel-length is given in (23), where gradulative aspect is marked by a long–short vowel template, i.e. [...] VV...V...]. Observe that in (18a), the vowel melody of ‘kill’ is short–long [...] V...VV...]. In contrast, the presence of gradulative aspect in (18b)
2.3. *Morpho-phonology*

is associated with a long–short vowel template: [. . . VV . . . V . . .]. In the gloss this long–short template is represented as [LS].

(23) a. qaḥsaaq
    qaḥ-sḁp
    die-MOM.CAUS
    ‘kill’

b. qaahsap
    qaḥ-sḁp-[LS]
    die-MOM.CAUS-GRAD
    ‘beat up’

Templatically conditioned vowel-length is a pervasive feature of Nuu-chah-nulth suffixal morphology, and many suffixes are distinguished from each other only by the vowel template that they condition. For example there are two forms of the suffix -(č)it, according to the vowel template it is associated with. -(č)it, ‘blame’ subcategorizes for a long–long vowel template with CV reduplication (24a). But -(č)it, ‘be named’ is associated only with CV reduplication (24b). As before, the templatic requirements of the suffix are represented in square brackets: [RLL] in (24a), [R] in (24b). The [R] notation indicates that this suffix also conditions reduplicative prefixation. Illustrative examples showing how these suffixes combine with specific stems are provided in (25).

(24) a. [RED . . . VV][. . . VV . . . ]-(č)it
    ‘blame’

b. [RED]-čit
    ‘be named’

(25) a. ṭuʔuʔuk*čit
    ṭu-(č)it[RLL]
    TRANS-blame
    ‘blame someone’

b. ṭuʔuʔuk*čit
    ṭu-(č)it[R]
    TRANS-be.named
    ‘be called something’

(25a) is a context where reduplicative prefixation and templatic vowel length co-occur. But it is also possible for reduplicative prefixation to occur by itself, as in (25b). Nuu-chah-nulth reduplicants most often take the form of a prefixal [CV] syllable, where reduplication copies the first CV of the base and attaches it to the left edge. This is illustrated in (25a) below, where the locative suffix /-łta/ ‘at feet’ triggers reduplicative CV prefixation.
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A smaller number of suffixes trigger reduplicative prefixation of CVC*, where C* copies whatever number of coda consonants are present in the base. If the base lacks a coda consonant, then an epenthetic consonant is inserted. One such suffix is progressive aspect /-(y)a-/‘clatter’, then they are all copied in the reduplicative prefix, (28a). But if the base has no coda, then the reduplicative prefix contains an epenthetic consonant in the coda, either /ɔ/ (28b), /ɬ/ (28c) or /c/ (28d).

(27) [RED CVVC]-[BASE ...VV... ]-(y)a:

(28) a. ʧiːkʧiːka
   ʧiːk-(y)a[RL]  
   clatter-REP
   ‘be thundering’

b. suːʦsuːya
   CV stem with /ɔ/ epenthesis
   su-(y)a[RL]  
   take-REP
   ‘be taking’

c. ʧiːʧiːya
   CV stem with /ɬ/ epenthesis
   ʧi-(y)a[RL]  
   carve-REP
   ‘be carving’

d. ɔaːaɔaːaaya
   CV stem with /c/ epenthesis
   ɔa-(y)a[RL]  
   chop-repetitive
   ‘chopping (wood etc.)’

2.3.1.2 At the right edge: glottalization and lenition

Two morpho-phonological processes target the right edge of the stem: glottalization and lenition. They are triggered by the addition of particular suffixes, and they affect only the final consonant of the stem. Glottalization is discussed first, then lenition.

Glottalization, or hardening, is a lexically specified process, where a glottalizing suffix such as /-aːk/ ‘now’ changes a stem-final obstruent into its corresponding ejective (see Kim 2003). The process is somewhat more complicated than this one-line description suggests,
2.3. Morphophonology

however. There are three cases to consider. First, when a glottalizing suffix attaches to a stem ending in a /k/, such as /katak/ ‘very happy’ in (29a), the result is the ejective /k/. One quirk to note here is that a uvular stop becomes a pharyngeal stop [?] as the result of glottalization, as illustrated in (29b).

(29) a. katak'ak
   katak-'aṅk
   very.happy-now
   ‘be very happy (now)’

b. ḋusakʷaṅkṣiš
   ḋus-(?aṅkʷ-(q)aṅ[kS]-'aṅk-śiš
   tired-DUR-AUG-now-1SG.IND
   ‘I’m very tired now.’

Second, when a glottalizing suffix attaches to a stem that ends in a vowel, then the stem vowel may be deleted, leaving only the vowel of the suffix (Stonham 1999, 85). This remaining vowel is long if it is in the second syllable (30a), and short if it is in the third or later syllable (30b). This rule generally holds, though there are many cases where a glottal stop is inserted between the two morphemes, as in (30c).

(30) a. ḋanaaṅk
   ḋana-'aṅk
   only-now
   ‘only (now)’

b. kaminučekʷaṅk
   kaminu(č)-kʷi-'aṅk
   full-PAST.EVID-now
   ‘It must have gotten filled (now).’

c. waʔaṅk
   wa:-'aṅk
   say-now
   ‘say (now).’

Finally, when a stem ends in a fricative, the effect of the glottalizing suffix depends on whether it is a peripheral or core suffix. (On the peripheral/core distinction, see §2.4 below). In the context of a peripheral suffix such as /-'aṅk/ ‘now’, a glottal stop is inserted, (31a). In the context of a core suffix such as /-'aṅk/ ‘in.body’, coronal fricatives change to a glottalized palatal glide [y], while rounded fricatives change to a glottalized labio-velar glide [w]. This is illustrated in (31b) with the stem /hiš-/ ‘all’.
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(31) a. hiinum†ʔaʔ\k
   hi:nun†-ʔaʔ\k
   be.born-now
   ‘be born (now)’

b. hi\yAQ\k
   hi:\s-\’AQ\k
   all-in.body
   ‘eat all (of something)’

In addition to glottalization, the other process that targets the right-edge of stems is lenition (or softening), whereby stem-final fricatives become glides (Kim 2003). The suffixes that trigger lenition form a relatively small set. For example, in the context of the locative suffix /-iːʔ/ ‘in the house’, vowel-final stems lose their final vowel (32a), while stems that end in a stop remain unchanged (32b). But if the final consonant of the stem is an alveolar fricative, then it changes to a palatal glide [y], as in (32c).\(^1\)

(32) a. hiti\iːʔ\k
   hita-‘iːʔ\k
   LOC-in.house
   ‘in the house’

b. wiku\iːʔ\k
   wik-‘iːʔ\k
   NEG-in.house
   ‘Ken isn’t home.’

c. ḥaayi\iːʔ\k
   ḥa-‘iːʔ\k
   there-in.house
   ‘there (in the house).’

2.3.2 Morpho-phonology of affixes

There are some suffixes in Nuu-chah-nulth whose form is dependent on some property of the stem. These suffixes contain either ghost consonants—consonants whose surface realization is dependent on the stem—or variable-length vowels—vowels whose surface realization is dependent on the stem.

\(^1\)In the Ahousaht dialect, lenition seems to be limited to affecting /s/ and /t/ (Kim 2003, 94–96). This contrasts with the Tseshaht dialect, where post-alveolar fricatives also become [y], and rounded fricatives become [w] (Stonham 1999, 71)
2.3. Morphophonology

2.3.2.1 Ghost consonants

Some suffixes in Nuu-chah-nulth begin with a consonant only when they attach to a stem ending in a vowel or nasal (Swadesh 1933). I call these ghost consonants (Waldie 2008), and I indicate them in the underlying forms by enclosing them in brackets. For example, the suffix /-(w)a[RL]/ ‘speak’ surfaces with an initial [w] when it attaches to a stem that ends in a vowel, as in (33a). But when the same suffix attaches to a stem that ends in a non-nasal consonant, as in (33b), then the initial [w] of the suffix is not retained.

(33) a. ?aaʔaaphiwa
   ?a:phi-(w)a[RL]
   friendly-speak
   ‘warm friendly greeting’

b. quuquuʔaca
   quʔa:ca-(w)a[RL]
   person-speak
   ‘speaking one’s own language (First Nations)’

There is a single suffix-final ghost consonant in Nuu-chah-nulth, /χ/, which occurs only in momentaneous suffixes, such as /-ši(χ)/ ‘momentaneous’ and /-pi(χ)/ ‘in the house (momentaneous)’. It does not follow the same rules as the suffix-initial ghost consonants. The only time it does not appear in the surface form is when it is followed directly by a glottalizing suffix, such as ‘at ‘shift’, in which case a glottal stop appears in its place. In (34a), the suffix /-ši(χ)/ is word-final, and so it surfaces with [χ]. But in (34b), the same suffix is now followed by the glottalizing suffix /-at/ ‘now’: in this context the ghost consonant of /-ši(χ)/ is replaced by the glottal stop [ʔ]. (As an aside, observe that in (34b), the non-ghost [χ] of the suffix /-aχ/ ‘now’ does not delete, but rather is glottalized by the following glottalizing mood suffix /-ʔ/.)

(34) a. wahši:k
   wah-ši(χ)
   abandon-MOM
   ‘throw away’

b. wahšiʔaχi
   wah-ši(χ)-aχ-ʔi
   abandon-MOM-NOW-2SG.IMP
   ‘throw it away’

2.3.2.2 Variable-length vowels

Recall that there are three kinds of underlying vowel in Nuu-chah-nulth: short, long and variable length. Underlying short vowels are indicated by the vowel symbol alone /i u a/ and
always surface as short, unless they are affected by a vowel lengthening process. Underlying long vowels are indicated by the vowel symbol followed by two dots /i: u: a:/ and always surface as long, unless they are affected by a vowel shortening process. Variable-length vowels, indicated by the vowel symbol followed by a single dot /i u a/, surface as long if they are within the first two syllables of a word, and short if they occur in the third syllable or later.

One suffix that contains a variable-length vowel is the third-person indicative mood /-ɨš/. When this suffix occurs in the second syllable, as in (35a) below, the vowel surfaces as long. When it occurs in a later syllable, as in (35b), the vowel surfaces as short.

(35) a. wikəĩíst
   wik-ɨš
   NEG-3.IND
   ‘He/she/it isn’t . . .’

b. ʔuuχćiĩíst
   ʔu-χći[R]-ɨš
   TRANS-cook.over.fire-3.IND
   ‘He/she is cooking . . .’

2.4 Morpheme order

Nuu-chah-nulth verbs typically consist of multiple morphemes, and these morphemes are ordered in a particular way. The verb stem is the leftmost element of the verbal complex: it consists of a base, which may sometimes surface with a reduplicative prefix, (36). (See discussion above in (2.3.1.1) for how reduplication prefixation is introduced.)

(36) [VERB.STEM (red) – BASE_ROOT ]

The verb-stem is followed by a succession of suffixes. These suffixes are traditionally analyzed as falling into two classes: the core suffixes versus the peripheral suffixes (Nakayama 2001). Swadesh (1933, 1938) calls these two sets of suffixes “formative” and “incremental”; these labels are also used in the grammatical description of Sapir and Swadesh (1939).

2.4.1 The core/periphery distinction and the morpheme template

Core suffixes occur closer to the verb stem, and include derivational and aspectual suffixes. Peripheral suffixes occur further away from the verb stem, and include mode, valence and tense, mood, and an assortment of discourse-level suffixes. The template in (37) summarizes the relative ordering of the core and peripheral suffixes.

(37) [Verb.Stem][Derivational-Aspectual] -Mode-Valence/Tense-Mood-Discourse

Core Suffixes

Peripheral Suffixes
2.4. Morpheme order

2.4.2 Second-position effects

Another difference between core and peripheral suffixes relates to their interaction with second-position effects (Nakayama 1997, 2001, Davidson 2002, Werle 2007). Peripheral suffixes are invariably in the second position of the clause; as such they behave like second position clitics. In contrast, core suffixes are ordinary suffixes, in that they usually attach to the stem they are associated with.

2.4.2.1 Peripheral suffixes are always in second position

This distributional difference between core and peripheral suffixes is illustrated in (38) below. In (38a) the core suffix -(m)it ‘past’ and the peripheral suffixes -(m)it ‘past’ and -\(\tilde{q}\)\(\tilde{t}\) ‘3sg’ (underlined) all occur on the verb, which is the first word of the clause. In (38b) the core suffix remains with the verb when it is not the first word in the clause, while the peripheral suffixes remain attached to the first word, which is hiik\(^{\text{a}}\)at\(\text{s}i\)h ‘almost’ in this case.

(38) a. hisquinu\(\tilde{t}\)it\(\tilde{i}\)\(\tilde{s}\) John ?uuk\(\text{a}\)it Ken
   his-qi\(\text{n}\)(\(\text{k}\))-(m)it\(\tilde{t}\)\(\tilde{s}\) John ?u-(\(\text{c}\))i[t][L] Ken
   hit.with.object-on.head.MOM-PAST-3.IND John TRANS-do.to Ken
   ‘John hit Ken in the head.’
b. hiik\(^{\text{a}}\)at\(\text{s}i\)k\(\text{t}\)it\(\tilde{i}\)\(\tilde{s}\) John hisquin\(\text{a}\)
   hi:k\(^{\text{a}}\)at\(\text{s}\)i\(\text{k}\)-(m)it\(\tilde{t}\)\(\tilde{s}\) John his-qi\(\text{n}\)(\(\text{k}\))
   nearly-MOM-PAST-3.IND John hit.with.object-on.head.MOM TRANS-do.to Ken
   ‘John almost hit Ken in the head.’

The example in (38b) also illustrates the typical sentence-initial position of adverbial modifiers. I discuss this further in §2.6 below.

Another positional difference between core/periphery suffixes arises in clauses that contain a series of predicates (Nakayama 1997, 2001). In such multi-predicate clauses, each predicate hosts distinct core suffixes, but the peripheral suffixes occur only on the first (i.e. leftmost) predicate. This is illustrated in (39), which contains three predicates, from left to right: the focus predicate /\(\text{u}\)\(\text{u}\)/, the causative predicate /hi\(\text{s}\)si\(\text{i}\)/ ‘make all’, and the activity predicate /sii\(\text{t}\)/ ‘cook’. The peripheral suffixes -(m)it ‘past’ and -\(\tilde{r}\)\(\tilde{t}\) ‘3sg indicative’ attach to the leftmost predicate, namely the focus predicate /\(\text{u}\)\(\text{u}\)/. The other two predicates host one core suffix each: the causative predicate /hi\(\text{s}\)si\(\text{i}\)/‘make all’ hosts the core suffix -(s)ik ‘complete’; the activity predicate /sii\(\text{t}\)/ ‘cook’ hosts the core suffixal verb -(\(\text{c}\))i[t][L] ‘make’.

(39) ?u\(\text{u}\)\(\text{u}\)hi\(\text{t}\)\(\text{t}\)\(\text{t}\)
   Kay hi\(\text{h}\)si\(\text{i}\)
   sii\(\text{t}\)
   sap\(\text{n}\)\(\text{i}\)
   ?u\(\text{u}\)-(m)it\(\tilde{t}\)\(\tilde{s}\)
   Kay hi\(\text{h}\)-s\(\text{i}\)k
   siq-(\(\text{c}\))i[t][L]
   sap\(\text{n}\)-\(\tilde{r}\)
   foc-PAST-3.IND
   Kay all-complete cooked-make bread-DEF

‘It was Kay who cooked all the bread.’
2.4.2.2 Core suffixes are sometimes in second position

Although it is true that peripheral suffixes always have the distribution of 2nd position clitics, the distribution of core suffixes is more complex. While core suffixes usually attach directly to the stem they modify, they do sometimes exhibit second position effects (Nakayama 1997b, Werle 2007). For example, suffixal verbs (Nakayama 1993, Waldie 2004, Wojdak 2008, Stonham 2009)—which are usually classified as core derivational suffixes—are hosted either by their argument or by a semantically empty stem /?u-. A representative list of suffixal verbs is given in Table 2.1.

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-’ic</td>
<td>‘ingest’</td>
</tr>
<tr>
<td>-(č)i:H[L]</td>
<td>‘make’</td>
</tr>
<tr>
<td>-na’k</td>
<td>‘have’</td>
</tr>
<tr>
<td>-’ap</td>
<td>‘buy’</td>
</tr>
<tr>
<td>-(č)i[RSS]</td>
<td>‘be named’</td>
</tr>
</tbody>
</table>

Table 2.1: A sample of suffixal verbs

An example of a suffixal verb is given in (40). In (40a), the suffixal verb /?-a:p/ ‘buy’ is hosted by the dummy stem /?u-/, yielding [?u?aat] as a surface form, though the following past suffix /-(m)it/ causes the final /p/ to nasalize. Observe that the nominal complement /maht’i:/ ‘house’ occurs as an independent lexical item in (40a). This contrasts with (40b), where /maht’a/ ‘house’ now hosts the suffixal verb /?-a:p/ ‘buy’, yielding the surface form [maht’a?aat].

(40) a. ?u?aat?iš maht’i: čakup
   ?u?-a:p-(m)it-?iš maht’i: čakup
   TRANS-buy-PAST-3.IND house man
   ‘A man bought a house.’
   (Wojdak 2008, 29)

b. maht’a?aat?iš čakup
   maht’a?-a:p-(m)it-?iš čakup
   house-buy-PAST-3.IND man
   ‘A man bought a house.’
   (Wojdak 2008, 29)

Another way in which suffixal verbs participate in second position effects relates to their interaction with modifiers. When they combine with an argument that is itself modifier, the host for the suffixal verb is the leftmost element of the nominal phrase. Since a modifier precedes its head (see §2.6), this means the verbal suffixes may sometimes be hosted by adjectives. An example is given in (41).
2.5 Peripheral suffixes in more detail: their status as inflectional morphemes

Recall from above that the verb stem is followed by a series of suffixes, which subdivide into two position classes: the core suffixes, and the peripheral suffixes. The relative order of these suffixes as in (42).

(42) [Verb.Stem][Derivational-Aspectual]-Mode-Valence/Tense-Mood-Discourse

Core Suffixes          Peripheral Suffixes

2.5. Peripheral suffixes in more detail: their status as inflectional morphemes

Suffixal verbs have been the topic of a number of formal syntactic accounts. Davis and Sawai (2001), discussing wh-questions, argue that nouns incorporated under suffixal verbs have undergone head movement, raising to V. While this works for simple NPs consisting only of an N, Wojdak (2008) shows it is problematic for complex NPs, since it is the leftmost element of the NP, regardless of its syntactic position, which is incorporated. She instead argues for PF incorporation, whereby incorporation occurs for phonological reasons—suffixal verbs are suffixes and thus require a host. A suffixal verb attaches to the leftmost element of its complement at PF. Waldie (2004) presents a similar analysis, though attributing the selection of the leftmost element to its higher semantic scope. Woo (2007a) points out that this predicts that modifiers which appear to the right of the noun will be incorporated, contrary to fact. She also notes that adjectives preceded by an adverb are problematic because the adverb, while leftmost in the NP, only has scope over the adjective.

Woo (2007a,b) identifies a subset of suffixal verbs which she calls prepositional predicates, and which she analyzes as light verbs heading a vP. These introduce nominal arguments in particular thematic roles (e.g., ?uuk’wət introduces instruments). Functional prepositional predicates are similar but introduce nominal arguments in particular grammatical roles (e.g., ?uuk’wət introduces objects). Woo proposes that the vP projected by a prepositional predicate is adjoined to the vP projected by the main verb, allowing either v to raise by head-movement to MoodP. Functional prepositional predicates are treated as complements of the main verb.
Most evidential morphemes in Nuu-chah-nulth belong to the set of peripheral suffixes. For the purposes of this discussion, I focus on four classes of inflectional morphemes: those that code mode, tense, mood and discourse-level properties. In what follows, I briefly introduce each of these inflectional morpheme classes.

### 2.5.1 Mode suffixes code modal force

The term “mode suffix” was introduced by Rose (1981) for a set of peripheral suffixes which occur in a single morphological location. As shown in (43), these suffixes are the leftmost peripheral suffixes in the verb complex.

(43) \[
\text{Core Suffixes} \quad [\text{Verb.Stem}] [\text{-Derivational-Aspectual}] \quad \text{Peripheral Suffixes} \quad -\text{Mode-Valence/Tense-Mood-Discourse}
\]

Although mode suffixes are not all in complementary distribution, they all have meanings associated with modals—sentences containing mode suffixes are often translated with “might”, “must”, “could”, “should”, “will” and “would”. Table 2.2 gives the complete list of mode suffixes which I have found in Ahousaht.

<table>
<thead>
<tr>
<th>Mode Suffixes</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-matak</td>
<td>inferential</td>
</tr>
<tr>
<td>-ckvI</td>
<td>past inferential</td>
</tr>
<tr>
<td>-ʔaqx</td>
<td>future</td>
</tr>
<tr>
<td>-cum</td>
<td>deontic</td>
</tr>
<tr>
<td>-’aḥ</td>
<td>irrealis</td>
</tr>
</tbody>
</table>

Table 2.2: Mode suffixes in Nuu-chah-nulth

This set of suffixes is important for us because it contains two evidentials, namely -matak ‘inference’ and -ckvI ‘past inference’. (These are discussed in detail in chapter 4.) The modal force of the mode suffixes is most easily seen with future -ʔaqx ‘future’, deontic -cum (which also appears as -cim), and the irrealis -’aḥ. I consider each in turn.

The future -ʔaqx appears in (44) below, where it indicates that the proposition will be true in the future.

(44) \[
\text{hiik}\text{*a+ʔaqx} \quad \text{wiiKitšiksa} \\
\text{hiik}\text{*a+ɬʔaqx} \quad \text{wiiKitš(ɪ)+sa[LS]} \\
\text{nearby-}3\text{-ABS not.exist-MOM-SUPER}
\]

‘Soon there will be none left.’

The suffix -cum ‘should’ occurs in (45) in its alternate form -cim. Here it has deontic force, indicating that in the speaker’s opinion, it would be best if the subject saw a doctor.
2.5. Peripheral suffixes in more detail: their status as inflectional morphemes

(45) ʔucaʔjεcim ʔuʃtaqyu
ʔu-caʔj(ε)-cim-∅ ʔuʃtaqyu

trans-go.to-should-3.abs doctor

‘He should go see the doctor.’

But there are also cases where translating -cum as ‘should’ would be wrong. While it is the only mode suffix used in deontic contexts, it also occurs in contexts which do not seem deontic at all. In both sentences in (46) -cum occurs in a main clause following a clause in the imperative. The clause containing -cum gives what the result will be if the addressee does not take the action indicated in the imperative clause.

(46) a. haʔuk*i, kašsaapcumsiš kaakanakʔitk
    haʔuk-’i kaš-sa-p-cum-siš kakaniʔaʔ-kʔitk
    eat-2sg.imp be.stored-caus-should-1sg.ind toy-poss-2sg.rel
    ‘Eat, or I will put your toys away.’

    b. kuuk*iisʔi, hawiʔqestuacumʔick
    ku:k-i’s-’i hawiʔq-stuacumʔick
    lunch-carry-2sg.imp hungry-become-should-2sg.ind
    ‘Take a lunch, you might get hungry.’

As for the irrealis mode suffix -’aʔh, it is used in counterfactual conditionals, as shown in (47) below. Rose (1981) shows that it can be used in other irrealis environments as well in the Kyuquot dialect, but I have no data to confirm this in the Ahousaht dialect at present.

(47) naʔuukitquuc ʔuʔaʔapaiuk*ʔahitwaʔiiš candy
    naʔuuk-(m)it-quč ʔu-’aʔ-p-at-uk-ʔah-(m)it-waʔiiš candy
    go.along-past-3.cond.inf trans-buy-shift-poss-irr-past-3.quot candy
    ‘If he had gone with him, he (his uncle) would have bought him candy.’

2.5.2 Valence and tense suffixes: a mixed bunch

Going from left-to-right in the verb complex, the next set of inflectional suffixes are the ones that occur after the mode suffixes, but before the mood suffixes:

(48) [Verb.Stem][Derivational-Aspectual]-Mode-Valence/Tense-Mood-Discourse

    Core Suffixes Peripheral Suffixes

Other than the fact that they constitute a position class, this set of suffixes are quite heterogeneous, and include morphemes that code valency and temporal force. I give here only those for which I have data in the Ahousaht dialect. The suffixes are listed in Table 2.3 in their relative order.
2.5. Peripheral suffixes in more detail: their status as inflectional morphemes

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-'ap</td>
<td>-'az</td>
<td>-'at</td>
<td>-uk/-'ak</td>
</tr>
<tr>
<td>causative</td>
<td>now</td>
<td>shift</td>
<td>possessive</td>
</tr>
</tbody>
</table>

Table 2.3: Ordering of pre-mood suffixes

In what follows, I consider each of these suffixes in turn, namely causative -’ap, the temporal modifier -’az ‘now’, the shifter --’at, the possessive markers -uk and -’ak, and the past marker -(m)it.

2.5.2.1 Valency extending: causative -’ap

The causative that occurs as a peripheral suffix is of interest in the context of the present discussion because it can be used to determine the relative order of suffixes. It appears in (49) below.

(49) /uqhsaa?ap'i 
?u-(q)hsa-’ap-’i: 
trans-among-caus-2sg.imp string
‘Put the string among it.’

Note that not all causatives are part of this position class. Many causatives are portmanteau morphemes with aspect, and so occur closer to the stem, where aspectual suffixes (which are part of the set of core suffixes) are usually found.

2.5.2.2 The temporal modifier -’az ‘now’

Another suffix that is part of this position class is the temporal suffix -’az, which is glossed as ‘now’. But this gloss does not do it justice. It is generally involved in temporal sequencing, relating the time of one clause to another. It is not present tense, as it can occur with the past -(m)it. There is not much more I can say about it now, except that it needs to be studied. As with the causative, I only make use of it in determining suffix ordering.

2.5.2.3 Valency shifting: -’at

As for the morpheme -’at, which following Nakayama (1997) is glossed as ‘shift’, much has been written about it. It has been called a passive (Rose and Carlson 1984) and an inverse (Whistler 1985), while Nakayama claims it is neither (see also Muehlbauer and Waldie 2009). It can promote the object to subject, and it is obligatory when a third person acts on a first person, thus forcing the first-person subject agreement to appear. Most problematic for a passive analysis, -’at can also appear on intransitive verbs, giving a generic reading. In short, if the grammatical subject is not the underlying subject, this suffix will probably be there.
2.5. Peripheral suffixes in more detail: their status as inflectional morphemes

While -’at belongs to the set of peripheral suffixes, it is unique among them in its behaviour. Because a peripheral suffix occurs on the first predicate in a clause, it is expected that each peripheral suffix can only occur once per clause, on the first predicate. This is true for all peripheral suffixes, with the single exception of -’at, which obligatorily occurs on every predicate in a clause. The reason for this is not clear, but the data is nevertheless robust. Consider the two examples below.

In (50), there are two predicates in the main clause, ?ayaqH ‘many’ and hiix’atì ‘angry’, and both are inflected with -’at. Here, the occurrence of -’at marks a generic subject on both predicates, literally ‘people are many and people are angry’. Observe that the embedded clause in (50) is introduced by the complementizer ?in, and that embedded predicate ?ayaak w’a?ap ‘destroyed a lot’ is not inflected with -’at. The absence of -’at in the embedded clause is consistent with the fact that there the subject of the embedded clause, namely Ken, is both the underlying and surface subject of the embedded clause.

(50) ?ayaqH’atìs hiix’atìat Ken ?in ?ayaak w’a?ap taana
?aya-(q)h’-at-ìs hiix’atì-’at Ken ?in ?aya-(q)ak*’-ap taana
many-sim-shift-3.ind angry-with-shift Ken comp many-destroyed-caus money
‘There’s lots of people mad at Ken for spending lots of money.’

Now consider (51), where -’at occurs on the matrix predicate kitì’ì ‘confirm’ as well as the embedded predicates. The latter include the adverbial modifier ?aanaqH ‘really’ and the main predicate tači’ ‘let go’.

(51) ?000, kitì’ìi ḡaa?i?ichuk q’aar?atii ?aanaqH’at tači’at
?000 kitì-šì(κ)-’ì ḡaa?i?ich(κ)-uk q’aar-’at-(y)i: ?a?ni-(q)h’-at tač(κ)-’at
oh ring-MOM-2sg.imp confirm-poss thus-shift-3.indef really-sim-shift let-go-shift
‘Oh, phone him and confirm to see if he got let go.’

2.5.2.4 Nominal valency: possessive -uk and -?a’k

The other suffix which affects the choice of subject agreement is the possessive -uk, which has the form -?ak after vowels (Ravinski 2005). When this suffix occurs, the subject agreement identifies the possessor of one of the arguments of the verb, either the underlying subject in the unmarked case (52a), or another argument (52b), in which case -’at also occurs.
2.5. Peripheral suffixes in more detail: their status as inflectional morphemes

(52) a. čacswiiʔaksiš ʔuupakuut
   ča-(c)swi-ʔa-ʔa-siš ʔu:pu:kut
   flow-go through-poss-1sg.ind coat
   ‘My coat got drenched through.’

b. ʔwyaapaːtuksiš ʔumiiš
   ʔwa-ya-ʔat-uk-siš ʔumiiš
   break-caus-shift-poss-1sg.ind red.cedar
   ‘He broke my sticks.’

2.5.2.5 The past marker -(m)it

Finally, the past suffix -(m)it occurs immediately before the mood suffix. It has a ghost consonant /m/, which surfaces when the stem ends in a sonorant (53a). When the stem ends in an obstruent, this /m/ does not surface (53b). In some instances this ghost consonant seems to coalesce with a stem-final /t/ or /p/, yielding the corresponding nasal consonants, [n] or [m] (53c). This suffix plays an important role in Chapter 8, and I discuss its semantics in more detail there.

(53) a. ʔacyuumitwaʔiš čakup
   ʔacyu-(m)it-waʔiš čakup
   fish-past-3.quot man
   ‘It is said that a man was fishing.’

b. ʔuhitʔiš Ken
   ʔuhi-(m)it-ʔiš Ken
   floc-past-3.ind Ken
   ‘It was Ken’

c. kitšiʔanits Ken
   kitš-šiʔ(ʔ)’at-(m)it-s Ken
   ring-mom-shift-past-1sg.abs Ken
   ‘Ken phoned me.’

2.5.3 Mood suffixes are obligatory and define paradigmatic contrasts

Each clause in Nuu-chah-nulth is marked with a single mood affix which, as a peripheral suffix, attaches to the first predicate of the clause. In terms of position, as shown in (56), mood suffixes occur after the mode and valence/tense suffixes, but before discourse-conditioned suffixes.

(54) [Verb.Stem][Derivational-Aspectual] -Mode-Valence/Tense-Mood-Discourse

Core Suffixes | Peripheral Suffixes
Mood suffixes are the only peripheral suffixes that are obligatorily present, and they are in complementary distribution with each other: each clause must have a mood suffix, and each clause has no more than one mood suffix. These suffixes mark both mood and subject agreement. Thus, each mood suffix—of which there are almost twenty—defines a paradigm, with the cells of each paradigm identifying the person and number of the subject.

Moods have various functions in Nuu-chah-nulth, and can indicate illocutionary force (e.g., declarative vs. interrogative vs. imperative), clause-typing (e.g., matrix vs. dependent), a number of interclausal relations (e.g., conditional vs. relative vs. purposive), or evidentiality (see §2.7). In (55) there are three clauses, each of which is marked with a different mood, but all with a first-person singular subject. The matrix clause is in the absolute mood, marked by -s ‘1sg absolute’. The two dependent clauses are in the conditional, marked by -qu:s ‘1sg conditional’, and the purposive, marked by -a:Hs ‘1sg purposive’.

(55) 
\[
\begin{align*}
\text{eat} & \quad \text{fut1sg.abs} \\
\text{before} & \quad \text{1sg.cond} \\
\text{hungry} & \quad \text{mom} \\
\text{I will eat before I leave, that way I won’t be hungry.’}
\end{align*}
\]

A full inventory of the moods is outside the scope of this dissertation, but I give a list of those I have identified in Table 2.4 giving the third-person forms.

<table>
<thead>
<tr>
<th>Declarative</th>
<th>indicative</th>
<th>-ʔi;S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>quotative*</td>
<td>-waʔi;S</td>
</tr>
<tr>
<td></td>
<td>dubitative*</td>
<td>-qaʔa</td>
</tr>
<tr>
<td></td>
<td>mirative*</td>
<td>-čaʔa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interrogative</th>
<th>interrogative</th>
<th>-h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>indirect interrogative*</td>
<td>-hač</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imperative</th>
<th>imperative</th>
<th>-i</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>future imperative</td>
<td>-u;m</td>
</tr>
<tr>
<td></td>
<td>proximal imperative</td>
<td>-ik</td>
</tr>
<tr>
<td></td>
<td>distal imperative</td>
<td>-či</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent clause</th>
<th>absolute</th>
<th>-Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>purposive</td>
<td>-ʔaʔit</td>
<td></td>
</tr>
<tr>
<td>subordinate</td>
<td>-q</td>
<td></td>
</tr>
<tr>
<td>relative</td>
<td>-ʔiqt</td>
<td></td>
</tr>
<tr>
<td>indefinite relative</td>
<td>-(y)i:</td>
<td></td>
</tr>
<tr>
<td>indirect indefinite relative*</td>
<td>-(y)ič</td>
<td></td>
</tr>
<tr>
<td>conditional</td>
<td>-qu:</td>
<td></td>
</tr>
<tr>
<td>indirect conditional*</td>
<td>-quč</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.4: Third-person forms of moods in Ahousaht
A number of remarks are in order about the details of the mood paradigm:

**Evidentiality:**
Some of these moods, indicated by an asterisk, encode evidentiality, and I give their full paradigms in §4.3.

**Imperative mood:**
Imperative moods have second person subjects, and can be either singular or plural, and they also encode the person and number of the object, where third person is unmarked (transitives with third person objects take the same imperative forms that intransitives take). For the imperative moods in this table the forms given are second person singular with unmarked object.

**Number marking:**
Number is not marked in the third-person forms, meaning that the forms in Table 2.4 identify only that the subject is third-person. If a third-person argument (subject or otherwise) is plural it is marked by a separate suffix -ʔat, which follows the mood suffix and any other post-mood suffixes.

**Morphological complexity:**
Many forms appear to be internally complex, with one (or more) part corresponding to the mood, and another to the person and number. Only two paradigms are fully regular in this way, the conditional and the indefinite relative; in other paradigms the regularity is broken in some forms. Nakayama (1997, 2001) gives the forms of most of the moods found in the Ahousaht dialect, and I give the forms of the evidential moods in §4.3 (see also the appendix in Wojdak 2008).

### 2.5.4 Discourse suffixes: another mixed bunch

The final set of peripheral suffixes, which are characterized by their discourse-related functions, are those that occur at the right-most position of the sequence of peripheral suffixes. This corresponds to the position labeled “Discourse” in (56).

$$\text{(56)} \quad \text{[Verb.Stem]} \text{[Derivational-Aspectual]} \text{-Mode-Valence/Tense-Mood-Discourse}$$

Core Suffixes \hspace{2cm} Peripheral Suffixes

The suffixes that I have identified in this set for Ahousaht are listed in Table 2.5. They include the endearment suffix -χa:y, the iterative suffix -λa ‘again’, the suffix -qʷa:,

\(^2\)The function of this suffix is not clear. More work needs to be done to fix its meaning.
member of this set. Whereas the first- and second-person plurals are fused with mood, the third person plural can occur non-adjacent to the mood.

\[-\chi\text{‘endorment’} -\chi\text{‘again’} -q\text{‘plural’}\]

Table 2.5: Discourse suffixes

2.6 Word order

Nuu-chah-nulth is often described as a predicate-initial language. Here I briefly review some of the basic word order properties, looking first at the position of the major clausal constituents (§2.6.1), of modifiers (§2.6.2), and of question words (§2.6.3).

2.6.1 Canonical word order is VSO

Nuu-chan-nulth sentences are predicate-initial. And while VSO is the canonical word order, VOS is sometimes possible. To see how this works, consider the examples in (57). If both arguments are animate, then VSO is obligatory, (57a). However, if there is an animacy contrast, then either VSO or VOS is possible, as in (57b) and (57c), where the subject is animate (‘man’) and the object is inanimate (‘car’).

(57) a. \(\text{?u}\text{-uyuk/iS}\) Ken Kay
\(\text{?u-yuk[RSL]-iS}\) Ken Kay
\(\text{trans-cry.for-3.IND}\) Ken Kay
\(\text{= (i) ‘Ken is crying for Kay.’ (VS}_{\text{ANIM}\text{O}_{\text{ANIM}})}\)
\(\neq\) (ii) ‘Kay is crying for Ken.’ (\(\text{V}_{\text{INANIM}}\text{O}_{\text{ANIM}}\)) (Wojdak 2008, 85)

b. \(\text{kuu}\text{-Wilit/iS}\) čakup huupuu\text{uk‘as}
\(\text{kuu-Wilit-(m)-it-iS}\) čakup huupuu\text{uk‘as}
\(\text{steal-PAST-3.IND}\) man car
‘A man stole a car.’ (\(\text{VS}_{\text{ANIM}}\text{O}_{\text{INANIM}}\)) (Wojdak 2008, 84)

c. \(\text{kuu-Wilit/iS}\) huupuu\text{uk‘as} čakup
\(\text{kuu-Wilit-(m)-it-iS}\) huupuu\text{uk‘as} čakup
\(\text{steal-PAST-3.IND}\) car man
‘A man stole a car.’ (\(\text{V}_{\text{INANIM}}\text{O}_{\text{ANIM}}\)) (Wojdak 2008, 85)

Another common pattern involves the presence of a light verb to introduce the object (Woo 2007b), resulting in a surface order [V S Light.Verb O]. This is illustrated in (41) with the light verb \(\text{?uuk‘it ‘it was done to’}.

---

3One of my consultants suggests that (57c) is better with the definite -?i’on čakup ‘man (čakup?)'.

36
2.6. Word order

Finally, note that with pronominal third person arguments, because there are no overt third person pronouns, it is quite typical to find sentences with only a single overt argument—the object—as in (59).

(59) ʔuuwinʔišs  nuutinum
ʔu-wint[L]-ʔišs  nuutinum
trans-at.neck-3.IND necklace
‘He or she has a necklace on.’

In terms of general structural properties, Wojdak (2008) argues that there is a subject-object asymmetry in Nuuchahnulth: possessor-raising is only possible from subject position (Ravinski 2005), and only subjects show agreement. Furthermore, Davis et al. (2007a) show that Nuuchahnulth exhibits weak crossover effects, providing further evidence for the subject-object asymmetry. Wojdak (2008) also shows that suffixal verbs attach to underlying objects, including the arguments of unaccusatives.

2.6.2 Modifiers precede heads

Modifiers precede heads in Nuuchahnulth, though this is stricter in the nominal domain than the verbal domain. In (60a) the adjective ƛiihiq ‘red-haired’ precedes the noun ƛaaκ ‘girl’. Notice that the peripheral suffix -ʔi ‘definite’ occurs on the adjective; this is because the adjective is the first word in the noun phrase. Similarly, in (60b) the adverbial ƛiiqʷaʔ ‘almost’ precedes the verb, and the peripheral suffixes -ʔi ‘now’ and -s ‘1sg absolutive’ both occur on the adverbial, since it is the first word in the clause.

(60) a. ƛiihiqʔi  ƛaaκ
ƛiih-(y)ik[L]-ʔi  ƛaaκ
red-hair-DEF girl
‘the red-headed girl.’

b. ƛiiqʷaʔaʔs  xaaxiipšiqʔ
ƛiiqʷaʔ-ʔaʔ-s  xaaxiip-ši(ʔ)
nearly-now-1SG.ABS bluejay-MOM
‘I am almost a bluejay’

Adverbials often appear clause-initially, in which case word order is typically AdvSVO. Peripheral suffixes will be attached to the adverbial in such cases. For example, ƛyuuqʷaʔ ‘also’ occurs clause-initially in (61), where it is suffixed by the peripheral suffixes /-ckʷi/ ‘past
2.7. Clause-typing in more detail: the mood suffixes again

Every Nuuchahnulth clause has a mood, which is marked by a portmanteau peripheral suffix that also marks subject agreement. (For details, see §2.5.3 above.) Syntactically, moods fall into three classes according to whether they:

1. occur only in matrix clauses;
2. occur in both matrix and dependent clauses;
3. occur only in dependent clauses.

I discuss each in turn.

2.7.1 Moods that occur only in matrix clauses

The moods that can only occur in matrix clauses fall into three semantic sub-classes: declarative, interrogative, and imperative. Table 2.6 gives the complete list of the matrix clause moods.
2.7. Clause-typing in more detail: the mood suffixes again

<table>
<thead>
<tr>
<th>Declarative</th>
<th>Interrogative</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ʔiš</td>
<td>indicative</td>
<td>-ʔi</td>
</tr>
<tr>
<td>-qa’ča</td>
<td>dubitative*</td>
<td>-ʔa’č</td>
</tr>
<tr>
<td>-waʔiš</td>
<td>quotative*</td>
<td>-ʔi’k</td>
</tr>
<tr>
<td>-ča’ʔaš</td>
<td>mirative</td>
<td>-č’i</td>
</tr>
</tbody>
</table>

Table 2.6: Matrix clause moods

The Ahousaht dialect of Nuu-chah-nulth has four distinct declarative moods: indicative (marked by -ʔiš), dubitative (marked by -qa’ča), quotative (marked by -waʔiš), and mirative (marked by -ča’ʔaš). Representative examples are given in (63).

(63) a. mížaʔiš
     míž-(y)a-ʔiš
     rain-cont-3.ind
     ‘it’s raining’

b. mížaqača
    míž-(y)a-qa’ča
    rain-cont-3.dub
    ‘It must be raining.’

c. mížaawaʔiš
    míž-(y)a-waʔiš
    rain-cont-3.quot
    ‘It was raining.’

d. mížača’ʔaš
    míž-(y)a-ča’ʔaš
    rain-cont-3.mir
    ‘It’s raining.’

As for the interrogative moods, there are two: the interrogative proper (marked by -ʔi), and the indirect interrogative (marked by -ʔa’č). Representative examples are given in (64).

(64) a. mížaʔah
    míž-(y)a-ʔi
    rain-cont-3.inter
    ‘Is it raining?’

b. mížaʔač
    míž-(y)a-ʔa’č
    rain-cont-3.indir.inter
    ‘Is it raining?’
Finally, the imperative mood has four sub-classes: the imperative (marked by -‘i”), the future imperative (marked by -‘um or -‘im), the proximal imperative (marked by -‘ik), and the distal imperative (marked by -či”). Representative examples are given in (65).

(65) a. haʔukʷi
    haʔuk-‘i;
    eat-2SG.IMP
    ‘Eat.’

b. haʔukʷik
    haʔuk-‘i;k
    eat-2SG.PROX.IMP
    ‘Come and eat.’

c. čamihűʔum haʔuk
    čamihű-‘um haʔuk
    proper-2SG.FUT.IMP eat
    ‘Eat properly.’

d. haʔukči
    haʔuk-či;
    eat-2SG.DIST.IMP
    ‘Go eat.’

The listing of matrix mood suffixes in Table 2.6 above reveals that evidential distinctions are present in this part of the mood paradigm. In particular, two of the declarative moods have evidential force, namely dubitative -qaʔča and quotative -waʔliš. And, amongst the interrogative moods, the indirect interrogative -haʔč has evidential force. See Chapter 4 (§4.3) for more detailed discussion of these evidential mood suffixes.

2.7.2 One mood occurs in both matrix and dependent clauses: the absolutive mood

There is one mood that is found in both matrix and dependent clauses, namely the absolutive mood, which is zero-marked. It is sometimes accompanied by the complementizer ḥin.

2.7.2.1 The absolutive mood in matrix clauses

Consider first the example in (66), where is taken from the beginning of a story. The first sentence, (66a), is in the quotative mood, one of the moods that occurs only in matrix clauses. The second sentence, (66b) is in the absolutive mood. This use of the absolutive in narrative contexts is very typical.
2.7. Clause-typing in more detail: the mood suffixes again

(66) a. hisiikʷ-asitwaʔ̓s
    quʔušin
    go.along-on.ground.outside-PAST.3.SPOKE raven
    ‘Raven was walking along.’

b. ḥa:tsi:šiʔa:k  ḥuʔaq  ḥuʔaqaq  ḥuucma
    ḥa:tsi:ši(酡)·a:k  ḥuʔ-(q)aq[SS]  ḥuʔ-(q)aq[SS]-(q)aq[SS]  ḥuucma
    see-MOM-now nice-AUG nice-AUG-AUG woman
    ‘He saw a beautiful woman.’

The absolutive mood often co-occurs with the complementizer ?in. Consider the clause-sequences in (67) and (68). In each of these examples, the (b) sentences are matrix absolutive clauses that co-occur with the complementizer ?in. Such ?in-marked matrix absolutive clauses typically in contexts where there is some loose causal connection between the two sentences. In (67), the speaker is introducing a question in (67a), and then providing the reason for the question in (67b). And in (68), the speaker is volunteering an observation in (68a), and then providing the reason for the observation in (68b).

(67) a. ?aaqinq̕h k ḥaʔukʷiʔas
    ?aaqin-(q)h-k  ḥaʔukʷiʔas
    why-SIM-2SG.INTER eat-about.to
    ‘Why are you going to eat?’

b. ?in  siqiɪʔsa
    ?in  siq-(酡)i:ʃ[Ł]-sa
    COMP cooked-make-1SG.ABS
    ‘(Because) I’m cooking.’

(68) a. waʔyuukwúkʷitʔ̓s
    waʔyu::kuk-(m)it-ʔ̓s
    be.home-VIS.EVID-PAST-3.IND
    ‘It looked like he was home.’

b. ?in ʔin:kʷahsita
    ?in ʔin:kʷ·a·hs-(m)it
    COMP fire-in.vessel-PAST
    ‘(Because) his lights were on.’

2.7.2.2 The absolutive mood in complement clauses

The absolutive mood is also found in complement clauses, where it is obligatorily introduced by the complementizer ?in. A representative example is given in (69). Observe that both the matrix clause and the embedded clause are in the absolutive mood. In addition, the embedded clause is introduced by the complementizer ?in.
2.7. Clause-typing in more detail: the mood suffixes again

(69)  huHtaks [ʔin wiksuuq ?unaak ʰiniːʔ]
       huHtak-s [ʔin wiks-suʔk ʔu-naʔk ʰiniːʔ]
       know-1SG.ABS COMP NEG-2SG.ABS TRANS-have dog

   ‘I know you don’t own a dog.’

The set of verbs that introduce ʔin-absolutive complement clauses are given in Table 2.7.
Note that these verbs are all propositional attitude verbs. The descriptive generalization is that
ʔin-absolutive complement clauses are only ever introduced by propositional attitude verbs.
(But the converse is not true: as we shall see below, there are propositional attitude verbs that
do not introduce ʔin-absolutive complement clauses.)

<table>
<thead>
<tr>
<th>Verb</th>
<th>English Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>huHtak</td>
<td>‘know’</td>
</tr>
<tr>
<td>hayimHyi</td>
<td>‘not know’</td>
</tr>
<tr>
<td>taaqaak</td>
<td>‘believe’</td>
</tr>
<tr>
<td>puupuuca</td>
<td>‘dream’</td>
</tr>
<tr>
<td>wawaa</td>
<td>‘say’</td>
</tr>
<tr>
<td>ʔuuqHli</td>
<td>‘tell’</td>
</tr>
<tr>
<td>ʔuuk*aqHli</td>
<td>‘tell on oneself’</td>
</tr>
</tbody>
</table>

Table 2.7: Verbs taking ʔin-absolutive complement clauses

2.7.2.3 The absolutive mood in adjunct clauses

ʔin-absolutive clauses also introduce adjunct clauses, as in (70a). We can see that the
ʔin-absolutive clause is an adjunct and not a complement because the verb nučḥak ‘proud’ does
not require an ʔin-absolutive clause, as shown in (70b).

(70) a. nučḥakʔiš ḥa: [ʔin ʰušnaakšíːk ʰu: Kyle šußwis]
       nučḥak*ʔiš ʰa: [ʔin ʰuš-na’k-śi(ʔ)-Ø ʰu: Kyle šußwis]
       proud-3.1ND that COMP new-have-MOM-3.ABS Kyle shoes
       ‘She will be very happy that Kyle got new shoes.’

b. nučḥakʔiš Ken
       nučḥak*ʔiš Ken
       proud-3.1ND Ken
       ‘Ken is proud’

Other verbs, such as waa ‘say’ obligatory take an ʔin-absolutive complement clause, as in (71).
2.7. Clause-typing in more detail: the mood suffixes again

(71) a. wawaaʔiš Ken [ʔin maakukʷitsuuk čamas]  
    wawaʔiš Ken ʔin maakuk-(m)it-su:k čamas  
    say-3.IND Ken comp buy-PAST-2SG.ABS sweet  
    ‘Ken says you bought sweets.’

b. *wawaaʔiš Ken  
    wawaʔiš Ken  
    say-3.IND Ken

Unfortunately we cannot use WH-island effects to confirm the distinction between adjunct and complement clauses. We would expect WH-movement out of a complement clause to be possible, and WH-movement out of an adjunct clause to be impossible. But independently, all movement in Nuu-chah-nulth is clause bound (Davis and Sawai 2001, Woo 2002, 2007b).

2.7.3 Moods that occur only in dependent clauses

The set of moods that occur only in dependent clauses are given in Table 2.8. I discuss each of these in turn in the sections below, giving examples of their use.

<table>
<thead>
<tr>
<th>Mood Type</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>subordinate</td>
<td>-q</td>
</tr>
<tr>
<td>purposive</td>
<td>-ʔaʔit</td>
</tr>
<tr>
<td>conditional</td>
<td>qu:</td>
</tr>
<tr>
<td>relative</td>
<td>-ʔitq</td>
</tr>
<tr>
<td>indefinite relative</td>
<td>-(y)i:</td>
</tr>
</tbody>
</table>

Table 2.8: Dependent clause moods

2.7.3.1 The subordinate mood introduces clauses

Some propositional attitude verbs, such asʔuq̑laap ‘think’ select for the subordinative mood, as in (72a). Observe that the subordinative mood is incompatible with the complementizer ?in, (72b).

(72) a. ʔuq̑laamitwaʔiš Linda ʔaw̱yuq Ken  
    ʔuq̑la:p-(m)it-waʔiš Linda ʔaw̱yuq:q Ken  
    think-PAST-3.QUOT Linda be.home-3.SUB Ken  
    ‘Linda thought Kay was at home.’

b. *ʔuq̑laamitʔiš Linda ?in ʔaw̱yuq Ken
2.7. Clause-typing in more detail: the mood suffixes again

2.7.3.2 The purposive mood introduces rationale clauses

Rationale clauses are introduced with the purpose mood:

(73) [haʔukʔaq̣̃s [wikyuququs ʔihišik] [wikahs hawiq̣̃]]
haʔukʔ-aq̣̃s wiku-quis ʔihišik wikahs hawiq̣̃
eat-FUT-1SG.ABS before-1SG.COND leave-MOM NEG-1SG.PURP hungry
‘I will eat before I leave, that way I won’t be hungry.’

2.7.3.3 The conditional mood introduces if-clauses

The conditional mood is used mark embedded questions, as in (74a). The conditional mood is also used in the antecedent of a conditional statement (74b).

(74) a. huʔtakmahsaʔiš ʔumʔiq [hiikʷaʔaʔaquku hawiʔaʔ]
    huʔtak-maʔsaʔiš ʔumʔiʔq hiikʷaʔaʔaquku hawiʔaʔ
know-wanting-3.IND mother-kin nearly-now-2SG.COND finish-now
‘Mother wants to know if you’re almost finished.’

b. [naʔukqukuq siya makuvasac̓iʔ] maakuweepaq̣̃s suwa
    naʔuk-qukuq siya mak-uwasac̓iʔ maakuweepaq̣̃s suwa
    go.along-2SG.COND 1SG.PRO buy-building-go.to buy-BEN-FUT-1SG.ABS 2SG.PRO
    čamas
    čamas
    sweet
‘If you go to the store with me, I’ll buy you something sweet.’

2.7.3.4 The relative and indefinite moods introduce relative clauses

Relative clauses occur in either the relative -ʔiʔitq (75) or the indefinite relative -(y)i: (76). The difference between the two is whether the identity of the referent is in the common ground or not, with -(y)i: indicating that it is not (Davidson 2002).

(75) ʔučałtaksiuuk [hiʔʔiʔitq Walmart]
    ʔu-čałtak-sitq hiʔʔiʔitq Walmart
trans-head.for-2SG.ABS be.there-3.REL Walmart
‘You head for where Walmart is.’
2.8.

(76) a. waʔč’āʔit’ick [q*iyaaʔii ńuwiq waʔšik]
   waʔč’-aʔ-(m)it-ʔi’ck q*iyaa:-y)i: ńuwi-i’q waʔšik
   sleep-now-PAST-2SG.IND when-3.INDF father-KIN get.home
   ‘You were sleeping when Dad got home.’

b. huʔtakk [q*aayii waʔyuu Ken]
   huʔtak-k q*a:-y)i: waʔyu: Ken
   know-2SG.INTER thus-3.INDF be.home Ken
   ‘Do you know if Ken is home?’

c.ʔaʔaatuumitʔiʔ Ken [q*aamitii míkαa]
  ʔaʔa:tu:-(m)it-ʔiʔ Ken q*a-(m)it-(y)i: mík-(y)a
   ask-PAST-3.INDF Ken rel-PAST-3.INDF rain-CONT
   ‘Ken asked if it had been raining.’

2.8

In this chapter I provided an overview of Nuuchahnulth grammar. My hope is that this allows the reader who is unfamiliar with the language to follow the examples more easily. The morpho-phonological properties I described in §2.3 above will help the reader understand why the same morpheme occurs in different forms in different examples. The morphology I described in §§2.4, 2.5 and 2.7 is very relevant to a study of evidentials in Nuuchahnulth. As I discuss in the following chapter, evidentials are found in several morphological classes, leading to differences in their semantics.
Chapter 3

Towards a theory of evidentiality

3.1 Ways of classifying evidentials

Evidential morphemes have been discussed in different terms in the literature. I discuss these different approaches in this chapter. First, I look at classifications based on morphological criteria (§3.2). I then turn to syntactic approaches to evidentials (§3.3). Semantic approaches are discussed in §3.4, where I discuss modal approaches, perceptual approaches, and the origo. I then discuss pragmatic approaches in §3.5, and finally lay out the path that Nuu-chah-nulth evidentials themselves suggest (§3.6).

3.2 Morphological classifications of evidentials

A morphological classification of evidentiality is developed by Willett (1988). He devises a cross-linguistic classification of evidential types, shown in Figure 3.1 below. It is based on a survey of 38 languages for which evidentials have been identified and discussed, primarily in the volume by Chafe and Nichols (1986). His classification is useful in giving a general idea about the types of evidence a language may encode in an evidential, but it also has shortcomings, especially with respect to his classification of sensory evidentials as direct evidentials.

![Figure 3.1: Willett’s classification of evidence types](image_url)

Types of Evidence

- Direct
  - Attested
    - Visual
    - Auditory
    - Other sensory
  - Results
  - Reasoning
- Indirect
  - Reported
    - Folklore
    - Hearsay
      - Second-hand
      - Third-hand
3.2. Morphological classifications of evidentials

First, there are languages (such as Nuu-chah-nulth, Makah (Jacobsen 1986) and Gitksan (Peterson 2010)) which have visual inferentials. These are evidentials which indicate that an inference was made based on something that was perceived visually. In Nuu-chah-nulth, the visual inferential is -kuk, and as the example in (77) shows, its use is infelicitous when the origo has seen the rain directly. Thus, while it is a visual evidential, it is not a direct evidential.

(77) **Scenario:** Kay was looking outside the window and saw the rain. She said this to Bill.

```plaintext
#m̓ičaakuk?iš
m̓ič-(y)aʔ-kuk-ʔiš rain-CONT-VIS.EVID-3.IND

‘It looks like it’s raining.’
```

Second, Nuu-chah-nulth has an auditory evidential naʔa:t, which is compatible with direct and indirect evidence scenarios. That is, naʔa:t can be used where the origo directly witnessed an event, as in (78a), and it can also be used in scenarios where the origo has hearsay evidence (78b), or has made an inference based on hearing something (78c).

(78) a. **Scenario:** Kay could hear thunder, and when she got a call from Bill in Port Alberni she said this to him.

```plaintext
ʔiickʔiickaʔiš naʔaat
ʔiick-(y)aʔ[RL]-ʔiš naʔa:t clatter-REP-3.IND AUD.EVID

‘It’s thundering.’
```

b. **Scenario:** Kay and Bill heard that there was a fight the night before, and the police came and put someone in jail, but they didn’t know who it was. Linda called Kay and told her that Ken got arrested, and when she got off the phone Kay told Bill this.

```plaintext
ʔuhitwaʔiš Ken naʔaat małpił
ʔuhit-(m)aʔ-waʔiš Ken naʔa:t mał-pi(ʔ) FOC-PAST-3.QUOT Ken AUD.EVID tied-in.house.MOM

‘It is said it was Ken who ended up in jail.’
```

c. **Scenario:** Kay and Bill don’t usually hear Ken’s stereo, but sometimes it gets loud. They figure it is Ken’s son turning it up when Ken goes out. One day when she heard the stereo she said this to Bill.

```plaintext
wikpiłmataʔakaʔum Ken naʔaat
wik-pim(ʔ)-mataʔ-aʔ-ʔum Ken naʔa:t
NEG-in.house.MOM-IND.EVID-NOW-3.ABS-DM Ken AUD.EVID

‘Ken is probably not at home.’
```
3.3 Syntactic classifications of evidentials

Visual inferentials and the Nuu-chah-nulth auditory evidential are problematic for Willett's typology. As visual and auditory evidentials, Willett would classify them as direct (as he does with the visual inferential in Makah), but they are both compatible with indirect evidence scenarios. In other words, they are not actually direct evidentials. Visual inferentials are inferentials, while na?u:t 'auditory evidence' is unmarked for "directness".

Another morphological classification is developed by Aikhenvald (2004). She makes a distinction between languages in which evidentiality is encoded systematically, and languages in which the coding of evidentiality is scattered throughout the grammar. Systematic encoding of evidentiality is obligatory, and paradigmatic. Scattered encoding of evidentiality may be optional, and is not paradigmatic. Nuu-chah-nulth is an example of a language with scattered encoding of evidentiality.

Aikhenvald further divides languages with systematic encoding of evidentiality based on how many oppositions they encode, and what those oppositions are. Languages may distinguish anywhere between two and five kinds of evidence, giving rise to four classes of languages with systematic encoding of evidentiality. Aikhenvald claims there are six kinds of evidence which can be encoded, which can be divide up between evidentials in different ways. I give one of Aikhenvald's attested systems for each of the four classes in Table 3.1.

<table>
<thead>
<tr>
<th></th>
<th>Visual</th>
<th>Sensory</th>
<th>Inferred</th>
<th>Assumed</th>
<th>Hearsay</th>
<th>Quotative</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Firsthand</td>
<td></td>
<td>Non-firsthand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Direct</td>
<td></td>
<td>Inferred</td>
<td>Reported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Direct</td>
<td></td>
<td>Inferred</td>
<td>Reported</td>
<td>Quotative</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Visual</td>
<td>Non-visual</td>
<td>Inferred</td>
<td>Assumed</td>
<td>Reported</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1: Examples of attested evidential distinctions (Aikhenvald 2004)

The morphological approaches to evidentiality described above focus on the attested range of evidentials across languages. Willett focuses on the kinds of evidence that are encoded in morphemes, while Aikhenvald focuses on the distinctions made within a single language, while also distinguishing between systematic and scattered encoding of evidentiality.

3.3 Syntactic classifications of evidentials

Speas and Tenny (2003) propose a cartographic approach to evidentiality. That is, they propose a structure of functional heads in an exploded CP domain whose specifier arguments can be filled in various combinations yielding different meanings. They propose a sentience phrase (SenP), which combines Cinque's (1999) EvidP (as the projection of Sen*) with his higher EvalP (as the projection of Sen) whose specifier gives the point of view role, equivalent to the origo. This is illustrated in Figure 3.2. Above this structure are speech act projections which
3.3. Syntactic classifications of evidentials

they use to model mood. They make no claim about the syntactic position of an evidential morpheme, nor do they make a claim about the possible semantics of evidentials. I discuss their approach to the origo (their “seat of knowledge”) in §3.4.3 below.

Blain and Déchaine (2006) propose that evidentials can be integrated into distinct syntactic domains. They call this the evidential domain hypothesis. In particular, they propose the structure in Figure 3.3. Evidentials thus do not belong to a single syntactic category. Within a single language, one evidential may be in the CP domain while another is in the TP domain. Depending on which domain an evidential occurs in, it is expected to have additional properties. For example, evidentials in the CP domain may also encode clause-typing, and those in the TP domain may also encode tense.

Figure 3.2: Structure of the sentience phrase (Speas and Tenny 2003, 334)

Figure 3.3: Evidential domain hypothesis (Blain and Déchaine 2006)
3.4 Semantic classifications of evidentials

A number of formal semantic approaches have been proposed. Here I divide the discussion into three groups, modal approaches, pragmatic approaches and perceptual approaches. The modal approaches treat evidentials as epistemic modals, based on Kratzer’s (1981, 1991) analysis of modality. The pragmatic approaches focus more on the felicity conditions associated with evidentials, and often include a modal analysis of some evidentials. The perceptual approaches focus on how evidentials indicate the origo’s perceptual relation to the prejacent proposition.

3.4.1 Modal approaches

Most formal semantic approaches to indirect evidentiality derive from Kratzer’s (1981, 1991) analysis of modality. In particular they derive from her analysis of the German epistemic modal müssen and its English cognate must, which has since been considered an inferential evidential (Westmoreland 1995, 1998, von Fintel and Gillies 2011).

There is disagreement on what the relationship is between the categories of evidentiality and epistemic modality. de Haan (1999, 2000), Lazard (2001), and Aikhenvald (2004) take the view that evidentiality is distinct from modality. For example, de Haan (2000) considers evidentiality to be the marking of source of information, and epistemic modality to be the marking of the speaker’s confidence. de Haan and Aikhenvald admit the possibility of overlap between the two categories, where a single morpheme expresses both source of information and the speaker’s level of confidence, but emphasize that not all morphemes which encode evidentiality also encode epistemic modality (and vice versa). This view is also shared by Faller (2002), Matthewson et al. (2007), Murray (2010), Peterson (2010) and Waldie et al. (2009).

An opposing view, held by Matthewson (2010), is that all evidentials are epistemic modals and all epistemic modals are evidentials. Following Rullmann et al. (2008), Matthewson does not consider all epistemic modals to mark force (necessity or possibility), which is how de Haan’s “speaker’s confidence” is encoded.

I turn now to consider different modal approaches to evidentiality, beginning with a summary of Kratzer’s (1981) account of epistemic modality, and proceeding chronologically.

3.4.1.1 Kratzer’s (1981) modal analysis

Kratzer’s (1981, 1991) analysis of epistemic modality relies on two sets of propositions, an epistemic modal base and a stereotypical ordering source. An epistemic modal base is the set of propositions, i.e., functions from worlds to truth values, that are known in a given context in a
3.4. Semantic classifications of evidentials

given world. From the epistemic modal base we can generate a set of worlds—the set of worlds in which every proposition in the modal base is true. The stereotypical ordering source is also a set of propositions, and in the case of epistemic modals, it is one which contains propositions about what normally happens. These propositions describe probabilistic relations that usually hold in the world of evaluation. One such proposition could be that if someone walks out of a store with unpurchased merchandise in their pocket, they stole it. This may be true in the actual world or it may not, and this is crucial for Kratzer’s analysis, as we will see shortly. The ordering source ranks the worlds in the modal base based on how many propositions in the ordering source are true in them. The best worlds in the epistemic modal base would be those in which all the propositions in the ordering source are true.

For Kratzer an epistemic modal like must is a propositional operator. When must occurs with a prejacent proposition \( p \), \( MUST(p) \) means that there is a contextually determined epistemic modal base \( epist(w) \), consisting of the set of propositions known in the world \( w \). This defines the set of worlds in which all those propositions are true, \( \cap epist(w) \). There is also a contextually determined ordering source \( os(w) \) with which we can rank the worlds in \( \cap epist(w) \). Finally, \( MUST(p) \) means that \( p \) is true in all the highest ranked worlds in \( \cap epist(w) \).

Because the propositions in the ordering source may not be true in the actual world, it is possible for the prejacent \( p \) to be false, even though \( MUST(p) \) is true. In other words, \( MUST(p) \) does not entail \( p \).

3.4.1.2 Modal accounts of evidentials

Izvorski (1997) is the first to offer a modal analysis of evidentials. She makes use of Kratzer’s modal analysis, with some adjustments, in her account of the ‘perfect of evidentiality’—the indirect evidential use of perfect morphemes, including the Turkish perfect -\( mI \). In her modal analysis, Izvorski proposes using a modal base that differs from the epistemic modal base, as shown in (79). Instead of being defined in terms of the entire set of propositions that are known to be true in a world \( w \), it is defined in terms of the set of propositions which the speaker considers to be indirect evidence for the prejacent proposition in \( w \).

\[
\begin{align*}
\text{(79) a. epistemic modal base} & \quad epist(w) = \cap \{ p : \text{p is known in } w \} \\
\text{b. indirect evidential modal base} & \quad \text{ind.evid}(w) = \cap \{ p : \text{in } w, p \text{ is known and the speaker considers } p \text{ indirect evidence for the prejacent proposition} \} \\
& \quad \text{(adapted from Izvorski 1997, 230)}
\end{align*}
\]

Matthewson et al. (2007) give a modal account of several evidentials in Lillooet. In their

---

4One might ask who knows these propositions, as Stephenson (2007a,b) asks, but this is a separate issue which I address in §3.4.3 below.
3.4. Semantic classifications of evidentials

analysis, the modal base defines a set of worlds directly: the set of worlds compatible with the kind of evidence indicated by the evidential. Each kind of evidential—inferential, reportative, perceptual inferential, presupposes the existence of a particular kind of modal base. Each of their modal bases is an epistemically accessible set of worlds, and each one restricts the set of worlds to those in which the relevant kind of evidence found in the actual world holds. If in the actual world Linda told Kay that it was raining, the reportative modal base would be limited to the set of worlds in which it is also true that Linda told Kay it was raining.

Matthewson et al. do not use an ordering source. Instead, they define evidentials as indicating that the prejacent proposition is true in a contextually defined subset of the worlds in the relevant modal base. This has a similar effect to that of an ordering source, since it is possible that this subset does not contain the actual world. Matthewson et al. use the contextually defined subset of worlds to account for the fact that evidentials (and other modals) in Lillooet are not specified for quantificational force. If this subset is equal to the entire modal base, the modal will be equivalent to a strong necessity modal. If the subset is a proper subset of the modal base, the modal will be equivalent to a weak necessity or existential modal.

Peterson (2010) presents an analysis of two evidentials in Gitksan which is similar to that of Matthewson et al. (2007), but with the addition of a contextually provided ordering source. The set of worlds compatible with the sort of evidence indicated by the evidential is ordered according to the likelihood that the evidence is trustworthy. In order for the use of such an evidential to be felicitous, there must be at least one highest-ranked world in which the prejacent proposition is true. By using existential quantification over worlds rather than universal quantification, Peterson allows for the felicitous use of an evidential when the prejacent may not actually be true, in which case the ordering source is empty. When the ordering source is non-empty, the evidential becomes stronger, because the highest-ranked worlds are the ones in which the evidence holds.

A different modification of Kratzer’s modal analysis for indirect evidentials was proposed by von Fintel and Gillies (2010). They replace the epistemic modal base with what they call the kernel, which is the set of propositions for which there exists direct evidence. Indirect evidentials are then encoded with a presuppositional restriction that the prejacent proposition is not in the kernel. Truth-conditionally, indirect evidentials indicate that the prejacent proposition is true in all the worlds in which the propositions of the kernel are true.

Following Westmoreland (1995, 1998), von Fintel and Gillies argue that must is an indirect evidential. In their view, MUST(p) does entail p, but it can only be used felicitously when there is no direct evidence for p. For example, Kay cannot utter the sentence in (80) felicitously if she is out in the rain getting wet. Here the kernel will contain the proposition that it is raining, since there is direct evidence for it—Kay and Bill are getting rained on. The presupposition introduced by must, that the prejacent proposition is not in the kernel, is not
satisfied, and the use of must is infelicitous.

(80) Scenario: Kay and Bill are standing outside in the rain, getting soaked. Kay says this to Bill.

#It must be raining.

In a revision of her analysis of modality, Kratzer (2012)\(^5\) divides modal bases into realistic ones and informational ones. Realistic modal bases are those which necessarily contain the world of evaluation, while informational ones possibly do not. This division was prompted by the behaviour of reportative evidential sollen in German (and also in Quechua (Faller 2002) and Cheyenne (Murray 2010)), where the use of a reportative is felicitous when the prejacent is known to be false. That is, the a reportative indicates that the prejacent proposition holds in all worlds in an informational modal base, and it is possible that that modal base does not contain the world of evaluation.

Matthewson (2011) makes the claim that all evidentials are epistemic modals, and that all epistemic modals are evidentials. She shows that the tests that have been used in the literature to distinguish between evidentials which are modals and evidentials which are speech act operators (see §3.5.2 below) are inconclusive. The tests, which are also discussed by Faller (2006), Matthewson et al. (2007), Waldie et al. (2009), and Murray (2010), are given in (81). Faller (2011) also takes an “evidentials are modals” view of Quechua evidentials, which differs from her previous account (see Faller (2002, 2006); see also §3.5.2 below).

(81) a. Can the evidential content be challenged?
   b. Can the evidential content be semantically embedded?
   c. Can the evidential content take scope over speech act operators?
   d. Does the evidential content project through negation?
   e. Can the prejacent be known to be true?
   f. Can the prejacent be known to be false?

Another kind of modal analysis of evidentials is presented by McCready and Ogata (2007). They note that some evidentials in Japanese are amenable to a modal analysis, and use a probabilistic dynamic semantics to model them, rather than a Kratzerian modal semantics. In their account, the semantic contribution of an inferential evidential is an inferential operator. The inferential operator has an index which identifies the piece of evidence which the origo (in their terminology, the agent) has that supports the inference of the prejacent proposition. This piece of evidence raises the probability that the prejacent proposition is true.

McCready and Ogata point out that the use of reportative evidentials in Japan is felicitous regardless of whether the origo has any belief about the truth of the prejacent proposition.

\(^5\)Kratzer’s 2012 chapter on modality was previously made available as a manuscript, dated 2010.
proposition, as is the case in Quechua (see Faller (2002)). They therefore introduce a hearsay operator which is not probabilistic—it simply indicates the existence of hearsay evidence for the prejacent.

3.4.2 Perceptual approaches

How perceptual grounding is encoded by evidentials has not been addressed to any great extent in formal semantics. The sole account is that of Faller (2004), which was also taken up by Chung (2005, 2007).

Faller (2004) gives an analysis of an evidential in Quechua, *sqa*, which she describes as indicating that the event did not occur in the speaker's perceptual field. In this analysis, Faller presents the notion of perceptual trace, which contains all the location-time slices that an individual remembers perceiving. In addition to this is the event trace, which contains all the location-time slices in which the relevant event took place. The morpheme *sqa* indicates that the speaker's perceptual trace and the event trace do not overlap.

Chung (2005, 2007) makes use of Faller's (2004) tools in her analysis of evidentials in Korean, and also adds an evidence trace, which contains all the location-time slices in which there is evidence that the relevant event took place. Since the event is evidence for itself, the evidence trace for a given event will include that event. The indirect Korean evidentials -ess and -keys indicate that the speaker's perceptual trace and the event trace do not overlap. The evidential -ess also encodes the temporal relation that the event time precedes the time of the evidence perceived by the speaker.

Speas (2010) uses situations, rather than location-time slices, to model evidentials. In her view, evidentials encode accessibility relations between situations. The relevant situations are the event situation, a reference situation, and the discourse situation (i.e., utterance situation). The reference situation is the situation in which the relevant evidence is found—i.e., the perceived situation. In Speas’ account, indirect evidentials encode that the event situation is accessible from the reference situation, while direct evidentials encode that the event situation is included in the reference situation.

If we substitute situations for location-time slices, the accounts of Faller (2004), Chung (2005, 2007) and Speas (2010) all describe certain evidentials as encoding the relation between a perceived situation and the event situation of the prejacent. In particular, indirect evidentials encode that these two situations are disjoint.

3.4.3 Origo

The origo as the person whose evidence is indicated by an evidential has not been discussed much. Garrett (2001) first used it in his description of the evidentials of Tibetan.
3.4. Semantic classifications of evidentials

The origo was originally conceived of as a deictic centre (Bühler 1990). The origo is the sentient individual from which a statement is evaluated.

The connection between the deictic centre and the evidential origo shows itself when we look at how each behaves in questions (as opposed to declaratives). Fillmore (1975) points out that the referent of this in the two sentences in (82) is not the same. In the declarative sentence this refers to the speaker. In the interrogative sentence this refers to the addressee. In other words, the deictic centre switches from the speaker to the addressee in interrogative questions.

(82)  a. This is Ryan.
     b. Is this Ryan?

Garrett (2001) notes the same effect with the interpretation of evidentials in Tibetan. The direct imperfective -dug can only be used with a predicate meaning 'hungry' if the subject is the origo. In declarative matrix clauses the origo is the speaker, and so -dug is only allowed when the subject is first-person, as shown in (83). Second- or third-person subjects cannot be used as the subject here.

(83)  Tibeto-Burman declarative (adapted from Garrett 2001, 227)

a. nga grod.khog ltoṣ-gi-’dug
   𝗜’ m hungry.

b. *khyed.rang grod.khog ltoṣ-gi-’dug
   you stomach hunger-DIR.IMP

In interrogative matrix clauses, the origo is the addressee, and so -dug can only be used if the subject is second-person, as shown in (84). First- or third-person subjects cannot be used here.

(84)  Tibeto-Burman interrogative (adapted from Garrett 2001, 228)

a. *nga grod.khog ltoṣ-gi-’dug-gas
   𝗜’ m hungry?

b. khyed.rang grod.khog ltoṣ-gi-’dug-gas
   you stomach hunger-DIR.IMP-Q
   ’Are you hungry?’

c. *kho grod.khog ltoṣ-gi-’dug-gas
   he stomach hunger-DIR.IMP-Q
3.5 Pragmatic classifications of evidentials

Stephenson (2007a,b) gives us a formalization of the origo (which she calls “judge”) by extending Lasersohn’s (2005) analysis of predicates of personal taste to epistemic modals, which have been argued to be evidentials (Westmoreland 1995, 1998, von Fintel and Gillies 2010). An epistemic modal like must is evaluated with respect to a judge, just as a predicate of personal taste like taste good is.

(85)  
   a. That pie must be for the party.
   b. That pie tastes good.

For Stephenson the judge is the centre of a centred world. A centred world is a world paired with an individual who believes that he or she is in that world (Lewis 1979). Under Stephenson’s analysis, an epistemic modal base is defined as the set of centred worlds that are compatible with what the judge knows. Propositional attitude verbs restrict the judge of their embedded centred proposition to being subject.6 In (86) the judge of the embedded clause is Linda. Linda is the person evaluating the taste of the pie.

(86) Linda thinks that pie tastes good.

The origo also appears in Speas and Tenny’s (2003) work exploring a syntactic explanation of mood, which was described in §3.3 above (see also Speas 2004, Tenny 2006). They develop an account where speech act participants—speaker and addressee—are represented syntactically as arguments of a speech act phrase, much as Ross (1970) proposed. In addition to speech-act participants, the seat of knowledge is also represented syntactically as an argument of a sentience phrase (SenP). The seat of knowledge is equivalent to the origo, as it is the person who is evaluating the truth of a proposition.

3.5 Pragmatic classifications of evidentials

Any theory of evidentiality has to address the issue of what kind of contribution an evidential makes. It is generally agreed that at least some of the meaning—the evidence requirement—of an evidential projects through negation, interrogatives, etc. (Faller 2002, 2006, von Fintel and Gillies 2010, Matthewson et al. 2007, Peterson 2010, Waldie et al. 2009, also see Chapter 7). The evidence requirement indicates what kind of evidence is being relied upon, whether it is inference or hearsay, visual or auditory, etc. Opinions differ on what the mechanism is that allows that projection of meaning.

6Strictly speaking, the judge of an embedded centred proposition is a counterpart of the subject of the propositional attitude verb. Lewis (1968) argues that an individual is confined to a single possible world—when I talk about what I might have done, I am talking about what my counterpart in a different possible world did in that world.
3.5.1 Evidentials contribute presuppositions

Izvorski’s (1997) modal analysis introduced the idea that the evidence requirement is a presupposition. Other modal accounts take the same approach (von Fintel and Gillies 2010, Matthewson et al. 2007, Peterson 2010). There is a presupposition that the context provides a modal base of the appropriate sort. As long as this presupposition is satisfied, the modal operator can apply.

3.5.2 Evidentials contribute sincerity conditions

Faller (2002) treats the evidential requirement as a sincerity condition (Searle 1975, Searle and Vanderveken 1985). For any speech act to be performed sincerely, the speaker must have a mental state in which the sincerity conditions are met. Thus, in using, say, a reportative evidential, the speaker must believe that there was a report whose propositional content contained the prejacent proposition.

3.5.3 Evidentials contribute not-at-issue content

Murray (2010) analyzes the evidence requirement as being asserted as not-at-issue content. Not-at-issue content covers all kinds of meaning that project, including presuppositions and conventional implicatures (Simons et al. 2010). A not-at-issue assertion adds a proposition to the common ground, while an at-issue assertion proposes the addition of a proposition to the common ground. Not-at-issue assertions are thus unchallengeable, while at-issue assertions are challengeable. An evidential in Murray’s analysis introduces its evidence requirement as a not-at-issue assertion. The prejacent proposition \( p \) is not introduced as an at-issue assertion in the case of indirect evidentials. The reportative brings up \( p \), but does not add it to the common ground, while the conjectural adds the modal proposition \( \text{must}(p) \) to the common ground.

3.6 The way forward to an analysis of Nuuchahnulth evidentials

The evidentials in Nuuchahnulth are morphosyntactically heterogeneous (Jacobsen 1986). As I describe in Chapter 4, evidentials are found in the mood suffixes, mode suffixes, verbal suffixes, and particles. These morpheme classes occur throughout the syntax, much in the way outlined by Blain and Déchaine (2006). In Chapter 4 I treat the mood suffixes as being in the CP domain, the mode suffixes as being in the IP domain, and the derivational suffix and particle as being in the VP domain. When I work out the semantics for the Nuuchahnulth evidentials in Chapter 5, it will turn out that different evidentials will be of different semantic
The way forward to an analysis of Nuuchahnulth evidentials

types, depending on which domain they occur in. In addition, I explore the way evidentials in
different domains interact with tense in Chapter 8.

The semantics I use are broadly modal in nature, as I treat propositions as sets of
possible worlds. My treatment of inference is closer to that of McCready and Ogata (2007) than
that of Kratzer (1981) or those derived from hers. Instead of identifying a set of propositions
of a particular kind (say, those which were perceived visually), my semantics for inference makes
use of an indexed proposition (or rather, a proposition about an indexed situation).

I follow Speas (2010) in making use of perceived situations for the evidentials in Nuu-
chah-nulth which deal with perception. These evidentials do not indicate non-overlap between
the perceived situation and the situation of the prejacent proposition, as in the case of those in
Quechua and Korean. Therefore, I do not make use of the analyses of Faller (2002) and Chung

The origo, as described by Garrett (2001) is central to my analysis of Nuuchahnulth
evidentials. The way I model the origo is derived from Stephenson, Stephenson’s (2007a,
2007b) judge-based analysis of epistemic modals. In Chapter 6 I discuss how the origo is
determined by clause type.

I argue in Chapter 7 that evidentials in Nuuchahnulth contribute not-at-issue content,
as Murray (2010) does for Cherokee. I use a modified version of Potts’s (2005) logic for
conventional implicatures to do this.
Chapter 4

Cataloguing the inventory of Nuuchahnulth evidentials

Any investigation of evidentials must begin by cataloguing the forms that a particular language uses to express evidential notions, and determining their distribution. In this context, the goal of this chapter is to present the inventory and distribution of Nuuchahnulth (Ahousaht) evidential morphemes. I begin by introducing the origo hypothesis, which claims that evidentiality always involves a relation between an origo, a proposition and a situation (§4.1). While this chapter focuses on the syntactic implications of the origo hypothesis; the next chapter (Chapter 5) focuses on the semantic implications.

After laying out the predictions that the origo hypothesis makes about the external syntax of evidentials (§4.2), I show that Nuuchahnulth evidentials partition into three syntactic sub-types (§§4.2–4.5): CP-domain evidentials (associated with mood-marking); IP-domain evidentials (associated with mode-marking), and VP-domain evidentials. I then discuss how the origo hypothesis sheds light on the parallels between evidentials and other predicate types (§4.6), in particular propositional attitude verbs, verbs of saying, experiencer predicates and sensory predicates. Before closing, I discuss the consequences of the origo hypothesis for the syntax-semantics interface (§4.7) and a summary of the combinatorial restrictions on Nuuchahnulth evidentials (§4.8). The chapter closes with a discussion of the variation in evidentials between different dialects of Nuuchahnulth, and between Southern Wakashan languages (§4.9).

4.1 The origo hypothesis: evidentiality consists of the relations between an origo, a proposition and a situation.

I propose the following hypothesis about evidential morphemes:

(87) The origo hypothesis: An evidential morpheme expresses a relation between:

1. an origo;
2. a proposition;
3. a situation.
4.1. The origo hypothesis: evidentiality consists of the relations between an origo, a proposition and a situation.

An origo consists of a sentient agent capable of perception and inference paired with a situation. A proposition is a thought that describes some part of the world; these thoughts may be true or false. A situation is a state-of-affairs that holds in particular world at a particular time. (See Chapter 5 for a more precise formalization of these terms). Informally, the origo hypothesis can be represented as in Figure 4.1.

![Figure 4.1: Three factors of evidentiality](image)

The origo hypothesis predicts that evidential morphemes encode the following pairwise relations. There is a relation between an origo and a proposition; I call this perspectival status, (88a). There is a relation between a situation perceived by the origo and a proposition; I call this the manner of support, (88b). And there is a relation between an origo and a perceived situation; I call this perceptual grounding.

(88) a. Perspectival status
   b. Manner of support
   c. Perceptual grounding

The origo hypothesis claims that evidential morphemes can be classified according to how they encode perspectival status, perceptual grounding, and manner of support. Here I briefly explain how the story of Nuu-chah-nulth evidentials will unfold. First, syntactically, I establish that the four morphological classes of Nuu-chah-nulth evidential morphemes (discussed in Chapter 2) partition into three syntactic domains, namely CP, IP, and VP. This corresponds to the second column of Table 4.1 below and is the focus of this chapter. With the syntactic analysis in place, I then turn my attention to the rest of the story, namely the semantic analysis, which is developed in Chapter 5. I argue that individual evidential morphemes in Nuu-chah-nulth differ according to how they are specified for perceptual grounding, manner of support, and value of the origo. This corresponds to the three rightmost columns of Table 4.1.

As indicated in Table 4.1, the Ahousaht dialect of Nuu-chah-nulth has seven distinct evidential morphemes. In (89) below I present these morphemes in a paradigmatic fashion, keeping the propositional content (‘it is raining’) the same. In the remainder of this chapter, I argue that while inflectional mood suffixes, shown in (89a-b-c), are introduced in the CP-
4.1. The origo hypothesis: evidentiality consists of the relations between an origo, a proposition and a situation.

<table>
<thead>
<tr>
<th>Morphological class</th>
<th>Domain</th>
<th>Morpheme</th>
<th>Gloss</th>
<th>Perceptual grounding</th>
<th>Manner of support</th>
<th>Origo</th>
</tr>
</thead>
<tbody>
<tr>
<td>mood suffixes</td>
<td>CP</td>
<td>-waʔiš</td>
<td>'quotative'</td>
<td>-</td>
<td>report</td>
<td>speaker</td>
</tr>
<tr>
<td></td>
<td>CP</td>
<td>-hač</td>
<td>'indirect interrogative'</td>
<td>-</td>
<td>report</td>
<td>addressee</td>
</tr>
<tr>
<td></td>
<td>CP</td>
<td>-qača</td>
<td>'dubitative'</td>
<td>-</td>
<td>inference</td>
<td>speaker</td>
</tr>
<tr>
<td>mode suffixes</td>
<td>IP</td>
<td>-c̕kʷi</td>
<td>'past inference'</td>
<td>-</td>
<td>inference</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>IP</td>
<td>-matak</td>
<td>'inference'</td>
<td>-</td>
<td>inference</td>
<td>-</td>
</tr>
<tr>
<td>derivational suffix</td>
<td>VP</td>
<td>-kuk</td>
<td>'visual inference'</td>
<td>visual</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>particle</td>
<td></td>
<td>naʔa:t</td>
<td>'auditory evidence'</td>
<td>auditory</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4.1: Syntactic levels in which Nuuchahnulth evidentials appear

domain, inflectional mode suffixes, shown in (89d-e), are introduced in the IP-domain. And suffixes that code a sensory percept—whether visual or auditory, as shown in (89f-g)—are introduced in the VP-domain.

(89) a. **Quotative** -waʔiš (CP-domain)

   mi̱kawaʔiš
   mi̱x-(y)aʷ-waʔiš
   rain-CONT-3.QUOT

   ‘It’s raining, according to what I’ve been told.’

b. **Indirect Interrogative** -hač (CP-domain)

   mi̱kahač
   mi̱x-(y)aʷ-hač
   rain-CONT-3.INDIR.INTER

   ‘Is it raining, according to what you’ve been told?’

c. **Dubitative** -qača (CP-domain)

   mi̱kaaqača
   mi̱x-(y)aʷ-qača
   rain-CONT-3.DUB

   ‘It must be raining.’

d. **Inferential** -matak (IP-domain)

   mi̱kamatakʔiš
   mi̱x-(y)aʷ-matak-ʔiš
   rain-CONT-IND.EVID-3.IND

   ‘Maybe it’s raining.’
4.2. The syntax of Nuuchahnulth evidentials

There are two competing analyses of the syntax of evidentials. On one view, there is one dedicated position for evidentials; this is the analysis of Cinque (1999). On another view, evidentials can be inserted into a variety of syntactic positions; this is the analysis of Blain and Déchaine (2006, 2007). In what follows, I briefly introduce the two analyses (§4.2.1), and then discuss the contribution that Nuuchahnulth evidential marking makes to this debate (§4.2.2).

4.2.1 Two hypotheses about the external syntax of evidentials

Cinque (1999) and Blain and Déchaine (2006) make conflicting claims on the external syntax of evidentials. Cinque proposes that there is a single position in which evidentials occur (§4.2.1.1), while Blain and Déchaine propose that evidentials can occur in a number of syntactic domains, and the semantic properties predictably differ according to the syntactic position that they occupy (§4.2.1.4).

4.2.1.1 Hypothesis 1: A dedicated position for evidentials: Cinque 1999

In his work on adverbs, Cinque (1999) argued that evidentials occupy the specifier position of a single evidential mood phrase (EvidP), dominating IP. An example of such an evidential is the English adverb *reportedly*. He also allotted a single location—specifier of a
4.2. The syntax of Nuu-chah-nulth evidentials

Epistemic modal phrase (EpistP)—to adverbs of epistemic modality such as English apparently. This phrase is immediately dominated by EvidP.

(90) \[[\text{EvidP reportedly [ Evid [Epist apparently [ Epist [\ldots [\text{IP} \ldots]]]]]\ldots]]\]

The idea that there is a single position for evidentials is also taken up by Speas and Tenny (2003). They propose a sentience phrase (SenP), which combines EvidP with a higher EvalP whose specifier gives the point of view role, equivalent to the origo.

As I argue in Chapter 8, the non-mood evidentials in Nuu-chah-nulth occur below tense. Cinque's approach does not predict this at all, assuming that tense is in IP. He predicts that all evidentials will occur above tense.

There are two reasons to reject the claim that there is a dedicated position for evidentials. First, “scattered evidentiality” shows that, within the same language, evidentials need not have a dedicated syntactic position. Second “paradigmatic heterogeneity” shows that, across languages, evidential paradigms are not associated with a dedicated syntactic position. I consider each in turn, and then introduce an alternative hypothesis.

4.2.1.2 Counter-example 1: scattered evidentiality

Many languages have what Aikhenvald (2004) calls “scattered evidentiality”. In such languages, evidentials don’t constitute a single paradigm; rather, individual evidential morphemes occupy distinct morphological or syntactic positions. As Jacobsen (1986) established, Nuu-chah-nulth has “scattered evidentiality” in the sense of Aikhenvald. Recall that Nuu-chah-nulth evidentials morphemes are drawn from four distinct morphological classes: inflectional mood suffixes, inflectional mode suffixes, derivational suffixes, and particles. See (89) above for illustrative examples. (I return to this below.)

4.2.1.3 Counter-example 2: paradigmatic heterogeneity

Another reason to reject the claim that there is a dedicated position for evidentials comes from the fact that, even in languages that have dedicated evidential paradigms, such paradigms are integrated with different parts of the clause structure. As discussed by Blain and Déchaîne (2006), in different languages, evidential paradigms are integrated with focus-marking, clause-typing, aspect-marking, tense-marking, modality, or predicate-typing.

4.2.1.4 Hypothesis 2: multiple positions for evidentials: Blain and Déchaîne (2006, 2007)

To account for heterogeneous expression of evidentiality, Blain and Déchaîne (2006) propose that evidentials may be integrated into distinct syntactic domains; they call this the evidential domain hypothesis. In particular, they propose the structure in Figure 4.2.
4.2. The syntax of Nuuchahnulth evidentials

The approach of Blain and Déchaine (2006) is a much closer fit for Nuuchahnulth than that of Cinque. In the next section I discuss how the evidentials in Nuuchahnulth seem to be distributed through the various syntactic levels.

4.2.2 Nuuchahnulth evidentials are associated with CP, IP, or VP

The Ahousaht dialect of Nuuchahnulth has seven evidential morphemes. Six of these are suffixes that are recruited from three position classes. (See §2.4.1 for discussion of the morphological template.) To see this, consider (91). Reading from left to right, observe that the visual inferential (-kuk), which is a suffixal verb (see §2.4.2.2), is drawn from a set of derivational suffixes that lie very close to the verb stem. As for the past inferential (-ck"i) and the plain inferential (-matak), they are mode suffixes (§2.5.1). And the quotative (-waʔiš), indirect interrogative (-haʔč) and dubitative (-qača) are drawn from the set of mood suffixes (§2.5.3). All clauses are obligatorily inflected for mood suffixes; in the absence of evidential mood marking, non-evidential mood marking is found.

(91) [Verb.Stem]-Derivation-Aspectual]-Mode-Valence/Tense-Mood-Discourse

Core Suffixes Peripheral Suffixes

Two questions immediately arise regarding (91). First, how does the Nuuchahnulth morphological template map onto the syntactic domains postulated by Blain and Déchaine? Second, how does the one non-suffixal evidential morpheme—namely the auditory evidential naʔa:t—fit into the syntactic classification of Nuuchahnulth evidential morphemes?

Regarding the correspondence between the Nuuchahnulth morphological position classes and syntactic categories, I propose the following:

Figure 4.2: Evidential domain hypothesis (Blain and Déchaine 2006)
4.3 Nuuchahnulth evidentials in the CP domain: inflectional mood suffixes

1. Nuuchahnulth mood suffixes are part of the clause-typing system, and clause-typing is generally taken to be a property of the C (complementizer) position (Rizzi 1997). I therefore treat evidentials that are mood suffixes as instantiating C, i.e. they are CP-domain evidentials.

2. Nuuchahnulth mode suffixes are sensitive to temporal contrasts; this will be discussed in greater detail in Chapter 8. I therefore treat evidentials that are mode suffixes as instantiating Infl, i.e. they are IP-domain evidentials.

3. Nuuchahnulth sensory percept evidentials both have verbal properties: the visual inferential -kuk is a verbal suffix; the auditory evidential na?aat is related to the verb na?aa ‘hear’. I therefore treat them as instantiating V, i.e. they are VP-domain evidentials.

Assuming a transparent mapping between morphology and syntax, this yields the right-branching syntactic representation in (92). With this as background, I now turn to a more detailed discussion of each of these syntactic domains. CP-domain evidentials (§4.3) are discussed first, then IP-domain evidentials (§4.4) and VP-domain evidentials (§4.5).

(92) [VP-domain [IP-domain [CP-domain]]]

4.3 Nuuchahnulth evidentials in the CP domain: inflectional mood suffixes

In Nuuchahnulth, each clause is obligatorily marked with a mood suffix. Because they are obligatory, and because only one mood is allowed per clause (see (4.3.4) for further discussion), I take it that they are syntactic heads. The full set of matrix clause moods, from which evidential moods are drawn, as is given in Table 4.2. (See Chapter 2 for the full set of mood suffixes) Since mood suffixes are part of the clause-typing system, this means that they are C. Consequently, the evidentials that are mood suffixes—namely quotative -waʔiš, indirect interrogative -haʔč, and dubitative -qaʔča—are expected to be part of the CP-domain.

<table>
<thead>
<tr>
<th>Declarative</th>
<th>Interrogative</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ʔiš</td>
<td>-ḥ</td>
<td>-ʔɬ</td>
</tr>
<tr>
<td>-qaʔča</td>
<td>-haʔč</td>
<td>-iʔm</td>
</tr>
<tr>
<td>-waʔiš</td>
<td>-quative*</td>
<td>-iʔk</td>
</tr>
<tr>
<td>-čaʔyaš</td>
<td>mirative</td>
<td>-či</td>
</tr>
</tbody>
</table>

Table 4.2: Matrix clause moods in Nuuchahnulth (3rd person forms)

Notice that Nuuchahnulth mood suffixes are complex morphemes that code mood
4.3.1 Quotative -waʔiš

The quotative is a matrix clause mood which is used when the speaker (as origo of a matrix clause) gained knowledge of a situation by means of a report. In (93) the speaker Kay was told that she won a car. When she talks about the situation of her winning a car, she uses the quotative mood, since she learned about it by report.

(93) Scenario: Kay got a phone call, and it was someone telling her that she won a car in a raffle. Afterwards she told Bill this.

hitaʔapwaʔičas huupukʷas
hitaʔap-waʔičas huupukʷas
win-1SG.QUOT car

‘I won a car.’

The paradigm for the quotative mood is given in Table 4.3. The second and third person forms look as though they consist of some suffix -wa酋 followed by the indicative mood, but this pattern is broken in the first person.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-waʔičas</td>
<td>-waʔičin</td>
</tr>
<tr>
<td>2</td>
<td>-waʔičk</td>
<td>-waʔičus ṣ</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>-waʔiš</td>
</tr>
</tbody>
</table>

Table 4.3: Quotative mood paradigm in Ahousaht

4.3.2 Indirect interrogative -ḥaʔɛ

The paradigms for the Ahousaht interrogative moods are given in Table 4.4. Notice that the indirect interrogative is based on the interrogative. The form of the indirect interrogative has three parts to it, at least historically: /ḥaʔ/ followed by /ɛ/ and a subject agreement element. In the second person plural form the /ɛ/ has coalesced with the initial /s/ of the agreement element becoming /ɛ/.
4.3. Nuu-chah-nulth evidentials in the CP domain: inflectional mood suffixes

<table>
<thead>
<tr>
<th>Indirect</th>
<th>Interrogative</th>
<th>Interrogative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SG</td>
<td>PL</td>
</tr>
<tr>
<td>1</td>
<td>-ха’цас</td>
<td>-ха’цин</td>
</tr>
<tr>
<td>2</td>
<td>-ха’цк</td>
<td>-ха’куу</td>
</tr>
<tr>
<td>3</td>
<td>-ха’ц</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4: Interrogative moods in Ahousaht

The indirect interrogative mood -ха’ц is another matrix clause mood, and it is used when the speaker believes the addressee has a report which will answer the question. In (94a) the speaker Kay assumes that Bill spoke to their mother, and so she expects that his answer will be in the quotative mood. She could not ask her mother this, since her mother knows which pie is whose, she would instead use the ordinary 1sg interrogative -hs, as in (94b).

(94)  a. **Scenario:** Kay’s mother baked a pie for each of her children, and called everyone to tell them to come pick them up. When Kay got there, her mother wasn’t around, but her brother Bill was there. Kay, assuming that he spoke to their mother, asked him this.

   si’yaasha’цас    hи†
   si’ya-as-ха’цас  hи†
   1sg.pro-poss-1sg.indir.inter this
   ‘Is this mine?’

   b. si’yaashs    hи†
   si’ya-as-hs     hи†
   1sg.pro-poss-1sg.inter this
   ‘Is this mine?’

Faller (2002) observes that the reportative evidential in some languages, Quechua in particular, can be used in a question to indicate that the question itself is reported. The indirect interrogative mood in Nuu-chah-nulth cannot have this reading. In (95) the use of the indirect interrogative is infelicitous in the scenario where the speaker is relaying a question and the addressee is expected to have first-hand evidence for his or her answer.
4.3. Nuuchahnulth evidentials in the CP domain: inflectional mood suffixes

(95) **Scenario:** Ann and Kay were in separate rooms in the basement with no windows. Kay’s room was near the stairs, so Ann told her to ask the next person to come in if it was raining outside. When Bill comes in and comes down stairs Kay can’t ask him this.

# mí̓x̌əa-hač
mí̓x̌-(y)a-hač
rain-cont-3.ind.inter
‘Is it raining?’

**4.3.3 Dubitative -qača**

The paradigm for the dubitative mood in Ahousaht is given in Table 4.5.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-qačas</td>
<td>-qačin</td>
</tr>
<tr>
<td>2</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>3</td>
<td>-qača</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5: Dubitative mood paradigm in Ahousaht

The dubitative mood -qača is a matrix clause mood, and is used in contexts where the speaker (as origo of a matrix clause) gained knowledge of the proposition by means of contingent inference. In (96), the speaker Kay, who made a pot of tea in the morning, infers that the tea is likely to be cold in the afternoon.

(96) **Scenario:** Kay made tea in the morning, and in the afternoon she saw Bill going to pour a cup. She said this to him.

mátʔa-h̓isʔa-xača
mát-’a-h̓is-’a-xača
cold-in.vessel-now-3.dub
‘It’s probably cold now.’

The paradigm for the dubitative mood in Ahousaht is given in Table 4.5. I have not found these forms in any of the published texts in the Ahousaht dialect (Little 2003, Louie 2003). In addition, I have not succeeded in eliciting the second person forms. Finding the appropriate sort of scenarios is difficult, since it would need to involve the speaker telling the addressee about something the addressee has done him- or herself, which is unusual enough, but additionally the speaker is uncertain about the truth of it. This is exactly when an interrogative would be used, in most cases. However, the scenarios in which a dubitative would be used can be distinguished from those in which an interrogative would be used; the dubitative would be
4.3. Nuuchahnulth evidentials in the CP domain: inflectional mood suffixes

used when the addressee knows even less about his or her activities than the speaker. Nakayama (2001) gives the forms -qa’čk and -qa’ču: for the second person singular and plural respectively, but these were not recognized by my consultants.

4.3.4 Paradigmatic blocking: CP-domain evidentials do not co-occur

Evidential mood suffixes are here analyzed as clause-typing elements of category C; as such, they occur in the CP-domain. In the Ahousaht dialect of Nuuchahnulth, each clause contains at least one, and no more than one, mood suffix. (See Chapter 9 for discussion of other dialects.) The obligatoriness of mood suffixes indicates that clause-typing is always overtly coded in Nuuchahnulth. The fact that mood suffixes do not co-occur reflects the fact that they constitute a paradigm: the selection of one mood suffix blocks the occurrence of another. Consequently, evidential mood suffixes predictably do not co-occur. Thus, a clause that is inflected with the quotative mood cannot be further inflected with the indirect interrogative (97a) or the dubitative (97b).

(97) a. *wałuwunawisiac
    wału:-wa?is-ha’č
    be.home-3.QUOT-3.INDIR.INTER
b. *wałuwunawisqac’a
    wału:-wa?is-qa’č’a
    be.home-3.QUOT-3.DUB

The example in (97a), in addition to being paradigmatically blocked, is also blocked for semantic reasons. As I will discuss see in more detail in Chapter 6, the evidential moods are lexically specified for their origo. Relevant to the present discussion is the fact that the quotative has a speaker origo, while the indirect interrogative has an addressee origo. For this reason, they can’t combine with each other. As for (97b), although it is blocked for paradigmatic reasons, there are no semantic reasons that prevent it from existing, as both the quotative and dubitative have a speaker origo. In fact, although such examples are not attested in Nuuchahnulth, they are attested in other languages. For example, as discussed by Blain and Déchaine (2007), the dubitative and the quotative combine in Plains Cree:

(98) èkwa èrikw òwa mòniyâskwéw ès è-kí-kísipékinikêt èsà, . . .
    and.then DUBIT this white.woman REPORT conj-perf-do.laundry(3) REPORT
    ‘and [reportedly] a certain white woman must have been doing her laundry.’ Blain and Déchaine (2007)

Another logical possibility is for the indirect interrogative mood to combine with the quotative mood (99a) or the dubitative (99b) mood. Such examples are ruled out on
4.3. Nuuchahnulth evidentials in the CP domain: inflectional mood suffixes

both paradigmatic and semantic grounds. Semantically, the indirect interrogative specifies the addressee as origo, while the quotative and the dubitative specifies the speaker as origo. Thus, they can’t combine. (See Chapter 6 for details.)

(99) a. *wałyuuhačwaʔ̓iš
   wałyu_:hač-waʔ̓iš
   be.home-3.indir.inter-3.quot

b. *wałyuuhačqača
   wałyu_:hač-qača
   be.home-3.indir.inter-3.dub

Now consider how the dubitative mood might combine with other evidential moods. Again, we see that, as a mood, the dubitative cannot be further inflected with another evidential mood. Thus, the dubitative and quotative moods do not co-occur (100a), nor do the dubitative and the indirect interrogative moods (100b).

(100) a. *wałyuuqačawaʔ̓iš
   wałyu_:qača-waʔ̓iš
   be.home-3.dub-3.quot

b. *wałyuuqačahač
   wałyu_:qača-hač
   be.home-3.dub-3.indir.inter

The ill-formedness of the examples in (100) is the effect of paradigmatic blocking, but there is nothing semantically anomalous about these combinations. Recall that the dubitative mood is one of four inferential evidentials in Nuuchahnulth; as I show in §4.4 below, the other inferential evidentials freely combine with the quotative and the indirect interrogatives.

Finally, it is impossible to combine an evidential mood suffix with itself. This is shown in (101) for the quotative mood (101a), the indirect interrogative mood (101b), and the dubitative mood (101c).

(101) a. *wałyuuwaʔ̓išwaʔ̓iš
   wałyu_:waʔ̓iš-waʔ̓iš
   be.home-3.quot-3.quot

b. *wałyuuhačhač
   wałyu_:hač-hač
   be.home-3.indir.inter-3.indir.inter

c. *wałyuuqačaqača
   wałyu_:qača-qača
   be.home-3.dub-3.dub
4.4 Nuuchahnulth evidentials in the IP domain

The ill-formedness of stacked quotative mood suffixes is, again, the product of paradigmatic blocking. As for stacked indirect interrogative mood suffixes, these should in principle also be possible, at least on semantic grounds. However, I have not come across examples of them in the literature on evidentials. And as for stacked dubitative mood suffixes—which are a kind of inferential—these are not possible in Nuuchahnulth, but multiple inferentials can be stacked (see §4.4.1 below, especially example (108)).

The two possible orders of -waʔiš ‘quotative’ and -qa’ča ‘dubitative’ are illustrated in (102) below. Both are ungrammatical.

(102) a. *waʔyuwaʔišwaʔiš
    waʔyu-qa’ča-waʔiš
    be.home-3.DUB-3.QUOT

b. *waʔyuwaʔišwaʔiš
    waʔyu-qa’ča-waʔiš
    be.home-3.QUOT-3.DUB

The two possible orders of -waʔiš ‘quotative’ and -hač ‘indirect interrogative’ are illustrated in (103) below. Both are ungrammatical.

(103) a. *waʔyuwaʔišhač
    waʔyu-qa’ča-hač
    be.home-3.QUOT-3.INDIR.INTER

b. *waʔyuwaʔišhač
    waʔyu-hač-waʔiš
    be.home-3.INDIR.INTER-3.QUOT

Finally, the two possible orders of -qa’ča ‘dubitative’ and -qa’ča ‘dubitative’ are illustrated in (104) below. Again, both are ungrammatical.

(104) a. *waʔyuwaʔišhač
    waʔyu-qa’ča-hač
    be.home-3.DUB-3.INDIR.INTER

b. *waʔyuwaʔišhač
    waʔyu-hač-qa’ča
    be.home-3.INDIR.INTER-3.DUB

4.4 Nuu-chah-nulth evidentials in the IP domain

In the IP domain, we find the two mode suffixes that have evidential force: -matak ‘inference’ and -ck’i ‘past inference’. While the moods suffixes are syntactic heads, the mode suffixes are modifiers. It is not obligatory for a clause to contain a mode suffix, and it is possible for them to co-occur (see §4.4.3 for discussion). I discuss the two evidential modes in turn.
4.4. Nuuchahnulth evidentials in the IP domain

4.4.1 Inferential -matak

The first IP-domain evidential I discuss is -matak ‘inference’, which indicates a contingent inference on the part of the origo. In (105) the origo is the speaker Kay, and she is not certain that Ken is asleep, but she can infer that he is based on the fact that he is very likely more tired than usual, and that his lights are out earlier than usual.

(105) Scenario: Kay knew Ken worked late one day, and so was probably tired, and when she went by his house after dinner she noticed his lights were already out, and she said this to Bill.

\[
\begin{align*}
\text{wa}ñ\text{ëmatak}ññ & \quad \text{Ken} \\
\text{wa}ñ\text{ë-matak}ññ & \quad \text{Ken} \\
\text{sleep-IND.EVID-3.IND} & \quad \text{Ken}
\end{align*}
\]

‘Ken must be sleeping.’

The example in (105) establishes that inferential -matak can occur in matrix clauses. However, it is more often found in non-matrix clauses, as in (106).  

(106) Scenario: Ken had gone out of town for a while. One day Kay was talking to Linda, who said that Ken might be home, because she saw the lights on at his house. Later, Kay said this to Bill.

\[
\begin{align*}
\text{?uq}ñ\text{aa}ññ & \quad \text{Linda wa}ñ\text{yuumatakq} \quad \text{Ken} \\
\text{?uq}ñ\text{aa}ññ ññ & \quad \text{Linda wa}ñ\text{yu-matak-q} \quad \text{Ken} \\
\text{think-PAST-3.IND} & \quad \text{Linda be.home-might.be-3.SUB Ken}
\end{align*}
\]

‘Linda thought Ken was at home.’

The prevalence of -matak in non-matrix clauses is likely due to the fact that there is a dedicated inferential evidential for matrix clauses, namely the dubitative mood -qä\'ča (see §4.3.3 above). While -matak ‘inference’ can occur in embedded clauses, the dubitative mood -qä\'ča cannot, as shown in (107).

(107) a. wawaamitàññ Kay ñin wañ\text{yuumata}ññ Ken
wawa-(m)it-ññ Kay ñin wañ\text{yu-mata}ññ'añ-ñ Ken
say-PAST-3.IND Kay COMP be.home-IND.EVID-NOW-3.ABS Ken

‘Kay said Ken might be home now.’

b. *wawaamitàññ Kay ñin wañ\text{yuu}ññ'ñaqä\'ča Ken
wawa-(m)it-ññ Kay ñin wañ\text{yu-}ññ'ñaqä\'ča Ken
say-PAST-3.IND Kay COMP be.home-now-3.DUB Ken

---

7Because of its infrequency in texts (-matak does not occur in any texts I collected, and it occurs only twice in Little (2003)) I am basing this statement of frequency on its appearances in the Nootka Texts and Native Accounts (Sapir and Swadesh 1939, 1955). I discuss this when addressing -matak in the Tseshaht dialect in Chapter 9.
Consequently, there are three ways of marking inference in a matrix clause: with the dubitative mood, as in (96) above; with -matak in combination with the indicative mood, as in (105) above; with -matak in combination with the dubitative, as (108).

\[(108) \quad \text{Foc-ind.evid-3.dub} \quad \text{steal-ben} \quad \text{Ken money} \]

It was probably him who stole Ken’s money.

Morphologically, -matak ‘inference’ is an inflectional mode sux. As such, it is part of the peripheral suxes that attach to the first predicate of the clause. (See Chapter 2.4.1 for discussion of the linearization of peripheral suxes.)

Within the suffix string, as a mode suffix -matak can co-occur with other mode suxes, including -/aqz ‘future’ and -ckv ‘past inference’. (See §4.4.3 below for details.) Thus, while mood suxes show paradigmatic blocking eects, mode suxes do not. This distributional difference suggests that mood suxes are syntactic heads, while mode suxes are modiers.

### 4.4.2 Past inferential -ckv

The other evidential mode sux is -ckv ‘past inference’, which also indicates the origo has made a contingent inference. It diers from -matak ‘inference’ in also specifying that the inferred situation occurred before the situation the origo perceived. For example, in (109) it rained during the night, when the origo Kay was asleep, so she could not see it. By morning it had stopped, but since the ground was still wet, she was able to infer that it had rained sometime during the night. The inferred situation occurred during the night, and the perceived situation occurred in the morning, so -ckv is appropriate.

\[(109) \quad \text{Scenario: It didn’t rain at all on Thursday. On Friday at 1:00 a.m. it started raining, and it continued until 4:00 a.m. Kay went to bed on Thursday at 10:00 p.m and woke up at 6:00 a.m. Friday morning. She didn’t see it rain during the night, but in the morning she saw the ground wet. When Bill got up she told him this.} \]

\[\text{mìk-aack-Ũ-B} \quad \text{mìk-(y)a-ckv-Ũ} \quad \text{rain-Cont-past.evid-3.ind} \]

‘It must have rained’

The origo of the clause is relevant for determining the scope of -ckv ‘past inference’. While it is the speaker making a contingent inference when -ckv is in a matrix clause, as in (109) above, in embedded clauses -ckv indicates the matrix subject is making it. This is because the origo in a matrix clause is the speaker, and in an embedded clause it is the subject.
of the propositional attitude verb. In (110) Linda, as the subject of the verb ũq̕taap ‘think’, is the origo of the clause containing -ckʷi:, and she is the one making the inference in this scenario.

(110) Scenario: Linda told Kay that Ken must have been home because he found her shoes at the door, even though she wasn’t around anymore. Kay then told Bill this.

\[\text{ũq̕taamit}ĩ̕s \quad \text{Linda [wa}̄luyu}̄ckwiq \quad \text{Ken}\]
\[\text{ũq̕t}̄ap-(m)it-̄ĩ̕s \quad \text{Linda [wa}̄luyu-ckwi-q} \quad \text{Ken}\]
\text{think-PAST-3.IND Linda [be.home-PAST.EVID-3.SUB Ken]}\]

‘Linda thought Ken must have been home.’

As I mentioned already, -ckʷi: ‘past inference’ is a mode suffix. However, -ckʷi: displays some morphological behaviour unique among the mode suffixes, due the fact that it is the only one which is vowel-final: when a glottalizing or glottal-initial suffix immediately follows it, the two suffixes coalesce. There are several such suffixes that can occur after the mode suffixes, including -ap ‘causative’, -aλ ‘now’, -a’it ‘shift’, and -ʔak ‘possessive’. I give a couple of examples of this process below. In (111a) -ckʷi: is followed directly by the glottalizing suffix -aλ, and the two coalesce resulting in [ckʷaλ] on the surface. Likewise, in (111b) -ckʷi: is followed by the glottal-initial allomorph of the possessive, and the two suffixes coalesce resulting in [ckʷaκ] on the surface.

(111)
a. Scenario: Ann’s child was throwing a tantrum, and once she got him calmed down, Ken’s child started. Kay said this to Bill.

\[\text{hà}̄\text{i}u}̄q̕[ck]̄aκ-̄ĩ̕s \quad \text{wii}ākwaκ\quad \text{Ann ṭa}̄n̄a}̄s}̄uk-̄i\]
\[\text{hà}̄\text{i}u}̄q̕[ck]̄i-’aλ-̄ĩ̕s \quad \text{wii}ākwaκ\quad \text{Ann ṭa}̄n̄a}̄s-uk-̄i\]
\text{take.turn-PAST.EVID-PAST-3.IND throw.tantrum Ann child-DIM-POSS-DEF}\]

‘It must have been Ann’s child’s turn to throw a tantrum.’

b. Scenario: Ann told Kay she wasn’t sure if she had enough food for the feast. At the end of the feast, Kay was helping clean up and she saw that there was some food left over. She said this to Bill.

\[\text{hà}̄\text{yaa}̄k̕wak-̄ĩ̕s \quad \text{hà}̄\text{um}\]
\[\text{hà}̄\text{yaa}̄-ckwi-’aλ-̄ĩ̕s \quad \text{hà}̄\text{um}\]
\text{enough-PAST.EVID-POSS-3.IND food}\]

‘She must have had enough food.’

In addition to the past inferential mode suffix -ckʷi:, there is another -ckʷi: suffix which attaches to nouns to form nouns that denote the result of some activity or the remains of something. Some representative examples from the Ahousaht dialect are given in Table 4.6.⁸

---

⁸These words, from Little (2003), were not recognized by my consultants.
4.4. Nuu-chab-nulth evidentials in the IP domain

<table>
<thead>
<tr>
<th>Zulu'umck\textsuperscript{i}</th>
<th>'mussel shell'</th>
</tr>
</thead>
<tbody>
<tr>
<td>k\textsuperscript{*}ick\textsuperscript{ii}</td>
<td>'filing dust'</td>
</tr>
<tr>
<td>čałwack\textsuperscript{i}</td>
<td>'afterbirth'</td>
</tr>
</tbody>
</table>

Table 4.6: Nouns derived with -ck\textsuperscript{i} from Little (2003)

4.4.3 IP-domain evidentials can co-occur

The two IP-domain evidentials, past inferential -ck\textsuperscript{i} and inferential -matak, belong to the class of mode suffixes. As shown in the template in (112), these mode suffixes are part of the set of peripheral suffixes; as such; they cliticize to the first verbal constituent in the sentence. (See Chapter 2 for details.)

\[
\begin{array}{c|c|c|c}
\text{Verb.Stem} & \text{Derivational-Aspectual} & \text{Mode-Valence/Tense-Mood-Discourse} \\
\hline
\text Core Suffixes & \text Peripheral Suffixes \\
\end{array}
\]

Recall that the evidential mood suffixes constitute a paradigm, and so are in complementary distribution. In contrast, evidential mode suffixes are not in a paradigmatic relation. Consequently, they can co-occur. Significant is the fact that they can occur in either order. For example, in some contexts, evidential -matak can precede or follow the past evidential -ck\textsuperscript{i}, as in (113). But in other contexts, -ck\textsuperscript{i} precedes -matak, while the converse order is not accepted, as in (114). It is not clear what the criteria are for selecting one order over another in a given context; and the same speaker can offer different orders in different sentences. The fact that relative order of -ck\textsuperscript{i} and -matak is not fixed suggests that they are introduced into the IP-domain as adjunct modifiers.

\[
\begin{array}{l}
\text{(113) a. } \text{u-haa-yas\textsuperscript{matak}ck\textsuperscript{w}i\textsuperscript{a}q}\text{qin\textsuperscript{haama}} \\
\text{u-\textsuperscript{a}ha\textsuperscript{\text{-matak-ck\textsuperscript{w}i\textsuperscript{a}}}q}\text{qin\textsuperscript{haama}} \\
\text{TRANS-go.and.buy-ind.evid-past.evid-3.ind egg} \\
\text{‘I think he might have gone to buy eggs.’}
\end{array}
\]

\[
\begin{array}{l}
\text{b. } \text{u-haa-yas\textsuperscript{w}i\textsuperscript{matak}qin\textsuperscript{haama}} \\
\text{u-\textsuperscript{a}ha\textsuperscript{-ck\textsuperscript{w}i\textsuperscript{a}-matak-\textsuperscript{w}i\textsuperscript{a}q}}\text{qin\textsuperscript{haama}} \\
\text{TRANS-go.and.buy-past.evid-ind.evid-3.ind egg} \\
\text{‘I think he might have gone to buy eggs.’}
\end{array}
\]
4.4. Nuuchahnulth evidentials in the IP domain

(114) a. hawiiqэк¢imatak／iS
    hawiiqэк¢-matak／i
    hungry-PAST.EVID-IND.EVID-3.IND
    ‘He must have been hungry.’

b. ?hawiiqэк¢matakck／iS
    hawiiqэк¢-matak-ck／i
    hungry-IND.EVID-PAST.EVID-3.IND
    ‘He must have been hungry.’

It is not possible for the same mode suffix to iterate. This is shown in in (115a) for -matak, and in (115b) for -ck／i.

(115) a. *wałyuumatakmatak／iS
    wałyu:-matak-matak／i
    be.home-IND.EVID-IND.EVID-3.IND

b. *wałyuiekck／iS
    wałyu:-ck／i-ck／i
    be.home-PAST.EVID-PAST.EVID-3.IND

4.4.4 IP-domain and CP-domain evidentials can co-occur

In terms of distribution, I have so far shown that while CP-domain mood evidentials are in complementary distribution, IP-domain evidential can co-occur with each other. In addition, the claim that evidential moods and modes partition into two distinct syntactic domains predicts that it will be possible for IP-domain and CP-domain evidentials to co-occur. This prediction is borne out.

First, consider the combination of the evidential moods—the quotative, the indirect interrogative, and the dubitative—with inferential -matak. The relevant examples are given in (116). The example in (116a) shows that -matak combines with quotative -wa／iS; the example in (116b) shows that -matak combines with the indirect interrogative -ha／I; and the example in (116c) shows that -matak combines with the dubitative -qa／Ia.

(116) a. hawiiqэк¢matakwa／iS
    hawiiqэк¢-matak-wa／iS
    hungry-PAST.EVID-3.QUOT
    ‘He must be hungry.’

b. siИа Ицмatakhaц
    siИа-Иц-Иц-matak-ha／I
    cooked-MOM-IND.EVID-3.INDIR.INTER
    ‘Is it possible that it’s cooked?’
4.5 Nuuchahnulth evidentials in the VP domain

Now consider the combination of the evidential moods—the quotative, the indirect interrogative, and the dubitative—with past inferential -ck"i. The relevant examples are given in (117). The example in (117a) shows that -ck"i combines with quotative -wa?iš; the example in (117b) shows that -ck"i combines with the indirect interrogative -ha?č; and the example in (117c) shows that -ck"i combines with the dubitative -qača.

(117) a. mîzaackwiwa?iš
   mîz-(y)a-ck"i-wa?iš
   rain-CONT-PAST.EVID-3.QUOT
   ‘It must have been raining (according to somebody).’

b. mîzaackwihač
   mîz-(y)a-ck"i-hač
   rain-CONT-PAST.EVID-3.INDIR.INTER
   ‘Was it raining?’

c. wa?yuuckwiqača
   wa?yu-ck"i-qača
   be.home-PAST.EVID-3.DUB
   Ken
   Ken
   Ken
   ‘I guess Ken was probably home.’

4.5 Nuu-chah-nulth evidentials in the VP domain

Nuu-chah-nulth has two evidentials in the VP domain. One is a derivational suffix -kuk ‘visual inference’ (§4.5.1), and the other a particle na?a:t ‘auditory evidence’ (§4.5.2). Both of these evidentials lexically encode perceptual grounding: -kuk encodes perceptual grounding in the visual modality; na?a:t encodes perceptual grounding via the auditory modality. In this respect, the VP-domain evidentials contrast with the IP-domain (mode) evidentials and the CP-domain (mood) evidentials. Descriptively, in Nuu-chah-nulth, only VP-domain evidentials code perceptual grounding. As we shall see in Chapters 5 and 8, this has consequences for the semantic analysis. Here I focus on the syntactic distribution of the visual inferential -kuk and the auditory evidential na?a:t.

4.5.1 Visual inferential: the derivational suffix -kuk

The visual inferential -kuk is used in scenarios such as (118). The origo, here the speaker Kay, can see things like the sun and people wearing shorts and t-shirts. This allows her to infer
4.5. Nuuchahnulth evidentials in the VP domain

that it is hot outside. There are two crucial properties to this scenario: (i) Kay's uncertainty as to the temperature outside; and (ii) Kay perceiving something via the visual modality that allows her to make an inference about the temperature.

(118) Scenario: Kay was inside where the air conditioning kept the temperature at 21°C. She looked outside and saw it was sunny and people were wearing shorts and t-shirts, so she said this to Bill.

\[\text{\texttt{ZupaaKuk}}\]
\[\text{\texttt{Zup-(y)a;-Kuk-0}}\]
\[\text{\texttt{hot-cont-vis.evid3.abs}}\]

'It looks hot out.'

With the visual inferential \(-\text{kuk}\), the origo can be, but need not be the speaker. This can be seen by putting the visual inferential in an embedded clause, where the origo is whoever is specified as the subject of the matrix verb. For example, in (119), the visual inferential \(-\text{kuk}\) is in a clause embedded under the propositional attitude verb \(/?uqtâap\) 'think'. Linda, the subject of the matrix verb, is also the origo of the embedded clause, and she has inferred, because she saw lights one, that Ken must be at home.

(119) Scenario: Linda saw lights on at Ken's place when she went by, and later she called Kay and told her \(waṭyuukuk?iš\ Ken\). When she got off the phone Kay said this to Bill.

\[\text{\texttt{/?uqtâamit?iš}}\]
\[\text{\texttt{Linda [waṭyuukukq Ken]}}\]
\[\text{\texttt{think-past-3.ind Linda [be.home-vis.evid3.sub Ken]}}\]

'Linda thought Ken must be at home.'

In terms of the Nuu-chah-nulth morphological template (see §2.4.1 for details), the visual inferential \(-\text{kuk}\) is a core suffix, and so attaches quite close to the root, before any aspectual suffixes. This is shown in (120).

(120) \([\text{Verb.Stem}][\text{Derivational-Aspectual}]-\text{Mode-Vaence/Tense-Mood-Discourse}\)

A single clause can contain more than one predicate, where a predicate is a word that can occur clause-initially and host the peripheral suffixes. In multi-predicate clauses, peripheral suffixes must attach to the initial predicate of the clause, while core suffixes can attach to any predicate, including those which are not clause-initial. With this in mind, consider (121), which has two coordinated clauses. Relevant is the fact that the second conjunct contains three predicative elements: \(q^{“aaqh}\) 'but', \(\tilde{i}i̱q\tilde{hii}\) 'still', and \(hawi\tilde{i}q\lambda\) 'hungry'. In (121a), \(-\text{kuk}\) attaches to \(q^{“aaqh}\) 'but'; in (121b) it attaches to \(\tilde{i}i̱q\tilde{hii}\) 'still', and in (121c) to \(hawi\tilde{i}q\lambda\) 'hungry'.

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4.5. Nuuchahnulth evidentials in the VP domain

(121) a. Scenario: Kay saw Ken eat a lot at lunch, and then afterwards he kept going back to the fridge. She said this to Bill.

\[ \text{?ayaq\text{\textae}qiti\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h\text{\textae}kuk \text{\textae} ?i\text{\textae}q\text{\textae}hi \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k]} \]
\[ \text{?aya\text{\textae}aq\text{\textae}-(q)aq-(m)it\text{\textae}-\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h\text{\textae}-\text{\textae}kuk-\text{\textae} \text{\textae} ?i\text{\textae}q\text{\textae}-\text{\textae}hi\text{\textae} \text{\textae} k\text{\textae}uk \text{\textae} \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k]} \]
\text{many-in.body-aug-past-3.ind Ken [but-vis.evid-3.abs still-dur hungry]}

‘Ken ate real lots and yet he’s still behaving like he’s hungry.’

b. \[ \text{?ayaq\text{\textae}qiti\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h \text{\textae} ?i\text{\textae}q\text{\textae}hi\text{\textae}kuk \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k]} \]
\[ \text{?aya\text{\textae}aq\text{\textae}-(q)aq-(m)it\text{\textae}-\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h-\text{\textae} \text{\textae} ?i\text{\textae}q\text{\textae}-\text{\textae}hi\text{\textae} \text{\textae} k\text{\textae}uk \text{\textae} \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k]} \]
\text{many-in.body-aug-past-3.ind Ken [but-3.abs still-dur-vis.evid hungry]}

‘Ken ate real lots and yet he’s still behaving like he’s hungry.’

c. \[ \text{?ayaq\text{\textae}qiti\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h \text{\textae} ?i\text{\textae}q\text{\textae}hi \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k\text{\textae}kuk]} \]
\[ \text{?aya\text{\textae}aq\text{\textae}-(q)aq-(m)it\text{\textae}-\text{\textae}s} \quad \text{Ken [q\text{\textae}aq\text{\textae}h-\text{\textae} \text{\textae} ?i\text{\textae}q\text{\textae}-\text{\textae}hi\text{\textae} \text{\textae} k\text{\textae}uk \text{\textae} \text{\textae} haw\text{\textae}i\text{\textae}q\text{\textae}k\text{\textae}kuk]} \]
\text{many-in.body-aug-past-3.ind Ken [but-3.abs still-dur hungry-vis.evid]}

‘Ken ate real lots and yet he’s still behaving like he’s hungry.’

4.5.1.1 VP-domain \(-\text{kuk}\) ‘visual inference’ is related to \(\text{kuk}\)[RSS] ‘resemble’

The form of \(-\text{kuk}\) ‘visual inference’ is identical to that of another core suffix, \(-\text{kuk}\)[RSS] ‘resemble’, though it differs in its effect on the stem and its semantics. The evidential \(-\text{kuk}\) does not cause reduplication of its stem, but the ‘resemble’ one does, and it also causes the first two syllables to have short vowels.

(122) \text{susu\text{\textae}pickuk}
\text{supic-kuk[RSS]}
\text{sand-resembles}
\text{‘sugar’}

Though there are often identical pairs of suffixes that differ in their meaning and in their effect on the stem, the similarity in meaning here is quite suggestive. A more typical pair is \(-(q)\text{\textae}ti[L]\) ‘tell’ and \(-(q)\text{\textae}ti[RLL]\) ‘do excessively’. The form of the suffixes themselves is the same, including the ghost consonant allomorphy, but the one meaning ‘tell’ causes the vowel of the first syllable of the stem to be long, as shown in (123a) while the one meaning ‘do excessively’ causes CV reduplication of the stem and also causes the vowels of the first two syllables to be long (123b).

(123) a. \text{waawaa\text{\textae}n\text{\textae}q\text{\textae}\text{\textae}hi\text{\textae}i\text{\textae}s?aa\text{\textae}?a\text{\textae}t}
\text{wa\text{\textae}n\text{\textae}c-(q)\text{\textae}\text{\textae}hi[R]-\text{\textae}i\text{\textae}s?aa\text{\textae}?a\text{\textae}t}
\text{sleep\text{-do.excessively-3.ind-hab-pl}

‘They are always sleeping too much.’
4.5. Nuuchahnulth evidentials in the VP domain

b. wik?iick taaqúq|hi
wik?-čick taaqú-(q)|i|[L]
NEG-2SG.IND truth-tell
‘You’re not telling the truth.’

The similarity in meaning between -kuk ‘visual inference’ and -kuk/RSS/ ‘resemble’, in addition to their similarity in form, suggests that they are both historically derived from a single suffix.

4.5.1.2 Co-occurrence of VP-domain -kuk ‘visual inference’ with other evidentials

VP-domain evidentials are not in a paradigmatic relation with each other, and can co-occur. I leave discussion of their co-occurrence until after the auditory evidential na?at has been described (§4.5.2.2). Here I focus specifically on the co-occurrence of -kuk ‘visual inference’ with other evidentials, summarized in Table 4.7. I discuss the other VP-domain evidential, na?at ‘auditory evidence’, in §4.5.2.2. The sentences in (124) each contain the

<table>
<thead>
<tr>
<th>CP DOMAIN</th>
<th>IP DOMAIN</th>
<th>VP DOMAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>-qa’č’a</td>
<td>-wa’č’s</td>
<td>-ha’č</td>
</tr>
<tr>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 4.7: Co-occurrence of VP-domain evidential -kuk and other evidentials

VP-domain evidential -kuk ‘visual inference’ with one of the three CP-domain evidentials in Nuu-chah-nulth. The only one which -kuk cannot co-occur with is -qa’č’a ‘dubitative’. The reason for this is not clear to me, but it is likely connected with the fact that both -kuk and -qa’č’a encode contingent inference as the manner of support. As I show below, -kuk is also not able to occur with either of the other two inferentials, -matak ‘inference’ and -ck’vi ‘past inference’.

(124) a. *hiixʷatʰik̕ukqa’č’a Ken
    hiixʷatʰi-kuk-qə’č’a Ken
    angry with VIS.EVID.3.DUB Ken

b. hiixʷatʰik̕ukwa’̓iš Ken
    hiixʷatʰi-kuk-wa’̓iš Ken
    angry with VIS.EVID.3.QUOT Ken

    ‘It is said that Ken looks angry.’

c. hiixʷatʰik̕ukha’č Ken
    hiixʷatʰi-kuk-ха’č Ken
    angry with VIS.EVID.3.INDIR.INTER Ken

    ‘Does Ken look angry?’

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4.5. Nuu-chah-nulth evidentials in the VP domain

In (125) we see that -kuk is unable to co-occur with either of the IP-domain evidentials -matak ‘inference’ or -ck’i: ‘past inference’. As I mentioned above, the reason for this is unclear, though they are all inferential.

(125) a. *walyuKukmatak?iš
walyu:-kuk-matak?-iš
be.home-VIS.EVID-IND.EVID-3.IND grandparent

b. *walyuKukckvi?iš
walyu:-kuk-ckvi?-iš
be.home-VIS.EVID-PAST.EVID-3.IND Ken

As with all the other evidentials, -kuk ‘visual inference’ cannot occur twice in a single clause. This is illustrated by the sentence in (126).

(126) *walyuKukKuk?iš
walyu:-kuk-kuk?-iš
be.home-VIS.EVID-VIS.EVID-3.IND

Finally, the sentence in (127) shows that -kuk ‘visual inference’ can co-occur with na?a:t ‘auditory evidence’. However, this is an example of -kuk being used to indicate an inference in general, much like seem or appear in English. How the visual grounding requirement of -kuk can be removed in such cases is not clear at present.

(127) Scenario: Kay lives next door to Ken, and one day after hearing him slam his cupboard door she said this to Bill.

walyuKuk?iš
walyu:-kuk?-iš
be.home-VIS.EVID-3.IND Ken

‘Ken appears to be home.’

The sentence in (128) also illustrates the use of -kuk as a general inferential. Here the speaker was telling a story, and was unsure if kwasitum was the word she was looking for. She had no visual evidence for this, but nevertheless used -kuk to indicate that she was unsure. However, this example is perhaps a metaphorical use of -kuk. The experience of trying to recall a word is much like seeing something unclearly at a distance. The sentences in (127) and (128) are the only two I have seen where -kuk is used without the usual visual grounding requirement, and more work is needed to sort out what is going on in them. In the remainder of this dissertation I set these examples aside as unexplained exceptions.

(128) kwasitum ?uk+aaKuk?iš
kwasitum ?u-(e)ta-kuk?-iš
branch TRANS-named-VIS.EVID-3.IND

‘It seems to me that it is called k’wasitum.’
4.5.2 Auditory evidential: the particle naʔa:t

The final evidential I present is naʔa:t 'auditory evidence'. There are a few kinds of scenarios where a speaker would use naʔa:t, and what is constant across these scenarios is that the speaker perceived some situation using his or her sense of hearing. The different scenarios compatible with naʔa:t result in the use of different moods. Let's take an example of each, beginning with one in the indicative mood -ʔi:š.

In (129) naʔa:t 'auditory evidence' appears in a sentence in the indicative mood, and it can be used in a scenario where the speaker, Kay, hasn't seen Ken come home, or seen anything to suggest that he has, but has heard him make noise. In other words, she has heard Ken being home.

(129) Scenario: Kay lives in the apartment next to Ken's, and Ken had been away for a week. Then she heard a door close in his apartment, so she said this to Bill.

\[
\begin{align*}
\text{walyaqpiʔa:š} & \quad \text{naʔa:t} & \quad \text{Ken} \\
\text{waʔ-yaq-piʔ(\text{-a})-ʔi:š} & \quad \text{naʔa:t} & \quad \text{Ken} \\
\text{go-having.done.in.house.mom-now-3.ind \text{aud.evid}} & \quad \text{Ken}
\end{align*}
\]

'It sounds like Ken is home now.'

In (130) naʔa:t 'auditory evidence' occurs with the dubitative mood -qα'ɛa. This can be used in a scenario where the speaker Kay has not seen anything that leads her to conclude that Ken is happy, but has rather heard something other than the situation of being happy itself, and from what she heard, she can infer that Ken is happy. In this case Kay heard Linda say that Ken won at lahal the night before, and from that Kay infers that he is happy, since people who win are usually happy. Also note that Linda did not tell Kay that Ken was happy, only that he won.

(130) Scenario: Ken was playing lahal one day, but Kay didn't go. The next day Linda called Kay and told her that Ken won. When she got off the phone Kay told Bill this.

\[
\begin{align*}
\text{nučhawkəʔa:ʃəqə'ɛa} & \quad \text{Ken \text{in} hitaʔap naʔa:t} \\
\text{nučhawkə-(q)əq-əx-qa'ɛə} & \quad \text{Ken \text{in} hitaʔap-∅ naʔa:t} \\
\text{proud-aug-now-3.dub} & \quad \text{Ken comp win-3.abs \text{aud.evid}}
\end{align*}
\]

'Ken must be happy that he won.'

Finally, in (131) naʔa:t 'auditory evidence' can occur with the reportative mood, for example in a scenario where the speaker Kay has heard someone say that it was Ken who ended up in jail. Kay cannot have otherwise known that it was Ken, it had to have been a report from someone else, and it had to be verbal, not written, since then she would not have heard it.
4.5. Nuu-chah-nulth evidentials in the VP domain

(131) Scenario: Kay and Bill heard that there was a fight the night before, and the police came and put someone in jail, but they didn’t know who it was. Linda called Kay and told her that Ken got arrested, and when she got off the phone Kay told Bill this.

/ʔuhtwaʔik/ Ken naʔaat maʔpiROADCAST
/ʔuʔ-(m)it-waʔiʔ/ Ken naʔaat maʔ-pik(κ)
FOC-PAST-3.QUOTE Ken AUD.EVID tied-in.house.MOM

‘It is said it was Ken who ended up in jail.’

If we change the scenario to one where Kay read it in the paper, naʔaat is no longer felicitous, and Kay will use the reportative alone, as in (132). It should be noted that the mode of perception is left unspecified here, and so it can also be used in the situation above, where someone verbally told Kay.

(132) Scenario: Kay and Bill heard that there was a fight the night before, and the police came and put someone in jail, but they didn't know who it was. When the newspaper came, Kay read it and there was an article that said Ken was arrested. She told Bill this.

/ʔuhtwaʔik/ Ken maʔpi.Broadcast
/ʔuʔ-(m)it-waʔiʔ/ Ken maʔ-pik(κ)
FOC-PAST-3.QUOTE Ken tied-in.house.MOM

‘It is said it was Ken who ended up in jail.’

The reader might have noticed that I have not mentioned the origo in my descriptions of the conditions where naʔaat ‘auditory evidence’ can be used, and instead refer to the speaker. This was not an error. As I discuss in Chapter 6, naʔaat requires that the origo associated with it be a speaker. This fact results in restrictions on the kinds of clauses that naʔaat can appear in, but I leave discussion of this to Chapter 6. For now I confine myself to mentioning that it cannot occur in any interrogative clauses, nor can it occur in the antecedent of a conditional. There are also some limitations on it in embedded clauses, but they are more complicated, so I defer discussion until Chapter 6.

Morphologically naʔaat ‘auditory evidence’ is a non-initial particle. As a particle it cannot be inflected, as shown in (133b), and as a non-initial one it can occur anywhere in a clause except the beginning, as shown in (133c).
4.5. Nuuchahnulth evidentials in the VP domain

(133) Scenario: Kay could not see outside, but heard the rain hitting the window.

a. mîx̱aaʔiš naʔaat
   mîx̱-(y)aʔ-ʔiš naʔaat
   rain-CONT-3.IND AUD.EVID
   ‘It’s raining.’

b. *naʔaatʔiš mîx̱aa

c. *naʔaat mîx̱aaʔiš

4.5.2.1 VP-domain naʔa:t ‘auditory evidence’ is related to naʔa: ‘hear’

The form of naʔa:t ‘auditory evidence’ appears to be derived from the verb stem naʔa: ‘hear’. The similarity in both form and meaning is too strong to be due to chance. However, I believe the similarity to be due to a single diachronic origin, and not to any shared underlying morpheme. There is no suffix -t in Nuuchah-nulth which could attach to the stem naʔa: to produce the form naʔa:t.

The closest candidate for a suffix would be - ’at ‘shift’, but the compositional meaning would not be correct for naʔa:t. In such a case naʔa:t would be a reduced form of naʔaaʔat (naʔa:- ’at ‘hear-shift’), but this would mean something like ‘he/she/it was heard by him/her/it’, or ‘one hears it’. Given the latter reading, with a generic subject hearing something, we have a plausible historical source for naʔa:t in the reduction of naʔaaʔat.

4.5.2.2 Co-occurrence of VP-domain naʔa:t ‘auditory evidence’ with other evidentials

The VP-domain evidential naʔa:t ‘auditory evidence’ has a different range of possible co-occurrences with other evidentials, summarized in Table 4.8 as compared to the other VP-domain evidential -kuk ‘visual inference’. This is due to the difference in its semantics, namely that naʔa:t 1) is unspecified for a manner of support—thus permitting it to co-occur with inferentials—and 2) its origo must be a speaker, not an addressee—thus disallowing it from co-occurring in an interrogative.

<table>
<thead>
<tr>
<th>CP DOMAIN</th>
<th>IP DOMAIN</th>
<th>VP DOMAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>-qaʔča</td>
<td>-matak</td>
<td>-naʔa:t</td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>-waʔiš</td>
<td>-čkvi;</td>
<td>×</td>
</tr>
<tr>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>-ḥaʔč</td>
<td>-kuk</td>
<td>×</td>
</tr>
<tr>
<td>×</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.8: Co-occurrence of naʔa:t ‘auditory evidence’ with other evidentials

The sentences in (134) each contain naʔa:t ‘auditory evidence’ together with one of the CP-domain evidential mood suffixes. It is compatible with both -qaʔča ‘dubitative’ and -waʔiš
4.5. Nuu-chah-nulth evidentials in the VP domain

‘quotative’, where the origo is the speaker. However, it cannot co-occur with -ха’ч ‘indirect interrogative’ because the origo in an interrogative is the addressee.

(134) a. waɬ-yaqipiʔaɬqač’a
   waɬ-yaq-pi(ʔ)-aɬ-qač’a
go-having.done-in.house.mom-now-3.dub Ken [AUD.EVID]
‘It sounds like Ken is home now.’

b. hiixʷaθ̓iwaʔiś
   hiixʷaθi-waʔiś
angry.with-3.QUOT Ken [AUD.EVID]
‘It sounds like Ken is angry.’

c. *hiixʷaθ̓ihač
   hiixʷaθi-hač
angry.with-3.INDIR.INTER Ken [AUD.EVID]

As I discuss in §6.5 below, naʔaːt can be used when the origo is the speaker in a speech act that is not the root speech act. In other words, since -waʔiś ‘quotative’ and -ха’ч ‘indirect interrogative’ both implicate another speech act—the speech act in which the origo obtained the report supporting the prejacent proposition—we expect that naʔaːt can co-occur with -waʔiś and -ха’ч with the interpretation that the speaker associated with the report itself is the origo of naʔaːt (that is, we expect that naʔaːt can be semantically embedded under -waʔiś and -ха’ч). I have data to support this for -waʔiś, which I give in §6.5, but I lack the data to support this for -ха’ч.

In (135) we see that naʔaːt ‘auditory evidence’ can co-occur with -matak ‘inference’, but not with -ckʷi ‘past inference’. This is due to the way that naʔaːt interacts with the temporal semantics of -ckʷi, namely that naʔaːt can only occur with a prejacent proposition that holds at the time of the perceived situation, while -ckʷi can only occur with a prejacent proposition temporally precedes the perceived situation (see Chapter 8).

(135) a. wik-pi(matak)-ʔum
   wik-piʔ(ʔ)-matak-ʔum
NEG-in.house.mom-ind.evid-now-3.abs-dm Ken [AUD.EVID]
‘Ken is probably not at home.’

b. *kəm̓aʔaq-aq-ckʷiʔiʔaʔal
   kəm̓aʔaq-(q)aq-ckʷiʔiʔaʔal
be.noisy-aug-past.evid-3.ind-pl [AUD.EVID]

Recall that naʔaːt can co-occur with the visual inferential -kuk, in which case it the latter has the force of a general-purpose inferential. The relevant example, which I already discussed above in the context of -kuk, is repeated in (136) for convenience.
4.6 Comparing evidentials to predicates with similar meanings

Scenario: Kay lives next door to Ken, and one day after hearing him slam his cupboard door she said this to Bill.

\text{walyuuKuk} /iS\ walyu:-Kuk -/i;S be.home vis.evid 3.ind Ken naa\text{aat}

`Ken appears to be home.'

I assume this shift in meaning of \(-kuk\) is metaphorical. Note that in English, for example, \textit{look} can also lose its visual component, as in (137).

(137) Scenario: Ken was supposed to meet Kay and Bill at 6:00, but at 5:50 he called Kay and told her he would be late. Kay then said this to Bill.

It looks like he'll be late.

Finally, as with all the other evidentials, it is not possible to have two instances of the auditory evidential \textit{naa} at in the same sentence. This is shown in (138).

(138) *walyuuqa\text{a} naa\text{aat} naa\text{aat}

\text{walyu:-qa}\text{a} naa\text{aat} naa\text{aat}

be.home-3.dub aud.evid aud.evid

4.6 Comparing evidentials to predicates with similar meanings

While only evidentials encode one of the three evidential relations, other morphemes encode relations which are minimally different from these. In the remainder of this section I compare evidentials to these other kinds of morphemes.

Propositional attitude morphemes like \textit{\#uqtap} ‘think’ or \textit{hayumhi} ‘not know’ encode a relation between an attitude holder and a proposition, but the attitude holder is not the origo of the clause the morpheme appears in, it is its external argument. I discuss these in §4.6.1. Similarly, verbs of saying like \textit{wa}: ‘say’ encode a relation between a person and a speech act (a proposition paired with a speech context). I discuss these in §4.6.2. Perception predicates like \textit{\#aatsci\#}: ‘see’ and \textit{naa} \text{aa} ‘hear’ encode a relation between a perceiver—their external argument—and an entity. I discuss these in §4.6.3. Finally, there are what I am calling entity attitude morphemes like \textit{-tuk} ‘sound like’, \textit{-puq\#} ‘smell like’ and \textit{-\#a\#x} ‘endearment’ which encode a relation between an origo, a property and an entity. I discuss these in §4.6.4

4.6.1 Comparing evidentials to predicates that introduce propositions

A number of propositional attitude verbs encode the perspectival status of a proposition for an individual, and I list several in Table 4.9. Propositional attitude verbs do not fit the
4.6. Comparing evidentials to predicates with similar meanings

definition of an evidential morpheme because they do not encode a relation between their own origo and a proposition—the individual whose perspectival status is encoded is the attitude holder argument of the verb. All the verbs in Table 4.9 are transitive, taking the proposition

\[ \text{?uqtaap} \quad \text{\textquoteleft think\textquoteright} \]
\[ \text{huHtak} \quad \text{\textquoteleft know\textquoteright} \]
\[ \text{huHtakSi\textquoteright e} \quad \text{\textquoteleft learn\textquoteright} \]
\[ \text{hayumhi} \quad \text{\textquoteleft not know\textquoteright} \]
\[ \text{wikwin\textquoteright i} \quad \text{\textquoteleft forget\textquoteright} \]

Table 4.9: Nuuchahnulth propositional attitude verbs

as their internal argument and the individual as their external argument. For the most part, the proposition is contained in a clause in the absolutive mood, optionally introduced by the complementizer ?in, but ?uqtaap ‘think’ takes a clause in the subordinate mood which cannot be introduced by ?in. These two patterns are illustrated in (139), where huHtak ‘know’ takes an ?in-clause and ?uqtaap takes a subordinate mood clause.

(139) a. Scenario: Ken went and bought $100 worth of food for her brother, even though he doesn't have much money. Kay said this to Bill.

\[ \text{huHtakitk} \quad \text{huHtak-(m)it-k \, su\textquoteright wa \, su\textquoteright wa \, ?in \, q\textquoteright isit} \]
\[ \text{huHtak-(m)it-k \, su\textquoteright wa \, ?in \, q\textquoteright is-(m)it-\textcircled{O}} \]
\[ \quad \text{know-PAST-2SG.INTER 2SG.PRO COMP do.thus-PAST-3.ABS} \]

‘Did you know that he did that?’

b. Scenario: Ken has the same kind of shoes as John, and when the two of them came in, Ken went in and took his off in the bedroom. The next morning, he saw John putting on his shoes by the front door, and tells him they are his, and they start arguing. Bill comes in and asks Kay what is going on, and she replies with this.

\[ \text{?uqtaap\textquotedblright i} \quad \text{Ken ?uucqaa \, suuwis\textquoteright i} \]
\[ \text{?uqtaap\textquotedblright i} \quad \text{Ken ?uuc-q\textquoteright a \, suuwis\textquoteright i} \]
\[ \text{think-3.IND Ken own-3.SUB shoes-DEF} \]

‘Ken thinks the shoes are his.’

Both huHtak ‘know’ and ?uqtaap ‘think’ entail that their complement proposition is in the perspective of their subject, and others also entail this, such as iaaqaak ‘believe’, given in a sentence in (140a). Other verbs entail that their complement proposition is not in their subject’s perspective. An example of this is hayumhi ‘not know’, illustrated in (140b).
4.6. Comparing evidentials to predicates with similar meanings

(140) a. ˈtəaqaakɨˈtːɬ Ken ʔin ʔuɬ taananakʃiɬ
ˈtəaqaq-(m)-it-ɬ Ken ʔin ʔuɬ-∅ ta:na-naˈk-ʃi( Korea)
believe-PAST-3.IND Ken COMP FOC-3.ABS money-have-MOM

‘Ken believes it was he that received money.’

b. ˈhaːumhiˈtːɬ Linda ʔin ˈtəciˈkaxəuk saapnixɨit ˈtəna
ˈhaːumh-ɬ Linda ʔin ˈtəciˈk-ˈaɬ-uk-∅ sapnix-ɬ-(ɬ)-x[ Korea] ˈtəna
not.know-PAST-3.IND Linda COMP know.how-now-POS-3.ABS bread-stem-make child

‘Linda doesn’t know her child knows how to make bread.’

The verbs exemplified above are all stative rather than eventive; the situations described by these verbs hold over time and have no inherent endpoint. By adding the momentaneous suffix -ɬi( Korea) to such verbs we get inchoative verbs indicating a change of state, from one where the situation described by the verb does not hold to one where it does. Thus, ˈhuɬtakʃiɬ means ‘find out’ or ‘learn’, while ˈwikwiɲɬ means ‘forget’.9

(141) a. ˈhuɬtakʃiɬ maˈtʃəqac ɬan ˈtənaɬ xaaʃxiipʃiɬuk ˈumʔiɬqsu
ˈhuɬtak-ʃi( Korea) maˈtʃəqac-ɬi ɬan ˈtənaɬ-(q)-ɬ xaaʃxiip-ʃi( Korea)-uk ˈumʔiɬ-iɬ-qsu
know-MOM boy-DEF COMP really-SIM-3.ABS bluejay-MOM-POS mother-KIN-KIN

The little boy now knew that his mother really turned into a blue jay. (Little 2003, 42)

b. ʔo ˈwikwiɲɬ ˈwəɬyaqpiʔaɬhʊuk
ʔo ˈwikwiɲ-ʃi( Korea)-k ˈwəɬ-yaq-ɬi( Korea)-ˈaɬ-ɬhʊuk
PRT forget-MOM-2SG.INTER be.home.having.done.in.house.MOM-now-3.ABS.EMPH

‘Oh, did you forget he’s home now?’

The verb ˈluu means ‘remember’, as in ‘don’t forget’, and as such does not involve a change in state.

(142) ˈluuˈɕɬɨɬsum ʔəhɬku
ˈlu-ɬi-p-ɬsum ʔəhɬku:
remember-BEN-2SG>1SG.IMP.FUT this

‘Remember this for me.’

4.6.2 Comparing evidentials to verbs of saying

Verbs of saying indicate that a report occurred, and as such encode something like a manner of support. However, rather than encoding a relation between a situation perceived by the origo and a proposition, verbs of saying encode a relation between a speaker and a speech act. The speech act (formally a proposition paired with a speech context) is the internal argument of a verb of saying, and the speaker its external argument. I give three verbs of saying in Table 4.10 below. Generally waa is translated ‘say’ while ˈuuqɬɬi and ˈiiqɬuɬ are translated

9The sentence in (141a) has the complementizer as ɬan instead of ɬin, which is the form used by my consultants.
4.6. Comparing evidentials to predicates with similar meanings

| waa/wawaa  | ‘say’ |
| ?uuq̓hli  | ‘tell’ |
| ?iiq̓huk  | ‘tell’ |

Table 4.10: Nuuchahnulth verbs of saying

as ‘tell’, but all three can occur with an object, especially with ‘at ‘shift’. I go into more detail on each of these verbs in turn, starting with waa.

The verb meaning ‘say’ occurs in two forms, waa and wawaa, though it is unclear what the difference is between them. A reasonable guess is that waa is momentaneous while wawaa is durative, since verbs often occur in a momentaneous–durative pair, but I have not tested this. In narrative texts waa is more frequent than wawaa, while in elicitation contexts I find the reverse to be true. Whatever the difference is, it is not relevant to the points I make below. I use waa as a cover term for both forms.

We find waa ‘say’ with both direct and indirect quotes. An indirect quote occurs in an absolutive mood clause introduced by the complementizer ?in. The sentences in (143) illustrate the use of waa with an indirect quote.

(143) a. wawaaʔiš Ken ?in maakukwitsuuk čamas
    wawa:iš Ken ?in ma:kuk-(m)it-su:k čamas
    say-3.ind Ken comp buy-past-2sg.abs sweet
    ‘Ken says you bought sweets.’
    b. Scenario: Bill told Kay that the kids were hyped up, and then the phone rang and Linda said that they’re already asleep. When she got off the phone Kay said this to Bill.
       wawaaʔiš ?uh Linda ?in waʔič’aʔhuukʔat
       wawa:iš ?uh Linda ?in waʔič-ʔaʔ-ʔukʔat
       say-3.ind foc Linda comp sleep-now-3.abs.emph-pl
       ‘Linda says they’re already asleep.’

In (144) we see waa with a direct quote. Note that the direct quote precedes the verb, whereas indirect quotes follow it.

(144) “ha hayuhimitsa” waaʔaʔats
    ha hayuhim-(m)it-sa wa:’aʔ-ʔat-s
    prt not.know-past-1sg.abs say-now-shift-1sg.abs
    “Huh, I didn’t know that” she said to me.’

The other verbs of saying, ?uuq̓hli ‘tell’ and ?iiq̓huk ‘tell’ cannot be used with direct quotes. I give an example of each in (145). They both take clauses in the absolutive mood introduced by the complementizer ?in as their complement.
Comparing evidentials to predicates with similar meanings

(145) a. /uuqHlanits trans-tell-shift-past-1sg.abs comp two-have-poss-3.abs cat

/um/i-iqsak'i

mother-kin-kin.poss-def

`He told me that she has two cats.'

b. /iiqHukvit/iS durpast3.ind Ken Kay

Ken Kay

Ken Kay

/uuqH-uk-(m)it-/i;S trans-do.to Kay comp arrive-now-3.abs Kyle

Ken told Kay that Kyle arrived.'

The suffix -(q)Hli[L] also occurs in the verb piiSli `tell something bad', which also takes an indirect quote complement clause. It is shown in an example sentence in (146).

(146) piiSliimitiS bad-tell-past-3.ind Ken trans-do.to Kay comp trans-blame-shift-past-3.abs

/piiS-(q)Hli[L]-it-?iS Ken ?u-(?i)H[LL]-at-(m)it-Ø

steal Mary

kua:na Mary

money Mary

`Ken told negative things to Kay that she was blamed for stealing money by Mary.'

The quotative mood -wa'?iS contains the element /wa', and it is unlikely a coincidence that the verb which means 'say' has the form wa: and frequently appears in a reduplicated form wawa:. I believe this to be a historical fact, since this sort of stem-suffix pair is extremely rare in the language. As such, I do not propose to analyze -wa'?iS 'quotative' as containing the verb wa: 'say'. Also note that while the second and third persons the second element is the same as the relevant indicative mood form(-/?ick '2sg indicative', -?icu:S '2pl indicative' and -?i:S '3 indicative'), the first person forms break this pattern—if the pattern held the forms would be -wa'siS for 1sg and -wa'niS for 1pl.

There is a third morpheme which seems to be related, and that is -(w)a[RLL] 'speak'. This suffix creates verbs indicating the manner in which someone is speaking. I give three sentences containing this suffix in (147) below. Because the /w/ is a ghost consonant, it only shows up in surface forms when the stem it attaches to ends in a vowel or nasal, as in (147b). When this suffix attaches to the name of a people, as in (147a), the stem indicates the language or dialect being spoken, and when it attaches to a predicate, as in (147b) or (147c), the stem indicates some characteristic of the subject's speech.
4.6. Comparing evidentials to predicates with similar meanings

(147) a. wikʔaqʔ-waʔick maamaamaʔhiqa quuquuʔaqaʔaqʔwaʔick
   wikʔ-aq-waʔick mamaʔhi-(q)(w)a[RLL] quʔac-(w)a[RLL]-ʔaqʔ-waʔick
   NEG-FUT-2SG.QUOT white.person-STEM-speak person-speak-FUT-2SG.QUOT
   ‘You’re not supposed to speak English, you’re supposed to speak your own language.’

b. hišahtaniniš    Ken ʔaaʔapihiwat
   hiš-ahta’-at-(m)it-niš Ken ʔaʔphi-(w)a[RLL]-’at
   all-do.to-SHIFT-PAST-1PL.IND Ken friendly-SPEAK-SHIFT
   ‘Ken greeted all of us warmly.’

c. kuukuuwaqawaʔiš Ken naʔaat
   ku:waq-(w)a[RLL]-waʔiš Ken naʔa:t
   swear-SPEAK-3.QUOT Ken AUD.EVID
   ‘Ken is swearing.’

The historical relationship of these three morphemes is outside the scope of this dissertation, although I will point out that Swadesh (1948) discusses these in the Tseshahnt dialect, and favours the view that the two suffixes have been derived over time from the verb.

4.6.3 Comparing evidentials to predicates that introduce experiencers: verbs of perception

Verbs of perception can indicate the perceptual grounding relation between a situation that supports the proposition and their experiencer argument. The proposition is the verb’s internal argument, and the experiencer is its external argument. Two such verbs are given in Table 4.11 below. Both ŋaatsiičik ‘see’ and naʔaa ‘hear’ are more often used with nominal

<table>
<thead>
<tr>
<th>Naatsiijiz</th>
<th>‘see’</th>
</tr>
</thead>
<tbody>
<tr>
<td>na/aa</td>
<td>‘hear’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Naatsiijiz, ‘see’</th>
<th>na/aa, ‘hear’</th>
</tr>
</thead>
</table>

Table 4.11: Some Nuuchahnulth verbs of perception

complements, but can also be used with clausal complements, as shown in (148) below.

(148) a. ŋaatsiičikitsiš ʔin hixʷ’athiqaq Ann ʔuućma
   ŋaatsi-SI(-)(m)itsiš ʔin hixʷ’athi-(q)aq[SS]-Ø Ann ʔuućma
   see-MOM-PAST-1SG.IND COMP angry:WITH-AUG-3.ABS Ann woman
   ‘I saw that Ann is a really hot-tempered woman.’

b. naʔamits ʔin ?ašxaksutʔaq Ann ʔuućma
   naʔa’-(m)itsʔ ʔin ?ašx-(ʔ)aksut-(q)aq[SS]-Ø Ann ʔuućma
   hear-PAST-1SG.ABS COMP reckless-at.mouth-AUG-3.ABS Ann woman
   ‘I heard that Ann has a foul mouth as a woman.’
4.6. Comparing evidentials to predicates with similar meanings

In each of these sentences the verb gives the perceptual grounding relation between their propositional internal argument and their experiencer external argument. The experiencer in (148a) saw Ann yelling, and from this she learned that Ann had a hot temper. In (148b) the experiencer heard Ann swearing, and so learned that Ann had a foul mouth. In both cases the complement proposition is also now in the subject’s perspective, and so these verbs specify perspectival status as well as perceptual grounding.

4.6.4 Comparing evidentials to predicates that introduce properties: sensory suffixes

In Nuuchahnulth there is a set of core (derivational) suffixes which refer to particular senses in their meaning; these suffixes are listed in Table 4.12 below. Unlike those evidential morphemes which specify the perceptual grounding between a perceived situation and a proposition, these suffixes have two arguments, neither of which is a situation or a proposition. The first argument is a property, such as being nice. The second argument is an entity which the origo deems to have the property given by the first argument. are illustrated in (149).

(149) a. Ḹuɬatuk̓iš nuuk
 Ḹuɬ-a-tuk-uk-ʔiš nuuk
 nice-sound-poss-3.ind song
 ‘His song has a very nice sound to it.’

b. haʔumpuq̓sʔaɬuk’tik
 haʔum-puq̓-qs-’aʔ-uk-ʔičk
tasty-smell-of-now-poss-2sg.ind
‘Yours smells good.’

c. čišpaɬʔaɬuk’tik suuḥaa
 čiš-paɬ-’aʔ-uk-ʔičk suuḥa:
unclean-taste-now-poss-2sg.ind salmon
‘Your salmon has a bad taste now.’

d. čišpaɬćuq̓as
 čiš-paɬ-ćuq̓a-s
dirty-taste-in.mouth-1sg.abs
‘I have a bad taste in my mouth.’

Table 4.12: Nuuchahnulth sensory suffixes

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-aʔuk</td>
<td>‘sound’</td>
</tr>
<tr>
<td>-puq̓s</td>
<td>‘smell’</td>
</tr>
<tr>
<td>-paɬ</td>
<td>‘taste’</td>
</tr>
</tbody>
</table>

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These are not evidential morphemes because they do not specify a relation between the origo and a proposition. Take (149a), for example. This sentence does not mean that the song is nice, and the speaker’s awareness of this stems from auditory signal. It is instead describing the sound itself as good. The speaker is giving their judgment of the quality of the sound. Likewise in (149b) the speaker is giving her judgment that the way the bread in the oven smells is tasty, and in (149d) the speaker is describing the taste in her mouth, not that there is something bad in her mouth and she knows it by tasting; the taste itself is what she is talking about.

Another sensory suffix is -kuk[RSS] ‘resemble’, which I discussed in §4.5.1 above. This suffix differs in form from the evidential -kuk ‘visual inference’ in that it causes reduplication and induces short vowel length on the first two syllables. In terms of meaning, both suffixes make reference to the sense of sight, but the non-evidential one creates a predicate which forms the nucleus of the proposition, just as we saw with -a·tuk and -puq’s. For example, in (150) -kuk[RSS] attaches to the stem ?um?ic ‘mother’ yielding the verb ?u?um?ičkuk ‘resemble one’s mother’. Here we also see that this predicate involving resemblance is negated when wik is introduced into the clause.

(150) wik?iiš ?u?um?ičkuk
wik-?iš ?um?ičkuk[RSS]
NEG-3.IND mother-resembles
‘She doesn’t look like her mother.’

4.7 Consequences

In this section I discuss two of the consequences of my definition of evidentiality and the evidential domain hypothesis. First, some of the mood suffixes which have been described as evidential in the literature on Nuu-chah-nulth (see Swadesh 1933, Rose 1981, Davidson 2002) do not fit my definition of an evidential morpheme. I discuss these in §4.7.1. And second, because different evidential morphemes occur in different syntactic domains, they have different semantic properties, and I summarize these in §4.7.2.

4.7.1 Not all mood suffixes are evidentials

Much like we saw for attitude verbs and verbs of perception, mood markers which perform a similar function to evidentials are not necessarily evidential morphemes. Nevertheless, these deserve some discussion. In §4.7.1.1 and §4.7.1.2 below I describe the indicative mood -?iš and the mirative mood -ča’as and argue they are not evidentials. In §4.7.1.3 I describe the indirect conditional and indirect relative moods. As we will see, these last two moods are more like evidential concord, and do not specify an evidential relation on their own.

The mirative mood and the two indirect moods are the non-evidential moods which bear
4.7. Consequences

the closest resemblance to evidentials—the remainder of the moods (the indicative, conditional, relative, subordinate, etc.) I leave without discussion, though I come back to the indicative in Chapter 9, where I discuss the relation between the origo and so-called direct evidentials.

4.7.1.1 Indicative mood

We have seen numerous examples of the indicative mood already. It is used in main clause declaratives, though it is not the most common mood in declarative clauses in texts. For example, in one text about the speaker’s personal experiences, only 11 out of 54 clauses are in the indicative mood, while the majority of the declarative clauses are in the absolutive mood. Being a main clause mood, the indicative mood cannot occur in an embedded clause. The indicative mood paradigm is given in full in Table 4.13.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-siš</td>
<td>-niš</td>
</tr>
<tr>
<td>2</td>
<td>-ʔičk</td>
<td>-ʔičuš</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>-ʔiš</td>
</tr>
</tbody>
</table>

Table 4.13: Indicative mood paradigm in Ahousaht

Because the indicative mood occurs in sentences where the speaker believes the prejacent proposition to be true, and because it is in complementary distribution with evidential moods such as the quotative -waʔiš and dubitative -qa’ča, it is tempting to think that the indicative mood is a direct evidential—an evidential which indicates that the prejacent is in the origo’s perspective. This is not the case, as I argue below. The facts do not support the indicative mood encoding direct evidentiality.

For example, in (151) the speaker Kay is the origo of the sole clause in the sentence, and she directly observed Ken going upstairs, and she is certain that he is there. The proposition that Ken is upstairs is in her perspective. The sentence is in the indicative mood and contains no indirect evidentials such as -kuk ‘visual inference’ or -matak ‘inference’.

(151) **Scenario:** Kay was sitting out on the front porch, and Bill came up and asked her *waasiih Ken* ‘Where’s Ken?’ She could see the stairs from where she was sitting, and saw him go up earlier. She answered with this.

hiʔaayiʔiš
hiʔ-a’yiʔ-ʔiš
be.there-upstairs-3.IND

‘He’s upstairs’

It may look as though the indicative mood is a direct evidential, indicating that the prejacent is in the origo’s perspective, but it is not. If it were, it would not be used in
scenarios where the prejacent proposition is not in the origo’s perspective, as this would be a contradiction. However, the indicative is used in such cases when it is in a clause with a non-mood indirect evidential like -kuk ‘visual inference’, -matak ‘inference’ or -ck̕i: ‘past inference’. In (152) the origo Kay is not sure whether Ken’s baby is going to start walking or not, but she can infer it from seeing her standing up and letting go of the table.

(152) Scenario: Kay was watching Ken’s baby for him, and she saw her standing up, holding on to the edge of the table, and she let go, so Kay said this to Bill.

\[
\begin{align*}
\text{yaayaacatah》kuk》i} & \quad \text{na’yaqak》i} \quad \text{Kay} \\
yac-atah[RLL]》kuk》i} & \quad \text{na’yaqak-uk》i} \quad \text{Kay} \\
\text{walk-about.to-vis.evid3.ind baby-poss-def Kay}
\end{align*}
\]

‘It looks like Kay’s baby is going to start walking.’

Another example of the indicative with an indirect evidential is given in (153), where it occurs with -ck̕i: Kay can only use this when she hasn’t seen the rain itself, but instead has seen something that allows her to infer that it rained previously.

(153) Scenario: Kay woke up, looked outside and saw the ground was wet. When Bill got up she told him this.

\[
\begin{align*}
\text{mǐčaack》i} & \\
\text{mǐč-(}y)a·ck̕ i: & \quad \text{rain-cont-past.evid3.ind}
\end{align*}
\]

‘It must have been raining.’

Sentences like those in (152) and (153) would not be possible if the indicative mood were a direct evidential. Since the indicative occurs in clauses with both direct and indirect evidentiality, it is not an evidential itself. Instead, in cases of direct and indirect evidentiality alike, its semantics only identify the origo as the speaker. The direct evidentiality is an implicature, rather than an entailment of the indicative mood. This implicature arises because sentences in the indicative mood are used to make assertions, and assertions are only felicitous when the proposition asserted is in the speaker’s perspective.

4.7.1.2 **Mirative -ča’ gaš is not an evidential**

The mirative mood in Ahousaht is another matrix clause mood, which is used to indicate that the speaker, as origo of the matrix clause, is surprised to find that the proposition is true, and has been for some period of time before he or she realized it. In the example in (154) Kay did not know Bill had moved back and was living at home for at least three weeks until she saw him again. She uses the mirative to signify the fact that there was some time between the start of the situation of Bill living at home and when Kay realized he was.
4.7. Consequences

(154) Scenario: Bill moved years ago, then one day Kay saw him back in town. She thought he was just visiting, and then she saw him three weeks later, and realized he had moved back, so she said this to him.

\[
\text{wal-ya}\text{q-}\text{as-Si(z)}-\text{a}z\text{-}\text{aack} \\
\text{be.home-having.done-on.ground.outside-MOM--now-2SG.MIR}
\]

‘You’re living at home now.’

The time the origo was mistaken can be much shorter than the three weeks in the previous example. In (155) the speaker Kay had bingo, but didn’t notice it, until Bill pointed it out to her. Here the elapsed time from the point where Kay had bingo to where she realized she did is measured in seconds rather than days or weeks.

(155) Scenario: Kay and Bill were at bingo, and Kay had bingo but didn’t realize it. Bill noticed it and pointed it out, and Kay said this.

\[
\text{hita}\text{ap-}\text{a}z\text{-}\text{aack}\text{-}\text{a}c\text{a}z\text{as} \\
\text{win-now-1SG.MIR}
\]

‘Oh, I’ve won.’

The mirative paradigm is given in Table 4.14. I have not been able to elicit the first and second person plural forms, nor have I found them in texts. As with other matrix clause moods, the mirative cannot occur in an embedded clause.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-a\text{a}c\text{a}z\text{as}</td>
<td>-?</td>
</tr>
<tr>
<td>2</td>
<td>-c\text{a}a\text{ack}</td>
<td>-?</td>
</tr>
<tr>
<td>3</td>
<td>-c\text{a}a\text{a}\text{a}s</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.14: Mirative mood paradigm in Ahousaht

Like the indicative mood, the mirative mood might appear to be a direct evidential—it seems to indicate that the speaker has observed the prejacent proposition itself. However, as with the indicative mood, the mirative mood can also co-occur with an indirect evidential. If the mirative mood were a direct evidential, it would be infelicitous to use an indirect evidential in the same clause. For example, in (156) the past inferential -ck\text{"i:} occurs in a clause that is in the mirative mood, yet the speaker did not observe the addressee’s father being hungry, she has inferred it from the fact that he ate a lot of eggs. Thus, the “directness” of a sentence in the mirative mood comes from the lack of any indirect evidentials, rather than from the mirative mood itself.
4.7. Consequences

4.7.1.3 Indirect dependent moods

In Ahousaht there are two moods which can be clearly seen as containing the inferential -č. These are the indirect indefinite relative mood -(y)ič and the indirect conditional mood -quč. I have had much less success eliciting these two moods than any of the other evidentials, nevertheless I report what I have been able to discover about these below. The name ‘inferential’ for -č is inaccurate, since it indicates just that a proposition is not in the origo’s perspective, but does not specify the origo’s experiential relation to it, as it would if it encoded that the origo inferred that proposition. Since it can be used in scenarios involving report, rather than inference, it would be better called a marker of indirectness. However, I do not treat -č as a separate morpheme, but treat its combination with the two moods as separate moods, the indirect indefinite relative and indirect conditional. It remains to be seen whether one approach is better than the other at accounting for the data.

The indirect indefinite relative mood -(y)ič occurs in the same environments as the indefinite relative -(y)i, namely in relative clause and in matrix clauses that have an ‘I wonder...’ meaning. The pair of sentences in (157) illustrate the use of the indefinite relative and indirect indefinite relative moods in a relative clause. When the matrix clause is in the indicative mood, we get the indefinite relative mood in the relative clause, as in (157a), and when the matrix clause is in the quotative mood we get the indirect indefinite relative mood in the relative clause, as in (157b). Here the speaker only has a report to the effect that Ken bought shoes, and that those shoes were really expensive.

\[(156)\] Scenario: Kay did not know Bill’s father was really hungry. She eventually realized that he had eaten a lot of eggs, which probably meant he was really hungry. She said this to Bill.

\[
\begin{align*}
\text{hawiïq^ck} & \text{ič’a’nas} \quad \text{nuwi} \quad ?\text{ayaq^c} \quad \text{qinharina} \\
\text{hawiïq^c} & \text{-i-č’a’nas} \quad \text{nuwi} \quad ?\text{aya’aq^c} \quad \text{qinharina} \\
\text{hungry-PAST.EVID-3.MIR} & \text{father many-in.body egg}
\end{align*}
\]

‘Your father must have been hungry, he ate a lot of eggs.’
4.7. Consequences

a. Scenario: Kay was shopping with Ken, and he would only buy really expensive shoes. When she got home she said this to Bill.

ken-suwis yaqii \(\text{only-buy-past-3.ind} \) Ken shoes \text{rel-3.indf big-in.body} 'Ken only bought shoes that are very expensive.'

b. Scenario: Linda was shopping with Ken, and he would only buy really expensive shoes. Later she saw Kay and told her about it, and then when Kay saw Bill she said this to her.

ken-suwis yaqiic \(\text{only-buy-past-3.quot} \) Ken shoes \text{rel-3.indf.expensive} 'Ken only bought shoes that are very expensive.'

The indirect indefinite relative can also be used when the origo is uncertain of the proposition of the relative clause, even though he or she is certain of the proposition of the matrix clause. In (158) the speaker Kay, is the origo of both the matrix clause and the relative clause, and she has direct evidence for the woman walking in, but is not sure if the woman is expecting twins. The relative clause contains -\text{matak} 'inference' and instead of being in the indefinite relative mood \text{-(y)i:}, it is in the indirect indefinite relative mood \text{-(y)i:j}.

\[\begin{align*}
\text{hinii/iz/} & \quad \text{luucma yaqmatakijic} \\
\text{hinii/iz/-a\-zi/} & \quad \text{luucma yaq\-matak\-(y)i:cz} \\
\text{enternow-3.ind} & \quad \text{woman rel-ind.evid-3.indf.inf} \\
\text{trans-expecting have.twins} & \quad \text{expecting twins.}
\end{align*}\]

It is also possible for the indirect indefinite relative mood to be used without any additional evidentials. The first line of a story from Little (2003) is given in (159). The speaker Caroline Little is certain about what she is going to do, namely talk about how people got re, but she is not certain about whether this is how people got fire, since she was not there. Thus she uses the indirect indefinite relative mood in the relative clause \text{q\-ishitijic quu\-as hiniip ?ink 'how people got fire'}.

\[\begin{align*}
\text{c\-u\-uuq\q\-aq\-kas} & \quad \text{quu\-as hiniip ?ink} \\
\text{c\-u: \(\text{\-q\(-q\)-h\(-h\)-}\)} & \quad \text{qu\-as hina-ip ?ink*} \\
\text{okay trans-tell-fut-1sg.abs do.thus-sim-past-3.indf.inf} & \quad \text{person loc-get fire}
\end{align*}\]

'Ok, I will talk about how people got fire.' (Little 2003, 22)
headless relative clauses, but they are not subordinate to another clause. These clauses get translated as ‘I wonder . . . ’, and often occur with the discourse particle wa, which occurs with statements, not questions, and invites the addressee to agree or disagree with the speaker, much like right in English. Its use is not to ask the addressee to provide an answer, so much as to express the speaker’s inability to remember or discover some fact. There seems to be no difference between such clauses in the indefinite relative or the indirect indefinite relative mood. An example of the ordinary indefinite relative mood in such a clause is given in (160). Kay can’t remember how old Ken was when he moved to Victoria, and expresses this with a headless relative clause in the indefinite relative mood.

(160) quŋaŋ-ćiĉhɔâjitii          wa
     quŋa-ćiĉh-’aŋ-(m)it-(y)i:          wa
how.much-years-nwast-3.INDF PRT
‘I wonder how old he was?’

In (161) Kay doesn’t know where Bill’s aunt lived, and neither does he, and Kay expresses her bewilderment at not being able to find it with a headless relative clause in the indirect indefinite relative mood. Note that this contains the second person singular form -(y)i:jk, the only form other than the third person -(y)i:j I have found either through elicitation or in texts.

(161) Scenaria: Kay and Bill were going to his aunt’s house, but they couldn’t find it. After walking around for a while, Kay said this to Bill.

waaYațhijč          wa naŋi
waaYațh-(y)i:čk          wa naŋi
where.live-2SG.INDF PRT aunt/uncle
‘I wonder where your aunt lives?’

The second non-matrix mood I address here is the indirect conditional -qu:č. This mood occurs in the antecedent clause of conditional propositions where the entire proposition is reported, while the consequent clause is in the quotative mood. In (162) the speaker Kay is the origo of both clauses, and she heard that if Ken had gone with his uncle he would have bought him candy. When she passes this information on to Bill, she uses the quotative mood in the consequent clause ?uʔaapaṭuʔaʔhitwaʔiši candy ‘he would have bought him candy’, and the indirect conditional in the antecedent clause naʔuukituʔuč ‘if he had gone with him’. 
4.7. Consequences

(162) **Scenario:** Ken’s uncle went to the store but Ken didn’t want to go with him. When he got back, he told Ken he would have bought him candy. Kay heard him say this, and when Bill came in and asked why Ken was upset, she said this to him.

naʔuukítquuč ʔuʔaʔá̱ʔatukwaʔitwaʔiš candy
daʔuk-(m)ít-quč ʔuʔ-’aʔ-at-uk-’aʔ-(m)ít-waʔiš candy
go.along-PAST-3.COND.INF TRANS-buy-SHIFT-POSS-IRR-PAST-3.QUOT candy

‘If he had gone with him, he (his uncle) would have bought him candy.’

The conditional in (162) is an if-conditional, but the indirect conditional can also appear with whenever- conditionals. In (163) the antecedent clause contains -’aλ and the indirect conditional -quč, while the consequent clause contains the habitual ?a:t and the quotative -waʔiš.

The speaker Kay is the origo of both clauses, and she obtained the conditional proposition by report from Linda.

(163) **Scenario:** Ken had been ill, and the last time Kay saw Linda, she asked her how he was. Linda told her yaacpanačaʔaquu ̱pusʔiihičiʔiišʔišʔa:t ‘Whenever he goes for a walk, he becomes very tired’. Later, Kay saw Bill and he asked her how Ken was making out, and she replied with this.

yaacpanačaʔaquu ̱pusʔiihičiʔwaʔišʔaa:t
yac-panač-’aλ-quč ̱pusʔ-ʔihiči(ʔ)-waʔišʔa:t
walk-randomly-NOW-3.COND.INF tired-suffer.MOM-3.QUOT-HAB

‘He becomes very tired when he goes for a walk.’

4.7.2 **Evidentials from different syntactic domains have different semantic properties**

Patterns emerge when we look at which evidential relations are encoded in evidentials in each of the syntactic domains, as shown in Table 4.15. First, inference can be encoded in evidentials in any domain. Second, reportative evidentials only occur in the CP domain. Third, perceptual grounding is encoded in evidentials only in the VP domain.

Evidentials which indicate perceptual grounding are predicted by Blain and Déchaine (2006) to be found in the VP domain, and this is where we find them in Nuuchahnulth. I explore the reasons for this further in Chapter 8.

The three evidentials in the CP domain are a mix of two reportatives and an inferential. The CP domain is the only place where we find reportatives in Nuuchahnulth, but it is not the only place where we find inferentials—inferentials occur in all three domains.

In the IP domain, the two mode suffixes -matak ‘inference’ and -ck’i: ‘past inference’ are inferentials, differing only in the addition of a temporal restriction in the case of -ck’i:.
4.8 Summary of combinatorial restrictions on Nuuchahnulth evidentials

<table>
<thead>
<tr>
<th>Domain</th>
<th>Morpheme</th>
<th>Gloss</th>
<th>Inference</th>
<th>Report</th>
<th>Perceptual Grounding</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>-qa'ča</td>
<td>'dubitative'</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>-waʔiš</td>
<td>'quotative'</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-ha'c</td>
<td>'indirect interrogative'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP</td>
<td>-ck'wı́</td>
<td>'past inference'</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>-matak</td>
<td>'inference'</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP</td>
<td>-kuk</td>
<td>'visual inference'</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>naʔa:t</td>
<td>'auditory evidence'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.15: Evidential relations and syntactic domains

The two VP-domain evidentials, -kuk ‘visual inference’ and naʔa:t ‘auditory evidence’ encode particular perceptual grounding relations. And conversely, the only evidentials which encode perceptual grounding are in the VP domain.

4.8 Summary of combinatorial restrictions on Nuu-chah-nulth evidentials

As we saw in §§4.3–4.5 above, evidential morphemes in Nuu-chah-nulth occur in different syntactic positions, rather than a single paradigmatic slot. This was first pointed out by Jacobsen (1986), and is an example of what Aikhenvald (2004) calls a scattered coding of evidentiality. In Table 4.16 below I summarize the morphological classes of the evidential morphemes introduced earlier in this chapter.

<table>
<thead>
<tr>
<th>Syntactic Domain</th>
<th>morphological class</th>
<th>form</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>mood suffix</td>
<td>-qa'ča</td>
<td>'dubitative'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-waʔiš</td>
<td>'quotative'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-ha'c</td>
<td>'indirect interrogative'</td>
</tr>
<tr>
<td>IP</td>
<td>mode suffix</td>
<td>-matak</td>
<td>'inference'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-ck'wı́</td>
<td>'past inference'</td>
</tr>
<tr>
<td>VP</td>
<td>core suffix</td>
<td>-kuk</td>
<td>'visual inference'</td>
</tr>
<tr>
<td></td>
<td>particle</td>
<td>naʔa:t</td>
<td>'auditory evidence'</td>
</tr>
</tbody>
</table>

Table 4.16: Morphological classes of evidentials

With the evidential morphemes in separate morphological positions, the possibility arises that they can co-occur. We saw in §§4.3–4.5 that the evidentials in Nuu-chah-nulth can, with some restrictions, co-occur in the same clause. The possible combinations are summarized...
4.9 Variation in evidentials in Southern Wakashan

in Table 4.17. The moods are all in complementary distribution with each other, and so only one can occur in any clause.\(^{10}\) They can occur with the other kinds of evidential, and the others can co-occur with each other as well, with a couple of gaps.

No evidential can occur twice in a clause, so setting those cases aside the possibility of co-occurrence between two evidentials depends on what kind of evidentials they are. The broad groups that emerge are reportatives, inferentials, and purely sensory evidentials. Reportative evidentials can occur with any other kind of evidentials. However, since they are moods, they cannot co-occur with other evidential moods. The purely sensory evidential in Nuu-chah-nulth is *naʔa:t* ‘auditory evidence’, and it can occur with any other evidential except for *-ckw:i* ‘past inference’, which is the only evidential to specify that the prejacent situation temporally precedes the witnessed situation. The inferentials have the greatest number of restrictions. *-kuk* ‘visual inference’ cannot occur with any other inferential.

<table>
<thead>
<tr>
<th></th>
<th>naʔa:t</th>
<th>-kuk</th>
<th>-ckw:i</th>
<th>-matak</th>
<th>-qaʔa:</th>
<th>-waʔa:</th>
<th>-haʔa:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>naʔa:t</em> ‘auditory evidence’</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-kuk</em> ‘visual inference’</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-ckw:i</em> ‘past inference’</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-matak</em> ‘inference’</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-qaʔa:</em> ‘dubitative’</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-waʔa:</em> ‘quotative’</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td><em>-haʔa:</em> ‘indirect interrogative’</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4.17: Allowable combinations of evidentials in Nuu-chah-nulth

4.9 Variation in evidentials in Southern Wakashan

In this section I look at the correspondences between the evidentials in the different dialects of Nuu-chah-nulth, and between those in Nuu-chah-nulth and those in Makah.\(^{10}\)

\(^{10}\)While this is true for the Ahousaht dialect (Nakayama 1997, 31) it is not for every dialect of Nuu-chah-nulth. In the Tseshah dialect, more than one mood can occur. For example in (i), from Sapir and Swadesh (1955) and given as analyzed by Davidson (2002, 290), the quotative mood *-weʔa:* occurs with the dubitative mood *-qaʔa:*.

\[(i)\] ʔaʔa:ya:sçaapuʔaʔa:itweʔiʔa:qaʔa: quʔa:s  
many-on.roof-too-perf-temp-past-quot-dub person  
‘Evidently too many people got onto it (the roof).’ (NA 170.28-29)
4.9. Variation in evidentials in Southern Wakasban

4.9.1 Dubitative in Southern Wakasban

Looking at Kyuquot Rose (1981, 220) notes the similarity in meaning between -matak ‘inference’ and -qa'ča ‘dubitative’, which I also described above for Ahousaht. She further notes that their use differs depending on whether the speaker tends to agree with the prejacent proposition: -matak implies agreement, while -qa'ča does not and can give rise to irony. I have not found this pattern with respect to the two suffixes in Ahousaht. In texts I have seen -qa'ča used where the speaker is making a guess, and in elicitations -matak occurs in scenarios involving guesses as well.\footnote{In Tseshaht -matak is also used in guessing scenarios, as illustrated in the text Puberty Potlatch for Dick Thlaamahuus’ Daughter (Sapir and Swadesh 1955, 234).}

The form of the dubitative mood in Kyuquot is slightly different from that in Ahousaht due to the reduction of short vowels in the third or later syllables in that dialect. The full paradigm is given in Table 4.18.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-qa'c</td>
<td>-qa'čin</td>
</tr>
<tr>
<td>2</td>
<td>-qa'čk</td>
<td>-qa'ču:</td>
</tr>
<tr>
<td>3</td>
<td>-qa'č'</td>
<td>-qa'ča:</td>
</tr>
</tbody>
</table>

Table 4.18: Kyuquot dubitative mood paradigm (Rose 1981, 213)

In Tseshaht the dubitative indicates the speaker “acknowledges the possibility of a non-future event or situation” (Davidson 2002, 290). When the situation is in the future, the speaker can make use of -(w)u:s, a mode suffix which is not used in Ahousaht. The dubitative mood paradigm from Tseshaht is given in Table 4.19.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-qa'csa</td>
<td>-qa'čin</td>
</tr>
<tr>
<td>2</td>
<td>-qa'čka</td>
<td>-qa'csu:(wa)</td>
</tr>
<tr>
<td>3</td>
<td>-qa'č'</td>
<td>-qa'ča</td>
</tr>
</tbody>
</table>

Table 4.19: Tseshaht dubitative mood paradigm (Sapir and Swadesh 1939, 242)

In Makah, the mood closest in meaning to the durative in Ahousaht is what Davidson (2002) calls the inferential. It is used when the speaker is making an inference from “unspecified evidence” (Jacobsen 1986, 19).

(164) dudu'kíxaxa'ś

‘He’ll probably sing.’ (cf. dudu'kat ‘He’s singing.’) (Jacobsen 1986, 19)
4.9. Variation in evidentials in Southern Wakashan

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Matrix clauses</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Embedded clauses</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>With other moods</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>?</td>
</tr>
<tr>
<td>Internal structure</td>
<td>-qa’-e-’a-AGR</td>
<td>-qa’-e-’a-AGR</td>
<td>-qa’-e-’-a-ing</td>
<td>-qa’-e-’-(a)-AGR</td>
<td>—</td>
</tr>
<tr>
<td>1 SG</td>
<td>-qa’-e-’-a-s</td>
<td>-qa’-e-’-a-s</td>
<td>-qa’-e-’-s</td>
<td>-qa’-e-’-sa</td>
<td>—</td>
</tr>
<tr>
<td>1 PL</td>
<td>-qa’-e-’-a-n</td>
<td>-qa’-e-’-a-n</td>
<td>-qa’-e-’-a-n</td>
<td>-qa’-e-’-sa</td>
<td>—</td>
</tr>
<tr>
<td>2 SG</td>
<td>?</td>
<td>-qa’-e-’-k</td>
<td>-qa’-e-’-a-k</td>
<td>-qa’-e-’-k-a</td>
<td>—</td>
</tr>
<tr>
<td>2 PL</td>
<td>?</td>
<td>-qa’-e-’-su:</td>
<td>-qa’-e-’-su:</td>
<td>-qa’-e-’-su:(wa)</td>
<td>—</td>
</tr>
<tr>
<td>3 SG</td>
<td>-qa’-e-’-a</td>
<td>-qa’-e-’-a</td>
<td>-qa’-e-’-a</td>
<td>-qa’-e-’-sa</td>
<td>-xa’$</td>
</tr>
<tr>
<td>3 PL</td>
<td>?</td>
<td>-qa’-e-’-a</td>
<td>-qa’-e-’-a</td>
<td>-qa’-e-’-sa</td>
<td>-xa’$</td>
</tr>
</tbody>
</table>

Table 4.20: Comparison of the dubitative mood

4.9.2 Quotative in Southern Wakashan

Kyuquot has a similar quotative paradigm, which Rose (1981, 229–230) describes as indicating that the speaker is presenting a report made by a non-speech act participant. She also reports that it cannot occur with mode suffixes, a fact which distinguishes it from that in Ahousaht (see §4.8). The Kyuquot quotative paradigm is given in Table 4.21.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-wa’$</td>
<td>-wa’ni$</td>
</tr>
<tr>
<td>2</td>
<td>-wa’e</td>
<td>-wa’cu$</td>
</tr>
<tr>
<td>3</td>
<td>-wa’$</td>
<td>-wa’ta$</td>
</tr>
</tbody>
</table>

Table 4.21: Kyuquot quotative paradigm

Rose (1981, 229) derives the forms in Kyuquot an element /wa/ followed by the indicative mood. This is similar to what we find in Ahousaht, though the pattern is entirely regular in Kyuquot, while in Ahousaht it is mixed. They Kyuquot indicative paradigm is shown in Table 4.22.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-si$</td>
<td>-ni$</td>
</tr>
<tr>
<td>2</td>
<td>-a’e</td>
<td>-icu$</td>
</tr>
<tr>
<td>3</td>
<td>-ta$</td>
<td>-ita$</td>
</tr>
</tbody>
</table>

Table 4.22: Kyuquot indicative paradigm (Rose 1981, 223)

\(^{12}\)I have corrected what I assume to be a typo in Rose (1981), where the final phoneme is given as /s/. Her internal reconstruction ends in /$i$/, as I indicate here.
The form of the quotative mood in Tseshaht is more distinctly different from that in Ahousaht. The paradigm is given in Table 4.23. The base form, illustrated in the third person, contains /wa/; although in Tseshaht there is a regular phonological process causing /a/ to raise to /e/ when it precedes a /i/ sequence. Thus the Tseshaht quotative contains the wa/ component found in all the forms in Ahousaht and Kyuquot, but it also contains an additional component /in/ which Swadesh (1948) identifies as - 'in ‘so treated’, saying he follows Sapir in doing so, though he gives no reference and I have not found the source. On the other hand, Jacobsen (1986) identifies it with - 'in which he believes to be a part of -sin ‘sound of’. The Tseshaht quotative, unlike those in Ahousaht and Kyuquot, can co-occur with other moods, in particular, the conditional. The quotative is still restricted to matrix clauses, as Sapir (1924, 89) notes, and he also notes that the conditional has a past usitative meaning in matrix clauses. The sentence in (165) comes from Kwatyat and the Sunbeam Girls just after a line saying that Kwatyat had asked them many times who their father was. The conditional precedes the quotative here, though according to Davidson (2002) it occasionally follows it.

(165) wiKazquuwe/in ʔiqhuk ʔaatšaa:kʷaʔi
     wik-’ax-qu-we/in ʔiqhuk ʔaatšaa:kʷaʔ-
     NEG-NOW-COND-QUOT Tell Girl.PL-DEF
     ‘The girls would not tell.’ (Sapir and Swadesh 1939, 40)

In addition, Davidson (2002, 266) notes that the Tseshaht quotative can also co-occur with the inferential I mood -čaːš, inferential II mood -čaːʔaš, and the dubitative mood -qaːča, all of which follow -weʔin, and also with the subordinate mood -h, which precedes -weʔin. This latter is not the usual subordinate mood, and Davidson (2002, 274) has not identified the conditions on its use, but he has found it only in the second and third persons. It could be related to what I have called the emphatic absolutive -huːk, which only occurs with third persons. Regardless of its precise meaning, it appears to be a case where the quotative mood occurs in a non-matrix clause, as it occurs in clauses introduced by the complementizer ʔani.

In Makah the quotative mood is -waːt, which Jacobsen (1986, 17) analyzes as a contraction of wa ‘say’ with -iit ‘passive’. Jacobsen notes that -waːt is not compatible with any other moods. An example is given in (166) below.
4.9. Variation in evidentials in Southern Wakashan

(166) ʔakyadakwa-tsu
‘You’ve got a lot (I hear).’ (cf. ʔakyadawic ‘You’ve got a lot.’) (Jacobsen 1986, 16)

4.9.3 Indirect interrogative in Southern Wakashan

The indirect interrogative also occurs in other dialects. In Kyuquot, Rose (1981, 219) calls it the interrogative inferential mood, though it is not clear from her description whether it is purely quotative as in Ahousaht, or also covers inference. It is also not clear whether it can have the reading where the question is on someone else’s behalf. The paradigm is given in Table 4.24.

<table>
<thead>
<tr>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-ʔa̱č</td>
</tr>
<tr>
<td>2</td>
<td>-ʔa̱čk</td>
</tr>
<tr>
<td>3</td>
<td>-ʔa̱č</td>
</tr>
</tbody>
</table>

Table 4.24: Kyuquot interrogative inferential mood paradigm (Rose 1981, 219)

In Tseshaht the form of the ordinary interrogative is -ʔa’, and Sapir (1924, 102) and Davidson (2002, 288) treat -ʔa’č as synchronically composed of the ordinary interrogative and the quotative -č. Neither source provides a full paradigm.

Jacobsen (1986, 18) describes a quotative interrogative in Makah as well. He gives the third person form as -i:Ja, in contrast to the ordinary interrogative -a:l. Davidson (2002) does not provide a paradigm for the quotative interrogative. According to Jacobsen, the quotative interrogative is used to ask about reported information or inferences.

(167)  bɑ’q̓i’daḵaʔi̱ča teʔi̱ʔiq
‘How did he say the sick person is?’ (cf.  bɑ’q̓i’daḵa teʔi̱ʔiq ‘How sick is the person?’) (Jacobsen 1986, 18)

4.9.4 Mirative in Southern Wakashan

What Rose (1981, 221) calls the evidential mood in Kyuquot shares the mirative meaning and some of the form of the mirative in Ahousaht. An example is given in (168). Rose describes three parts to its meaning, though it is not clear from her discussion whether they are always all present. The first is that the speaker has made a discovery of some information, the second that there is direct evidence (e.g. photographs or first-hand observation) for that information, and the third is that the speaker expects the information to be noncontroversial. These three parts of its meaning are all compatible with the definition of mirativity I gave above. The surprise associated with mirativity is due to the fact that the speaker is now certain
4.9. Variation in evidentials in Southern Wakashan

about something which he or she realizes he or she should have been certain about earlier. This realization is what Rose calls the speaker’s discovery. The certainty comes from direct evidence, such as first-hand observation. Finally, since the realization and certainty occur at the time of the utterance, the addressee will be present and have access to the same observations that the speaker has. If the Kyuquot evidential mood is really a mirative, all three parts to its meaning should be present in every instance of its use.

(168)  

CimTu;?SaS
CimTu;?-a;S
squirrel-evid

‘Oh, there’s a squirrel!’ (Rose 1981, 221)

The paradigm which Rose (1981, 213) presents for the evidential mood in Kyuquot is given in Table 4.25. Rose does not provide second person forms for this mood, but see the discussion below on the Kyuquot inferential evidential, which she states is used instead of the evidential when the subject is second person (Rose 1981, 222). Another notable feature of this paradigm is that the third person plural element /a;/ follows the mood element /a;S/, while the first person elements /s/ and /in/ precede it. In other paradigms this plural element occurs in the same position as the other persons, in contradistinction to the plural -/a; in Ahousaht, which always follows the mood/person suffixes (§2.5.4). As for similarity in form, compare

Table 4.25: Kyuquot evidential mood paradigm (Rose 1981, 213)

the third person forms of the Kyuquot evidential mood -a;S and the Ahousaht mirative mood -ća;S. Given the vowel deletion process in Kyuquot, the two forms differ only in the initial /ć/ found in the Ahousaht mirative.

Rose (1981, 222) also describes the inferential evidential mood, which combines the evidential mood with the inferential suffix /-ć/. This mood is used when the speaker has made a discovery that concerns the addressee, or which contradicts the speaker’s previous belief, or which is based on inference rather than first-hand observation. The paradigm she provides for this is given in Table 4.26. Here we can see that the expected forms for the second person in the evidential mood would be -ka;S and -surwa;S. We can also see that the form of this mood is even closer to that of the mirative mood in Ahousaht, but the meaning is not. Both the inferential evidential and evidential moods in Kyuquot involve the speaker making a discovery, but the mirative in Ahousaht is used when the speaker is using first-hand observation, as is the
4.9. Variation in evidentials in Southern Wakashan

case with the evidential mood in Kyuquot, not when he or she is making an inference, as is found with the inferential evidential mood.

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-(c)sa'š</td>
<td>-čina'š</td>
</tr>
<tr>
<td>2</td>
<td>-čka'š</td>
<td>-cu'wa'š</td>
</tr>
<tr>
<td>3</td>
<td>-ča'š</td>
<td>-ča'ta'š</td>
</tr>
</tbody>
</table>

Table 4.26: Kyuquot inferential evidential mood paradigm (Rose 1981, 222)

Tseshat has a mood which Swadesh (1933) calls the inferential, and which Davidson (2002) calls the inferential II, and which has a very similar form to the mirative mood in Ahousaht. According to Davidson (2002), the inferential II indicates that the speaker has just discovered the proposition. He further notes that it gets a mirative meaning when it occurs with q"a 'thus' (sometimes appearing as -qo:).

(169) ūu ʔiq-simsaš, waaʔii'at
ūu ʔiq-sim-(c)sa'š wa:-'a'k-'at
prt still-need-infI1 say-now-shift
“Oh, I seem to need some more,” he says.’ (Sapir and Swadesh 1939, 112)

Makah also contains a mood -a:-..-škub (with any person marker appearing between the two parts) which according to Jacobsen (1986, 19) “indicates that the speaker has only belatedly become aware of a fact or event”. Davidson (2002) calls this the mirative mood.

(170) čapača škub
‘It’s a canoe.’ (after you finally make out what it is) (Jacobsen 1986, 19)

4.9.5 -matak in Southern Wakashan

Turning to other dialects, -matak is also found in Kyuquot, where Rose (1981, 205) notes it is the most common mood suffix. The set of mode suffixes consist of more than just -matak and -ck"i, but this still means -matak is more common than -ck"i in Kyuquot, which 

13While Davidson (2002) glosses this q"a; as ‘thus’, I suspect he is conflating two separate morphemes. This particular one, which he notes sometimes appears as a suffix, is a always suffix in Ahousaht. In that dialect there is a post-mood suffix -q"aa which precedes the other post-mood suffixes, such as the plural -ʔat as we see in the sentence waʔičalaq"aaʔat ‘Are they all sleeping’. I have only found it occurring with either of the interrogative moods, but have not been able to determine its meaning or function. The other morpheme is a stem, q"a; which occurs in relative clauses when the manner is extracted, and in some other relative clauses where a non-argument is extracted. We can see it in the sentence hišuk"a'at huḥtakat q"aaʔiiq quʔušinnit ‘Everyone knew how Raven was’. While these two morphemes may be historically related, they currently have very different distribution. Since the two morphemes in Tseshat also exhibits this difference in distribution, it is likely the case that they are two separate morphemes in that dialect as well.
4.9. Variation in evidentials in Southern Wakashan

is the opposite of what I have found in Ahousaht. Examining the first five texts in each of Little (2003) and Louie (2003), I count -matak occurring four times, compared to -ck"i: occurring 27 times (not counting instances where it is nominalizing).

In Tseshaht -matak appears to have the same meaning as in Ahousaht. Examples in the Nootka Texts (Sapir and Swadesh 1939) and Native Accounts (Sapir and Swadesh 1955) show -matak in non-matrix clauses, with exceptions in a single text (Puberty Potlatch for Dick Tblaamabuu's Daughter, pp. 230–260), where it appears in matrix clauses in a series of sentences where different speakers are guessing a location. Each of these sentences only differs in the name of the location being guessed.

(171) ʔuñmataˈ kəməqáˈ waaʔaˈx
   “I think it is Tlimhkatsu,” she said.’ (Sapir and Swadesh 1955, 234)

One of the more typical example is given in (172), where -matak is in an embedded clause. Here the main character of the story ſintHtin is looking for Pitch Woman's home, and after searching the area it is supposed to be in, he comes across a path and, following it, a small waterhole.

(172) kamatsap ſintHtin [ʔani histaaməmatˈkəq̂a ʔišsuˈiʔ kəʔak]
   ‘Mucus-made realized that that was probably where Pitch Woman went for water.’(Sapir and Swadesh 1939, 92)

The distribution in Tseshaht also seems to correspond to that in Ahousaht, rather than that in Kyuquot, judging by the relative occurrences of the two suffixes in Nootka texts.

4.9.6 -ck"i: in Southern Wakashan

In Kyuquot the cognate suffix is -ck"a:, which has the same evidential meaning -ck"i: has in Ahousaht (Rose 1981, 205). However, unlike -ck"i:, the Kyuquot form does not always have its past meaning and can occur with temporal suffixes such as -(m)it 'past' or -ʔaqz 'future'. Rose also notes that -ck"a: can be used with either reported evidence or perceived evidence, much like Ahousaht -ck"i:.

Davidson (2002) does not discuss any evidential meaning associated with -ck"i: in Tseshaht. He glosses it as ‘having been ..-ed’ or ‘having ..-ed’ (in addition to ‘remains of ..’ in its nominalizing use), and treats it as a core suffix rather than a peripheral suffix (in his terminology, a suffix, as opposed to a clitic).

Jacobsen (1986, 20) notes this suffix in Makah as well, where it also has a nominalizing and evidential use. His description of the evidential use is much narrower than those in Nuu-chah-nulth, however, and is limited to scenarios where the evidence is animal tracks or an animal tooth found on the ground. In both cases it has a past component to it, since the speaker is perceiving something when the animal is no longer there.
4.9. Variation in evidentials in Southern Wakashan

The suffix which more closely matches the range of meaning of 
-ck"i" in Nuu-chah-nulth is -pi:t (Jacobsen 1986, 12), illustrated in (174). Jacobsen describes it as indicating an ex post facto inference from physical evidence (ruling out reports). He also mentions that the evidence is usually the something resulting from the inferred situation, but from the example in (174) we can see that it can be used when the inferred event does not produce any directly observable physical results.14

(174) 
weʔičaxpitid

'We must've been sleeping.' (weʔič 'to sleep') (Jacobsen 1986, 12)

4.9.7 -kuk in Southern Wakashan

In the Tseshaht dialect -kuk without reduplication seems to indicate resemblance, but it is not restricted to visual resemblance. In (175) -kuk occurs on the stem čiːq-(y)a ‘chant’ and seems to indicate auditory resemblance, as it is the singing that resembles chanting. This -kuk still contrasts with -kuk with reduplication in terms of stem selection: here it is a verb, and it is one action that resembles another, rather than one thing that resembles another.

(175) 
be.there-in.container.in.house.mom-now this sing chant-cont-vid.vis

be.there-in.container.in.house.mom-def

'Then someone came out onto the floor and sang as though chanting.' (Sapir and Swadesh 1955, 171)

In Makah the evidential that most closely matches the meaning of -kuk in Ahousaht is -caqiṭ. It is used for “uncertain visual evidence, as when trying to make out something at a distance” (Jacobsen 1986, 15). The sentence in (176) illustrates this.

(176) 
‘It looks like something dived.’ (cf. ţapsči ‘He dived in.’) (Jacobsen 1986, 15)

Jacobsen (1986, 22) also notes that Makah has -kuk, but its evidential meaning only occurs when the subject is a second person. The reduplicating form -kuk[RSS] is also present, and he gives a number of examples of the names of foods which are derived with it, such as the one in (177) below.

14Sleep in ones eyes are an exception to this, but I seriously doubt that someone's first evidence that they have been asleep is finding sleep in their eyes.
4.10 Summary

CiCisaq`kuk
‘sugar’, lit. ‘looks like sand’ (cisaq- ‘sand’) (Jacobsen 1986, 22)

4.9.8 na?a:t in Southern Wakashan

While I have documented na?a:t ‘auditory evidence’ in the Ahousaht dialect, it does not appear in the published material in either the Tseshaht or Kyuquot dialects. Looking outside Nuuchahnulth, it seems to correspond with the suffix -qadi in Makah (Jacobsen 1986), though Jacobsen notes that -qadi can also be used in scenarios where the speaker does not have auditory evidence for something, but instead some other sensory evidence. An example of -qadi with its auditory meaning is given below.

(178) dudu:kqaďi
‘I hear him/it singing.’ (Jacobsen 1986, 13)

4.10 Summary

This chapter gave an overview of the evidential morphemes which are at the centre of this dissertation. They were contrasted with two other kinds of morphemes, propositional attitude verbs and sense suffixes, which exhibit some similarities to the evidential morphemes. In the descriptions of the evidential morphemes we saw that they appear in diverse morphological classes, suggesting that they may be able to co-occur. Data was presented illustrating the permissible co-occurrences, as well as impermissible ones. Also discussed was the variation in evidential morphemes exhibited between dialects of Nuu-chah-nulth, and between Nuu-chah-nulth and other Southern Wakashan languages. Later chapters (7 and 8) will look at the semantic effects of multiple evidentials in a single clause, as well as the reasons that some evidentials cannot co-occur.
Chapter 5

Modelling evidentiality: a truth conditional analysis

5.1 The ingredients of evidentiality

The origo hypothesis posits that evidentiality is composed of three relations which hold between an origo, a perceived situation and a prejacent proposition, as shown in Figure 5.5. Each of the three relations can be specified separately from the others in an evidential morpheme. For example, as Table 5.1 shows, in Nuu-chah-nulth perceptual grounding is only specified in -kuk ‘visual inference’ and naʔa:t ‘auditory evidence’. Perspectival status and manner of support are specified in all the evidentials except naʔa:t.

<table>
<thead>
<tr>
<th>Perspectival status</th>
<th>Perceptual grounding</th>
<th>Manner of support</th>
</tr>
</thead>
<tbody>
<tr>
<td>-waʔiš ‘quotative’</td>
<td>uncertain</td>
<td>report</td>
</tr>
<tr>
<td>-haʔe ‘indirect interrogative’</td>
<td>uncertain</td>
<td>report</td>
</tr>
<tr>
<td>-qaʔa ‘dubitative’</td>
<td>uncertain</td>
<td>inference</td>
</tr>
<tr>
<td>-matak ‘inference’</td>
<td>uncertain</td>
<td>inference</td>
</tr>
<tr>
<td>-ckʷi ‘past inference’</td>
<td>uncertain</td>
<td>inference</td>
</tr>
<tr>
<td>-kuk ‘visual inference’</td>
<td>uncertain</td>
<td>visual</td>
</tr>
<tr>
<td>naʔa:t ‘auditory evidence’</td>
<td></td>
<td>auditory</td>
</tr>
</tbody>
</table>

Table 5.1: The factors of evidentiality encoded in Nuu-chah-nulth evidentials
5.1. The ingredients of evidentiality

Before these relations can be implemented in truth-conditional semantics, the origo, perceived situation and prejacent proposition need to be defined. The simplest of these is the perceived situation, which I model as a situation in the sense of Kratzer (1989) (§5.1.1). Situations are a basic type in my analysis. I also model origos as a basic type, though it can be mapped to an individual and a situation when necessary (§5.1.2). The prejacent proposition is a centred proposition—a function from origos to uncentred propositions, which in turn are sets of maximal situations (i.e., worlds). I use the term “uncentred proposition” instead of the standard “proposition” to make it clear that I am referring to the kind that is a set of worlds, and not something more general. I then describe centred propositions (§5.1.3), and summarize the semantic types used in modelling these concepts (§5.1.4).

With the ontological status of the origo, perceived situation and prejacent proposition laid out, I turn to modelling the relations between them. First, I discuss the relation between the origo and the prejacent proposition, which I term perspectival status (§5.2). Perspectival status indicates whether or not the prejacent proposition is in the origo’s perspectivethe set of centred propositions he or she believes. Next, I discuss the relation between the prejacent proposition and the perceived situation, which I term the manner of support (§5.3). Manner of support indicates whether prejacent propositions holds directly in the perceived situation, the perceived situation allowed the origo to infer the prejacent proposition, or the perceived situation was an utterance situation in which the prejacent proposition was asserted. Finally, I discuss the relation between the origo and the perceived situation, which I term perceptual grounding (§5.4). Perceptual grounding indicates which sense the origo used in perceiving the perceived situation.

With the three evidential relations laid out, I turn to modelling each of the evidential morphemes in Nuuchahnulth (§5.5). I then discuss some of the consequences of the analysis (§5.6). I discuss how the division of evidentiality into three relations allows evidential morphemes to specify one, two, or all three, and show how the evidentials in Nuuchahnulth exhibit this. Then I discuss the roles that an origo’s memory and perspective play in the use of evidentials. I also compare contingent inference to Kratzer’s analysis of epistemic modality (§5.7). Finally, I list the translations of each of the Nuuchahnulth evidentials in a single table, for reference (§5.8).

5.1.1 Ingredient 1: situation

Evidentiality is related to perception—many evidentials encode that the origo perceived something, and some of them encode which sense was used. For example, the auditory evidential na?at indicates that the origo perceived something auditorily.

The objects of perception are situations. Situations are the parts of the world that we perceive and have attitudes about. For example, when I look out my window and see a junco in
the garden, what I am seeing is a situation—a situation in which there is a junco in the garden. We can also perceive situations internal to us. When I notice that I am hungry, what I really notice is the situation in which I am hungry.

There are two approaches to situations in the literature. Barwise and Perry (1981) describe situations as states of affairs, ranging in size from events up to the world. A world is the sum of all states of affairs. They model situations as functions from relations and individuals to truth values. (Kratzer 1989) likewise considers situations as ranging in size from events up to the world, but models them as partial possible worlds. In Kratzer’s approach, situations fit into standard modal logic in the place of worlds, so that uncentred propositions are functions from situations to truth values. I will be following Kratzer’s approach.

I define a situation as a partial world at a particular time. In her 1989 paper, Kratzer sets aside the issue of time, but since evidentials interact with tense, it cannot be ignored here. In the following, I first discuss the partial world component and then time component of situations.

Situations range in size from events up to entire worlds. Situations can be related to each other by the part-of relation—one situation (say, brushing your teeth) can be part of another situation (say, getting ready for work in the morning). The part-of relation is a partial ordering, meaning it is a reflexive, antisymmetric, and transitive binary relation.

(179) Reflexive: Every situation is a part of itself.
Antisymmetric: No two distinct situations can be part of each other.
Transitive: Any situation that is a part of a given situation $s$ is a part of any situation that $s$ is a part of.

For any situation, there will be a maximal situation which it is a part of and which is not a part of any other situation. This situation is a world.

Thus, in Kratzer’s approach, worlds and situations are objects of the same type, which I designate $s$. The difference is simply that a world is a maximal situation—a situation which is not a part of any other situation. Sometimes it will be proper to talk about situations, and other times it will be proper to talk about worlds. In particular, it will be useful to be able to refer to the world of which some situation $s$ is a part, or to put it another way, the world which contains $s$. I use $w_s$ to refer to the world which contains $s$. I follow Kratzer in assuming that any given situation is a part of only one world.

(180) $w_s = \text{world which contains } s$

Situations are associated with a particular time. They have a duration, and they are ordered temporally with respect to other situations. The situation in which I fill the kettle with water temporally precedes the one in which I pour the boiling water into the teapot. Call these
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two situations $s$ (filling the kettle) and $s'$ (pouring water into the teapot). I refer to the times of these situations as $t_s$ and $t_{s'}$. We can think of $t$ as a function from situations to times, where times are intervals (Bennett and Partee 1978), and use the precedence, identity and overlap relations shown in (181).

\[
\begin{align*}
\text{temporal precedence:} & \quad t_s < t_{s'} \\
\text{temporal identity:} & \quad t_s = t_{s'} \\
\text{temporal overlap:} & \quad t_s \cap t_{s'}
\end{align*}
\]

To summarize, situations are partial worlds, they are of type $s$, and they can be mapped to intervals of time. One situation can be part of another situation, and unless it is a maximal situation, it will be part of another situation.

5.1.2 Ingredient 2: origo

The second concept necessary for an analysis of evidentiality is the origo (Garrett 2001). The origo is a pair consisting of a judge—the person who “has the evidence”—and a situation. It is the origo (that is, the judge in a particular situation) who has perceived some situation that supports the prejacent proposition, and it is the origo’s perspective that may or may not contain the prejacent proposition.

The two main properties of an origo are that he or she has a mind and has senses, and with these senses they perceive things in the world.

The origo is involved in more than evidentiality though. When we talk about subjective properties, such as personal taste in the sense of Lasersohn (2005), it is the origo’s subjective opinion that is represented. In a declarative sentence, the subjective opinion is that of the speaker, and one might therefore wonder if the origo is an unnecessary concept. For example, if I say (182a) it is my opinion, as the speaker that onions are disgusting. In this case the speaker is the origo. But language can also be used to represent other people's opinions, and in such cases the origo is not the speaker. Thus, while I still think onions are disgusting, I can quite easily say (182b) if, in Ruth’s opinion, onions are delicious. In this case Ruth is the origo of the embedded clause.

\[
\begin{align*}
(182) & \quad \text{a. Onions are disgusting.} \\
& \quad \text{b. Ruth thinks onions are delicious.}
\end{align*}
\]

I define the origo as a sentient individual in a particular situation. I call this individual a judge (adopting the terminology of Lasersohn (2005) and Stephenson (2007b,a)). The relevant situation is the one in which, minimally, all of the judge’s mental and internal states hold. We cannot treat the origo as simply a judge, because a judge’s mental and internal states change over time. When I was young, I thought if someone was rich that meant they had $100. But
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now I think that if someone is rich they have more money than that. I am the same individual in both cases, but my perspective has changed—the origo is different in these two cases.

I treat the origo as a primitive of type $o$. In order to talk about the individual and situation components of an origo $o$, I use $j_o$ (a function from the origo $o$ to a judge) and $s_o$ (a function from an origo $o$ to a situation).

The judge component of an origo is conceptually the same as the judge which Lasersohn (2005) introduced to account for predicates of personal taste such as *taste good*. Such predicates are inherently perspectival (Kölbel 2002), and the judge (i.e., the perspective holder) varies depending on the clausal environment that the predicate appears in. In matrix clauses, the judge is (normally) the speaker,\(^{15}\) while in embedded clauses the judge is usually the subject of the embedding verb. In (183a), where the predicate *taste good* occurs in a matrix declarative clause, the speaker is the judge and must think that brussels sprouts taste good in order for the sentence to be true.\(^{16}\) In (183b), where *taste good* occurs in a clause embedded under the propositional attitude verb *think*, Darryl—the subject of *think*—is the judge and he must be the one who thinks that brussels sprouts taste good for it to be true. The speaker’s opinion on brussels sprouts is irrelevant in the second sentence.

(183) a. A: Brussels sprouts taste good.
   B: Well, they might taste good to you, but not to me.

b. A: Darryl thinks Brussels sprouts taste good.
   B: Well, they might taste good to Darryl, but not to me.

#Well, they might taste good to you, but not to me.

Stephenson (2007b,a) extends the use of the judge to epistemic modals. Stephenson points out that the same behaviour described above for propositional attitude verbs holds for epistemic modals. The clausal environment that an epistemic modal such as *must* occurs in determines whose epistemic state (i.e., whose perspective) is being described. In (184a), where *must* is in a matrix clause, the speaker is the judge and must have some evidence that it rained during the night. In (184b), where *must* is in a clause embedded under *think*, Kay—the subject of *think*—is the judge and must have some evidence that it rained last. The speaker does not need any such evidence.

---

\(^{15}\)There may be cases in some languages where the speaker is not the origo in certain matrix clauses—for example, free indirect discourse in English (Schlenker 2004).

\(^{16}\)Whether the truth of a sentence like that in (183a) is evaluated relative to a judge, or to a contextually defined group is controversial. Lasersohn (2005) and Stephenson (2007b,a) take the truth of such sentences to be relative to a judge, while von Fintel and Gillies (2007) take it to be relative to a contextually defined (possibly singleton) group. I follow Lasersohn and Stephenson here.
5.1. The ingredients of evidentiality

(184)  a. A: It must have rained last night.
        B: Well, you might think that, but I don’t.

  b. A: Kay thought it must have rained last night.
        B: Well, Kay might think that, but I don’t.

The behaviour of epistemic modals is relevant for us, since one of them, *must*, has been argued to be an evidential (Westmoreland 1995, 1998, von Fintel and Gillies 2010). In particular, *must* indicates the origo has inferred the prejacent proposition.

Recall that $s_o$ is defined as the situation in which (minimally) the origo’s attitudes hold. As with the judge, the value of $s_o$ varies depending on the type of clause the origo is being evaluated in. In a declarative matrix clause, $s_o$ is (normally) the utterance situation,\(^{17}\) while in an embedded clause, $s_o$ is the situation of evaluation of the embedding predicate. If we consider the sentence in (184a) again, where *must* is in a declarative matrix clause, the speaker is the judge, and must have evidence in the utterance situation. The fact that the speaker had evidence in the past is irrelevant. In (184b), where *must* is in an embedded clause, Kay is the judge, and must have had some evidence at the time of the situation of evaluation of the matrix clause. The utterance situation is irrelevant—in fact Kay may not even be in the utterance situation.

5.1.3 Ingredient 3: centred proposition

The third concept necessary for an analysis of evidentiality is the proposition. To be more specific, we need to use the concept of a *centred proposition*—an uncentred proposition evaluated from the point of view of a particular person (Lewis 1979). A centred proposition is an uncentred proposition together with an origo (in my terms; a centre in Lewis’s). To see the difference between an uncentred proposition and a centred proposition, consider the two scenarios in (185) and (186) below:\(^{18}\)

First, let us assume that the objects of attitudes such as belief are uncentred propositions. The uncentred proposition conveyed by the sentence in (185) is that a particular individual, the guy on the jumbotron, is going to get hit with a ball. This is what Brian believes, and it is true. Nevertheless, since he does not realize he is the guy on the jumbotron, he does not take any action to stop himself from getting hit.

\(^{17}\)See fn. 15.

\(^{18}\)The two scenarios in (185) and (186) are similar to two discussed by Chierchia (1989) in which Pavarotti’s pants are on fire and Pavarotti sees this in a mirror.
5.1. The ingredients of evidentiality

(185) **Scenario:** Brian is at a baseball game and is watching the jumbotron. Someone hits a foul ball, and it is heading directly for him, and the jumbotron cameraman is focused on him, hoping to show him catching the ball. However, Brian does not recognize himself on the jumbotron, and because he is watching it, he does not see the ball coming. What he sees on the jumbotron is a person about to be hit with the ball. He says: ‘Oh no, it’s going to hit him.’

In the second scenario, the uncentred proposition conveyed by the statement in (186) is the same as that in the first scenario, namely that a particular individual, the guy on the jumbotron, is going to get hit with a ball. The same individual is about to get hit by a ball in both scenarios. However, while in the first case Brian takes no action, in this scenario he will likely duck or try to catch the ball.

(186) **Scenario:** Brian is at the game watching the jumbotron, but recognizes himself on it. He sees the foul ball heading in his direction, and realizes that it is going to hit him. He says: ‘Oh no, it’s going to hit me.’

As Lewis (1979) points out, when we use uncentred propositions as the objects of attitudes such as belief and desire, we cannot explain why Brian would act in one way in the second scenario but not in the first. Propositions are true or false, and their truth or falsity is independent of who is considering them. Since the same individual is going to get hit by the ball in both scenarios, the uncentred propositions are the same in both scenarios. Thus, by using uncentred propositions as the objects of attitudes, we are missing something. Lewis’ idea is to link uncentred propositions to individuals, yielding the notion of a centred proposition. A centred proposition is an uncentred proposition paired with an individual who believes “I am so-and-so”. Using centred propositions then, in the first scenario, Brian believes the guy on the jumbotron is going to get hit, but believes he is not that guy. In the second scenario, he believes the guy on the jumbotron is going to get hit, and believes he is that guy. Brian’s beliefs differ in the two scenarios, explaining why he would not try to duck in the first scenario, and why he would in the second.

Formally, an uncentred proposition is a set of possible worlds, where worlds are maximal situations. The truth conditions of uncentred propositions are given as statements in predicate logic. Each lexical predicate minimally takes a situation, an origo, and a world as its arguments. Thus, every predicate is evaluated with respect to a world. An intransitive (i.e., one-place) predicate such as *fall* will have the form shown in (187). It will first saturate its entity argument, then its situation argument, its origo argument, and finally its world argument. The situation argument provides the situation in which the predicate holds. In order for the uncentred proposition to be true in the world *w*, the situation *s* must be a part of *w*. The *fall* relation in
5.1. The ingredients of evidentiality

(187) is an situationless proposition, a situation-semantics version of a tenseless proposition.

(187) \[ \lambda x \lambda s \lambda o \lambda w [\text{fall}(s)(o)(w)(x)] \]

With everything but the world argument saturated, we have an uncentred proposition. The denotation of such an uncentred proposition with respect to an assignment \( g \) is given in (188). Note that because any situation is part of only one world, this uncentred proposition will be a singleton set of worlds—its only member is the world which contains \( s \).

(188) \[ \left[ \left[ \lambda w [\text{fall}(s)(o)(w)] \right]^{\mathcal{G}_s} = \text{the set of all worlds which contain } g(s) \text{ such that } g(x) \text{ fell in } g(s). \right] \]

With the origo \( o \) and situation \( s \), we also have a tidy way of handling moods and tense. Moods manipulate the origo, while tense manipulates the situation.\(^{19}\) The denotation of the indicative mood \(-\bar{?}i\tilde{s}\) is given in (189a) below. It is indexical, introducing the origo argument \( o^* \), defined as the origo whose judge is the speaker and whose situation is the situation of the utterance context.\(^{20}\) The denotation of the past tense \(-(m)it_1\) is given in (189b). I treat tense as saturating a situation argument (see Chapter 8 for further discussion). It introduces a free variable \( s_i \) whose index matches that of the suffix, and it also has a presuppositional requirement that the time of \( s_i \) precedes the time of the utterance situation \( t^* \). Any time a morpheme has a subscript numeral, it introduces a free variable with a matching subscript. Some morphemes are subscripted with multiple numerals because they introduce multiple free variables. The presupposition in (189b) marked as such by being enclosed in curly brackets and being set after the truth-conditional portion of the content. I maintain this notation until Chapter 7, when I adopt a different method for handling not-at-issue content in general.

(189) a. \(-\bar{?}i\tilde{s} \Rightarrow o^* \)

b. \(-(m)it_1 \Rightarrow s_1 \{ t_{s_1} < t^* \} \)

In order to see how situationless propositions, centred propositions and propositions are produced compositionally, consider the sentence in (190a) and the derivation of its semantics, given in (190b). The entity argument is saturated first, yielding the situationless proposition in \( \square \). The situationless proposition then has its situation argument saturated by the tense suffix \(-(m)it_1\), which also introduces the presupposition that the time of the event situation \( s_1 \) temporally precedes the time of the utterance situation. In \( \square \) we have a centred proposition, and this has its origo argument saturated by the mood suffix \(-\bar{?}i\tilde{s}\), yielding the proposition \( \square \).

\(^{19}\)Perhaps moods can also manipulate the world variable. I leave this topic for further research.

\(^{20}\)I consider the person-marking associated with moods to be agreement with the verb’s argument introduced lower in the tree. I omit the semantics of this agreement in the service of clarity, as it is not relevant to the topic at hand. Another option would be to treat the person-marking as pronominal and any overt noun phrases as adjuncts, in the spirit of Jelinek (1984) and Baker (1996)—but see Davis et al. (2007b) for arguments against this.
5.1. The ingredients of evidentiality

(190) a. \( \text{Ken} \)
   `Ken was saying something sensible/saying right thing.'

b. Not all clauses have their origo argument saturated, and therefore some clauses denote centred propositions, rather than uncentred propositions. While matrix clause moods, such as the indicative -\( \text{?i}:s \) above, saturate an origo argument, dependent clause moods do not. A propositional attitude verb such as \( \text{?uq}\text{taap} \) ‘think’ corresponds to a relation between a situation, an origo, a world, an individual (the thinker), and a centred proposition (the thought), as shown in (191). The origo of the embedded centred proposition has restrictions on it, namely that the judge \( j_o \) is the subject of \( \text{?uq}\text{taap} \) and the situation \( s_o \) is the situation in which \( \text{?uq}\text{taap} \) holds. This is similar to how Schlenker (2003) handles propositional attitudes, though his notation uses an operator which acts as a quantifier over contexts, not origos. I discuss the ways dependent clauses have their origos determined in more detail in Chapter 6.

(191) \( \text{?uq}\text{taap} \Rightarrow \lambda p \lambda x \lambda s \lambda o' \lambda w [\text{think}(s)(o')(w)(x)(\lambda o [p(o) \land j_o = x \land s_o = s])] \)

5.1.4 The types

Table 5.2 below shows the types for the concepts I have described above, as well as that of the context of utterance, which I give here for completeness. The need for handling the context of utterance in the object language is discussed in §5.3.3.2, where I discuss reported speech.

Truth values are of type \( \mathbf{t} \), and individuals, or entities, are of type \( \mathbf{e} \). Situations are of type \( \mathbf{s} \), as are maximal situations (i.e., worlds). The origo is of type \( \mathbf{o} \). These are the basic types. All the other types are functions from one type to another. A proposition is a function from
maximal situations to truth values and is of type $\langle s, t \rangle$. A centred proposition is a function from origos to propositions and is of type $\langle o, \langle s, t \rangle \rangle$. An situationless proposition is a function from situations to centred propositions and is of type $\langle s, \langle o, \langle s, t \rangle \rangle \rangle$.

Table 5.2 also shows the conventional variable symbols I make use of in this dissertation. Any variable $x$ will be of type $e$, any variable $s$ will be of type $s$, and so on. I never need to use a variable for either truth values or uncentred propositions. The few constants I use to represent people are also given here: Ann is represented as $a$, Ken as $k$ and Linda as $l$. In order to keep types and variables distinct in the text, I adopt the convention of putting all types in boldface, and putting all variables in italics.

<table>
<thead>
<tr>
<th>Types</th>
<th>Variables</th>
<th>Constants</th>
</tr>
</thead>
<tbody>
<tr>
<td>truth value</td>
<td>$t$</td>
<td>$x, y, z$</td>
</tr>
<tr>
<td>individual</td>
<td>$e$</td>
<td>$a, k, l$</td>
</tr>
<tr>
<td>situation</td>
<td>$s$</td>
<td>$s$</td>
</tr>
<tr>
<td>origo</td>
<td>$o$</td>
<td>$o$</td>
</tr>
<tr>
<td>uncentred proposition</td>
<td>$\langle s, t \rangle$</td>
<td>$p, q$</td>
</tr>
<tr>
<td>centred proposition</td>
<td>$\langle o, \langle s, t \rangle \rangle$</td>
<td>$P, Q$</td>
</tr>
<tr>
<td>situationless proposition</td>
<td>$\langle s, \langle o, \langle s, t \rangle \rangle \rangle$</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2: Types, variables and constants

5.2 Relating the origo to the prejacent proposition: perspectival status

The relation between the origo and the prejacent proposition involves the origo’s perspective. An origo’s perspective is a subjective determination of what they believe (Kölbel 2002). One way to think about a perspective is as a set of centred propositions—the set of centred propositions the judge believes. Thus, the perspectival status relation indicates whether or not the prejacent proposition is in the origo’s perspective.
5.2. Relating the origo to the prejacent proposition: perspectival status

Two origos can be distinguished either by having different judges or by being in different situations. Different judges in the same situation will usually not have the same set of centred propositions in their perspective. Perspectives are not shared between individuals. A single judge in different situations will not necessarily have the same set of centred propositions in his or her perspective. As an origo observes and learns about the world, his or her perspective will change, adding or removing centred propositions.

Consider the following scenario. Ken had stopped smoking, but has since started again. Bill knows that Ken started again, but Kay still believes he has stopped smoking. Thus, whenever Kay and Bill speak to one another, their perspectives differ—Bill’s perspective contains the centred proposition that Ken started smoking again, while Kay’s does not.

A centred proposition can be added to an origo’s perspective when they learn something about the world. For example, Kay’s perspective at 3:00 on Wednesday did not include the centred proposition that Ken started smoking again, but at 3:05 she went out back and saw him smoking, and that centred proposition was added to her perspective. Kay now believes that Ken started smoking again.

A centred proposition can be removed from an origo’s perspective if he or she forgets it, or comes to doubt it. Let us first look at forgetting. Two days after Kay added the centred proposition that Ken started smoking again, she forgot it, and so that centred proposition was removed from her perspective. Kay no longer believes that Ken started smoking again.

To see how doubt can cause a centred proposition to be removed from an origo’s perspective, we will need to look at a different scenario. On Thursday, Kay saw Bill’s car going through a red light. She added to her perspective the centred proposition that Bill ran a red light on Thursday. However, on Friday she learned that John had borrowed Bill’s car several times that week. After learning this, she was in doubt as to whether it was Bill or John who ran the red light, and so the centred proposition that Bill ran a red light on Thursday was removed from her perspective. Kay no longer believes that Bill ran a red light on Thursday.

Formally, the perspective of an origo is the set of centred propositions that he or she believes hold in a given situation. If a centred proposition is in an origo’s perspective, he or she believes it is true. If a centred proposition is not in an origo’s perspective, he or she does not have any belief about it. I formalize the perspective as in (192). The perspective $\Pi_o$ of an origo $o$ is defined as the set of all centred propositions $p$ such that the judge of $o$, $j_o$, in the situation $s_o$ believes $p$.

$$\Pi_o \Leftrightarrow \{p \mid j_o \text{ in } s_o \text{ believes } p \text{ is true}\}$$

A perspective, as defined in (192), differs from the notion of “perspective” used by Köbel (2002). The two approaches differ with respect to the claims they make concerning

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21 Kay could add the centred proposition that either Bill or John ran the red light, unless she thinks that if John had been driving Bill’s car, maybe other people had been too.
the role of perspectives. For Kölbl, a perspective is a function from contents (propositions) to truth values, and the truth value of a sentence is dependent on a perspective.\textsuperscript{22} In my approach, perspectives play no role in determining truth values. Rather, propositions are functions from worlds to truth values. As I discuss shortly, perspectives are nevertheless crucial for felicity conditions. For example, an assertion of the centred proposition \( p \) is only felicitous if \( p \) is in the origo's perspective. And as we shall see, indirect evidentials are only felicitous if the prejacent proposition is not in the origo's perspective.

Another concept that is similar to the perspective is the common ground. The common ground is the set of propositions that the speaker and addressee(s) all have as mutually shared assumptions (Stalnaker 1974). It delimits the range of presupposed propositions, and determines which information is considered new and old. A perspective, on the other hand, belongs to a single individual only. It represents what they personally believe. A further difference is that the common ground is a set of uncentred propositions (type \( \langle s, t \rangle \)), while a perspective is a set of centred propositions (type \( \langle o, \langle s, t \rangle \rangle \)).

The perspective is relevant for the felicity conditions of assertion. For an assertion to be felicitous, its centred proposition must be in the perspective of the speaker (as origo in a declarative clause). In other words, it is felicitous for Kay to utter the sentence in (193) at 3:00 on May 16, 2012 only if her perspective contains the centred proposition that it is raining then in a situation in the actual world.\textsuperscript{23} But if Bill's perspective contains the centred proposition that it is not raining then, it would be infelicitous for him to utter (193). Of course, only one of them can be right about what is happening in the actual world, but it is their perspective, rather than the actual facts, that determines their use of language.

(193) \begin{align*}
\text{mīkāaŋ̄š} \\
\text{mīk- (y)a'-žiš} \\
\text{rain-CONT-3.IND} \\
\text{‘It's raining.’}
\end{align*}

Using the concept of the perspective, we can define the relation between the origo and the prejacent proposition—the perspectival status. The perspectival status tells us if the prejacent proposition is in the origo's perspective or not. The perspectival status is relevant for evidentials because indirect evidentials indicate that the origo is agnostic about the truth of the prejacent proposition. The agnostic relation is defined in (194) below. The relation agnostic\((o)(p)\) holds if and only if neither the centred proposition \( p \) nor its negation are in the

\begin{itemize}
\item \textsuperscript{22}It is true that Kölbl's concept of a perspective is the characteristic function of a set of propositions, and so my notion of a perspective (i.e., a set of centred propositions) is a notational variant of his. However, the role that a perspective plays in determining the truth value of a sentence is not the same in our two approaches.
\item \textsuperscript{23}Moore's paradox raises the same issue, namely that you cannot say "It's going to rain, but I don't believe it's going to rain." The reason you cannot say this is because an assertion of the first conjunct, "It's going to rain", is only felicitous if the speaker believes it is going to rain, and the second conjunct, "I don't believe it's going to rain" denies that this felicity condition is met.
\end{itemize}
5.3. How situations support prejacent propositions: manner of support

The inferential and reportative evidentials in Nuu-chah-nulth are indirect evidentials, meaning that they are only felicitous if the prejacent proposition is not in the origo’s perspective. In other words, inferentials and reportatives in Nuu-chah-nulth encode that the origo is agnostic about the prejacent proposition.

\[
\text{agnostic}(o)(p) \Leftrightarrow p \notin \Pi_o \land \neg p \notin \Pi_o
\]

Combining a situation with an situationless proposition yields a centred proposition. To put it informally, a centred proposition is “about” a particular situation. The centred proposition conveyed by the English sentence in (195) is about a particular situation that Kay perceived. There are undoubtably many situations in which a little girl runs up and presses a button to open a door, but there is one particular situation Kay has in mind when she says this sentence.

(195) **Scenario:** Kay was walking up to the library when she saw a little girl run up and press the button to open the door. Later she said this to Bill.

A little girl ran up and pressed the button to open the door.

The evidentiality of the utterance in (195), although it is unmarked, is such that Kay believes the prejacent proposition (that a little girl ran up and pressed the button to open the door), she visually perceived a particular situation, and that situation was the one the prejacent proposition was about.

(196) **Perspectival status:** Kay (the origo) believes the prejacent proposition (that a little girl ran up and pressed the button to open the door).
5.3. How situations support prejacent propositions: manner of support

**Perceptual grounding:** Kay (the origo) visually perceived a particular situation

**Manner of support:** This situation is the one that the prejacent proposition is about.

The manner of support in this case is one of **direct support**. Kay perceived the situation that the prejacent proposition is about. Direct support is the unmarked manner of support—no evidential in Nuu-chah-nulth encodes that the origo perceived the situation the prejacent is about. However, there are other manners of support which are encoded by evidentials. In particular, evidentials can encode inference and report.

The three manners of support described above are illustrated schematically in Figure 5.4. The origo is indicated by “o”, the perceived situation by a box, and perception by an arrow “→”. Solid boxes are perceived situations, while boxes with dotted outlines indicate situations that are accessible only by inference (~→) from one centred proposition to another. A reporter—the speaker of the perceived utterance situation—is indicated by “r”, and the utterance itself by the speech bubble.

[Diagram of manners of support]

**Figure 5.4: Manners of support**

The examples in (197) each involve a different manner of support. In (197a), the origo Kay perceived the situation of being hungry itself, though nothing in the sentence encodes

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24 Direct support is probably unmarked in any language. Tibetan has a morpheme which seems at first glance to encode direct support, but Garrett (2001, ch. 3) argues that the so-called direct evidential in Tibetan, ′dug, does not encode direct support. The direct evidential can occur in clausal environments in which evidentials cannot appear. In these other clausal environments, the direct evidential lacks evidential force, but maintain a deictic relation between the origo and the event. Garrett therefore argues that the evidential force arises from the interplay of the felicity conditions of assertion and the demonstrative properties of ′dug.
5.3. How situations support prejacent propositions: manner of support

In (197b), the origo Kay saw a situation in which Ken was looking in the fridge; she did not see one in which he was hungry. The origo had to make an inference in order to arrive at the prejacent proposition. This is encoded in the dubitative mood -qaʾča. In (197c), the origo Kay heard a situation in which Ken said he was hungry; she did not hear the one in which he was hungry. The situation Kay heard was an utterance situation, where a reporter, Ken, said he was hungry. In this way, Kay obtained a report which conveyed the prejacent proposition. This is encoded by the quotative mood -waʾ?iš.

(197) a. Scenario: Kay was hungry, and she said this to Bill.
   ḥaʾwiʾqšsiš
   ḥaʾwiʾqš-siʾś
   hungry-1SG.IND
   ‘I’m hungry.’

b. Scenario: Kay saw Ken looking in the fridge, and she said this to Bill.
   ḥaʾwiʾqšqaʾča
   ḥaʾwiʾqš-qaʾča
   hungry-3.DUB
   ‘Maybe he’s hungry.’

c. Scenario: Ken told Kay that he was hungry, and then Kay said this to Bill.
   ḥaʾwiʾqšwaʾ?iš
   ḥaʾwiʾqš-waʾ?iš
   hungry-3.QUOT
   ‘He’s hungry (reportedly).’

No evidentials in Nuuchahnulth encode a direct support, though it will be necessary to talk about “support” in general when I model perceptual grounding in §5.4, and direct support is one manner of support. With this in mind, I discuss direct support (§5.3.1). This leaves inference and report as the two manners of support which must be formalized. I discuss these in §5.3.2 and §5.3.3 respectively.

5.3.1 Perception of a directly supporting situation by the origo

In the simplest case, an origo can perceive the situation of the prejacent proposition itself. There is no intervening process between this perceived situation and the prejacent proposition—the prejacent proposition holds in the perceived situation. This manner of support is not encoded by any morpheme in Nuuchahnulth. Either the indicative mood or

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25While it may appear that the indicative mood encodes direct support, this is not the case. The indicative mood co-occurs with inferential evidentials other than -qaʾča ‘dubitative’, such as -ckʾi: ‘past inference’ and -matak ‘inference’.

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5.3. How situations support prejacent propositions: manner of support

the mirative mood can be used when the perceived situation directly supports the prejacent proposition, but neither of these moods encodes this manner of support, as I showed in §4.7.1.

The argument goes like this. If the indicative mood -ʔiʔ is indicated that the perceived situation directly supported the prejacent proposition, then it would be infelicitous when used in the same clause as an evidential which indicates that the perceived situation does not directly support the prejacent proposition. Inferentials such as -kuk ‘visual inference’ are infelicitous when the perceived situation directly supports the prejacent. Thus, if an inferential like -kuk can occur with the indicative mood, the indicative mood must not encode direct support. The example in (198) shows that -kuk can co-occur with the indicative mood. Therefore, the indicative mood does not encode direct support.

(198) Scenario: Kay was watching Ken’s baby for him, and she saw her standing up, holding on to the edge of the table, and she let go, so Kay said this to Bill.

\[\text{yaayaaca} \\text{atah} \\text{kukʔiš} \quad \text{nay’aqakʔi } \text{Kay} \\
\text{yac-atah[RLL]-kukʔiš} \quad \text{nay’aqak-ukʔi } \text{Kay} \\
\text{walk-about to-vis.evid-3.ind baby-poss-def Kay} \]

‘It looks like Kay’s baby is going to start walking.’

Likewise, the mirative mood cannot indicate direct support, because it can occur with inferential evidentials, as shown in (199). Here the mirative mood -čaʔaš occurs with the past inferential -ckwí:í. Since -ckwí:í is only felicitous when the perceived situation does not directly support the prejacent proposition, and can co-occur with the mirative mood, the mirative mood cannot encode a direct support.

(199) haWiiqzckwí:íčaʔaš  naïwi ʔayaqk įiqhaamí
haWiiqčk-či:íčaʔaš  naïwi ʔaya’aqk įiqhaamí
hungry-past.evid-3.mir father many-in.body egg

‘Your father must have been hungry, he ate a lot of eggs.’

5.3.2 Inference of the prejacent proposition by the origo

Westmoreland (1995, 1998) argues that must in English is an evidential, and more specifically, it is an inferential. He also shows that the kind of inferences must indicates are not limited to what I call necessary inferences, following Weiss (1942). Rather, must can also indicate what I call contingent inference, again using Weiss’ terminology. First I discuss the properties of inference in general (§5.3.2.1), and then I discuss the distinction between necessary and contingent inference, and in so doing, show that it is contingent inference that is encoded in inferentials in Nuu-chah-nulth (§5.3.2.2).
5.3. How situations support prejacent propositions: manner of support

5.3.2.1 The logic of inference

Inferential evidentials indicate a process of human reasoning. A widely cited model of human reasoning is that of Toulmin (2003), and so I rely on his model in the discussion below. Toulmin presents a model of inference as it is used in reasoning, which he calls the “pattern of an argument” (p. 89). He divides propositions into several categories, based on the role they play in reasoning, and what questions they answer. He ends up with a richer model than the one I describe here. For the purposes of this discussion, I will focus on the simpler model that he lays out at the outset.

An inference involves minimally three propositions, a datum, a warrant, and a conclusion. An inference is valid if and only if the conclusion is true whenever the datum and warrant are true. For example, in (200) if the datum \( p_1 \) and the warrant \( p_2 \) are true, then the conclusion \( p_c \) is also true, and the inference is valid.\(^{26}\) Bill only sings when he is taking a shower, so if he is singing, he is taking a shower.

\[
\begin{align*}
(200) \quad p_1 & \quad \text{Bill is singing.} \\
& \quad \underline{p_2 \quad \text{If Bill is singing, he is taking a shower.}} \\
& \quad p_c \quad \text{Bill is taking a shower.}
\end{align*}
\]

An example of an invalid inference is given in (201). It is possible for the conclusion \( p_c \) to be false when both \( p_1 \) and \( p_2 \) are true. Even though Bill sings every time he takes a shower, he might also sing on occasion while he is driving to work, in which case he would be singing but not taking a shower.

\[
\begin{align*}
(201) \quad p_1 & \quad \text{Bill is singing.} \\
& \quad \underline{p_2 \quad \text{If Bill is taking a shower, he is singing.}} \\
& \quad p_c \quad \text{Bill is taking a shower.}
\end{align*}
\]

5.3.2.2 Necessary and contingent inference

A necessary inference is one in which both the datum \( (p_1) \) and the warrant \( (p_2) \) are true. An example of necessary inference is given in (202).\(^ {27}\) I take the warrant \( p_2 \) to be true and, assuming today is Monday, tomorrow is necessarily Tuesday. There are no exceptions to the warrant in this inference.

\[\text{\footnotesize{26}}\] A warrant needs to express a relationship between two propositions. While the warrant in (200) is of the form \( p \rightarrow q \), a warrant could also be of the form \( p \land \neg q \) or even \( p \land q \).

\[\text{\footnotesize{27}}\] This example is from Ryle (1950).
5.3. How situations support prejacent propositions: manner of support

(202)  \begin{align*}
  p_1 & \quad \text{Today is Monday.} \\
  p_2 & \quad \text{If today is Monday, then tomorrow is Tuesday.} \\
  p_c & \quad \text{Tomorrow is Tuesday.}
\end{align*}

Since there are no exceptions, if both the datum \( p_1 \) and the warrant \( p_2 \) are in my perspective, the conclusion \( p_c \) will also be in my perspective. Thus, when an origo has in his or her perspective a centred proposition that is the conclusion of an inference, the origo has made a necessary inference.

A contingent inference is one in which the warrant may not be true. Weiss (1942) calls such a warrant a “contingent principle”. Since Weiss’ principle is equivalent to Toulmin’s warrant, I call such a warrant a “contingent warrant”. It is a warrant which past experience has shown is usually true.\(^{28}\) Consider the inference in (203). A contingent inference can still be valid, since the conclusion is true if the datum and warrant are true, but a contingent warrant is not always true.

Consider the following scenario. I’ve seen Ken reading a book on the bus many times, and while there were a couple of exceptions, he generally reads only mystery novels. From this I form the contingent warrant \( p_2 \). When I see Ken reading a book, I know \( p_1 \) is true, and I can make a contingent inference from \( p_1 \) and \( p_2 \) to \( p_c \), that he’s reading a mystery novel.

(203)  \begin{align*}
  p_1 & \quad \text{Ken is reading a book.} \\
  p_2 & \quad \text{If Ken reading a book, he’s reading a mystery novel.} \\
  p_c & \quad \text{Ken is reading a mystery novel.}
\end{align*}

It is contingent inference that inferential evidentials encode. Consider the sentence containing -qa ċa ‘dubitative’ in (204) below. The datum (\( p_1 \)) is that Ken is looking in the fridge, and the conclusion (\( p_c \)) is that Ken is hungry. If this were a necessary inference, the warrant must be something like: if someone is looking in the fridge, they are hungry. But this is not true—there are many reasons for looking in the fridge when you are not hungry, and the origo Kay can be aware of these other possible reasons and still use -qa ċa. This necessary inference is invalid, yet -qa ċa is felicitous. Kay is not making a necessary inference, but rather a contingent inference. A contingent inference is valid, but the warrant may not be true.

\(^{28}\)Contingent warrants are what Kratzer (1991) includes in ordering sources in the case of epistemic modals. They are conditional propositions that “normally” hold.
5.3. How situations support prejacent propositions: manner of support

(204) **Scenario:** Kay saw Ken looking in the fridge, and she said this to Bill.

hawiʔqwaq̬a
hawiʔq-qaq̬a
hungry-3.DUB

‘Maybe he’s hungry.’

p₁  Ken is looking in the fridge.

p₂  If Ken is looking in the fridge, he is hungry.

pₖ  Ken is hungry.

5.3.2.3 Modelling contingent inference

I will not be using Kratzer’s (1981) modal analysis to model contingent inference. It is far more powerful than necessary, and its structure is ill-fitted to our present purposes. A modal in Kratzer’s analysis is a context-dependent function from a prejacent proposition to a truth value. What we need is a relation between a perceived situation and a prejacent proposition. I will define a general purpose contingent inference relation which is just this. I set aside the matter of how the contingent inference is itself modelled.

The existence of a contingent inference entails the existence of at least two centred propositions, as illustrated in (205) below: a datum (a centred proposition which is in the origo’s perspective) which is directly supported by the perceived situation, and a conclusion (a centred proposition which is not in the origo’s perspective). Recall that an situationless proposition Q is of type \langle s, \langle o, \langle s, t \rangle \rangle \rangle, and when supplied with a situation yields a centred proposition of type \langle o, \langle s, t \rangle \rangle. Q(s) is thus a centred proposition.

(205)  Q(s) The ground is wet.

p  It rained.

I start with the conclusion p, since it is the simplest. The conclusion is the prejacent proposition in a sentence with an evidential in it. The only requirement on it as a conclusion of a contingent inference is that it is not in the origo’s perspective. This restriction is given in (206), which states that any centred proposition is a possible conclusion if it is not in an origo o’s perspective—that is, if agnostic(o)(p) is true.

(206)  p is a possible conclusion in a contingent inference by o if agnostic(o)(p)

The datum Q(s) is a centred proposition in the perspective of the origo, and a given evidential may specify how he or she perceived the situation s. All inferentials indicate that the centred proposition Q(s) is in the origo’s perspective. A visual inferential adds the restriction that the origo perceived s visually. What counts as a datum will differ between origos in different
5.3. How situations support prejacent propositions: manner of support

situations, and this is captured in (207) by saying that $Q(s)$ is a (possible) datum for $o$ if $Q(s)$ is in $o$’s perspective, $\Pi_o$.

(207) $Q(s)$ is a possible datum in a contingent inference by $o$ if and only if $Q(s) \in \Pi_o$

Contingent inference is represented by the relation in (208), between a perceived situation $s$ and a conclusion $p$, and is also dependent on an origo $o$. The origo is relevant because contingent inference entails that the origo is agnostic about the prejacent proposition, and different origos may make use of different contingent warrants. The denotation of the contingent inference relation, shown in (208), evaluated with respect to an assignment $g$, is the set of all possible worlds $w$, such that there is an situationless proposition $Q$ such that $Q(s)$ is in the origo’s perspective, and the origo is agnostic about the prejacent proposition $p$, and the origo can make a contingent inference from $Q(s)$ to $p$, and $p(o)$ will be true in $w$.

(208) $\llbracket \text{cont.inf}(o)(s)(p) \rrbracket^g = 1$ iff there is an situationless proposition $Q$ such that $Q(g(s)) \in \Pi_{g(o)}$ and $\llbracket \text{agnostic}(o)(p) \rrbracket^g = 1$ and $j_{g(o)}(s_{g(o)})$ can make a contingent inference in world $w_{g(s)}$ from $Q(g(s))$ to $g(p)$, where $w_{g(s)} \in g(p)(o)$.

5.3.3 Reports transmitted to the origo

Reports give us information about the world that other people have observed. Reporative evidentials are one way to indicate that the centred proposition conveyed in a clause was passed to the origo in a report. 29

5.3.3.1 Reports are independent of the origo’s perspective

The centred propositions that an origo has obtained by report have a separate status from those in his or her perspective. Reports which are false or misleading in the origo’s opinion will not be stored in his or her perspective. Consider the following scenario. On her way to work in the morning, Kay saw Ken smoking a cigarette. Later in the day, she and Bill were talking to Ken, and Ken said he quit smoking and hadn’t had a cigarette in over a month. Kay now has a report that contains the centred proposition that Ken hasn’t had a cigarette in over a month, but this will not be in her perspective, since her perspective already contains the centred proposition that Ken was smoking a cigarette that morning. These two centred propositions are contradictory, and so she can only believe one of them.

While it is not necessary that a centred proposition obtained by report be in an origo’s perspective, it is possible. For example, if Kay’s father tells her he got a halibut this morning, she now has a report containing the centred proposition that her father got a halibut this

29Direct and indirect quotes are another way to indicate the centred proposition was passed to the origo in a report.
morning. She trusts her father, and believes what he says is true, so this centred proposition is also in her perspective.

5.3.3.2 Modelling reports

I treat reports as an ordered pair consisting of an utterance context and a centred proposition, as shown in (209). This represents the context and content of an utterance. Utterance contexts exist in the meta-language, rather than the object-language, and they define (minimally) a speaker, an addressee, and an utterance situation.

(209) report: \( \langle c, p \rangle \)

Each origo is associated with a set of reports \( R_o \) which contains all the reports that he or she received. Whether or not the origo was the addressee is not relevant as long as the origo perceived the utterance situation. This set is separate from the origo's perspective, which remains a set of centred propositions. The formulation in (210) also ensures that these reports are those made by people other than the origo, rather than including reports that the origo him- or herself made.30

(210) \( R_o = \{ \langle c, p \rangle | \text{jo in } s_o \text{ believes } p \text{ was conveyed by the utterance context } c, \text{ jo perceived the utterance situation of } c, \text{ and } \text{jo is distinct from the speaker of } c \} \)

Whenever some origo \( o \) indicates they are passing on a report (by using direct quotation, indirect quotation, or a reportative evidential), they are indicating that the centred proposition belongs to some pair \( \langle c, p \rangle \) in \( R_o \).

It should also be noted that the same context can be associated with multiple centred propositions, as long as the origo believes they are also conveyed by that utterance context. That is, all the centred propositions \( p_n \) that are logically entailed by the centred proposition \( p \) in \( \langle c, p \rangle \) are members of reports \( \langle c, p_n \rangle \) in \( R_o \).

I can now define a relation between an origo \( o \), a situation \( s \), and a centred proposition \( p \), as shown in (211). This states that \( p \) is conveyed by some report \( \langle c, p \rangle \) in \( o \)'s set of reports \( R_o \), that \( s \) is the situation of the report context, and that the speaker of the report context is not the addressee of the context in which the reportative occurs. The latter restriction is needed because reportatives are infelicitous when one of the current speech-act participants was the source of the report. In addition, the use of the reportative evidential in Nuu-chah-nulth (the quotative mood -waʔiš) indicates that the origo does not know whether the prejacent is true or false, and for expedience I add this directly to the report relation.

30 Restricting \( R_o \) to reports made by people other than the origo is suitable for reportative evidentials, but this may be too narrow if \( R_o \) is needed for other reported speech constructions. However, an analysis of verbs of saying like that of Schlenker (2003) makes do without reference to a set like \( R_o \), so the point may be moot.
5.4. How the origo perceives a situation: perceptual grounding

(211) \[
\left\langle \text{report}(o)(s)(p) \right\rangle^w = 1 \iff \text{there exists a context of utterance } c' \text{ whose utterance situation is } g(s), \text{ such that there is a report } \langle c', g(p) \rangle \text{ in the origo } g(o)'s \text{ set of reports } R_g(o) \text{ in world } w_g(s), \text{ the speaker of } c' \text{ is not the addressee of } c \text{ and } \left\langle \text{agnostic}(o)(p) \right\rangle^w = 1.
\]

5.3.4 A general support relation

I have described three distinct manners of support between a situation \( s \) and a centred proposition \( P(s') \) for an origo \( o \). The direct support relation holds when \( s \) is identical to \( s' \)—that is, when \( P(s) \) yields the same centred proposition as \( P(s') \). The inference relation holds when the origo can make a contingent inference from \( s \) to \( P(s') \). The report relation holds when \( s \) is an utterance situation in which \( P(s') \) was conveyed.

(212)
\[
\begin{align*}
\text{Direct support} & \quad s = s \\
\text{Inference} & \quad \text{cont.inf}(o)(s)(P(s')) \\
\text{Report} & \quad \text{report}(o)(s)(P(s'))
\end{align*}
\]

It will be necessary to talk about a situation supporting a particular centred proposition when modelling perceptual grounding, so I define the general support relation in (213). Here we need to manipulate both \( s \) and \( s' \), so I break the centred proposition down into its situationless proposition and situation argument. The support relation is therefore a relation between two situations, an origo and an situationless proposition. The first situation argument is the perceived situation, and the second is the situation in which the situationless proposition \( P \) holds.

(213) \[
\text{support}(s)(o)(s')(P) \iff P(s) = P(s') \lor \text{cont.inf}(o)(s)(P(s')) \lor \text{report}(o)(s)(P(s'))
\]

5.4 How the origo perceives a situation: perceptual grounding

Figure 5.5: Three factors of evidentiality
5.4. *How the origo perceives a situation: perceptual grounding*

The sense through which an origo perceives a situation is his or her perceptual grounding with respect to it. When the origo perceives a situation, a particular sense was used, and evidentials can indicate the use of a particular sense. In Figure 5.6 I give schematics for the five kinds of perceptual grounding. Thus, we have an origo seeing a particular situation, an origo hearing a situation, and so on.

![Figure 5.6: Perceptual grounding](image)

The fact that an origo believes he or she perceived a given situation is represented as a relation between the origo and a situation, as shown in (214). This relation states that the origo \( o \) believes that he or she perceived the situation \( s \). No centred propositions come into play in this definition, since it merely indicates the origo \( o \)'s belief about his or her perceptual relation to some situation \( s \).

\[
\text{[perceived}(s)(o)]^S = 1 \text{ iff the origo } (j_{g(o)} \text{ in situation } s_{g(o)}) \text{ believes that he or she perceived situation } g(s) \text{ in world } w_{g(s)}. 
\]

The two sense-specific relations necessary for Nuu-chah-nulth evidentials are given in (215). These will be used in the definitions of visual and auditory perceptual grounding, necessary for the analysis of the visual inferential -kuk and auditory evidential naʔa:t. Other languages may have evidentials which encode other senses, such as taste, smell, or touch. They would therefore require additional perceptual grounding relations to be defined.

---

31 Or quite often more than one sense. When I make a pot of soup, I can see the situation in which the soup is simmering, smell it, and also hear it.

32 I give the five external senses here, but internal senses (pain, heat, etc.) can be described the same way. No evidential in Nuu-chah-nulth specifies an internal sense, so we can safely ignore them at present.
5.5 Modelling Nuuchahnulth evidentials

In order to model sensory evidentials, we need to indicate both that a particular situation was perceived by an origo, and that that situation supports the prejacent proposition. With this in mind, I define the grounding relation in (216) as a relation between an situationless proposition, two situations, and an origo. The prejacent proposition is broken down into its situationless proposition and situation components so that the support relation (defined in (213) above) can be used. A situation $s$ perceptually grounds a centred proposition $P(s')$ for an origo $o$ if and only if the origo $o$ perceived $s$, and $s$ supports $P(s')$ in $o$’s opinion. Recall that the support relation holds when any one of the three manners of support (direct support, inference or report) holds between a situation and an situationless proposition (see §5.3.4).

(216) \[ \text{grounding}(s)(o)(s')(P) \iff \text{perceived}(s)(o) \land \text{support}(s)(o)(s')(P) \]

Because there are visual and auditory evidentials in Nuuchahnulth, we require a visual and an auditory version of the grounding relation. These are given in (217a) and (217b), where the relevant senses are indicated by subscripts. Each one specifies that the origo $o$ perceived the situation $s$ with the relevant sense—visual in (217a) and auditory in (217b). Auditory grounding also prohibits the origo having perceived the situation visually.

(217) a. \[ \text{grounding}_{vis}(s)(o)(s')(P) \iff \text{perceived}_{vis}(s)(o) \land \text{support}(s)(o)(s')(P) \]
   b. \[ \text{grounding}_{aud}(s)(o)(s')(P) \iff \text{perceived}_{aud}(s)(o) \land \neg \text{perceived}_{vis}(s)(o) \land \text{support}(s)(o)(s')(P) \]

5.5 Modelling Nuu-chah-nulth evidentials

I now turn to the semantics of the individual evidentials in Nuu-chah-nulth. In this discussion I divide them into three groups based on their shared semantic properties. First I discuss the inferentials, -matak ‘inference’, -ck’i ‘past inference’ and -qa’ča ‘dubitative’, which all indicate contingent inference without specifying the perceptual grounding (§5.5.1). Then I discuss the two evidentials that specify perceptual grounding, -kuk ‘visual inference’ and naʔaːt ‘auditory evidence’ (§5.5.2). Finally, I discuss the reportative evidentials, -waʔiš ‘quotative’ and -хаъи ‘indirect interrogative’ (§5.5.3).

5.5.1 Inferential evidentials

The first inferential I discuss below is -matak (§5.5.1.1), which is the least specified evidential in Nuu-chah-nulth. It indicates only that the origo has contingently inferred the
5.5. Modelling Nuuchahnulth evidentials

prejacent, and specifies no temporal relations or perceptual grounding. The past inferential 
-ck"i: (§5.5.1.2) has the additional property of indicating the time at which the prejacent held
preceded the situation which the origo perceived. The semantics of the dubitative mood -qa'ča
(§5.5.1.3) are closer to -matak, differing only by additionally specifying that the origo is the
speaker (and simultaneously preventing it from being embedded).

5.5.1.1 Inferential -matak

The inferential -matak is a function of type \(\langle\langle s,\langle o,\langle s,t\rangle\rangle\rangle,\langle s,\langle o,\langle s,t\rangle\rangle\rangle\rangle\). It acts as a
modifier, taking an situationless proposition as its argument and yielding another situationless
proposition, as shown in (218). It indicates that the origo is able to make a contingent inference
from the perceived situation \(s_1\) to the prejacent \(P(s)\), and that \(w\) is the world of \(s_1\). The reason
it takes an argument of type \(\langle s,\langle o,\langle s,t\rangle\rangle\rangle\) instead of a centred proposition of type \(\langle o,\langle s,t\rangle\rangle\) is
that it is composed before the situation argument is supplied by tense (see Chapter 8, especially
§8.2.2). Note that the situation argument gives the prejacent situation—the perceived situation
\(s_1\) is provided by a contextually determined indexed situation variable. Each instance of -matak
has the same index as this situation variable.

\[
(218) \quad \textnormal{-matak}_1 \Rightarrow \lambda P \lambda s \lambda o \lambda w [\text{cont.inf}(o)(s_1)(P(s)) \land w = w_{s_1}]
\]

Since the result of the application of -matak followed by tense yields a centred propo-
sition, it can either be embedded, or have its origo supplied by a matrix clause mood such as
-?i:š. The latter case is simpler, so I look at it first. The sentence in (219) has the derivation
given in (220).

\[
(219) \quad \textnormal{Zaa/a/izmatak/i;S} \\
\quad \textnormal{Za:/a/iz-matak-/i;S} \\
\quad \textnormal{go.outside-IND.EVID-3.IND} \\
\quad \text{‘Maybe he went out.’}
\]

As the derivation below shows, the verbal predicate \(\textnormal{Zaa/a/iz}\) ‘go outside’ first has its nominal
argument satisfied with the free variable \(x_1\), yielding \(\Box\). Then instead of having its situation
argument saturated, \(\Box\) becomes the argument of the inferential -matak, resulting in another
function \(\Box\), which has its situation argument filled by the tense morpheme. I treat the tense
argument as a free variable whose value is contextually determined, much like a pronoun
(McCawley 1971, Partee 1973) (see §8.2.2 for further discussion). Finally, the origo is supplied
by the mood suffix yielding \(\Box\).
5.5. Modelling Nuuchahnulth evidentials

The proposition in a denotes the set of worlds w such that $s_2$ is a part of w, and $o\ast$ (the speaker in the utterance situation) can make a contingent inference from the contextually determined situation $s_2$ (the perceived situation) to the centred proposition that a contextually salient individual $x_1$ went out in situation $s_3$ (the event situation).

In an embedded clause, such as in (221), the origo associated with the contingent inference signified by -matak is the subject of the matrix clause, here Ken, rather than the speaker (see §6.3 for arguments supporting this claim).

The derivation of the embedded clause proceeds in the same way as we saw in (220) when -matak appears in a matrix clause. First the predicate $wa\dot{\nu}yu\cdot$ combines with its nominal argument, then the result is taken as the argument of -matak. Next the situation argument is supplied by the tense. However, while the indicative mood supplies an origo argument, the subordinate mood -$q$ is an identity function; it is semantically vacuous since its output is the
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same as its input.\(^{33}\)

(222)

\[\text{The predicate } \sqrt{uqlaap} \text{ ‘think’ has the semantics given in (223) below. According to the truth conditions, the origo of the embedded clause is the thinker, } x, \text{ in the situation of the thinking } s. \text{ In other words, the subject argument and the situation argument of predicate } \sqrt{uqlaap} \text{ identify the origo of the embedded clause.}^{34}\]

(223) \[\llbracket \lambda w[\text{think}(o'')(o')(w')(p)] \rrbracket^g = \text{the set of all } w \text{ such that } g(s) \text{ is a part of } w, \text{ and } g(p) \text{ is in the perspective of } g(x) \text{ in } g(s).\]

In (224) the translation of the embedded clause, given in \(\Box\), saturates the centred proposition argument of the think relation. Next, the subject Ken saturates the individual argument of \(\square\), yielding the situationless proposition \(\Box\). The tense morpheme -(\(m\))it\(_2\) saturates the situation argument with an indexed variable, adding the restriction that the time of this situation precedes the time of the utterance situation. Finally, the indicative mood suffix -\(\tilde{\iota}i:\hat{s}\) saturates the origo argument with \(o^*\), the speaker at utterance time, yielding the translation in \(\Box\).

\(^{33}\)As noted in §2.7.3, other embedded clauses appear in the absolutive mood, which would also be an identity function of the same type.

\(^{34}\)The origo argument of think, \(o''\), does not have any role to play in the truth conditions of its predicate, but it does play a role in the felicity conditions of an utterance containing a proposition with this predicate in it—the relevant proposition must be in the origo \(o''\)’s perspective in order for the utterance to be felicitous. On the other hand, the truth conditions of other predicates, such as predicates of personal taste, will depend on their origo argument. See §5.2 for discussion.
Provided that the time of 

\[ \text{of} \] denotes the set of worlds \( s \) such that \( s \) is a part of \( w \), and in \( s \) Ken thinks that he can make a contingent inference from the situation \( s_1 \) (which he perceived) to the centred proposition that John is home in situation \( s_2 \).

### 5.5.1.2 Past inferential -ck"i"

The past inferential suffix -ck"i", while having the semantics of an inferential, also adds a restriction that the time of the perceived situation follows the time of the situation of the prejacent proposition. This captures the fact that the past inferential can only be used when the origo made an inference from something they perceived to something that happened prior to then. The translation of a past inferential is given in (225) below. In this version of the translation the temporal relation is not given as a presupposition, or not-at-issue, as one might have expected. This is because in Chapter 7 the entire translation in (225) will be not-at-issue, and this keeps the similarity between the two translations more clear. This translation does not refer to the time of utterance, \( t^* \), since it is only possible for the perceived situation \( s_2 \) to precede or overlap with the utterance situation—we cannot perceive situations that have not yet happened. It makes no difference whether this relation is specified in the translation or
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not, and in the spirit of keeping the translations as simple as possible, I leave out the relation $t_s \leq t^*$. 

(225) $-ck^\iota_1 \Rightarrow \lambda P \lambda s \lambda o \lambda w[cont.inf(o)(s_1)(w)(P(s)) \land t_s < t_{s_1} \land w = w_{s_1}]$

Note that in order to express the relation between the times of the two situations, any past inferential morpheme must be introduced prior to any tense morphemes. I return to this in chapter 8. In (226a) I give a sentence containing $-ck^\iota$, and then I give the derivation in (226b). The derivation shows the predicate ha\'iiq\'\text{\`a} ‘hungry’ first merging with its nominal argument, the free variable $x_1$. This yields the function of type $\langle s, \langle o, \langle s, t \rangle \rangle \rangle$ indicated in $c$, which satisfies the first argument of $-ck^\iota$. We now have the function in $b$, which receives its origo argument from the mood suffix, yielding the translation of the entire sentence $d$.

(226) a. hai\'iiq\'\text{\`a}ck\iota\text{\`a}s

      hai\'iiq\'\text{\`a}-ck\iota\text{\`a}-\text{\`s}

      hungry-past.evid-3.IND

      ‘He must have been hungry.’

b. $\lambda P \lambda s \lambda o \lambda w'[cont.inf(o)(s_2)(w') \land t_s < t_{s_2} \land w' = w_{s_2}]

The proposition in $d$ denotes the set of worlds $w'$ such that the situation $s_2$ is a part of $w'$, that $o^*$ (the speaker in the utterance situation) can make a contingent inference from $s_2$ to the centred proposition that the contextually salient individual $x_1$ is hungry in $s_3$, and that the time of $s_3$ (the situation of being hungry) precedes the time of $s_2$ (the perceived situation).

5.5.1.3 Dubitative -qa\'\text{\`a}

The dubitative mood is a function from centred propositions to propositions. It indicates that the origo can use the contextually determined situation $s_1$ to make a contingent
5.5. Modelling Nuu-chab-nulth evidentials

inference to the prejacent proposition, and it also identifies the origo as the speaker in the utterance situation o*.

\[(227) \text{ } -qa\text{'a}c\text{'a} \Rightarrow \lambda p\lambda w[\text{cont.inf}(o*)(s_1)(p) \land w = w_{s_1}]\]

To illustrate how this is composed with its argument, I use the sentence in (228a), which has the logical form shown in (228b). Starting at the bottom, first the translation of \text{mat'ahs} 'cold' combines with the translation of the null pronominal argument \(\varnothing_1\), yielding the function in \(\square\). This in turn combines with the temporal suffix \('-\alpha\lambda\)', which adds a presuppositional restriction on the time of the event situation \(s'\), yielding the function in \(\square\). The null tense suffix \(-\varnothing_2\) then saturates the situation variable, yielding the function in \(\square\). This function is the centered proposition argument of the inferential mood \(-qa\text{'a}c\text{'a}\). Note that the relative position of the evidential and tense differs from the two previously discussed evidentials. All mood suffixes combine above tense. The other evidentials all combine below tense. This is discussed further in Chapter 8.

(228) a. Scenario: Bill came into the kitchen where Kay was sitting. He got a cup and went to pour himself some tea, but Kay had made the tea over an hour ago. She had not had any recently, so she said this to him.

\text{mat'ahs'a}\text{\#aqa}\text{'a}
\text{mat'-'a}hs-\text{'a}'-\alpha\text{'a}c\text{'a}
cold-in.vessel-now-3.DUB

'It's probably cold now.'

b. 

\[\begin{align*}
\lambda p\lambda w'[\text{cont.inf}(o*)(s_1)(p) \land w' = w_{s_1}] \\
\lambda P\lambda s'\lambda o[P(s')(o)]\{t_{s'} = t^*\} \\
\text{mat'ahs} \\
\lambda x\lambda s'\lambda o\lambda w'[\text{cold'}(s')(o)(w)(x)] \\
\lambda w'[\text{cont.inf}(o*)(s_3)(\lambda o\lambda w[\text{cold'}(s_2)(o)(w)(x_1)]) \land w' = w_{s_3}]\{t_{s_2} = t^*\} \\
\lambda o\lambda w[\text{cold'}(s_2)(o)(w)(x_1)]\{t_{s_2} = t^*\} \\
\lambda s'\lambda o\lambda w[\text{cold'}(s')(o)(w)(x_1)]\{t_{s'} = t^*\} \\
\lambda s'\lambda o\lambda w[\text{cold'}(s')(o)(w)(x_1)]
\end{align*}\]

\(^{35}\)The temporal suffix \(-\alpha\lambda\) is not well understood. In instances such as this, it indicates that the proposition it appears in holds at utterance time, but did not hold in the past.
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Provided that the time of $s_2$ is the time of the utterance situation, the denotation of $w'$ such that $g(s_3)$ is a part of $w'$, and $\alpha^*$ (the speaker in the utterance situation) can make a contingent inference from $s_3$ (the perceived situation) to the centred proposition that a contextually salient individual $x_1$ is cold in the situation $s_2$.

5.5.2 Perceptually grounded evidentials

The auditory evidential $na?a:t$ is unspecied as to whether the prejacent is in the perspective of the origo, and specifies only that it is auditorily grounded. The visual inferential $-kuk$ indicates both that the prejacent is visually grounded for the origo and that the prejacent is not in the origo’s perspective.

5.5.2.1 Auditory $na?a:t$

The auditory evidential $na?a:t$ has the semantics in (229). It is a function from one situationless proposition of the type $\langle s, \langle o, \langle s, t \rangle \rangle \rangle$ to another unsitutated proposition of the same type. The situation argument of the verb is not saturated until later in the derivation, when it can be restricted to the past, for example, allowing a reading where the origo heard a situation in the past. The only temporal restriction associated with $na?a:t$ is between the perceived situation and the event situation. As with the other evidentials, $na?a:t$ is indexed, and it introduces an indexed situation variable whose value is determined by context. The origo is restricted to being the speaker of some context, though the mechanism for this is not worked out here.

(229) $na?aat_1 \Rightarrow \lambda P \lambda s \lambda o \lambda w[\text{grounding}_{\text{aud}}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s)) \land t_{s_1} = t_s \land w = w_s]$

As we will see in §6.1.3, the speaker($o$)(P($s$)) relation should be true 1) whenever the origo is the speaker, 2) when $na?a:t$ is in a quotative mood clause, 3) when the origo is the speaker of an embedded utterance context. In other words, speaker($o$)(P($s$)) is true whenever there was an utterance context in which $o$ asserted $P(s)$.

The sentence in (230a) contains the auditory evidential $na?a:t$. Its translation is given in (230b). The verb $saaq\,saaqa$ ‘be hollering’ (I set aside its internal structure here) first has its individual argument saturated with the translation of Ann, a. This yields an uncentered proposition which then becomes the argument of $na?a:t$. This yields another situationless proposition whose situation argument is satisfied by $-(m)it$ ‘past’. Finally, the origo argument is saturated by the indicative mood suffix $-\dot{t}i\,\dot{s}$. The translation of the entire sentence is which states that 1) $o^*$ heard the situation $s_2$, 2) that this situation supports the proposition that Ann was hollering in the situation $s_1$, 3) that $s_2$ and $s_1$ occurred at the same time, and 4) that $s_2$ occurred before the utterance time.
5.5. Modelling Nuuchahnulth evidentials

(230) a. Scenario: Kay was walking down the road, and when she passed by Ann’s house, she heard her hollering inside. When she got home, she told Bill this.

\[
\text{\textquote{Ann}}^\prime \text{na\textquote{at}} \text{Ann} \\
\text{\textquote{-ir}}\text{\textquote{(y)a}\llbracket RLL \rrbracket -(m)it-ir\textquote{a} \text{na\textquote{at}} \text{Ann} \\
yell.at-\text{rep}-\text{past-3.IND AUD.EVID} \text{Ann} \\
\text{\textquote{Ann was hollering.’}}
\]

b.

\[\begin{align*}
\lambda P &\lambda s' \lambda o' \lambda w' [\text{grounding}_{\text{aud}}(s')(o')(s_1)(P) \land \text{speaker}(o') \land t_{s_1} = t_{s'} \land w = w_s] \\
\lambda x &\lambda s' \lambda o' \lambda w' [\text{hollering}'(s)(o)(w)(x)] \\
\lambda o' &\lambda w' [\text{grounding}_{\text{aud}}(s_2)(o*)(s_1)(\lambda s' \lambda o' \lambda w' [\text{hollering}'(s)(o)(w)(a)]) \land \text{speaker}(o*) \\
&\land t_{s_2} = t_{s_1} \land w' = w_{s_2} \land t_{s_2} < t_s]
\end{align*}\]

The semantics I have presented here runs into a problem with respect to the co-occurrence of evidentials. Recall from §4.5.2.2 that when the auditory evidential occurs with the dubitative the two evidentials work in tandem, with \textquote{na\textquote{at}} indicating the prejacent proposition is auditorily grounded for the origo, and \textquote{-qa'\textquote{c}a} indicating the origo contingently infers the prejacent. However, the semantics we have so far will not give us the correct translation for a sentence like that in (231a). As shown in (231b), the translation of the entire sentence \textquote{na\textquote{at}} says that the speaker can infer that the centred proposition that Ken and his brother (indicated by the contextually determined \textquote{xt}) have left is auditorily grounded. Contingent inference requires that the concluded proposition not be in the origo’s perspective, but for this sentence we want the grounding relation to be in the origo’s perspective, since the speaker knows that she heard no noises from Ken and his brother’s place. The solution to this will be to separate the semantics of the prejacent from the semantics of the evidential relations; the translations of evidentials given in this chapter will be modified in Chapter 7, solving the problem described
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(231) a. **Scenario:** Kay lives in the apartment next to Ken and his brother. One day she could not hear any noise coming from their place, and she said this to Bill.

\[
\text{wikpi}\text{aqac'a}t\uparrow \\
\text{na}\text{ʔaat} \\
\text{wik-pi(k)}\text{a-k-qac'a-ʔa}t\uparrow \\
\text{na}\text{ʔa}t \\
\text{NEG-in.house.MOM-NOW-3.DUB-PL.AUD.EVID}
\]

‘It sounds like they’ve left.’

b. 
\[
\lambda p\lambda w'[[\exists s(\text{cont.inf}(o)(s)(p)) \land w'' = w_x] \\
\neg O_3 \\
\lambda P\lambda s'\lambda o\lambda w'[\text{grounding}_{\text{aud}}(s')(o)(s_2)(P) \land \text{speaker}(o) \land t_{s_2} = t_o' \land w = w_{o'}] \\
\neg\text{a}k \\
\lambda P\lambda s''[P(s'')] [t_{s''} = t^*] \\
\text{na}\text{ʔa}t_2 \\
\lambda\lambda s'\lambda o\lambda w'[\text{not.home'}(s')(o')(w')(x_1)]
\]

\[
\square \lambda w'[[\exists s(\text{cont.inf}(o)(s)(\lambda o\lambda w'[\text{grounding}_{\text{aud}}(s_3)(o)(s_2)(\lambda s'\lambda o'\lambda w'[\text{not.home'}(s')(o')(w')(x_1)])]) \\
\land \text{speaker}(o) \land t_{s_3} = t_{s_2} \land w = w_{s_3})] [t_{s_3} = t^*]
\]

\[
\square \lambda o\lambda w'[\text{grounding}_{\text{aud}}(s_3)(o)(s_2)(\lambda s'\lambda o'\lambda w'[\text{not.home'}(s')(o')(w')(x_1)])] \\
\land \text{speaker}(o) \land t_{s_3} = t_{s_2} \land w = w_{s_3}) [t_{s_3} = t^*]
\]

\[
\square \lambda s''\lambda o\lambda w'[\text{grounding}_{\text{aud}}(s''')(o)(s_2)(\lambda s'\lambda o'\lambda w'[\text{not.home'}(s')(o')(w')(x_1)])] \\
\land \text{speaker}(o) \land t_{s'''} = t_{s_3} \land w = w_{s'''}[t_{s_3} = t^*]
\]

\[
\square \lambda s''\lambda o\lambda w'[\text{not.home'}(s')(o')(w')(x_1)]
\]

5.5.2.2 **Visual inferential** -kuk

The visual inferential -kuk, shown in (232), indicates 1) that the origo has visual grounding for the prejacent, 2) that the origo made a contingent inference to arrive at the prejacent, and 3) that the time of the visually perceived situation is a subpart of the time of the situation that supports the prejacent.

(232) -kuk_1 \Rightarrow \lambda P\lambda s\lambda o\lambda w'[\text{grounding}_{\text{vis}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1))] \land t_{s_1} = t_s \land w = w_s]
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The sentence in (233a) contains -kuk ‘visual inference’. Its translation is given in (233b). First, the predicate wałyuu ‘be home’ has its individual argument saturated with the translation of Ken, k, yielding \( \square \). This in turn saturates the situationless proposition argument of -kuk yielding \( \square \). The null tense morpheme saturates the situation argument of \( \square \) yielding \( \square \), whose origo argument is saturated by the indicative mood. The entire sentence thus has the translation in \( \square \).

(233) a. wałyuu-kuk?iš
   wałyu-\kuk-\iš
   be.home-vis.evid-3.ind Ken

   ‘It looks like Ken is home.’

b. \( \square \)
   \( \square \)
   \( \square \)
   \( \square \)

\( \lambda P \lambda s \lambda o' \lambda w'[grounding_{vis}(s')(o')(s_1)(P)
\wedge \text{cont.inf}(o)(s)(P(s_1)) \wedge t_{s_1} = t_s \wedge w' = w_{s_2}] \)

\( \lambda o' \lambda w'[grounding_{vis}(s_2)(o')(s_1)(\lambda s \lambda o \lambda w[home'(s)(o)(w)(k)])
\wedge \text{cont.inf}(o')(s_2)(\lambda o \lambda w[home'(s_1)(o)(w)(k)]) \wedge t_{s_1} = t_{s_2} \wedge w' = w_{s_2}] \)

\( \lambda s' \lambda o' \lambda w'[grounding_{vis}(s')(o')(s_1)(\lambda s \lambda o \lambda w[home'(s)(o)(w)(k)])
\wedge \text{cont.inf}(o')(s')(\lambda o \lambda w[home'(s_1)(o)(w)(k)]) \wedge t_{s_1} = t_{s'} \wedge w = w_{s'}] \)

\( \lambda s \lambda o \lambda w[home'(s)(o)(w)(k)] \)

The denotation of \( \square \) is the set of worlds \( w' \) such that the contextually determined situation \( s_2 \) is a part of \( w' \), and \( o^* \) saw \( s_2 \), and \( o^* \) can make a contingent inference from \( s_2 \) to the centred proposition that Ken is home in the contextually determined situation \( s_1 \), and \( s_1 \) and \( s_2 \) happened at the same time.

5.5.3 Reportative evidentials

The two reportatives in Nuu-chah-nulth are both moods. I give a model of the quotative mood -wa'piš ‘quotative’ in §5.5.3.1, and of the indirect interrogative mood -ha'č ‘indirect
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5.5.3.1 Quotative 

The quotative mood 

indicates a relation between an origo and a centered proposition. The origo argument is specified as the speaker in the utterance situation, since the quotative mood only occurs in matrix clauses. It is equivalent to a bare reportative (which Nuu-chah-nulth happens to lack) combined with the indicative mood.

The translation for 

\( \text{quotative} \) is given in (234). It is a function which takes a centered proposition \( p \) of type \( \langle o, \langle s, t \rangle \rangle \). It is true if the origo has a report in his or her set of reports \( R_o \) which conveys the proposition \( p \).

\[
(234) \quad \text{wa’iš}_1 \Rightarrow \lambda p \lambda w[\text{report}(o^*)(s_1)(p) \land w = w_{s_1}]
\]

\[
(235) \quad \text{wa’iš}_2 \quad \lambda p \lambda w'[\text{report}(o^*)(s_2)(p) \land w' = w_{s_2}]
\]

\[
\begin{align*}
&\lambda x \lambda s \lambda o \lambda w[\text{be.home’}(s)(o)(w)(x)] \\
&w\text{alyuu}
\end{align*}
\]

\[
\begin{align*}
&\lambda o \lambda w[\text{be.home’}(s_1)(o)(w)(k)] \\
&\lambda s \lambda o \lambda w[\text{be.home’}(s)(o)(w)(k)]
\end{align*}
\]

5.5.3.2 Indirect interrogative 

If 

\( \text{wa’iš} \) ‘quotative’ has the semantics of a bare reportative combined with the indicative mood, then 

\( \text{ha’č} \) ‘indirect interrogative’ has the semantics of a bare reportative combined with the interrogative mood.

The translation of 

\( \text{ha’č} \) is given in (236) below. It is a function taking a centered proposition \( p \) of type \( \langle o, \langle s, t \rangle \rangle \). It yields a question, as indicated here by an ad hoc question operator \( Int \), which has in its scope the report relation. This operator would return the possible answers to the question, as in the question semantics of Hamblin (1973) and Karttunen (1977).
5.6. Consequences of the analysis

What is being questioned is the existence of a report containing \( p \) in the addressee’s set of reports.

\[
-\text{ha’c} \Rightarrow \lambda p[\text{Int}(\lambda o\lambda w[\text{report}(o)(s_1)(p) \land w = w_{s_1}])]
\]

\[
\begin{align*}
\text{a. } & \text{wałyu'hać} \\
& \text{wałyu:ha’c} \\
& \text{be.home-3.INDIR.INTER} \\
& \text{‘Is he home?’}
\end{align*}
\]

\[
\begin{align*}
\lambda p[\text{Int}(\lambda o’\lambda w’[\text{report}(o’)(s_3)(p) \land w’ = w_{s_3}])]
\end{align*}
\]

\[
\begin{align*}
\text{b. } & \text{wałyuu}\lambda x\lambda s\lambda o\lambda w[\text{be.home’}(s)(o)(w)(x)] \\
& \lambda x\lambda s\lambda o\lambda w[\text{be.home’}(s_2)(o)(w)(x_1)] \\
\end{align*}
\]

The denotation of \( \square \) is the result of the interrogative operator \( \text{Int} \) applied to the centred proposition that the origo \( o’ \) perceived a contextually determined utterance situation \( s_3 \) where someone other than the current speaker or addressee asserted the centred proposition that the contextually salient individual \( x_1 \) is home in \( s_2 \). As a yes-no question, the set of possible answers will be the proposition that \( x_1 \) is home in \( s_2 \) where the addressee (who will be the speaker for the answer) is the origo, and the negation of this proposition.

5.6 Consequences of the analysis

The analysis presented in this chapter makes a number of predictions, some of which are substantial enough to warrant a chapter (Chapters 6–8), and two of which I can mention briefly here.

5.6.1 Evidential relations are specified independently

Because the evidential relations are treated separately in the model presented above, it is expected that a single evidential morpheme can encode one or more of these relations. It is also expected that multiple evidential morphemes could appear in a single clause with,
5.6. Consequences of the analysis

for example, one specifying the perceptual grounding and another the manner of support. Nuuchahnulth shows that both of these predictions are borne out.

Table 5.3 illustrates the three possible ways an evidential can encode perceptual grounding and manner of support, exemplified by contingent inference here. Evidentials can indicate any of the following: i) only the origo’s perceptual grounding of the prejacent proposition (e.g., naʔaːt ‘auditory evidence’), ii) only that the origo can make a contingent inference to the prejacent proposition (e.g., -matak ‘inference’), or iii) both the origo’s perceptual grounding of the prejacent proposition and that the he or she can only make a contingent inference to the it (e.g., -kuk ‘visual inference’).

<table>
<thead>
<tr>
<th>Perceptual grounding</th>
<th>Manner of Support (inference)</th>
<th>Perspectival status</th>
</tr>
</thead>
<tbody>
<tr>
<td>naʔaːt</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>-matak</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>-kuk</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 5.3: Properties of evidentiality encoded in specific evidential morphemes

Because evidentials need not specify the entire experiential relation between an origo and a prejacent proposition, our semantics must allow for perceptual grounding and manner of support to be encoded separately. We will see later, in Chapter 7 that each relation can be specified by a different evidential within a single clause. Thus, the semantics for perceptual grounding and manner of support must also be able to combine to yield a single experiential relation between the origo and the prejacent proposition.

5.6.2 The effect of the real-world context on the experiential relations

Garrett (2001) and Faller (2004) point out the effect that the origo’s memory has on their use of evidential morphemes. When an origo perceived a situation which directly supports a centred proposition, or was a participant in it, but their perspective doesn’t contain any such centred proposition, then something has prevented them from remembering it. This may be from simply forgetting about it, or from not being entirely conscious during it (for example, being asleep, not paying attention at the time, being intoxicated, etc.) (Aikhenvald 2004, 222).

As we saw in §5.5, all of the evidentials in Nuuchahnulth except naʔaːt ‘auditory evidence’ indicate a manner of support, either contingent inference or report. These two manners of support require that the prejacent proposition not be in the perspective of the origo. It is therefore expected that these evidentials cannot be used in scenarios where the origo has participated in or perceived the situation directly supporting the prejacent unless he or she does not remember participating in or perceiving it. This prediction is borne out.
5.6. Consequences of the analysis

In (238a), the origo, Kay, was a participant in the situation but does not remember being hungry at the particular instance on the video, but from seeing the amount of food she ate she was able to infer that she was quite hungry at the time. The use of the past inferential 

\( -ck^\cdot i \) is felicitous in this scenario. If Kay remembered being hungry it would be in her perspective, and then she could not use the past inferential, instead using the sentence in (238b) with no inferential.

(238) a. **Scenario:** Kay was watching a video in which she ate three pieces of fish. She doesn’t remember being hungry, but since that is more fish than she usually eats, she figures she must have been really hungry, and said this.

\[ ?\text{iib}\text{ck}^*\text{isi}\text{s} \quad \text{ha}\text{wi}\text{iq}\text{x} \quad ?\text{u}\text{\text{i}}\text{h}\text{a}\text{sa} \quad ?\text{ya}\text{aq}\text{x} \]

\[ ?\text{iib}\text{-ck}^*\text{i}\text{-si}\text{s} \quad \text{ha}\text{wi}\text{iq}\text{x} \quad ?\text{u}\text{\text{i}}\text{h}\text{a}\text{-sa} \quad ?\text{ya}-\text{aq}\text{x} \]

big-PAST.EVID-1SG.IND hungry reason.why-1SG.ABS many-in.body

‘I must have been very hungry, that’s why I consumed lots.’

b. **Scenario:** Kay was watching a video in which she ate three pieces of fish. She remembered being particularly hungry at that event, which was why she took three pieces, and she said this.

\[ ?\text{iibh}\text{ts} \quad \text{ha}\text{wi}\text{iq}\text{x} \quad ?\text{u}\text{\text{i}}\text{h}\text{a}\text{sa} \quad ?\text{ya}\text{aq}\text{x} \]

\[ ?\text{iibh}\text{-}\text{m}\text{it-s} \quad \text{ha}\text{wi}\text{iq}\text{x} \quad ?\text{u}\text{\text{i}}\text{h}\text{a}\text{-sa} \quad ?\text{ya}-\text{aq}\text{x} \]

big-PAST-1SG.ABS hungry reason.why-1SG.ABS many-in.body

‘I was very hungry, that’s why I ate lots.’

5.6.3 The perspective in the meaning of evidentials

The perspective of an origo plays a large role in the meaning of evidentials in Nuuchah-nulth. Nuuchah-nulth evidentials (save the auditory evidential *na?at*, as will be shown in the following sections) are only felicitous when their prejacent proposition is not in the perspective of the relevant origo. In the sections below, I present evidence that centred propositions that are in the origo’s perspective are infelicitous with all Nuuchah-nulth evidentials except *na?at* (§5.6.3.1) and that centred propositions that are not in an origo’s perspective are felicitous with all Nuuchah-nulth evidentials (§5.6.3.2).

5.6.3.1 Propositions believed to be true are incompatible with inferentials

Before illustrating the relevance of perspectives to evidentials, I examine how a proposition is expressed that is in the origo’s perspective. In Nuuchah-nulth, a declarative matrix clause, in which the origo is the speaker, is in either the indicative mood or the absolutive. The auditory evidential *na?at* may be present if the origo is the speaker and knows about the proposition from hearing something. In (239a) the speaker, Kay, is presenting a proposition
about her own psychological state, and thus one which is in her perspective, and the matrix clause is in the indicative mood, marked by -*siš*. If an evidential such as the dubitative mood -*qačas* were used, as in (240b), the sentence would be infelicitous in this scenario. It would require a scenario where the speaker did not know she was currently afraid she would lose her money, but was able to infer it from her actions.

(239) Scenario: Kay discovered a hole in her pocket, and so gave her money to Bill for safekeeping, and told him this.

a. ḥaayaaqzi apiśiṣ生怕 utmost.degree 1sg.ind pawa+išiškuus taanaaκqs
   ḥaayaaqzi api*[L]-siš生怕 utmost.degree 1sg.abs pawa+iš(κ)-quś tana-ʔa-k-qς
   afraid-utmost.degree-1sg.ind missing-mom-1sg.cond money-poss-1sg.poss

   ‘I’m in total fear that I will lose my money.’

b. haayaaqzi apiqačas生怕 utmost.degree 1sg.dub pawa+išiškuus taanaaκqs
   ḥaayaaqzi api*[L]-qačas生怕 utmost.degree 1sg.abs pawa+iš(κ)-quś tana-ʔa-k-qς
   afraid-utmost.degree-1sg.dub missing-mom-1sg.cond money-poss-1sg.poss

Similarly, in (240a) the speaker, Kay, presents a proposition about her own psychological state and the matrix clause is in the absolutive mood, marked by -*s*, with no inferential. And again, using an inferential, such as the dubitative mood in (240b), is infelicitous when the speaker believes the proposition is true, as she will when it is regarding her own psychological state.

(240) Scenario: Olive said *hupiçi yukʷi* ‘Go and help your younger sibling’ to Kay, who replied with this.

a. činiuqšs
   činiuqš s unwilling-1sg.abs

   ‘I don’t want to.’

b. činiuqšqačas
   činiuqš qačas unwilling-1sg.dub

The matrix clause in (241a) is also in the indicative mood and contains no inferential, since the proposition that Ken ate before going to bed is in the perspective of the origo, the speaker Kay, as she had seen him eating. Although she did not see him go to bed, she infers that he did, since he usually does. However, Kay is certain that this inference holds, and so she treats the conclusion as known. This same sentence with the past inferential -*ckʷi* in place of -*m*) it is infelicitous in this scenario, instead requiring one where the speaker does not have the proposition in her perspective, as in (241b), where she was asleep when Ken ate.
5.6. Consequences of the analysis

(241) a. *Scenario:* Bill went to bed, then Ken came home and ate. Kay saw this, and then went to bed. In the morning, before Ken woke up, she said this.

haŋuk*iʔiʃ Ken wík’uuyii cítkipiː
haŋuk-(m)it-ʔiʃ Ken wík’u-:(y)iː cít-k-pi(ʔiː)

*eat-past-3.ind Ken before-3.indf lay.down-in.house.mom*

‘Ken ate before he went to bed.’

b. *Scenario:* Bill went to bed, then Kay did, and then Ken came home and ate before going to bed. In the morning, Kay woke up first and saw Ken’s dishes still out. Bill got up next, and Kay said this to him.

haŋukek*iʔiʃ Ken wík’uuyii cítkipiː
haŋuk-ɛk*iʔiʃ Ken wík’u-:(y)iː cít-k-pi(ʔiː)

*eat-past.evid-3.ind Ken before-3.indf lay.down-in.house.mom*

‘Ken must have eaten before he went to bed.’

The auditory evidential *naʔaːt* indicates that the speaker has no visual evidence for the proposition, but has auditory evidence for it. When it appears in a matrix clause with no inferential, it indicates the speaker considers that auditory evidence enough to know the proposition. In (242a) the speaker, Kay, can hear Ken snoring, but cannot see him. Still, she knows from his snoring that he is asleep. It would be infelicitous to use an inferential such as -qa’ča here, because the proposition is in the speaker’s perspective. The sentence in (242b), with -qa’ča, can be used in just such a scenario, where the speaker has heard no sounds from Ken’s room for a while, and infers that he is asleep.

(242) a. *Scenario:* Kay and Bill were sitting in the living room, and Kay heard snoring coming from Ken’s room. She said this to Bill.

waŋiʔiʃ Ken naʔaːt
waŋiʔ-ʔiʃ Ken naʔaːt

*sleep-3.ind Ken aud.evid*

‘Sounds like Ken’s sleeping.’

b. *Scenario:* Kay and Bill were sitting in the living room, and Kay hadn’t heard any sounds from Ken’s room for a while, so she said this to Bill.

waŋiʔača Ken naʔaːt
waŋiʔ-ača Ken naʔaːt

*sleep-3.dub Ken aud.evid*

‘Ken must be sleeping.’
5.6. Consequences of the analysis

5.6.3.2 Propositions which the origo is agnostic about are compatible with inferentials

Each of the inferentials in Nuu-chah-nulth has as a part of its meaning that the origo cannot have the prejacent proposition in their perspective. The auditory evidential *na'a:t* is the only evidential in Nuu-chah-nulth that is not an inferential, and it is the only one which does not have this property.

The dubitative mood *-qac'a* in (243a) indicates that the origo, Kay, does not know whether it is true that the tea is cold. This contrasts with (243b) where she knows the tea is cold because she drank some of it.

(243) a. Scenario: Bill came into the kitchen where Kay was sitting. He got a cup and went to pour himself some tea, but Kay had made the tea over an hour ago. She had not had any recently, so she said this to him.

\[
\text{mal/'a;Hs/ax/aq'a} \\
\text{cold-in.vessel-now-3.DUB} \\
\text{‘It’s probably cold now.’}
\]

b. Scenario: Bill came into the kitchen where Kay was sitting. He got a cup and went to pour himself some tea, but Kay had just poured herself a cup and found when she tried it that it was cold. She said this to him.

\[
\text{mal/'a;Hs/ax/xi;S} \\
\text{cold-in.vessel-now-3.IND} \\
\text{‘It is cold now.’}
\]

The inferential *-matak* is used in (244a) because the origo, Kay, does not know whether it is true that Ken is sleeping. If Kay had seen him asleep, as in (244b), she would not use *-matak*.

(244) a. Scenario: Kay and Bill walked by Ken’s house one evening, and didn’t see any movement. They knew he had worked late that day, and so Kay said this.

\[
\text{wa/'i;cmatak/xi;S} \quad \text{Ken} \\
\text{wa/'i;cmatax-k/xi;S} \quad \text{Ken} \\
\text{sleep-IND.EVID-3.IND} \quad \text{Ken} \\
\text{‘Ken must be sleeping.’}
\]
5.6. Consequences of the analysis

b. Scenario: Kay was walking past Ken’s room on the way to the living room and she saw him sleeping. When she got to the living room she told Bill this.

wa’iṭčiš  Ken
wa’iṭč-ʔiš  Ken
sleep-3.IND  Ken

‘Ken is sleeping.’

In (245a) the past inferential -čki indicates that the origo, Kay, does not know whether Ann was noisy; this centred proposition is not in her perspective. If it was, because she had heard them herself, it would be infelicitous for her to use -čki. Instead she could use the sentence in (245b) without any evidential.

(245) a. Scenario: Kay and Bill live next to Ann, who often fights with her boyfriend, and Kay looked out to see the police arriving at Ann’s again, so she said this to Bill.

κα’μαqαqαqαqκ “ʔišʔa†  Ann ḥiʔaʔat  mamāʔiʔiḥ
κα’μαqαqκ-ʔa♭ (m)it-ʔišʔa†  Ann ḥiʔ-ʔaʔ-ʔaʔit-ʔa♭  maʔ-ʔiʔiḥ[R]
be.noisy-aug.past.evid-3.ind-pl  Ann be.there.now-shift-3.abs tied-hunt

‘Ann and them must have been really noisy; the police are there.’

b. Scenario: Kay and Bill live next to Ann, who often fights with her boyfriend, and Kay heard yelling come from Ann’s house. Later, after they had stopped fighting, she said this to Bill.

κα’μαqαqαqitišʔa†  Ann
κα’μαqαqκ-(m)it-ʔišʔa†  Ann
be.noisy-aug.past-3.ind-pl  Ann

‘Ann and them were very noisy.’

Kay, the speaker in (246a) below, used the visual inferential -kuk because she, as the origo, did not have the centred proposition that Ken was home in her perspective. If she did, because she had just got off the phone with him, this sentence would be infelicitous, and she would instead use the sentence in (246b).

(246) a. Scenario: Ken had been out of town, and one day Kay was walking by his house and saw his lights on. Later she said this to Bill.

waʔyuʔkukʔiš  Ken
waʔyuʔ-ʔiš  Ken
be.home-vis.evid-3.ind  Ken

‘It looks like Ken is home.’
b. **Scenario:** Kay and Bill both know that Ken doesn't mind watching children. Bill is planning to go to Port Alberni for lahal and needs someone to watch her boy. Kay had just got off the phone with Ken, and found out that he was going to be around all weekend, so she said this to Bill.

\[
\text{wałyuŋiš Ken} \\
\text{wałyu-ʔiš Ken} \\
\text{be.home-3.IND Ken}
\]

‘Ken is home.’

The quotative mood -waʔiš in (247a) indicates that the origo, Kay, does not know that it is raining. It is infelicitous to use the quotative in a scenario where Kay has this centred proposition in her perspective, as in (247b), and she will instead use no inferential.

(247) a. **Scenario:** Kay and Bill were inside, where there were no windows, when she had a phone call from Linda who told her that it was raining out. After, Kay told this to Bill.

\[
\text{mįkläaʔiš} \\
\text{mįk-(y)a-waʔiš} \\
\text{rain-CONT-3.QUOT}
\]

‘It was raining.’

b. **Scenario:** Bill was in a room where he couldn’t see outside. Kay came in from outside, shaking the rain off her jacket, and said this to him.

\[
\text{mįkläʔiš} \\
\text{mįk-(y)a-ʔiš} \\
\text{rain-CONT-3.IND}
\]

‘It’s raining.’

The auditory evidential naʔa:t differs from the others in not specifying whether the origo is agnostic about the prejacent. This is instead determined by the presence or absence of an inferential in combination with naʔa:t. In both (248a) and (248b) the origo, Kay, has auditory evidence, but considers the centred proposition in (248a) unknown and the centred proposition in (248b) known. The auditory evidential naʔa:t appears in both examples, the difference being that there is an inferential, -matak, in (248a) and no inferential in (248b).
5.7. A note on contingent inference and modality

(248) a. Scenario: Kay and Bill don’t usually hear Ken’s stereo, but sometimes it gets loud. They figure it is his son turning it up when he goes out. One day when she heard the stereo she said this to Bill.

\[
\begin{align*}
\text{wikipimataka}\hat{\text{x}}\hat{\text{i}} & \quad \text{Ken na}\hat{\text{at}} \\
\text{wik-pi}(\hat{\text{x}})-\text{matak-}^\text{a}\hat{\text{x}}-\hat{\text{i}} & \quad \text{Ken na}\hat{\text{at}} \\
\text{NEG-in.house.mom-ind.evid-now-3.ind Ken aud.evid}
\end{align*}
\]

‘Ken is probably not at home.’

b. Scenario: Kay knows that every morning Bill’s younger brothers get up, make a lot of noise, and are gone by 8:30. One morning she heard it get quiet, and said this to Bill.

\[
\begin{align*}
\text{wikipi}\hat{\text{x}}\hat{\text{i}} & \quad \text{yu}\hat{\text{yuk}}^\text{e}i \quad \text{na}\hat{\text{at}} \\
\text{wik-pi}(\hat{\text{x}})-^\text{a}\hat{\text{x}}-\hat{\text{i}} & \quad \text{yu}\hat{\text{yuk}}^\text{e}i \quad \text{na}\hat{\text{at}} \\
\text{NEG-in.house.mom-now-3.ind younger.sibling aud.evid}
\end{align*}
\]

‘It sounds like your younger siblings went out.’

Further evidence that the auditory evidential does not necessarily involve inference is that centred propositions about sounds can appear with na\hat{\text{at}}. For example, in (249) Kay heard the thunder directly, and can still felicitously use the auditory evidential.

(249) Scenario: Kay could hear thunder, and when she got a call from Bill in Port Alberni she said this to him.

\[
\begin{align*}
\text{\textit{t}ick\textit{tick}a} & \quad \text{na}\hat{\text{at}} \\
\text{\textit{t}ick-(y)a[RL]} & \quad \text{na}\hat{\text{at}} \\
\text{clatter-rep-3.ind aud.evid}
\end{align*}
\]

‘It’s thundering.’

I have now shown that each of the inferentials in Nuuchahnulth requires that the prejacent proposition is not in the origo’s perspective. Propositions which are in the origo’s perspective cannot be marked with an inferential.

5.7 A note on contingent inference and modality

In this section I discuss the similarities and differences between the approach to contingent inference I laid out above and the analysis of modality—epistemic modality in particular—developed by Kratzer (1981, 1991). My approach has analogues to Kratzer’s, but because my approach makes use of centred propositions and situations, it is able to do some things that Kratzer’s cannot.

Given the origo hypothesis, we need a relation between a perceived situation and a prejacent proposition. One way of modelling inference would be to use Kratzer’s (1981) modal
5.8. Translations of Nuuchahnulth evidentials: a first pass

This is the approach taken by Izvorski (1997), von Fintel and Gillies (2010) and Matthewson et al. (2007), though each slightly revises Kratzer’s original definitions. I discuss the basics of Kratzer’s analysis here.

The first thing to note is that, in Kratzer’s analysis, a modality is a relation between a context and a prejacent proposition, not between a perceived situation and a prejacent proposition. The context must provide two sets of propositions. The first of these is the modal base. For evidentials this would be an epistemic modal base, as this gives us a set of propositions that are known. This corresponds to the datum in Toulmin’s (2003) model of inference. The second set of propositions is the ordering source. For evidentials this would be a non-empty stereotypical ordering source, as this allows for uncertainty in the inference. The ordering source thus corresponds to a contingent warrant. A modal is felicitous if the context provides an appropriate modal base and ordering source such that the prejacent proposition is true in all the worlds in which the propositions in the modal base and ordering source are true. There is no mention of a situation in this definition.

Consider the role of the perceived situation in a contingent inference. The perceived situation supports a centred proposition which is a datum in the inference. In Kratzer’s account, the datum would be a centred proposition in the modal base. Thus, we would need to specify that the modal base contains a centred proposition which is about the perceived situation. That perceived situation is in some cases supplied by tense and is ordered temporally with respect to the utterance situation. The modal base would no longer be a set of centred propositions, but a single centred proposition—the one supported by the situation supplied by tense. Nor would the modal base be contextually determined—it would be determined by the perceived situation.

5.8 Translations of Nuu-chah-nulth evidentials: a first pass

The translations of each of the evidential morphemes in Nuu-chah-nulth are repeated in Table 5.4 for the reader’s convenience.

---

36 In my terminology, Kratzer 1981 uses uncentred propositions.
37 I am simplifying how Kratzer uses the ordering source here. The ordering source is supposed to rank the worlds in which all the propositions of the modal base are true from best to worst. The prejacent proposition must be true in all the best worlds in order for an inferential to be felicitous. The best worlds will be the ones in which the most propositions in the ordering source are also true. I am assuming that it is possible for all the propositions in the ordering to be true in the same world. In this case the best worlds will be those in which all the propositions in the ordering source and modal base are true.
### Translations of Nuuchahnulth evidentials: a first pass

<table>
<thead>
<tr>
<th>Evidential</th>
<th>Gloss</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-qa'č'a₁</td>
<td>‘dubitative’</td>
<td>$\lambda p.lw[\text{cont.inf}(o^*)(s_1)(p) \land w = w_{s_1}]$</td>
</tr>
<tr>
<td>-waʔiš₁</td>
<td>‘quotative’</td>
<td>$\lambda p.lw[\text{report}(o^*)(s_1)(p) \land w = w_{s_1}]$</td>
</tr>
<tr>
<td>-ha'č₁</td>
<td>‘indirect interrogative’</td>
<td>$\lambda p[\text{Int}(\lambda o.lw[\text{report}(o)(s_1)(p) \land w = w_{s_1}])]$</td>
</tr>
<tr>
<td>-matak₁</td>
<td>‘inference’</td>
<td>$\lambda p\lambda\lambda lw[\text{cont.inf}(o)(s_1)(P(s)) \land w = w_{s_1}]$</td>
</tr>
<tr>
<td>-ckwet₁</td>
<td>‘past inference’</td>
<td>$\lambda p\lambda\lambda lw[\text{cont.inf}(o)(s_1)(w)(P(s)) \land t_s &lt; t_{s_1} \land w = w_{s_1}]$</td>
</tr>
<tr>
<td>-kuk₁</td>
<td>‘visual inference’</td>
<td>$\lambda p\lambda\lambda lw[\text{grounding}<em>{\text{vis}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1)) \land t</em>{s_1} = t_s \land w = w_{s_1}]$</td>
</tr>
<tr>
<td>naʔa't₁</td>
<td>‘auditory evidence’</td>
<td>$\lambda p\lambda\lambda lw[\text{grounding}<em>{\text{aud}}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s_1)) \land t</em>{s_1} = t_s \land w = w_{s_1}]$</td>
</tr>
</tbody>
</table>

Table 5.4: Translations of Nuu-chah-nulth evidential morphemes
Chapter 6

Determining the origo

6.1 Introduction

Evidentials characterize a relation between a person and a proposition. This much is generally agreed on (see Jacobsen 1986 for a summary up to that point, since then see, e.g., Faller 2002, Aikhenvald 2004). This chapter is concerned with the methods for determining who that person is. Many definitions of evidentiality describe it as a relation between “the speaker” and a proposition. Following Garrett (2001) I present arguments based on data in Nuu-chah-nulth that this is an inaccurate characterization, and that evidentiality is a relation between the origo and a (centred) proposition.

6.1.1 The origo and similar concepts

The concept of an origo, which I introduced in chapter 5, is not entirely new. Garrett (2001, 4), following Agha (1993), defines it as “the person from whose perspective a given evidential is evaluated.” I take a broader view of it, and consider it to be the person from whose perspective a proposition is evaluated. Sentences without evidentials also have origos. This is similar to the perspective holder of Kölbl (2002) and Muehlbauer (2008), the judge of Lasersohn (2005) and Stephenson (2007b), and the validator of Stirling (1993).

As Garrett (2001) points out, the origo functions as an indexical, and in certain constructions it has the properties of a shifted indexical, similar to those discussed by Partee (1989) and Schlenker (2003) (and whose existence was denied by Kaplan (1989), who called operators which shifted indexicals “monsters”).

6.1.1.1 Ways an origo can be specified

The data in this chapter is presented with a summary of the most relevant features of the scenario for the matter at hand. Below the translation line I indicate which evidential is under discussion (in case there are multiple evidentials in the sentence), what its prejacent proposition $p$ is, who the origo associated with that evidential is, and also the perspectival status.

\footnote{A centred proposition in my view, though other accounts focus on uncentred propositions. I also claim that a situation plays a significant role in the semantics of evidentials, though this idea has received much less attention in the literature than the person and proposition.}
experiential relation and perceptual grounding that hold between the origo and the prejacent. To give an example, in (250) we have the scenario and interlinear glossing as usual, and below the translation is the information for the quotative -waʔiš. The prejacent proposition is identified as ‘It’s raining’, and the origo as the speaker Kay. Kay does not have the prejacent proposition in her perspective, so the perspectival status is ‘agnostic’; she obtained a report containing the prejacent, so the experiential relation is ‘report’; and she received the report auditorily, so the perceptual grounding is ‘auditory’.

(250) **Scenario:** Kay and Bill were inside, where there were no windows, when she had a phone call from Ken who told her that it was raining out. Afterwards, Kay said this to Bill.

\[
\begin{align*}
\text{mīʔkaawayiš} \\
mīʔ-(y)a=waʔiš \\
\text{rain-CONT-3.QUOT}
\end{align*}
\]

‘It’s raining.’

\[\text{-waʔiš ‘quotative’}\]
\[p = \text{‘It’s raining’}\]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = report**

**PERCEPTUAL GROUNDING = auditory**

I identify three ways that an origo can have its value determined in Nuu-chah-nulth, and thus three ways any language might use, though not every language will use all three. In particular, not all languages have mood morphemes, and not all mood morphemes encode an origo.

First, propositional attitude predicates and verbs of saying assign their attitude-holder argument as the origo of their complement clauses. Stephenson (2007b,a) shows this for English propositional attitude predicates, using a judge variable, and Schlenker (2003) for Amharic verbs of saying, using a context variable. Schlenker also uses the same mechanism for English propositional attitude predicates. Consider an example in Nuu-chah-nulth, given in (251). Here an evidential in the complement clause of a propositional attitude predicate like ?uqtaap “think” can only be interpreted as having the thinker as the origo. The indirect evidential -matak describes the relation between Linda, the thinker, and the centred proposition that Ken is home.

39 Having propositional attitude predicates quantify over entire contexts is overkill. The time and world of a belief are important, as Schlenker (2003) shows, but there is no addressee of a belief. Nor is there a place of a belief: it makes no difference whether John is in Moscow or Qualicum Beach when he believes in world \(w\) at time \(t\) that there is a revolution in Libya in \(w\) at \(t\). An origo is all that is needed, containing an individual, a situation proper (or a world) and a time.
6.1. Introduction

(251) **Scenario:** Ken had been out of town, Linda was walking by his house and saw the lights on. Later she spoke to Kay and told her *waɬyuumatakiš Ken*, ‘I guess Ken is home’. When Kay saw Bill later, she told him this.

![]![](image)

Linda thought Ken was at home.

\[
\text{ORIGO} = \text{matrix subject (Linda)}
\]

\[
\text{perspectival status} = \text{agnostic}
\]

\[
\text{manner of support} = \text{contingent inference}
\]

\[
\text{perceptual grounding} = \text{visual}
\]

A propositional attitude predicate like *uq̓xaap* ‘think’ will have the translation given in (252a). It takes a centred proposition \( p \) (the “thought”) and an individual \( x \) (the “thinker”). The denotation of an uncentred proposition containing the predicate *think* is shown in (252b).\(^{40}\)

\[
(252)\text{a. } uq̓xaap \Rightarrow \lambda p λ x λ s λ o λ w [\text{think}’(s)(o)(w)(x)(p)]
\]

\[
\text{b. } \llbracket \lambda w [\text{think}’(s)(o)(w)(x)(p)] \rrbracket^{\text{g}=\delta} = \text{the set of all } w \text{ such that } s \text{ is a part of } w, \text{ and } g(x) \text{ thinks } p \text{ in .}
\]

Secondly, a clause can have its origo value assigned by a mood. Matrix clause moods, as opposed to dependent clause moods, determine the origo of the centred propositions in their clauses. For example, the indicative mood assigns the speaker as origo, and the interrogative the addressee. Dependent clause moods leave the origo unassigned, allowing for propositional attitude predicates to assign it when the dependent clause is a complement clause, or for the context to determine it, in the case of adjunct clauses.

The sentence in (253) consists of a single clause which is in the indicative mood. This establishes that the origo is the speaker, which we can confirm by looking at the scenario to see whose inference *-matakiš* ‘inference’ is indicating. In this scenario Kay, the speaker, has seen her mother’s front door open, and she is inferring from that that her mother is home.

---

\(^{40}\)The origo plays no role in the truth conditions of the *think* predicate. However, in order for an assertion containing this predicate to be felicitous, the centred proposition it belongs to must be in the origo’s perspective.
6.1. Introduction

(253) Scenario: Kay drove past her mother’s house, and saw that the front door was ajar; her mother lives alone. When she came home she told her son Bill this.

waŋyuumataŋš nani
waŋyu-ːmataŋ-ːtš nani
be.home-IND.EVID-3.IND grandparent

‘Your grandmother is probably home.’

-mataŋ ‘inference’

$p = ‘Your (Bill’s) grandmother is home.’$

\textbf{ORIGO = \textit{speaker (Kay)}}

\textit{perspectival status} = \textit{agnostic}

\textit{manner of support} = \textit{contingent inference}

\textit{perceptual grounding} = \textit{visual}

Formally, matrix clause moods saturate the \textit{oro} argument of their complement. The indicative does this by supplying the speaker, as shown in (254)

(254) $\bar{p} \Rightarrow o$

A dependent mood does not saturate the \textit{oro} argument. The most minimal mood suffix from the semantic point of view is the absolutive, which only gives agreement, which I do not deal with in this dissertation. The relative moods and the conditional mood have additional semantics, but what that is exactly is outside the scope of this dissertation. As far as their effect on the \textit{oro} goes, they are all semantically empty, and I treat them as having an empty translation as shown in (255) for the phonologically null absolutive.

(255) $\emptyset \Rightarrow \lambda p[p]$

Thirdly, in the default case, the value for an \textit{oro} is context-dependent. Any referent which has a perspective can be the \textit{oro} in a clause which has not otherwise been assigned a particular value for its \textit{oro}. In Nuu-chah-nulth, this means clauses in one of the dependent moods (absolutive, conditional, subordinate, relative or indefinite relative) which are not complements.

The sentence in (256) contains a main clause and, moreover, a relative clause. Within this relative clause is -$mataŋ’\textit{inference}$’, and this will again help us see who the \textit{oro} is in a given scenario. There are two scenarios which this sentence is compatible with, each with a different \textit{oro}. In Scenario 1 the \textit{oro} is the \textit{speaker Kay}, as she is the one making the inference. In Scenario 2 the \textit{oro} is Ann, the person who told Kay about seeing the man who she thinks stole Ken’s money. Here Ann is the one making the inference.
6.1. Introduction

Scenario 1: Kay and Bill know that someone stole money from Ken, and Kay thinks it was John, because he had been staying with Ken. Ann didn’t know that Ken had money stolen, and one day she told Kay that she ran into John at the mall. Later Kay said this to Bill.

Scenario 2: Kay and Bill know about the theft, but didn’t have any idea who had done it. Ann knew that a certain person had been staying with Ken, and she told Kay she saw that guy at the mall. Kay doesn’t know who she means. Later Kay tells Bill this.

‘Ann saw the man [who might have stolen Ken’s money].’

Not all languages will have moods that assign origos, so this is primarily a Nuu-chah-nulth specific mechanism, though it is expected that other languages may have origo-assigning moods. However, all languages will be able to have origos assigned by context, and all languages with propositional attitude predicates will have the origo of complement clauses assigned by the propositional attitude predicates.

6.1.2 Combination of evidentiality and origo assignment

The evidential moods also illustrate how the evidential relations (perspectival status, manner of support and perceptual grounding) can be combined with other semantic elements to create semantically complex morphemes. Matrix evidential moods all assign an origo to their clause, in addition to whatever evidential meaning they have. Table 6.1 illustrates the combinations of origo assignment and evidentiality exhibited in various morphemes in Nuu-chah-nulth. The indicative and interrogative moods assign an origo, but do not have any inherent evidentiality. The non-mood evidentials do not assign an origo but each have inherent evidentiality. The matrix evidential moods assign an origo and also have inherent evidentiality; they are semantically complex. For example, the dubitative -qaća is equivalent to the indicative -ʔiš plus -matak ‘inference’. The various evidentiality relations, such as report or cont.inf, are not in complementary distribution, and so may co-occur as well, resulting in morphemes with complex evidentiality relations. The visual evidential -kuk is an example of this, as it indicates that the origo is agnostic about the prejacent proposition, and also that the origo has visual perceptual grounding for the prejacent.
6.1. Introduction

<table>
<thead>
<tr>
<th>MORPHEME</th>
<th>GLOSS</th>
<th>ORIGO</th>
<th>EVIDENTIALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-n'iš</td>
<td>indicative</td>
<td>speaker</td>
<td>n/a</td>
</tr>
<tr>
<td>-qα'ča</td>
<td>dubitative</td>
<td>speaker</td>
<td>cont.inf</td>
</tr>
<tr>
<td>-wa?iš</td>
<td>quotative</td>
<td>speaker</td>
<td>report</td>
</tr>
<tr>
<td>-h</td>
<td>interrogative</td>
<td>addressee</td>
<td>n/a</td>
</tr>
<tr>
<td>-ha'č</td>
<td>indirect interrogative</td>
<td>addressee</td>
<td>report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-MOODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>-matak</td>
</tr>
<tr>
<td>-ek*i'i</td>
</tr>
<tr>
<td>-kuk</td>
</tr>
<tr>
<td>na?aat</td>
</tr>
</tbody>
</table>

Table 6.1: Combinations of origo assignment and evidentiality

6.1.3 The origo associated with na?a:t must be a speaker

In looking at the various kinds of origo assignments, the auditory evidential na?a:t provides a useful diagnostic tool. Its origo argument must be the speaker of some relevant utterance context, though not necessarily the speaker of the main utterance context, and so if it can be used felicitously in a given clause, then the speaker can be the origo of that clause. And if its use is infelicitous, then so long as the other requirements of na?a:t are met, we can conclude that it is not possible for the speaker to be the origo of that clause. Table 6.2 summarizes the environments in which na?a:t can occur felicitously. The data summarized here is presented throughout the remainder of this chapter. In this table I abbreviate propositional attitude predicate as p.a.p.

<table>
<thead>
<tr>
<th>ORIGO</th>
<th>Clause</th>
<th>na?a:t PERMITTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker</td>
<td>indicative</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>dubitative</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>quotative (reportative)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>p.a.p. complement (1sg subject)</td>
<td>✓</td>
</tr>
<tr>
<td>Addressee</td>
<td>interrogative</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>indirect interrogative (reportative)</td>
<td>×</td>
</tr>
<tr>
<td>Non-speech-act participant</td>
<td>quotative (within clause)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>indirect interrogative (within clause)</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>p.a.p. complement (3sg subject)</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>verb of saying complement (3sg subject)</td>
<td>✓</td>
</tr>
<tr>
<td>Context dependent</td>
<td>reason clause</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>relative clause</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 6.2: Acceptability of na?a:t in different kinds of clauses

The way this property of na?a:t ‘auditory evidence’ is modelled is as follows. The translation of na?a:t is given in (257a) below, followed by the translation of -kuk ‘visual inference’ in (257b) for comparison. Both are sensory evidentials, meaning their semantics contains a
grounding relation, but they differ in one relevant respect. The translation for \textit{naʔa:t} contains the relation \textit{speaker}(o)(P(s)) which requires the origo to be the speaker of some utterance context in which \(P(s)\) was asserted, while the translation for \textit{-kuk}, does not include any such relation. Either of these two evidentials can have the speaker as origo, but if someone other than the speaker, such as the addressee, is introduced as the origo in a clause with \textit{naʔa:t}, then the relation \textit{speaker}(o)(P(s)) will be false, rendering the utterance infelicitous.

\begin{align}
(257) \quad \text{a. } \text{naʔa:t}_1 & \Rightarrow \lambda P \lambda s \lambda o \lambda w [ \text{grounding}_{\text{naʔa:t}}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s)) \land t_{s_1} = t_s \\
& \quad \land w = w_s ] \\
\text{b. } \text{-kuk}_1 & \Rightarrow \lambda P \lambda s \lambda o \lambda w [ \text{grounding}_{\text{-kuk}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1)) \land t_{s_1} = t_s \\
& \quad \land w = w_s ]
\end{align}

### 6.2 Origos determined by mood

In matrix clauses the mood suffix itself saturates the origo argument of the centred proposition. There are three different possibilities when this happens, depending on the mood. Some like the indicative \textit{-ʔiš} and the dubitative \textit{-qaʔa} assign the speaker as origo. The interrogative \textit{-h} assigns the addressee as origo. Finally, the two reportatives \textit{-waʔiš} ‘quotative’ and \textit{-haʔe} ‘indirect interrogative’ assign the origo of the clause they attach to as a non-speech-act participant, a reporter. Keep in mind that they also assign the origo of their reportative evidential—the speaker has the report in the case of \textit{-waʔiš}, and the addressee in the case of \textit{-haʔe}. I treat each of these matrix moods as saturating the origo argument of the centred proposition it combines with. In the sections below, I go through each of the three origo assignments and provide data illustrating them.

#### 6.2.1 Speaker as origo

Most declarative matrix clause moods assign the speaker as origo. The only exception is the quotative, which is associated with two origos: the origo argument of the report relation is
6.2. Origos determined by mood

the speaker, but the origo of the prejacent proposition—a proposition conveyed to the speaker by report—is a non-speech act participant.

In this section I go through cases where the origo is the speaker, starting with the indicative mood (§6.2.1.1), then the dubitative mood (§6.2.1.2), and finally the quotative, where the speaker is the origo who has the report (§6.2.1.3).

6.2.1.1 The speaker as origo in indicative mood clauses

I treat the indicative mood as having the translation in (258). It provides the root origo \( o^\star \), which consists of the speaker in the speech situation.

\[
(258) \quad -{\gamma i}s \Rightarrow o^\star
\]

Any evidential in an indicative mood clause will have its origo argument filled by \( o^\star \). Because of this, \( na?a:t \) ‘auditory evidence’ can occur in an indicative mood clause, as shown in (259). This sentence is felicitous, and it indicates that the speaker Kay has auditory perceptual grounding for the centred proposition that it’s raining.

(259) Scenario: Kay and Bill were sitting inside with the blinds closed, and Kay could hear drops hitting the window. She said this to Bill.

\[
\begin{align*}
m\tilde{\text{i}}\acute{\text{x}}\tilde{\text{a}}\tilde{\text{a}}\tilde{\text{a}}\tilde{\text{n}}\tilde{\text{a}}\tilde{\text{i}} & \quad na?aat \\
m\tilde{\text{i}}\acute{\text{x}}-(y)a\tilde{\text{a}}\tilde{\text{i}}\tilde{\text{s}} & \quad na?a:t \\
rain-\text{CONT-3.IND AUD.EVID} & \\
\end{align*}
\]

‘It sounds like it’s raining.’

\[na?a:t\]

\( p = \) ‘It’s raining.’

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = known**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = auditory**

As the tree in (260) shows, \( o^\star \), the speaker in the utterance situation, is introduced by the indicative mood \(-{\gamma i}s\). This saturates the origo argument of the function \( \mathbb{I} \), which fills in the origo argument of the \textit{grounding} and \textit{speaker} relations.
6.2. Origos determined by mood

The denotation of ⌈ is the set of all \( w' \) such that \( s_1 \) is a part of \( w' \) and the speaker in the utterance situation has heard the situation \( s_2 \), which supports the proposition that it is raining in \( s_1 \), where the time of \( s_1 \) is the time of \( s_1 \).

The other evidentials follow the same pattern. For example, in (261) Kay and Bill were inside, and Kay looked out and saw that it was overcast and the trees were moving in the wind. Kay is the origo of the indirect visual evidential -kuk in this sentence, since she is the one with visual evidence that allows her to infer that it is cold outside.

(261) **Scenario:** Kay and Bill were inside, and Kay could see out the window and saw that it was cloudy and the trees were moving a lot. She said this to Bill.

\[
\text{maṭaakuk\text{-iš}} \\
\text{maṭa\text{-y)akuk\text{-iš}}}
\]

cold-CONT-VIS.EVID-3.IND

'It looks cold.'

\(-kuk \text{ ‘visual inference’}\)  
\(p = \text{‘It is cold.’}\)

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = visual**

When -matak ‘inference’ is used in an indicative mood clause, we can see that the speaker is the origo. In (262) below Kay is the speaker, and she is the one who made the
6.2. Origos determined by mood

Inference that Ken is sleeping, therefore she is the origo of -matak.

(262) Scenario: Kay and Linda were walking by Ken’s house one evening and they knew he had worked late that day but he was home, yet Kay could not see any movement in his house, so she said this to Linda.

wañičmatakįš Ken
wañič-matak-įš Ken
sleep-IND.EVID-3.IND Ken

‘Ken must be sleeping.’

-matak ‘inference’

\[ p = \text{‘Ken is sleeping.’} \]

ORIGO = \textbf{speaker (Kay)}

PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = unspecified

Likewise the speaker is the origo of the past inferential -ckvi in an indicative mood clause, as in (263). Here the speaker Kay saw the police arrive at her neighbour’s and inferred that they had been noisy.

(263) Scenario: Kay and Bill live next to Nancy, who often fights with her boyfriend, and Kay looked out to see the police arriving at Nancy’s again, so she said this to Bill.

kamaqaqaqckviįšʔaɾ+ Nancy hitʔaʔaɾ+ mamaaƛiił
kamaqa-(q)aq-ckviįšʔaɾ+ Nancy hitʔ-ʔaʔ-ąt maʔ-ʔiʔ[R]
be.noisy-AUG-PAST.EVID-3.IND-PL Nancy be.there-now-SHIFT tied-hunt

‘Nancy and them must have been really noisy; the police are there.’

-ckvi ‘past inference’

\[ p = \text{‘Nancy and them were really noisy.’} \]

ORIGO = \textbf{speaker (Kay)}

PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = visual

Given our assumptions, namely that the indicative mood assigns the speaker as origo of the centred proposition within its clause, and that evidentials indicate the evidentiality relation between a proposition and its origo, it is expected that any evidentials in an indicative mood clause will indicate the evidentiality between the centred proposition and the speaker. We have seen that this is the case for all the non-mood evidentials.
6.2.1.2 The speaker as origo in dubitative mood clauses

The dubitative mood -qa‘ča only occurs in matrix clauses, and indicates that the speaker in the utterance situation has made a contingent inference concluding that the prejacent is true. The contingent inference relation includes the restriction that its origo argument—the person making the inference—is also the origo of the prejacent proposition. Thus, in the dubitative mood, the speaker is also the origo of the prejacent proposition.

\[ -qa‘ča \Rightarrow \lambda p \lambda w[(\text{cont.inf}(o^*)(s_1))(p) \land w = w_{s_1}] \]

To begin, consider an example of -qa‘ča alone, without any other evidentials. In (265) the speaker Kay is the one inferring that the tea is cold based on what she knows. The speaker is the origo of the evidential relations introduced by -qa‘ča.

(265) Scenario: Bill came into the kitchen where Kay was sitting. He got a cup and went to pour himself some tea, but Kay had made the tea over an hour ago. She had not had any recently and was not sure it was cold. She said this to him.

\[ \text{maṭšahsāxqa‘a} \]
\[ \text{maṭ-‘aḥṣ-‘āx-qa‘a} \]
cold-in.vessel-now-3.DUB

‘It's probably cold now.’

\[ -qa‘ča \text{ 'dubitative'} \]
\[ p = \text{‘It (the tea) is cold now.’} \]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = general**

The tree in (266) represents the derivation of the sentence in (265). It shows that -qa‘ča ‘dubitative’ contains the assignment of the speaker as origo within its translation. I treat the temporal suffix -‘aḥ as restricting the time of its situation argument to the utterance time without saturating it.\(^{41}\)

\(^{41}\)This morpheme can occur with tense morphemes, including the past, so the analysis given here is only an approximation of the semantics when it occurs without an overt tense morpheme. See fn. 35 on p. 141 for further discussion on -‘aḥ.\)
Provided the time of \( s' \) is the time of the utterance situation, the denotation of (266) is the set of all worlds \( w' \) such that \( s' \) is a part of \( w' \), and the speaker in the utterance situation can make a contingent inference from the contextually determined situation \( s_3 \) (the perceived situation) to the centred proposition that the contextually salient individual \( x_1 \) is cold.

We can see that -qa'ča 'dubitative' also introduces the speaker as the origo of its prejacent proposition when we look at the behaviour of \( na?at \) 'auditory evidence'. If the origo is the speaker, then \( na?at \) should be permitted. It is. In (267), the speaker Kay heard her neighbours get quiet. It is the speaker who heard something and inferred that the neighbours went out.

(267) Scenario: Kay lives next door to Ken and his brother, and she hears them getting ready to leave for work every morning. After they've left, it gets quiet. One morning she was talking to Bill, and she noticed it got quiet, so she said this to him.

\[
\begin{align*}
\text{wikpi?aαqača’aʔum} & \quad \text{naʔaat} \\
\text{wik-pik?’aʔ-k’ačaʔaʔ-at-ʔum} & \quad \text{naʔat} \\
\text{NEG-in.house.MOM-NOW-3.DUB-PL-3.ABS-DM \ AUD.EVID} & \\
\end{align*}
\]

'It sounds like they all left.'

\( naʔat \) 'auditory evidence'

\[
p = \text{They all left.}
\]

**ORIGO = speaker (Kay)**

PERCEPTUAL STATUS = agnostic

MANNER OF SUPPORT = contingent inference

PERCEPTUAL GROUNDING = auditory
6.2. Origos determined by mood

At present, I cannot give the semantics for a sentence with multiple evidentials. The evidentials need to share their prejacent argument, but the prejacent will saturate the argument slot of the first evidential and no longer be available. I discuss one solution to this in Chapter 7, and postpone giving trees for sentences with multiple evidentials until then.

As expected, when one of the other non-mood evidentials, such as -matak or -ck"i· occurs in a dubitative mood clause, its origo is also the speaker. The indirect visual evidential -ńuk, another non-mood evidential, cannot occur with the dubitative, as the example in (268) below illustrates. The reason for this is arguably due to the semantics of the evidential relations, since -ńuk is also unable to co-occur with -matak ‘inference’, as shown in (269); -matak indicates the same evidential relation as -qa'ča but differs in its morphosyntax.

(268) *hiix*athińukqa'ča
    hiix*athi-ńuk-qa'ča
    angrywith VIS.EVID-3.DUB

(269) *wałyuuńukmatakiriš
    wałyu-ńuk-matak-iriš
    be home VIS.EVID IND.EVID-3.IND

When the general indirect evidential -matak appears in a dubitative mood clause marked by -qa'ča its origo is the speaker. In (270), the speaker Kay inferred that the bucket was full based on what he knew. She is the origo of both -matak and -qa'ča.

(270) Scenario: Kay and Bill were filling up a bucket, but it takes a while, so they went to do some other things while it was filling. Kay knew that it usually takes two minutes for the bucket to fill, and when it had been two minutes she said this to Bill.

kaminuźmatakâxqa'ča
kaminuź-matak-'âx-qa'ča
full IND.EVID NOW-3.DUB

‘Maybe it’s full now.’

-matak ‘inference’
p = ‘It (the bucket) is full now.’
ORIGO = speaker (Kay)
PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = general

The past inferential evidential -ck"i· appears in a dubitative mood clause marked by -qa'ča in (271). Here the speaker Kay has indirect evidence that Ken was hungry. The speaker is the origo associated with both -ck"i· and -qa'ča.
6.2. Origos determined by mood

(271) Scenario: Kay and Bill were sitting in the living room, and Kay could see Ken looking in the fridge. Kay knows that there is nothing to eat in there. Then Ken leaves, slamming the door on the way. Kay says this to Bill.

`He must be hungry.'

\[ \text{hungry}_{\text{PAST,EVID-3,DUB}} \]

\( p = \text{`He (Ken) must be hungry.'} \)

\textbf{ORIGO} = \textbf{speaker (Kay)}

\textbf{PERSPECTIVAL STATUS} = agnostic

\textbf{MANNER OF SUPPORT} = contingent inference

\textbf{PERCEPTUAL GROUNDING} = visual

6.2.1.3 The speaker as origo in quotative mood clauses

When the quotative mood is used, it is the speaker who possesses the report. Consider a sentence in the quotative mood without any additional evidentials, such as the sentence in (272). Here the speaker is the origo in terms of who has the report, but Ken is the origo of the prejacent. He is the one who saw the rain.

(272) Scenario: Kay and Bill were inside, where there were no windows, when she had a phone call from Ken who told her that it was raining out. Afterwards, Kay said this to Bill.

`It's raining.'

\[ \text{rain}_{\text{CONT-3,QUOT}} \]

\( p = \text{`It's raining.'} \)

\textbf{ORIGO} = \textbf{speaker (Kay)}

\textbf{PERSPECTIVAL STATUS} = agnostic

\textbf{MANNER OF SUPPORT} = report

\textbf{PERCEPTUAL GROUNDING} = auditory

The tree in (273) illustrates the derivation of the sentence in (272) above. The speaker \( o^* \) has a report that it is raining, and recall from §5.3.3.2 that the report relation entails that the origo of the centred proposition is neither the speaker nor the addressee.
6.2. Origos determined by mood

The denotation of $\square$ is the set of possible worlds $w'$ such that $s_2$ is a part of $w'$, and that the speaker can make a contingent inference from $s_2$ to the centred proposition that it is raining.

The speaker is not the origo of the proposition contained in the report, because the report came from someone else. It is that other person's evidential relation that is indicated by any evidentials occurring in a quotative mood clause. I discuss this when I look at non-speech-act participants as origo ($\S$6.2.3.1).

6.2.2 Addressee as origo

In interrogatives the origo is the addressee. The speaker is asking what the addressee thinks the answer is, and so the answer will be from the current addressee's point of view, as Fillmore (1973, 103) points out using English seem. Fillmore's examples are given in (274) below. In the declarative sentence, the origo is the speaker—it seemed to the speaker that John was angry. In the interrogative sentence, the origo is the addressee—the speaker wants to know if it seemed to the addressee that John was angry. If the origo were still the speaker, it would mean that the speaker wants the addressee to respond with what the speaker him- or herself thinks the answer is.

(274) a. John seemed angry.
   b. Did John seem angry?

This “interrogative flip” also occurs with evidentials in Tibetan (Garrett 2001), with evidentials in Quechua (Faller 2002), and with epistemic modals in English Stephenson (2007a).

In Nuuchahnulth there are two moods which show the addressee as the origo. The first is the interrogative mood -h, and the second is the indirect interrogative -hač. The indirect interrogative is complicated by the fact that it is also a reportative, and, as I mentioned when talking about the quotative in §6.2.1.3, reportatives are associated with two origos: one origo is the person who has the report, and the other origo is the person whose mental state is represented in the report: the reporter.
6.2.3 Interrogative

The translation of the interrogative mood is given in (275). It takes a centred proposition argument of type \( \langle o, (s, t) \rangle \) and yields an interrogative form. Here I represent the semantics of interrogatives as the ad hoc operator \( \text{Int} \). For concreteness, I assume that this operator yields the set of possible answers to the question, as proposed by (Hamblin 1973). The origo of this set of answers is specified as the addressee in the situation of his or her response, indicated by \( o^{**} \).

\[
-h \Rightarrow \lambda p[\text{Int}(p(o^{**}))]
\]

Evidentials in interrogative mood clauses are thus predicted to indicate the evidentiality relation between the centred proposition and the addressee. As I show below, this is borne out. The auditory evidential \( na\!a:t \), which requires the origo to be a speaker, is not felicitous in an interrogative mood clause, and the other non-mood evidentials are interpreted with the addressee as origo. It is useful to contrast an interrogative mood clause, where the origo is the addressee, with an indicative mood clause, where the origo is the speaker, and so I give minimal pairs in this section.

The auditory evidential \( na\!a:t \) is not permitted in an interrogative, as shown in (276a). The indicative counterpart to this, given in (276b), is grammatical, and indicates the speaker has auditory evidence for Ken being home.

(276) a. Scenario: The addressee lives in the apartment next to Ken’s, and can usually hear him closing doors when he’s home. The speaker called the addressee on the phone wondering if Ken was home, and so asked this.

\[
\text{wa}^\text{yuu}^\text{H} \quad \text{na}^\text{a:t} \quad \text{Ken} \\
\text{wa}^\text{yu}^\text{H} \quad \text{na}^\text{a:t} \quad \text{Ken} \\
\text{be.home-3.INTER AUD.EVID Ken}
\]

‘Does it sound like Ken is home?’

b. Scenario: The speaker lives in the apartment next to Ken’s and heard a door close in his apartment. The speaker was on the phone with the addressee, and said this.

\[
\text{wa}^\text{yu}^\text{u}^\text{a}^\text{k}^\text{i}^\text{S} \quad \text{na}^\text{a:t} \quad \text{Ken} \\
\text{wa}^\text{yu}^\text{U}^\text{a}^\text{k}^\text{i}^\text{S} \quad \text{na}^\text{a:t} \quad \text{Ken} \\
\text{be.home-now-3.IND AUD.EVID Ken}
\]

‘It sounds like Ken is home now.’

\[\text{na}^\text{a:t} \]

\( p = \text{‘Ken is home now.’} \)

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = auditory**
6.2. Origos determined by mood

The difference here between naʔaːt, which cannot occur in questions, and -matak ‘inference’ and -kuk ‘visual inference’, which can, is due to the presence of speaker(o)(p) in the translation of naʔaːt. This relation restricts the origo to being the speaker in an utterance context in which p was asserted. Since the addressee will be the speaker when he or she responds in the future, the utterance relevant context has to be in the past at the time the question containing naʔaːt is uttered, as shown in (277).

(277) \[\text{[speaker(o)(p)]]}^\text{c} = 1 \text{ iff there is some utterance context } c' \text{ such that the time of } s_{c'} \text{ precedes the time of } s_c, \text{ and in which } g(o) \text{ asserted } g(p) \text{ in } w_{s_c}.\]

In a matrix interrogative clause, as in (278a), -matak has the addressee as the origo. The speaker wants to know if the addressee has indirect evidence for Ken being hungry.

(278) a. Scenario: Kay wants Bill’s opinion on whether Ken is hungry.

\[
\begin{align*}
\text{haʔiʔıq̓-mataks} & \\
\text{haʔiʔıq̓-mataks} & \\
\text{hungry-IND.EVID-3.INTER} & \\
\text{‘Do you think he’s hungry?’} & \\
\text{-matak ‘inference’} & \\
\text{p} & = \text{‘Is he (Ken) hungry?’} & \\
\text{ORIGO = addressee (Bill)} & \\
\text{PERSPECTIVAL STATUS} & = \text{agnostic} & \\
\text{MANNER OF SUPPORT} & = \text{contingent inference} & \\
\text{PERCEPTUAL GROUNDING} & = \text{visual} & \\
\end{align*}
\]

b. Scenario: Kay saw Ken looking around in the fridge, and said this to Bill.

\[
\begin{align*}
\text{haʔiʔıq̓-mataks} & \text{?iš} & \text{Ken} & \\
\text{haʔiʔıq̓-mataks} & \text{?iš} & \text{Ken} & \\
\text{hungry-IND.EVID-3.IND Ken} & \\
\text{‘Ken must be hungry.’} & \\
\text{-matak ‘inference’} & \\
\text{p} & = \text{‘Ken is hungry.’} & \\
\text{ORIGO = speaker (Kay)} & \\
\text{PERSPECTIVAL STATUS} & = \text{agnostic} & \\
\text{MANNER OF SUPPORT} & = \text{contingent inference} & \\
\text{PERCEPTUAL GROUNDING} & = \text{visual} & \\
\end{align*}
\]

The tree in (279) shows the derivation of the sentence in (278a) above. The origo argument of the cont.inf relation is saturated with the addressee o** by the interrogative mood suffix -h.
6.2. Origos determined by mood

All indirect evidentials exhibit the same behaviour in this regard. The past indirect evidential -ck\textsuperscript{w}iː also has the addressee as its origo when it is in an interrogative sentence. Kay got up after Bill and had asked him whether it had rained, as in (280a), she as the speaker of the interrogative is not the origo; she thinks that the addressee Bill may have indirect evidence that it sometime during the night, and he is the origo of -ck\textsuperscript{w}iː. In the declarative sentence in (280b) the origo of -ck\textsuperscript{w}iː is the speaker Bill, who has indirect evidence that at some point in the past it had rained.

a. Scenario: In the morning, and Kay hadn’t looked outside yet, but Bill has been up for a while. Kay asks this to see if he saw the ground wet outside, which would indicate that it rained overnight.

`Was it raining?’

\begin{center}
\textbf{-ck\textsuperscript{w}iː: past inference’}
\end{center}

\begin{center}
\textbf{ORIGO = addressee (Bill)}
\end{center}

\begin{center}
PERSPECTIVAL STATUS = agnostic
\end{center}

\begin{center}
MANNER OF SUPPORT = contingent inference
\end{center}

\begin{center}
PERCEPTUAL GROUNDING = unspecified
\end{center}

b. Scenario: When Bill and Kay went to bed it wasn’t raining, but the next morning Kay woke up before Bill and saw that the ground was wet, indicating it had rained sometime during the night. When Bill woke up, Kay said this to him.
6.2. Origos determined by mood

\[ \text{mikaack}^{w}iňš \]
\[ \text{mik-(y)a}^{w}či-šiňš \]
\[ \text{rain-CONT-PAST.EVID-3.IND} \]

‘It must have rained’
\[ -či, \text{‘past inference’} \]
\[ p= \text{‘It rained.’} \]
\[ \text{ORIGO} = \text{speaker (Kay)} \]
\[ \text{PERSPECTIVAL STATUS} = \text{agnostic} \]
\[ \text{MANNER OF SUPPORT} = \text{contingent inference} \]
\[ \text{PERCEPTUAL GROUNDING} = \text{unspecied} \]

When \(-kuk\) ‘visual inference’ is in an interrogative, the addressee is the one who saw something and made an inference. In (281a) the speaker Kay wants to know if the addressee Bill has indirect visual evidence for his aunt being home. The addressee Bill is the origo of \(-kuk\); the speaker Kay is not.

(281) a. \textit{Scenario}: Kay and her son Bill live in the same house as Kay’s sister Ann. Ann went out of town for a few days and hadn’t been sure what day she would return. One day Kay and Bill came home, and Bill went in first. Wondering if Bill could tell if his aunt was home, Kay asked him this.

\[ \text{wa}^{yuu}kukʰ \]
\[ \text{na}^{i} \]
\[ \text{be.home-VIS.EVID-3.INTER aunt/uncle} \]

‘Does your aunt seem to be home?’
\[ -kuk \text{‘visual inference’} \]
\[ p= \text{‘Your (Bill’s) aunt is home.’} \]
\[ \text{ORIGO} = \text{addressee (Bill)} \]
\[ \text{PERSPECTIVAL STATUS} = \text{agnostic} \]
\[ \text{MANNER OF SUPPORT} = \text{contingent inference} \]
\[ \text{PERCEPTUAL GROUNDING} = \text{visual} \]

b. \textit{Scenario}: Kay and her son Bill live in the same house as Kay’s sister Ann. Ann went out of town for a few days, but hadn’t been sure what day she would return. One day Kay and Bill came home and Kay saw Ann’s shoes, and she said this to Bill.

\[ \text{wa}^{yuu}kukʔiš \]
\[ \text{wa}^{yuu}k-k_iš \]
\[ \text{be.home-VIS.EVID-3.IND} \]

‘It looks like she’s home.’
\[ -kuk \text{‘visual inference’} \]
\[ p= \text{‘She (Ann) is home.’} \]
\[ \text{ORIGO} = \text{speaker (Kay)} \]
\[ \text{PERSPECTIVAL STATUS} = \text{agnostic} \]
6.2. Origos determined by mood

MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = visual

6.2.2.2 Indirect interrogative

The indirect interrogative is to the quotative as the interrogative is to the indicative. Thus its reportative component has the addressee as origo. The translation of -"ha'č ‘indirect interrogative’ is repeated in (282) below.

\[
-\text{"ha'č} \Rightarrow \lambda p[\text{Int}(\lambda w[\text{report}(\text{0**})(s_1)(p) \land w = w_{s_1}])]
\]

In the scenario given in (283), the speaker Mary assumed that Bill had been told by Ken whether he was going to go play lahal with his team, so she used the indirect interrogative to ask Bill about it. Bill, the addressee, is the origo of the reportative evidential component of the indirect interrogative, not Mary.

(283) Scenario: Mary saw Bill talking to Ken but couldn’t quite hear what was being said. When they finished talking Mary asked Bill this.

\[
\text{haana'aswitašshač'a+} \quad \text{Ken}
\]
\[
\text{haana'a-q'as-witaš-\text{"ha'č}+} \quad \text{Ken}
\]
\[
\text{lahal-stem-go.in.order.to-about.to-3.INDIR.INTER-PL} \quad \text{Ken}
\]

‘Is Ken and them going to go play lahal?’

\[
\text{-\text{"ha'č}}
\]

\[
p = \text{‘Ken and them are going to play lahal.’}
\]

ORIGO = addressee (Bill)
PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = report
PERCEPTUAL GROUNDING = auditory

The semantics of the sentence in (283) is complicated by the plural and the internal complexity of the verb, so to illustrate the derivation of a sentence with -"ha'č ‘indirect interrogative’, I will use the sentence in (284) below instead.

(284) Scenario: Bill was talking to Linda, who had just come out of the water at the lake, but Kay could not hear what they were saying. When Bill came over to her, Kay asked him this.

\[
\text{mat'ahšač}
\]
\[
\text{mat'-a'hs-\text{"hač}}
\]
\[
\text{cold-in.vessel-3.INDIR.INTER}
\]

‘Is it cold?’
6.2. Origos determined by mood

The tree in (285) shows the derivation of the sentence in (284) above. The origo argument of the report relation is saturated with the addressee o∗∗. The origo argument of the centred proposition λoλw[\text{cold'}(s₁)(o)(w)(x₁)] is restricted by the report relation to being someone other than the speaker or the addressee.

\begin{align*}
(285) & \begin{array}{c}
\lambda p[\text{Int}[\lambda w'[\text{report}(o^{**})(s₂)(p) \land w' = w_{s₂}]]] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\text{⇒} \lambda x λs λo λw[\text{cold'}(s)(o)(w)(x)] \\
\end{array} \\
\end{align*}

6.2.3 Non-speech-act participant as origo

The quotative -wa'ʔiš and indirect interrogative -ha'č, as reportative evidentials, assign the origo within the reports to be some unspecified non-speech-act participant. This non-speech-act participant is often the reporter, the person who gave the report to the speaker. It does not have to be the reporter, however, since they may themselves be passing along a report that they received. All we know about the origo is that they passed along the report at some point.

6.2.3.1 Quotative mood

As I described in §4.3.1, the origo of the reportative component of the quotative mood is the speaker, while the origo of the centred proposition contained in the report itself is a non-speech-act participant. Thus, any evidential contained in the report will have a non-speech-act participant as its origo. In the translation of -wa'ʔiš 'quotative' shown in (286a), this is captured by the restriction within the report relation, shown in (286b), requiring the speaker of the report to be someone other than the speaker or addressee of the context in which the reportative is used.
6.2. Origos determined by mood

\[(286)\]

- \(\text{wa} \bar{i} \bar{u} \bar{i} S_{1} \Rightarrow \lambda p \lambda w[\text{report}(o)(s_{1})(p) \land w = w_{s_{1}}]\]

b. \(\|\text{report}(o)(s)(p)\|^{G} = 1\) iff there exists a context of utterance \(c^{'prime}\) whose utterance situation is \(g(s)\), such that there is a report \(\langle c^{'prime}, g(p)\rangle\) in the origo \(g(o)\)'s set of reports \(R_{g(o)}\), the speaker of \(c^{'prime}\) is not the addressee of \(c\) and \(\|\text{agnostic}(o)(p)\|^{G} = 1\)

When \(-matak\) ‘inference’ occurs in a quotative mood clause, as in (287), the origo associated with it is someone other than the speaker. It was not the speaker Kay who saw Ken rummaging in the fridge, it was Linda. She gave Kay the report about making an inference regarding Ken being hungry. It is Linda, rather than the speaker Kay, who is the origo of the centred proposition conveyed by the report.

\[(287)\]

\textbf{Scenario:} Linda saw Ken looking around in the fridge, and told Kay \textit{hawiiq}خطر\textit{matak?iš Ken} ‘Ken must be hungry.’ Kay couldn’t see Ken. Bill didn’t hear what Linda said, Kay told him this.

\begin{align*}
\text{hawiiq}خطر\text{matakwa} \bar{i} \bar{u} \bar{i} \bar{s} & \quad \text{Ken} \\
\text{hawiiq}خطر\text{matak-} \text{wa} \bar{i} \bar{u} \bar{i} \bar{s} & \quad \text{Ken} \\
\text{hungry-IND.EVID.-3.QUOT} & \quad \text{Ken}
\end{align*}

‘Ken must be hungry.’

\begin{itemize}
\item \textbf{-matak ‘inference’}
\item \textbf{p} = ‘Ken is hungry.’
\end{itemize}

\textbf{ORIGO = non-speech-act participant (Linda)}

\textbf{PERSPECTIVAL STATUS} = agnostic

\textbf{MANNER OF SUPPORT} = contingent inference

\textbf{PERCEPTUAL GROUNDING} = visual

The tree in (288) shows the derivation of the sentence in (287) above. The origo argument associated with \(-matak\) ‘inference’ is restricted by the report\((o)(s)(p)\) relation as being someone other than the speaker or addressee.
6.2. Origos determined by mood

The denotation of $\mathfrak{a}$ is the set of all possible worlds $w''$ such that $s_3$ is a part of $w''$, and the speaker has a report that someone can make a contingent inference from $s_1$ to the centred proposition that Ken is hungry.

When $\textit{-ck}^\text{ui}$ is in a sentence in the quotative mood its origo is someone other than the speaker. In (289) the origo within the report is Linda, as she has indirect evidence for Ken having been hungry. Kay then has reported evidence for there being indirect evidence that Ken had been hungry.

(289) Scenario: Linda watched Ken eat a whole loaf of bread and then head back outside. When Kay came in, Linda told her $\textit{hawiiq}^\lambda\textit{ck}^\text{ui}^\text{i}^\text{sh}^\text{si}\textit{Ken hinyaql sapnii 'Ken must have been hungry. He ate all the bread.'}$ Then Bill came in, and Kay told him this.

\begin{verbatim}
\textit{hawiiq}^\lambda\textit{ck}^\text{ui}^\text{i}^\text{sh}^\text{si} Ken hinyaql sapnii
hawiiq^\lambda-ck^ui-wa^\text{si} Ken hi\text{'aq}k-wa^\text{si} sapnii:
hun\text{gry}-\text{PAST.EVID-3.QUOT} Ken all-in.body-3.QUOT bread
\end{verbatim}

'Ken must have been hungry. He ate all the bread.'

\textbf{ORIGO = non-speech-act participant (Linda)}

\textbf{perspectival status} = agnostic
\textbf{manner of support} = contingent inference
\textbf{perceptual grounding} = visual
6.2. Origos determined by mood

In (290) the visual inferential -kuk appears in a quotative mood clause. The speaker Kay has not seen Ken at all. Linda, the person that Kay got the report from, is the one who saw him, and she is the origo of the centred proposition conveyed by the report.

(290) Scenario: Linda saw Ken walk by, and he looked angry. Later on she saw Kay and told her hiixʷ'athìkuk'iš 'He looked angry.' When Kay saw Bill, she said this to him.

hiixʷ'athìkukwaʔiš Ken
hiixʷ'athì-kuk-waʔiš Ken
angry.with-vis.evid-3.quot Ken

'It is said that Ken looks angry.'

-kuk 'visual inference'

p= 'Ken is angry.'

ORIGO = non-speech-act participant (Linda)

PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = visual

Since there is a speaker origo, it is expected that naʔaːt 'auditory evidence' is possible with a reading where the speaker heard it rather than read it. This is what we find when we look at an example like that in (291), where the use of naʔaːt shows that Kay heard the report.

(291) Scenario: Linda heard Ken swearing one day, and when she saw Kay she told her about it. Later when Kay saw Bill she told him this.

kuukuwuqawaʔiš Ken naʔaːt
kuwaq-(w)a[RLL]-waʔiš Ken naʔaːt
swear-speak-3.quot Ken aud.evid

'Ken is swearing.'

naʔaːt 'auditory evidence'

p= 'Ken is swearing.'

ORIGO = speaker (Kay)

PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = report
PERCEPTUAL GROUNDING = auditory

6.2.3.2 Indirect interrogative mood

As I discussed earlier (§6.2.2.2), the indirect interrogative mood -haːč is semantically equivalent to a reportative evidential in the interrogative mood. As such, the origo of the reportative component of its meaning is the addressee, while any additional evidentials appearing in an indirect interrogative mood clause have as their origo not the speaker or the addressee,
6.2. Origos determined by mood

but whoever the speaker assumes the addressee received reported evidence from. I repeat the translation of *naʔaːt* in (292) below. Recall that the report relation forces the origo of *p* to be neither the speaker nor addressee of the utterance.

(292) \(-\text{ha’č}_1 \Rightarrow \lambda p[\text{Int}(\lambda o\lambda w[\text{report}(o)(s_1)(p) \wedge w = w_{s_1}])]\)

In (293) the speaker Kay overheard part of a conversation between Bill and Mary, and to clarify afterwards asked Bill whether Mary said she had visual evidence that Ken was angry. By using the indirect interrogative mood, Kay does not need to mention the reporter Mary. The speaker assumes that the addressee Bill has reportative evidence for someone, in this context Mary, having indirect visual evidence that Ken is angry.

(293) Scenario: Bill and Linda were talking and Kay could not quite hear what they were saying. She thought she heard Linda say that Ken looked angry, and afterwards asked Bill this to clarify.

\[-\text{kuk ‘visual inference’}\]
\(-p= ‘\text{Ken is angry}’\)

**ORIGO = non-speech-act participant (Linda)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = visual**

When *-matak* occurs in an indirect interrogative mood clause, it is a non-speech-act participant who is making an inference, not the speaker or addressee. In (294), Kay assumes that Bill heard Linda guess whether the cake was done or not. Linda is the origo within the report.
6.3. Origos specified by overt arguments

(294) Scenario: The oven isn’t working right, and Linda had a cake in it. Bill and Linda were in the kitchen, while Kay was in the living room. When Bill came out she asked him this.

sišači=matakhač
siša-ši(k)-matak-łač
cooked-MOM-IND.EVID-3.INDIR.INTER

‘Is it possible that it’s cooked?’

-matak ‘inference’

p= ‘It’s cooked.’

ORIGO = non-speech-act participant (Linda)
PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = general

Likewise, when the past indirect evidential -ck”i is used in an indirect interrogative mood clause, the origo is a non-speech-act participant. The speaker in the scenario in (295) is Kay and the addressee is Bill, and neither of these is the origo of -ck”i. Rather, it is Linda, the person talking to Bill, who could see whether the ground outside was wet or not.

(295) Scenario: Linda could see outside, but Kay and Bill couldn’t. Bill was talking to Linda and afterwards Kay asked Bill this.

mišaack”išač
miš-(y)a’-ck”i-łač
rain-CONT-PAST.EVID-3.INDIR.INTER

‘Was it raining?’

-ck”i ‘past inference’

p= ‘It rained.’

ORIGO = non-speech-act participant (Linda)
PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = visual

6.3 Origos specified by overt arguments

Complement clauses have their origos specified by an overt argument of the embedding verb. I begin by discussing propositional attitude verbs, and turn briefly to verbs of saying, dealing with them more fully in §6.5 where I address the speech-act requirements relating to the origo argument of naʔa:ti ‘auditory evidence’.
6.3. Origos specified by overt arguments

Propositional attitude verbs for the most part take complement clauses in the absolutive mood. One, /uqlaap/ ‘think’, takes a complement clause in the subordinate mood. In this section I look at the non-mood evidentials in the complement clause of /uqlaap/.

The definition for the predicate think is repeated from §5.5.1.1 in (296) below.

\[
\lambda w[\text{think}(s)(o')(w)(x)(p)]_{\mathfrak{E}}^\mathfrak{O} = \text{the set of all } w \text{ such that } g(s) \text{ is a part of } w, \text{ and } g(p) \text{ is in the perspective of } g(x) \text{ in } g(s).
\]

The indirect evidentials -matak, -kuk and -ck“i· can be interpreted as having the subject of the matrix clause as origo, rather than the speaker. The evidential mood suffixes are prohibited as they are in complementary distribution with the subordinate mood suffix. While it is generally not possible for na?a:t to appear in such a clause, there is a single exception I have found, where the attitude-holder argument of the propositional attitude predicate is 1st person singular; in other words, where the speaker happens to be assigned as the origo of the complement clause.

In (297) we have an example where the attitude-holder argument of /uqlaap/ ‘think’ is the speaker. Because of this, the origo of the complement clause is also the speaker, and na?a:t ‘auditory evidence’ is felicitous. The speaker Kay is saying that she herself thinks Ken is home, and na?a:t is indicating that the speaker has auditory perceptual grounding for this.

(297) **Scenario:** Kay lives in the apartment next to Ken. He had been out of town for a while when she heard cupboard doors being closed in his apartment. Later she said this to Bill.

/uqlaamitsiS/uqla:p-(m)it-si;S think\text{-PAST-1SG.IND} wa?yuq Ken na?a:t be.home-3.SUB Ken na?a:t

‘I thought Ken was home.’

\[
\text{na?a:t}
\]

\( p = \text{‘Ken was home.’} \)

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = auditory**

The tree in (298) shows the derivation of the sentence in (297) above. There is a null first-person pronoun here, translated as \( sp^* \), the denotation of which is the speaker of the context of utterance.
6.3. Origos specified by overt arguments

\[ \lambda \text{think(s)}(o''')(w)(x)(y) \]

\[ \text{speaker(o')} (\lambda \text{think(s)}(o''')(w)(x)(y)) \wedge t_{s1} = t_{s1} \wedge w'' = w_{s2})[t_{s3} < t_{s} ]\]

The denotation of \( \emptyset \) is the set of all possible worlds \( w \) such that the contextually determined situation \( s_3 \) is a part of \( w \), and at \( s_3 \) the speaker, Kay, thinks that she has heard a contextually determined situation \( s_2 \), which supports the centred proposition that Ken is home in the situation \( s_1 \), and Kay is the speaker of a contextually determined utterance context in which she asserted that Ken is home.

With a third-person attitude holder, \( na\hat{a}at \) cannot be embedded under a propositional attitude predicate like \( ?uq\hat{a}ap \) ‘think’, as we see in (299). Here the origo of the complement clause will be Linda, the attitude-holder argument of \( ?uq\hat{a}ap \), and since Kay is the speaker, the restriction introduced by \( na\hat{a}at \) that \( \text{speaker(o)}(p) \) will not be true, since Linda is not Kay.

(299) #?uq\hat{a}amiti\hat{\imath}\hat{\imath}\hat{\imath} Linda wa\hat{\imath}yuq Ken na\hat{a}at
?uq\hat{a}ap-(m)it\-\hat{\imath}\hat{\imath}\hat{\imath} Linda wa\hat{\imath}yu\'q Ken na\hat{a}at
think-PAST-3.IND Linda be.home-3.SUB Ken AUD.EVID

The derivation for the sentence in (299) is given in (300) below. It is the same as that in (298), except that the subject of \( ?uq\hat{a}ap \) ‘think’ is Linda, not the speaker Kay. Since there is no contextually salient utterance context in which the speaker asserted the centred proposition that she had auditory evidence that Ken was home, the speaker relation does not hold.
6.3. Origos specified by overt arguments

(300)

\[ \text{\textit{\textbf{uq̨aap}} wałyuː-q Ken naʔat} \]

\[ \lambda pλxλs'λo''''λw'[\text{think}(s'(o''')(w)(x)⟨p⟩)] \]

\[ \& \text{think}(s_{3})⟨o''试剂⟩(u)\langle l⟩\langle λo''''λw'\rangle[\text{grounding}_{\text{mod}}(s_{2})(o'(s_{1})(λsλoλw'[\text{be.home}'(s)(o'(w'))(k)]) \& t_{2} = t_{1} \& w'' = w_{2}])],(t_{2} < t_{1}) \]

\[ \& \text{think}(s_{3})⟨o''''试剂⟩(u)\langle l⟩\langle λo'λw''\rangle[\text{grounding}_{\text{mod}}(s_{2})(o'(s_{1})(λsλoλw'[\text{be.home}'(s)(o'(w'))(k)]) \& t_{2} = t_{1} \& w'' = w_{2}])],(t_{2} < t_{1}) \]

\[ \& \text{think}(s_{3})⟨o''''试剂⟩(u)\langle l⟩\langle λo'λw''\rangle[\text{grounding}_{\text{mod}}(s_{2})(o'(s_{1})(λsλoλw'[\text{be.home}'(s)(o'(w'))(k)]) \& t_{2} = t_{1} \& w'' = w_{2}])],(t_{2} < t_{1}) \]

The denotation of (314) is the set of all possible worlds \( w \) such that the contextually determined situation \( s_{3} \) is a part of \( w \), and at \( s_{3} \) Linda thinks that she has heard a contextually determined situation \( s_{2} \), which supports the centred proposition that Ken is home in the situation \( s_{1} \), and Linda is the speaker of a contextually determined utterance context in which she asserted that Ken is home. It is this last requirement that fails to be true, since Linda is a speaker, not a hearer.

The other non-mood evidentials do not have any restrictions on their origo argument and they can occur freely in any complement clauses, regardless of who the attitude-holder argument of the propositional attitude predicate is. The sentence in (301b) contains \( -k̓ułk \) ‘visual inference’ in a matrix declarative clause, and the origo is the speaker, Kay. She has indirect visual evidence that Ken was home. In (301a) \( -k̓ułk \) is embedded under \( \text{\textit{\textbf{uq̨aap}}} \) and the origo is the subject of the matrix clause, Ken. The speaker heard from Ken that Kay was home, and has no indirect visual evidence for it.
6.3. Origos specified by overt arguments

(301) a. Scenario: Linda saw lights on at Ken’s place after he had been out of town for a few days, and she told Kay that it looked like Ken was home. Later, Kay said this to Bill.

\[ ?uqtaamit\-i\-\(\text{q} \) Linda \text{wa}^\text{t}\text{yu}\text{kukq} \quad \text{Ken} \]
\[ ?uqta-\text{p(m)it-}i\-\(\text{i} \) Linda \text{wa}^\text{t}\text{yu}-\text{kuk-q} \quad \text{Ken} \]

think-past-3.ind Linda be.home-vis.evid-3.sub Ken

‘Linda thought Ken was at home.’

\[-\text{kuk ‘visual inference’} \]
\[ p= ‘\text{Ken is home.’} \]

**ORIGO = matrix subject (Linda)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = visual**

b. Scenario: Ken had been out of town, and one day Kay was walking by his house and saw his lights on. Later she said this to Bill.

\[ \text{wa}^\text{t}\text{yu}\text{uk}\text{i}\-\(\text{i} \) Ken \]
\[ \text{wa}^\text{t}\text{yu-}\text{kuk-}i\-\(\text{s} \) Ken \]

be.home-vis.evid-3.ind Ken

‘It looks like Ken is home.’

\[-\text{kuk ‘visual inference’} \]
\[ p= ‘\text{Ken is home.’} \]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = visual**

In (302a) -matak ‘inference’ is in a declarative matrix clause and the speaker Kay is the origo. When -matak is embedded under ?uqtaap the origo is the matrix subject, as in (302b).

(302) a. Scenario: Kay drove past her mother’s house, and saw that the front door was ajar; her mother lives alone. When she came home she told her son Bill this.

\[ \text{wa}^\text{t}\text{yu}^\text{um} \text{matak}\text{i}\-\(\text{i} \) nani \]
\[ \text{wa}^\text{t}\text{yu-} \text{matak-}i\-\(\text{i} \) nani \]

be.home-\text{IND} \text{.evid-3.ind} \text{grandparent}

‘Your grandmother is probably home.’

\[-\text{matak ‘inference’} \]
\[ p= ‘\text{Your (Bill’s) grandmother is home.’} \]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = contingent inference**

**PERCEPTUAL GROUNDING = visual**
6.3. Origos specified by overt arguments

b. Scenario: Ken had been out of town, Linda was walking by his house and saw the lights on. Later she spoke to Kay and told her *waɁyuumatakiʔiš Ken*, 'I guess Ken is home'. When Kay saw Bill later, she told him this.

\[
\begin{align*}
\text{linda waɁyuumataki} & \quad \text{Ken} \\
\text{uq} & \quad \text{think} \\
\text{3.IND linda be.home} & \quad \text{Ken}
\end{align*}
\]

‘Linda thought Ken was at home.’

\[=\text{mataki 'inference' p= 'Ken is home.'}\]

**ORIGO = matrix subject (Linda)**

- Perspectival status = agnostic
- Manner of support = contingent inference
- Perceptual grounding = visual

The past evidential *-ck"i* in a matrix declarative as in (303a) has the speaker as origo. Here Ken has evidence that Kay had been home. When *-ck"i* is embedded under *uq*əap", as in (303b), its origo is the matrix subject. In this example Ken, the matrix subject, has indirect evidence that Kay had been home sometime before that.

(303) a. Scenario: Kay is the only one who leaves wet towels on the bathroom floor, and she had been away for a few days. Ken came home after work and found a wet towel on the floor. When Linda came home he said this to her.

\[
\begin{align*}
\text{waɁyuuck} & \quad \text{be.home} \\
\text{waɁyu-ck} & \quad \text{past.evid} \\
\text{3.abs}
\end{align*}
\]

‘She must have been home.’

\[=\text{ck"i 'past inference' p= 'It rained.'}\]

**ORIGO = speaker (Kay)**

- Perspectival status = agnostic
- Manner of support = contingent inference
- Perceptual grounding = unspecified
b. Scenario: Ken had been away for a few days, and then Linda came home one day and found Ken’s shoes at the door, but he wasn’t around. When Kay came home she told her that Ken must have been home. Later Kay said this to Bill.

\[\text{\`Linda thought Ken must have been home.'} \]

\[-ck"i: 'past inference'\]
\[p = \text{‘Ken was home.’} \]

**ORIGO = matrix subject (Linda)**

- **PERSPECTIVAL STATUS = agnostic**
- **MANNER OF SUPPORT = contingent inference**
- **PERCEPTUAL GROUNDING = visual**

Turning to verbs of saying, in the following examples the origo of the embedded clause is the subject of verb of saying. The mechanism for determining the origo is the same as that for propositional attitude predicates.

The sentence in (304) contains \(-kuk\) ‘visual inference’ in an embedded speech clause can be used in a scenario where the subject of the matrix clause is the origo. The speaker Kay can say (304) in this scenario, and the origo of \(-kuk\) is Linda, the subject of the matrix clause.

(304) **Scenario:** Kay and Bill knew that Ken had gone to Vancouver, and was not home, but Linda told Kay that it looked like Ken was home when she walked by his house. Kay then said this to Bill.

\[\text{wawaamit\=is Linda \=in wa\=tyu\=ukuk Ken}\]
\[\text{wawa:-(m)it-\=is Linda \=in wa\=tyu::\=kuk-\=0 Ken}\]
\[\text{say-past-3.ind Linda comp be.home-\=vis.evid-3.abs Ken}\]

\[\text{‘Linda said that it looks like Ken is home.’} \]

\[-kuk ‘visual inference’\]
\[p = \text{‘Ken is home.’} \]

**ORIGO = non-speech-act participant (Linda)**

- **PERSPECTIVAL STATUS = agnostic**
- **MANNER OF SUPPORT = contingent inference**
- **PERCEPTUAL GROUNDING = unspecified**

In (305), \(-matak\) ‘inference’ is embedded in a complement clause under \(wawa;\), and the origo of \(-matak\) can be the subject of the matrix clause, Kay.
6.4 Context dependent origo

(305) **Scenario:** Linda had told Kay that the shoes might belong to Ken, but Kay knew they were Ken’s. Kay then said this to Bill.

\[
\begin{align*}
\text{wawa} & \text{am} \hat{\text{t}} \hat{\text{i}} \hat{\text{s}} & \text{Linda} & \hat{\text{i}} \hat{\text{n}} & \hat{\text{u}} \hat{\text{u}} \hat{\text{c}} \hat{\text{m}a} \hat{\text{t}} \hat{\text{k}} & \text{Ken} & \hat{\text{s}u} \hat{\text{w}i} \hat{\text{s}i} \hat{\text{n}} \\
\text{wa} \text{w}a & \hat{\text{a}} \text{m} \hat{\text{i}t} \hat{\text{i}} \hat{\text{s}} & \text{Linda} & \hat{\text{i}} \hat{\text{n}} & \hat{\text{u}} \hat{\text{c}} \hat{\text{m}a} \hat{\text{t}} \hat{\text{k}} & \emptyset & \text{Ken} & \hat{\text{s}u} \hat{\text{w}i} \hat{\text{s}i} \hat{\text{n}} \\
\text{say} & \text{past} & \text{3.ind} & \text{Linda} & \text{comp} & \text{own} & \text{ind.evid} & \text{3.abs} & \text{Ken} & \text{shoes} & \text{def}
\end{align*}
\]

‘Linda said that the shoes probably belong to Ken.’

\[ \text{matak} \text{‘inference’} \]

\[ p= \text{‘The shoes belong to Ken.’} \]

\[ \text{ORIGO} = \text{non-speech-act participant (Linda)} \]

\[ \text{PERSPECTIVAL STATUS} = \text{agnostic} \]

\[ \text{MANNER OF SUPPORT} = \text{contingent inference} \]

\[ \text{PERCEPTUAL GROUNDING} = \text{general} \]

In (306) the origo of the complement clause is the person making the inference, as indicated by `-ck”i: ‘past inference’. Here it is Linda, the speaker of the embedded utterance context, who inferred that Ken was home based on seeing dishes left out.

(306) **Scenario:** Ken gave his keys to Linda when he went on a trip. He cut his trip short, and caught the last ferry back. The next morning he had breakfast and went off to work. Later, Linda went to check on his house, and she found his dishes from breakfast. She tells this to Kay, who says this to Bill.

\[
\begin{align*}
\text{wawa} & \text{am} \hat{\text{t}} \hat{\text{i}} \hat{\text{s}} & \text{Linda} & \hat{\text{i}} \hat{\text{n}} & \hat{\text{w}} \hat{\text{a}l} \hat{\text{y}} \hat{\text{u}} \hat{\text{u}} \hat{\text{c}} \hat{\text{k}} \hat{\text{w}i} & \text{Ken} \\
\text{wa} \text{w}a & \hat{\text{a}} \text{m} \hat{\text{i}t} \hat{\text{i}} \hat{\text{s}} & \text{Linda} & \hat{\text{i}} \hat{\text{n}} & \hat{\text{w}} \hat{\text{a}l} \hat{\text{y}u} \hat{\text{u}} \hat{\text{c}k} \hat{\text{w}i} & \emptyset & \text{Ken} \\
\text{say} & \text{past} & \text{3.ind} & \text{Linda} & \text{comp} & \text{home} & \text{past.evid} & \text{3.abs} & \text{Ken}
\end{align*}
\]

‘Linda said Ken must have been home.’

\[ -ck”i: \text{‘past inference’} \]

\[ p= \text{‘Ken was home.’} \]

\[ \text{ORIGO} = \text{non-speech-act participant (Linda)} \]

\[ \text{PERSPECTIVAL STATUS} = \text{agnostic} \]

\[ \text{MANNER OF SUPPORT} = \text{contingent inference} \]

\[ \text{PERCEPTUAL GROUNDING} = \text{visual} \]

6.4 **Context dependent origo**

The origo in an adjunct clause is determined by context. The moods which occur in dependent clauses do not assign a particular origo, and there is no propositional attitude predicate to introduce an operator to bind the origo variable. This leaves the origo variable free to be assigned by the context-dependent assignment function.
6.4. Context dependent origo

In this section I provide the empirical motivation for the claim that the origo is context dependent in adjunct clauses in §6.4.1. Developing a compositional semantics for deriving the correct origo assignment in adjunct clauses is beyond the scope of this dissertation. However, I discuss what it should look like in §6.4.2.

6.4.1 Arguments for context-dependent origos in adjunct clauses

Three facts support the claim that adjunct clauses have their origo determined by context. First, the auditory evidential na?at can freely occur in an adjunct clause, indicating that it is always possible for the speaker to be the origo in an adjunct clause. Second, in the same syntactic environments other evidentials are interpreted as having someone other than the speaker as origo. Finally, I have found one example where the origo in an adjunct clause can be seen to be ambiguous between the speaker and someone else, since it is felicitous in two scenarios differing only in who the relevant origo is.

Finding sentences with evidentials in adjunct clauses that are compatible with two scenarios has proven to be difficult. Thus, while the data I present here supports my claim that the origo in adjunct clauses is determined by context, the evidence is not as strong as one might wish it to be. Bearing this in mind, let us proceed to the data itself.

6.4.1.1 The speaker can always be the origo in an adjunct clause

The first kind of adjunct clause I deal with is a reason clause. The predicate nu?hak ‘proud’ is intransitive, but can be followed by an optional reason clause (§2.7.2.3). When na?at ‘auditory evidence’ appears inside a reason clause, as in (307), the speaker is the origo. Here, Kay has auditory perceptual grounding for the centred proposition that Linda’s daughter knows how to make bread because she heard Linda say so. Linda was there in person and saw her daughter make bread, so we can be sure that na?at is not indicating Linda’s perceptual grounding.
6.4. Context dependent origo

(307) *Scenario:* Linda was there to see her daughter get up at 6:00 in the morning and make bread. She spoke to Kay and told her that she was proud that her daughter knows how to make bread. Later Kay told Bill this.

\[
\text{nučahkiš } \text{Linda } [\text{ʔən } \text{fačikáxuk } \tłəna \text{ naʔaat } \text{saapniqíį́h}]
\]

\[
\text{nučahkiš-ʔiš } \text{Linda } [\text{ʔin } \text{fači-ʔaž-uk-Ø } \tłəna \text{ naʔa-Ł}]
\]

proud-3.IND Linda COMP KNOW HOW NOW-POS-3.ABS child AUD.EVID bread-STEM-make

Linda is proud because her daughter knows how to make bread.'

\[\text{naʔa-Ł} \text{‘auditory evidence’} \]

\[p= \text{‘her (Linda’s) daughter knows how to make bread.’} \]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = known**

**MANNER OF SUPPORT = report**

**PERCEPTUAL GROUNDING = auditory**

The second kind of adjunct clause I deal with is a relative clause. In (308) we have a relative clause containing \text{naʔa-Ł} ‘auditory evidence’, \text{yaqminhii} \text{ naʔaat } \text{kíłkʷačyuú} ‘the ones that were broken’, referring to some glasses. The origo associated with \text{naʔa-Ł} is the speaker, and it indicates that the speaker has auditory perceptual grounding for the centred proposition the glasses were broken. This perceptual grounding is due to the fact that the speaker was told about Ken throwing away the broken glasses.

(308) *Scenario:* Kay, Ken and Bill were moving some boxes, and some of them contained glasses. When Ken was unpacking them he found that there were some broken glasses, so he went through the boxes and threw out all the broken ones. Kay came in after he was done and he explained that he threw out all the broken ones. Later Kay told Bill this.

\[
\text{ʔaanačišítwaʔiš } \text{Ken wahšiš } [\text{yaqminhii } \text{naʔaat }
\]

\[
\text{ʔa-an-(O)ř[L]-)(m)it-waʔiš } \text{Ken wahš-śi(ƛ) } \text{yaqʷ- mính-(y)i: naʔa-Ł}
\]

\text{only-do.to-PAST-3.QUOT Ken abandon-MOM REL-PL-3.INDF AUD.EVID}

\text{kíłkʷačyuú}

\text{kíł-ƛʷačyuú:}

\text{shatter-completely}

Ken only threw away the ones that were broken.’

\[\text{naʔa-Ł} \text{‘auditory evidence’} \]

\[p= \text{‘the ones that were broken’} \]

**ORIGO = speaker (Kay)**

**PERSPECTIVAL STATUS = agnostic**

**MANNER OF SUPPORT = report**

**PERCEPTUAL GROUNDING = auditory**
6.4. Context dependent origo

A compositional analysis of relative clauses in Nuu-chah-nulth is outside the scope of this dissertation, so I do not give trees for these sentences here. After I finish discussing the range of readings allowed in adjunct clauses, I discuss what such an analysis should do (§6.4.2).

We have seen that the auditory evidential naʔa:t can occur in both reason clauses and relative clauses. Because naʔa:t can only have the speaker as its origo, it is clear that it is possible for the origo of adjunct clauses to be the speaker. Now that this is established, I will turn to the other non-mood evidentials, which show that adjunct clauses can also have someone other than the speaker as origo.

6.4.1.2 Non-speaker origos in adjunct clauses

If origos are context-dependent in adjunct clauses, the three non-mood evidentials which impose no restrictions on their origo argument should be able to occur in an adjunct clause in scenarios where the origo is not the speaker. I believe this non-speaker origo can be any salient individual in the discourse, but I have only tested examples where the salient individual is mentioned elsewhere in the sentence. Nevertheless, these examples suffice to show that the origo is not limited to being the speaker in adjunct clauses.

First let us look at -kuk ‘visual inference’ in adjunct clauses. In a reason clause, as in (309), the origo associated with -kuk can be a non-speech-act participant, in this case Linda, the subject of the matrix clause. The speaker Kay has not seen the bread, only Linda has, and so only Linda has visual perceptual grounding for her daughter knowing how to make bread. The origo of the reason clause is a non-speech-act participant.

(309) Scenario: Linda tried to teach her daughter how to make bread before, but her daughter said it kept failing. Linda hadn’t seen her for a while, then went over and saw a bunch of loaves of bread on the counter. She told Kay that she was proud that it appeared her daughter knew how to make bread. Kay then said this to Bill.

nučahkan Linda [ʔin ˈǝcik’kukəzuk t’ānɑ ̣ sapniqii]t
nučahkan Linda ʔin ˈǝcik’kuk’-ɑk-uk-Ø t’ānɑ sapni:-q-(çi)i:LL
proud-3.IND Linda COMP knowhow-VIS,EVID-NOW-POS3.ABS child bread-STEM-make

‘Linda is proud that it appears her daughter knows how to make bread now.’

-kuk ‘visual inference’

p= ‘Her (Linda’s) daughter knows how to make bread.’

ORIGO = matrix subject (Linda)
PERSP Viol = agnostic
MANOR of Sup = contingent inference
PERCEPTUAL GROUNDING = visual

Next we have -kuk ‘visual inference’ in a relative clause in (310). Here as well, it is the matrix subject Linda who has visual perceptual grounding for certain kids not having money.
The speaker Kay was not there; she only knows about it by report. Again, the origo of the relative clause is a non-speech-act participant.

(310) \textit{Scenario}: Linda was out on a field trip with a group of students, and some of them were spending much more than they were supposed to bring with them. A couple were not spending anything, so Linda gave them some money. She told Kay about it, and later Kay told this to Bill.

\begin{itemize}
  \item \textit{anaHtamit/} onlydo.to.past.3.ind
  \item \textit{taanaqayi}
  \item \textit{yaqKuk/}
  \item \textit{ii}
  \item \textit{yaqv-Kuk-}vis.evid
  \item \textit{yi:}
  \item \textit{zicX/}
  \item \textit{akzi/faded-buttocks}
\end{itemize}

‘Linda only gave money to those that appeared broke.’

\textit{-kuk} ‘visual inference’

\textit{p} = ‘He/she was broke.’

\textbf{ORIGO = non-speech-act participant (Linda)}

PERSPECTIVAL STATUS = agnostic

MANNER OF SUPPORT = contingent inference

PERCEPTUAL GROUNDING = unspecifed

The inferential \textit{-matak} ‘inference’ shows the same effect as \textit{-kuk} ‘visual inference’ in adjunct clauses. The example in (311) shows \textit{-matak} in a reason clause. Here it was Linda, the matrix subject, who inferred that her daughter knew how to make bread, since she saw the bread on the counter. The speaker Kay knows about it only by report. The origo inside the reason clause is a non-speech-act participant.

(311) \textit{Scenario}: Linda tried to teach her daughter how to make bread before, but her daughter said it kept failing. Linda hadn’t seen her for a while, then went over and saw a bunch of loaves of bread on the counter. She told Kay that her daughter might know how to make bread, and Kay could tell she was proud. Kay then said this to Bill.

\begin{itemize}
  \item \textit{nuchak?i:}
  \item \textit{in}
  \item \textit{facikmatakazuk}
  \item \textit{ta:na sapniqii:t}
  \item \textit{nuchak-w?-i:}
  \item \textit{in}
  \item \textit{facik-matak-}vis.evid
  \item \textit{ta:na sapni:-q-(c)i:l}
  \item \textit{TaNa/}
  \item \textit{saapniqiil/}
  \item \textit{acik/}
  \item \textit{kuk/}
  \item \textit{ii}
  \item \textit{yaqv-Kuk-}vis.evid
  \item \textit{yi:}
  \item \textit{zicX/}
  \item \textit{akzi/faded-buttocks}
\end{itemize}

‘Linda is proud that her daughter might know how to make bread.’

\textit{-matak}

\textit{p} = ‘Her (Linda’s) daughter knows how to make bread.’

\textbf{ORIGO = matrix subject (Linda)}

PERSPECTIVAL STATUS = agnostic

MANNER OF SUPPORT = contingent inference

PERCEPTUAL GROUNDING = visual

Likewise, when \textit{-matak} ‘inference’ appears in a relative clause, as in (312), its origo can be a non-speech-act participant. Here the matrix subject Linda is the one who inferred
6.4. Context dependent origo

which people had money, not the speaker Kay. Again, the origo in the adjunct clause is a non-speech-act participant.

(312) Scenario: Linda had been going around asking people for money to go to a big lahali tournament in Montana, but only if she thought they had money. Later she tells this to Kay over the phone. When Kay gets off the phone she says this to Bill.

\[\text{Linda} [\text{yaqmatakii taanaqnak}]\]
\[\text{Linda} \text{ yaq}^*\text{-matak-(y)i: t'a\text{-q-na}'k}\]
\text{only-with-PAST-3.IND Linda REL-IND.EVID-3.INDF money-STEM-have}

‘Linda was only talking to the ones who might have money.’

\text{-matak ‘inference’}
\text{p = ‘He/she has money’}
\text{ORIGO = non-speech-act participant (Linda)}
\text{PERSPECTIVAL STATUS = agnostic}
\text{MANNER OF SUPPORT = contingent inference}
\text{PERCEPTUAL GROUNDING = unspecified}

When either -\text{kuk} ‘visual inference’ or -\text{matak} ‘inference’ occur in an adjunct clause, we can see that the origo inside the adjunct clause can be a non-speech-act participant. We saw in §6.4.1.1 above that it is also possible for the origo inside an adjunct clause to be the speaker. Next, I show that one and the same adjunct clause can have two readings which differ only in the origo assignment.

6.4.1.3 Ambiguous origos in adjunct clauses

In terms of confirming that the origo is determined by context in an adjunct clause, the most convincing piece of data would be a sentence which is felicitous in two different scenarios, each of which establishes a different origo within the adjunct clause. The example in (313) does just this. The two scenarios here differ in whether the the speaker Kay or the matrix subject Linda has made the inference that John stole Ken’s money. In the first scenario, Kay has inferred that John stole Ken’s money, and Linda told her that she had seen John, not knowing that any money had been stolen. Here the origo of the adjunct clause is the speaker, Kay. In the second scenario, Kay knows about the theft, but not that John had been staying with Ken. Linda, however, knew he was staying there, and so inferred that he stole the money. Linda doesn’t tell Kay that she saw John, just that she saw the guy who she thinks stole Ken’s money. Here the origo of the adjunct clause is the matrix subject, Linda.
6.4. Context dependent origo

(313) a. **Scenario (origo = speaker):**

Kay knows that some of Ken's money was stolen, and that John was staying with him. Linda doesn't know about the theft, but she recently saw John at the mall, and told Kay this. Later Kay said this to Bill.

b. **Scenario (origo = subject):**

Kay knows that some of Ken's money was stolen, but not that anyone was staying with him. Linda knows that John was staying with him, and recently saw him at the mall. Linda told Kay that she saw the man who might have stole Ken's money. Later Kay said this to Bill. Kay still doesn't know that anyone was staying with Ken, only that Linda saw someone who she thinks might have stolen the money.

c. **Naatsiijizitwa/iS na:tsi-Si(z)-(m)it-wa;/iS see-mompast3.quot**

Linda čakup [yaqmatakitič kuuwítčip Ken
 naïtsi-ši(χ)-(m)it-waʔiš Linda čakup yaq-ˈmatak-ˈ(m)it-ˈ(y)ič kuuwičip Ken
 see-MOM-PAST-3.QUOT Linda man rel-IND.EVID-PAST-3.INDF.INF steal-ben Ken
 taana
 money

‘Linda saw the man who might have stole Ken's money.’

6.4.1.4 Summary of the argument

Unlike main clauses, adjunct clauses do not assign a particular individual as the origo: it can be the speaker (§6.4.1.1), it can also be a non-speech-act participant (§6.4.1.2). That the identity of the origo in adjunct clauses is determined strictly by context was shown in §6.4.1.3. What is needed then is a mechanism to assign a context-dependent origo in adjunct clauses, and I turn to this need next.

6.4.2 Modelling origo assignment in adjunct clauses

There are some pieces missing in the analysis of Nuuchahnulth in general which prevent a solution to modelling the assignment of the origo in adjunct clauses. I have identified reason clauses and relative clauses as allowing evidentials, but the syntax and semantics of these kinds of clauses and their connection to the main clause has not yet been worked out. What I can give, however, is the semantics we desire in the end, regardless of its composition, for these clauses.

The origo in an adjunct clause is context dependent. One way to model this is to treat it as a free variable which receives its referent from the assignment function. How such a free variable is introduced is not clear, and more research on adjunct clauses is needed, but this nevertheless gives us the correct semantics—any individual salient in the context could be the referent of a free variable.
6.5. Embedded speech contexts

I limit myself to giving the translation for a relative clause, since its semantics is more obvious than that of a reason clause. An argument phrase containing a noun and a relative clause, like that in (314a), refers to an individual. In this case, it is the individual \( x \) such that someone infers that \( x \) is a man who stole Ken's money. The translation of this sentence is given in (314b). I use the iota operator to give us the individual who satisfies the conditions on \( x \), and the origo is a free variable \( o_1 \), whose referent will be given by context.

(314) a. \( \text{čakup yaqmatakitiič kuuwɪtɛip Ken taana} \)
    \( \text{čakup yaq\textsuperscript{\mbox{̀}}}\text{-matak -(m)it-(y)ič kuuwɪ-čip Ken ta naï} \)
    ‘the man who might have stole Ken’s money’

b. \( \iota x[\text{cont.inf}(o_1)(s_2)(\lambda o \exists y[\text{man}(o)(x) \land \text{money}(o)(y) \land \text{steal}(s_3)(o)(x)(y)(\text{ken}))] [t_s < t^*] \)

The same mechanism could be used in a reason clause, whatever the rest of its semantics would be. In adjunct clauses the origo is a free variable which is not bound by a higher operator. This contrasts with complement clauses, where the origo is a variable fixed by the semantics of the embedding verb. For example, an embedding verb like \( \text{ʔuqtaap} \) ‘think’ identifies the origo of its complement clause as the attitude holder in the situation of thinking. An adjunct clause is not in the scope of anything which fixes its origo, nor is its origo saturated as in a matrix clause. Thus, the origo variable of an adjunct clause remains free.

I have sketched a general approach to modelling the interpretation of a context-dependent origo in an adjunct clause, though I cannot yet give a compositional semantics for deriving it. The syntax and semantics of adjunct clauses need to be worked out before we can attain this, and so it remains a problem for further research.

6.5 Embedded speech contexts

The examples so far showed \( \text{naʔaːt} \) ‘auditory evidence’ occurring felicitously only in clauses where the origo is the speaker. However, there are some cases where \( \text{naʔaːt} \) is felicitous when the origo is not the speaker. First, it can occur in the complement clause of a verb of saying, and second, it can occur in a quotative mood clause and receive the interpretation that the reporter rather than the speaker has auditory perceptual grounding.

6.5.1 Verbs of saying

The auditory evidential \( \text{naʔaːt} \) is felicitous in an embedded speech clause regardless of the identity of the origo. In (315) the verb \( \text{wawa:} \) ‘say’ introduces a complement clause which represents a speech act performed by the subject Linda. The speaker of the entire sentence is
6.5. Embedded speech contexts

Kay, but she is not the one who has auditory perceptual grounding for the centred proposition that Ken is home. It is the subject of *wawa*, Linda, who has auditory perceptual grounding and the origo of the complement clause containing -*kuk*.

(315) **Scenario:** Linda lives next door to Ken, and was going to let Kay know when he got home. She heard noises from his apartment, and called Kay to tell her. Then Kay said this to Bill.

\[
\begin{align*}
\text{wawaamit}\hat{\text{m}} & \quad \text{Linda} \quad \text{wa} \text{-} \text{yaq} \text{-} \text{pi}\hat{\text{a}} \text{\kappa} \quad \text{na} \text{\hat{a}t} \quad \text{Ken} \\
\text{wawa} \text{-} \text{m} & \quad \text{Linda} \quad \text{wa} \text{-} \text{yaq} \text{-} \text{pi}\hat{\text{a}} \text{\kappa} \text{-} \text{\emptyset} \quad \text{na} \text{\hat{a}t} \quad \text{Ken} \\
\text{say-\text{-}past-\text{-}1.\text{ind}} & \quad \text{Linda} \quad \text{comp} \quad \text{go-\text{-}having}, \text{\text{-}done}, \text{\text{-}in}, \text{\text{-}house} \text{-} \text{mom}, \text{-} \text{now}, \text{-} \text{3.abs} \quad \text{aud.evid} \quad \text{Ken}
\end{align*}
\]

‘Linda said she heard Ken is home now.’

\[
\begin{align*}
\text{na} \text{\hat{a}t} = \text{\textquoteleft \text{auditory evidence}'} \\
\hline
\text{ORIGO} = \text{\text{matrix subject (Linda)}} \\
\text{PERSPECTIVAL STATUS} = \text{agnostic} \\
\text{MANNER OF SUPPORT} = \text{contingent inference} \\
\text{PERCEPTUAL GROUNDED} = \text{auditory}
\end{align*}
\]

If we were to treat verbs of saying as propositional attitude predicates, where they embed a centred proposition and identify its origo as their subject, this would suffice for modelling the origo assignment with -*kuk* ‘visual inference’, -*matak* ‘inference’ and -*ck"i* ‘past inference’, as we saw in §6.3 above. Such a treatment would predict that the subject of the verb of saying is the origo. We would expect that with each of these evidentials, a third person subject would be the one whose evidential relation was being indicated. While this is borne out, this account would not predict the acceptability of *na\hat{a}t* ‘auditory evidence’ in the complement of a verb of saying, since *na\hat{a}t* is not otherwise felicitous when its origo is a non-speaker, as we saw in §6.3 where *na\hat{a}t* was not felicitous in the complement of a propositional attitude predicate whose subject was not first person singular. However, if we treat verbs of saying as introducing an embedded utterance context, then the subject of a verb of saying would be the speaker of that context. We would also need to identify the origo of its complement clause as the speaker of the embedded utterance context. To this end, I assume a translation such as that in (316) for verbs of saying, and a denotation such as that in (317).

(316) *wawa:* ⇒ say'(s)(o)(w)(x)(p)

(317) \[\llbracket\text{say}'(s)(o)(w)(x)(p)\rrbracket^c\hat{s} = 1\text{ iff there is an utterance context }c'\text{ such that }g(x)\text{ asserts }g(p)\text{ in }g(s),\text{ and }g(s)\text{ is a part of }g(w).\]

The derivation of (315) is given in (318) below. It is the same as that for a propositional attitude predicate like *\text{\textquoteright naqtaap}* ‘think’. Unlike a propositional attitude predicate, a verb of saying like *wawa* ‘say’ entails the existence of an utterance context in which its agent
argument asserts the centred proposition in its complement clause. This utterance context satisfies the requirement of the *speaker* relation of *naʔa:t* ‘auditory evidence’, namely that the origo asserted the prejacent proposition. This is because the verb of saying identifies the origo of its complement clause with the agent argument (here Linda) in the situation of saying.

(318)

\[ λpλλλ'λο"λω'(say(s))(o')(w)(x)(p)] \]

6.5. Reportative evidentials

The auditory evidential *naʔa:t* is also allowed in a sentence in the quotative mood as well as in a speech complement clause. The scenario in (319) involves written communication in the form of email rather than spoken communication. This ensures that the auditory evidential is not indicating the manner in which the speaker received the report; the quotative *-waʔiš* and *naʔa:t* are free to each have a distinct origo. Here the origo of *naʔa:t* is Linda, who sent this in an email to Kay. She had auditory evidence that Ken was angry. Kay then had reportative evidence that it sounded like Ken was angry, and she is the origo of the reportative component of *-waʔiš*, but Linda remains the origo of *naʔa:t*. 

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6.6 Summary

(319) Scenario: Linda heard banging noise coming from Ken's room, and emailed Kay, saying 
hiixʷatʰiʔiš naʔaat Ken, iičkaqʔiʔiš 'It sounds like Ken is angry, there's banging noise 
in his room.' After Kay got Linda's email, she said this to Bill.

hiixʷatʰiwaʔiš Ken naʔaat
hiixʷatʰi-waʔiš Ken naʔaat
angry:with-3.QUOT Ken AUD.EVID

'It sounds like Ken is angry.'

naʔaat 'auditory evidence'

p= 'Ken is angry.'

ORIGO = reporter (Linda)

PERSPECTIVAL STATUS = agnostic
MANNER OF SUPPORT = contingent inference
PERCEPTUAL GROUNDING = auditory

Recall that reports consist of a centred proposition and an utterance context. If we
assume that speaker(o)(p) is satisfied when o is the speaker of the context of the report which
conveys p, then this data is expected.

A puzzling fact is that naʔaat 'auditory evidence' cannot felicitously appear in an indirect
interrogative mood clause, even though it indicates a report. Both -waʔiš 'quotative' and -ʔaʔɛ́
'indirect interrogative' indicate reports, but naʔaat can only occur with in a quotative mood
clause, not in an indirect interrogative mood clause, as shown below. I have no solution to this
right now, and leave it for future research.

(320) *míxʷaʔaḥač naʔaat
míx-(y)aʔ-ʔaʔɛ́ naʔaat
rain-CONT-3.INDIR.INTER AUD.EVID

6.6 Summary

In this chapter I explored the relationship between origo and evidentiality. The origo
exists separately from evidentiality, identifying the person whose point of view is being repre-
sented in a centred proposition. Some mood suffixes specify the value of the origo, and in the
case of evidential moods this aspect is combined with the specification of evidential relations
resulting in semantically complex morphemes.

I presented three ways the origo of a clause can be assigned. Propositional attitude
verbs and mood suffixes overtly code the origo, while adjunct clauses lack the mechanisms to
do this and have their origo determined by the context. I presented data from Nuu-chah-nulth
showing each of the non-mood evidentials illustrating the three kinds of origo assignment.
Chapter 7

Beyond a truth-conditional analysis of evidentials

7.1 Enriching a truth-conditional analysis with “not-at-issue” meaning

In this chapter I address the question concerning the kind of meaning evidentials express. The semantics for Nuu-chah-nulth evidentials laid out in Chapter 5 has several shortcomings which I attribute to the lack of distinction in kinds of meaning. While the presuppositions introduced by tense was set aside in curly brackets, the translation for each evidential was given as a simple truth conditional statement, which makes the wrong predictions for their interactions with negation, interrogatives, and conditionals; from those translations we would expect the semantics of evidentials to be within the scope of negation, interrogatives and conditionals, but as I argue in §7.2, evidentials are not in the scope of these operators. The solution I propose is to acknowledge two kinds of meaning instead of just one: at-issue and not-at-issue (Simons et al. 2010). At-issue content is what is asserted in an assertion. The not-at-issue content of an utterance needs to be true in order for it to be felicitous, but is not itself asserted. This includes presuppositions (Stalnaker 1974) and conventional implicatures (Potts 2005) among other things. I discuss the distinction between the two kinds of content in §7.1.1. The approach of Simons et al. (2010) also ties together the at-issue-ness of content with its ability to address the question under discussion. I use this as a further argument in §7.3.

By treating the evidential semantics as not-at-issue, while the prejacent remains at-issue, we should expect it to be possible for multiple evidentials in a single clause to have the same proposition as their prejacent (Potts 2005). This is indeed the case, as I show in §7.5. If there were only a single level of meaning, then when two evidentials occur one has to be in the prejacent of the other.
7.1. Enriching a truth-conditional analysis with “not-at-issue” meaning

7.1.1 The distinction between “at-issue” and “not-at-issue” meaning

A common claim about evidentials is that their semantic contribution is of a different sort from that of the prejacent (Faller 2002, Matthewson et al. 2007, Peterson 2010, von Fintel and Gillies 2010, Murray 2010). I argue below that the contribution of evidentials in Nuu-chah-nulth is not-at-issue, while that of the prejacent is at-issue, using the categories provided by Simons et al. (2010).

It has long been noted that some kinds of meaning project; that is, some kinds of meaning do not come under the scope of operators such as negation, interrogatives, and modals, both in conditionals and with epistemic modal operators (Russell 1905, Strawson 1950, Karttunen and Peters 1979). Simons et al. (2010) look to explain how it is that some kinds of meaning project. They argue that part of the meaning of a sentence that projects is exactly that component of the meaning that does not address whatever is the current topic of conversation, which Roberts (1996) called the Question Under Discussion (QUD).

The QUD is a (usually implicit) question, such as How long until the ferry docks?. For an assertion to be felicitous, it must address the QUD, at least in part, and possibly indirectly. Thus, It docks in twenty-two minutes addresses it in whole. An assertion of It docks in less than half an hour addresses it in part since it narrows down the possible answers to the QUD, although it doesn’t give the answer itself. An assertion of We haven’t even gone through Active Pass yet addresses the QUD indirectly, since it requires additional common-ground knowledge in order to narrow down the set of possible answers, namely the relative location of Active Pass and the ferry terminal and the length of the trip in total.

Simons et al. (2010) hypothesize that if (and only if) a certain portion of meaning projects, it does not address the QUD. If a proposition is at-issue, it is non-projective, and vice versa. And if a proposition is not-at-issue, it is projective, and vice versa. In their view, the projective behaviour of not-at-issue content arises because it is not accessible to negative, interrogative and modal operators.

One way to overcome the problems of projection and the facts relating to the question under discussion, as well as the problem of multiple evidentials in a clause, is to appeal to multiple dimensions of meaning. In §7.1.1.1 I look at Potts’ logic for conversational implicatures and show how it might be modified to fit the facts of Nuu-chah-nulth.

7.1.1.1 The logic of calculating at-issue and not-at-issue content

Potts (2003, 2005) presents a logic for calculating both at-issue and not-at-issue contents simultaneously. Following Karttunen and Peters (1979), Potts proposes that lexical items can introduce more than one semantic function as long as they belong to different dimensions. In order to do this, he increases the number of semantic types, distinguishing between at-issue
7.1. Enriching a truth-conditional analysis with “not-at-issue” meaning

and not-at-issue types. The classical types are at-issue, and the basic not-at-issue type is \( t^n \), with other not-at-issue types being functions that end in \( t^n \), as shown in (321).

(321) At-issue types: \( t, c, s, \langle s, t \rangle \), etc.
      Not-at-issue types: \( t^n, \langle s, t^n \rangle \), etc.

In addition to the modified set of semantic types, Potts also modifies the mechanism for functional application. A lexical item can introduce not-at-issue semantics which can be a function that takes as its argument the at-issue semantics of its sister. The result is a pair consisting of the at-issue content of the daughter and the not-at-issue output of the not-at-issue function applied to the at-issue argument. This is illustrated type-wise in (322a), and with the translations in (322b). These show the top node in the tree for the sentence *Unfortunately, it’s raining*. The translation for *unfortunately* is a not-at-issue type, more specifically, it is a function from at-issue propositions to not-at-issue propositions. The top node contains two separate elements separated by the symbol \( \bullet \), the element above being at-issue and the element below being not-at-issue. The at-issue element is identical to the at-issue translation of its daughter *it’s raining*, while the not-at-issue element is the output of the translation of *unfortunately* applied to the translation of *it’s raining*.

(322) a. \[
\langle o, \langle s, t \rangle \rangle \\
\bullet
\]
\[
\langle o, \langle s, t^n \rangle \rangle \quad \langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \rangle \quad \langle o, \langle s, t \rangle \rangle
\]

b. \[
\lambda o \lambda w [\text{raining}(s_1)(o)(w)] \\
\bullet
\]
\[
\lambda o' \lambda w' [\text{unfortunately}(o')(\lambda o \lambda w [\text{raining}(s_1)(o)(w)])] \\
\lambda p \lambda o' \lambda w' [\text{unfortunately}(o'(p))] \quad \lambda o \lambda w [\text{raining}(s_1)(o)(w)]
\]

Potts’ logic does not allow for not-at-issue content to percolate up the tree. An appositive like *my boss* in *Ken, my boss, is divorced* contributes a not-at-issue proposition (namely that Ken is my boss), and combining it with the translation of *Ken* results in a pair of at-issue

---

42He is interested in a specific set of not-at-issue elements, conventional implicatures, and his notation and terminology reflects this. In order to keep the terminology the same throughout this dissertation I am substituting not-at-issue where he uses conventional implicature or CI, and superscripting \( n \) where he uses \( c \).

43Potts (2003, 2005) adds a superscript “a” to the at-issue types, which I omit to keep the types more readable. The lack of a superscript “n” is enough to tell us that a type is at-issue.
and not-at-issue contents. When this pair-valued element is combined with an at-issue element the result contains only at-issue content: the not-at-issue content does not percolate up the tree. Instead, each not-at-issue element is pruned off once the entire tree is completed.

\[(323)\]

\[
\begin{array}{c}
\langle s, \langle o, (s,t) \rangle \rangle \\
\langle e, \langle s, \langle o, (s,t) \rangle \rangle \rangle \\
\langle e, \langle o, (s,t^n) \rangle \rangle \\
\langle e, \langle o, (s,t^n) \rangle \rangle \\
\end{array}
\]  

Potts also does not allow for lexical items to introduce both at-issue and not-at-issue content. However, what Potts was specifically discussing was conventional implicatures rather than not-at-issue content more broadly. lexical items that trigger presuppositions, such as *my*, can clearly introduce both at-issue and not-at-issue content. Potts' single-dimension stipulation is too strong. We need to permit lexical items to contribute both at-issue and not-at-issue content.

Another necessary alteration of Potts' proposal involves the origo. Potts (2005) allows for not-at-issue content to only be speaker-oriented. As I showed in Chapter 6, Nuu-chah-nulth evidentials can be associated with a non-speaker origo, and so Potts' constraint would pose a problem for analyzing them as not-at-issue in his system. This problem is not specific to Nuu-chah-nulth evidentials. Amaral et al. (2008) argue that in English, adverbs such as

\[44\] This may not be a valid claim for conventional implicatures either, since, as Bach (2006) points out, epithets such as *hustard* serve to introduce a referent in the at-issue dimension and also make a comment on that referent in the not-at-issue dimension.
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thoughtfully, appositive relative clauses, and expressives can all be associated with a non-speaker origo when embedded under propositional attitude verbs, contrary to Potts’ claims.

Because evidentials combine in a tree before their argument, the prejacent proposition, is fully derived, we need both the prejacent (at-issue content) and evidential (not-at-issue content) to have their arguments saturated by the same elements, such as tense and the origo. To allow for this, I propose to allow not-at-issue content to percolate up the tree as necessary to saturate all its arguments, including its origo argument. This is not to say that meaning is calculated separately in the two dimensions; the arguments of any not-at-issue function must still come from the at-issue dimension, ensuring that not-at-issue elements cannot comment on other not-at-issue elements. Likewise, the arguments of any at-issue function must also come from the at-issue dimension.

The tree in (324) illustrates how not-at-issue content percolates up a tree. Here an at-issue proposition of type \(\langle o, \langle s, t \rangle \rangle\) combines with an element with an at-issue component of type of \(\langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \rangle\) and a not-at-issue component of type \(\langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \rangle\), separated by a •. Both of these components take the same kind of argument—an at-issue proposition—but one yields an at-issue proposition, and the other a not-at-issue proposition. This new at-issue proposition then becomes the argument of the next element which also has an at-issue and a not-at-issue component, yielding an at-issue proposition and another not-at-issue proposition. This second not-at-issue proposition is listed after the previously derived one after the •. Finally the o argument of all three propositions is saturated by a single origo of type o, yielding one at-issue truth value and two not-at-issue truth values. Both of the not-at-issue propositions will have to be true in the world of evaluation in order for the sentence to be felicitous.

(324)

\[
\begin{array}{c}
\langle s, t \rangle \cdot \langle s, t^n \rangle, \langle s, t^n \rangle \\
\langle o, \langle s, t \rangle \rangle \cdot \langle o, \langle s, t^n \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \\
\langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t \rangle \rangle \rangle \cdot \langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \rangle \\
\langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t \rangle \rangle \rangle \cdot \langle \langle o, \langle s, t \rangle \rangle, \langle o, \langle s, t^n \rangle \rangle \rangle \\
\langle o, \langle s, t \rangle \rangle \cdot \langle o, \langle s, t \rangle \rangle \\
\end{array}
\]

7.1.2 Testing for not-at-issue meaning

In the following sections I present the Family of Sentences test and the Question Under Discussion test, both of which identify which semantics content is at-issue and which is not-at-issue.
7.1. Enriching a truth-conditional analysis with “not-at-issue” meaning

7.1.2.1 The Family of Sentences test shows that Nuuchahnulth evidentials project

The standard test for projection is the Family of Sentences test (Chierchia and McConnell-Ginet 1990), which is exemplified in (325). In each of these sentences there are two propositions we are interested in, 1) that Tom has a bike and 2) that its chain is broken. The first proposition is introduced by the possessive *Tom’s*, and projects, while the second does not. In the declarative (325a) both propositions have to be true in the world of evaluation in order for it to be correct and be uttered felicitously, but when this sentence is negated (325b), transformed into a yes-no interrogative (325c), or the antecedent of a conditional (325d), the proposition that Tom has a bike must still be true, but the proposition that its chain is broken no longer needs to be true.

(325)  
  a. The chain on Tom's bike is broken.  
  b. The chain on Tom's bike isn't broken.  
  c. Is the chain on Tom's bike broken?  
  d. If the chain on my bike is broken, I'll have to take the bus.

Each of these sentences in (325b-d) cancel the entailment of the non-projective meaning that is found in (325) and so the proposition that the chain is broken is non-projective. The proposition that Tom has a bike is not cancelled, and is thus projective.

7.1.2.2 Not-at-issue meaning does not address the question under discussion

The question under discussion, as described by Roberts (1996), is a question accepted into a discourse that is not ignored by the participants until it is dealt with either by answering it or agreeing that it is unanswerable. An utterance which answers the question under discussion can only do so if the answer belongs to its at-issue content.

Another way in which kinds of meaning can be distinguished is in terms of what answers a question. The answer cannot be contained in a presupposition, it must be in the non-presuppositional portion of the meaning. In (326) the answer to A’s question is supposed to be ‘no, I have a sister’, but the proposition that B has a sister is a not-at-issue, rather than at-issue, and is not an appropriate answer. It is an appropriate answer in (327) since the at-issue content, that a certain person confiscated some mushrooms, addresses A’s question about B’s trip to Golden Ears Park, saying what happened.

(326)  
  a. A: Are you an only child?  
  b. B: #My sister confiscated some mushrooms.  
     (B has a sister, x.) (x confiscated some mushrooms)
7.2 Argument 1: Nuuchahnulth evidentials project

The first argument I make use of in testing which kind of meaning is associated with evidentials involves projection. I argue that the contribution of an evidential in Nuuchahnulth projects in a clause containing negation, and in an interrogative, while that of the prejacent does not.

Not all the members of the Family of Sentences test are possible with evidentials in Nuuchahnulth. Evidentials cannot occur in the antecedent of a conditional, as I show further below in this section. The number of tests available is therefore reduced slightly. Additionally, when an evidential occurs in a declarative sentence it is not clear that anything is entailed, as I discuss in §9.2. Nevertheless, the negation and interrogative test sentences are informative on their own.

7.2.1 Negation

The first test sentence I discuss is the one that makes use of negation. The question of whether negation can ever have evidentials in its scope is one on which no consensus has been reached in the literature. What it means for negation to have an evidential in its scope is generally not specified, but the idea presented by de Haan (1999) is that the semantic contribution of negation will be inside the prejacent proposition of the evidential, rather than the semantic contribution of the evidential being negated, either on its own or as a whole together with its prejacent proposition. De Haan claims that this is a universal property of evidentials (and one which distinguishes them from modals), while Aikhenvald (2004) points out that in some languages negation seems to be able to scope over evidentials.

As I show below, in Nuuchahnulth negation cannot have evidentials in its scope. This follows from the theory I discuss in §7.1.1.1 if it is assumed that the semantic contribution of negation is always in the at-issue domain and that of evidentials is always in the not-at-issue domain. Either of these two assumptions may not be true for other languages, such as Akha and Wärnpiri, the two languages Aikhenvald presents as cases where negation can scope over evidentials. There may be two different kinds of negation, or two different kinds of evidential morphemes. In any case, the analysis I develop in the present work is for the sort of negation

Note that given this criteria English *must* patterns with evidentials, not with modals: *It must not have rained* can only mean that the origo has inferred that it did not rain, not that it rained but the origo witnessed it directly and didn't infer it.
and evidentiality found in Nuuchahnulth.

Considering negation to be in the at-issue domain in Nuuchahnulth has support from its behaviour with respect to other operators. Quantification over a subject DP is a case in point. In (328) the only possible reading is where negation takes narrow scope with respect to the quantifier ʔay a 'many'.

\[(328)\]
\[
  \text{wikičiš} \quad ʔay a \; haawiihāx̣míniʔi \; haʔuk \\
  \text{wik-(m)it-ʔiš} \quad ʔay a \; haawiihāx̣-míniʔi \; haʔuk \\
  \text{NEG-PAST-3.IND many boy:PL-PL-DEF eat} \\
  \text{Lots of the boys didn’t eat.}'
\]

\(\neq \text{‘Not a lot of the boys ate.’}\)

On the other hand, object-oriented quantifiers are in the scope of negation, as shown in (329). The only possible reading of this example is where negation takes wide scope with respect to the object-oriented quantifier ʔaayataq ‘many’. But what is important is that some quantifiers scope outside negation, and the subject-oriented quantifiers fit the bill.

\[(329)\]
\[
  \text{wikwičasčiš} \quad \text{Kay } ʔaayataq \; čuk*iʔ \\
  \text{wik-wičas-ʔiš} \quad \text{Kay } ʔaay-aq[L] \; čuši(ʔ) \\
  \text{NEG-about.to-3.IND Kay many-OBJ wash.clothes-MOM} \\
  \text{‘Kay is not going to wash lots.’}
\]

Subject- and object-oriented quantifiers arguably belong to the at-issue domain, which means that negation, as it obligatorily scopes under subject-oriented quantifiers must also be in the at-issue domain, given the assumption that at-issue content can only take at-issue content as its argument. And if negation is at-issue content and the semantic contribution of evidentials is not-at-issue content, there should be no interaction between the two.

This prediction is borne out, with one caveat: naʔaːt ‘auditory evidence’ cannot co-occur with wik ‘negation’, as shown in (330). The reason for this is not clear. It is perhaps due to a semantic incompatibility between negation and naʔaːt. If wik negates a situation rather than a proposition, then there would be a clear contradiction, since we can only hear situations that exist and negation would deny that a situation exists. More research on negation in Nuuchah-nulth is needed to determine why naʔaːt and wik cannot co-occur.

\[(330)\]
\[
  \text{*wikičiš} \quad \text{waːyuu naʔaat } \text{Ken} \\
  \text{wik-ʔiš} \quad \text{waːyu: naʔaat } \text{Ken} \\
  \text{NEG-3.IND be.home \underline{AUD.EVID} Ken}
\]

The remainder of the Nuuchah-nulth evidentials can occur with wik ‘negation’, with the result that the negation is part of the prejacent proposition, and does not negate the

---

\[46\] Quantifiers in Nuuchah-nulth are explicitly marked for which argument they quantify over (Woo 2002, Waldie 2007). ʔay a ‘many’ is unambiguously subject-oriented.
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meaning contributed by the evidential. The other sensory evidential -kuk ‘visual inference’ appears with wik in (331), and the origo Kay has inferred from visual evidence that Ken is not home.

(331) Scenario: 1) Kay was walking by Ken's place and saw that his lights were off when they're usually on. When she got home Kay told Bill this.
   Scenario: 2) Ken was home, and Kay knew this, but it wasn't because she saw anything, it was because she just spoke to him on the phone.

\[ \text{wikkukʔiš} \quad \text{Ken waʔyu} \]
\[ \text{wik-kukʔiš} \quad \text{Ken waʔyu:} \]
\[ \text{NEG-VIS.EVID-3.IND Ken be.home} \]

'It appears Ken is not home.' (=scen. 1, ≠ scen. 2)

In (332) wik 'negation' occurs with -matak 'inference' and the negation is part of the prejacent proposition. What the origo Kay has inferred is that Ann's team didn't win. It cannot have the reading where what is negated is the fact that Kay has inferred that Ann's team won.

(332) Scenario: Kay and Bill saw Ann come out after lahal, and Ann didn't look happy. Kay said this to Bill.
   Scenario: Kay saw Ann's team win at lahal, and afterward she told Bill this.

\[ \text{wikmatakʔišʔaɬ} \quad \text{Ann hitaʔap} \]
\[ \text{wik-matak-(m)it-ʔišʔaɬ} \quad \text{Ann hitaʔap} \]
\[ \text{NEG-IND.EVID-PAST-3.IND-PL Ann win} \]

'Ann's team didn't win.' (=scen. 1, ≠ scen. 2)

The sentence in (333) shows the same pattern. It is felicitous when the origo Kay infers that Ann's team didn't win at some time before Kay saw her, and infelicitous when Kay saw Ann's team win, and therefore didn't infer that they won. The negation is necessarily part of the prejacent proposition.

(333) Scenario: 1) Kay and Bill saw Ann come out after lahal, and Ann didn't look happy. Kay said this to Bill.
   Scenario: 2) Kay saw Ann's team win at lahal, and afterward she told Bill this.

\[ \text{wikckвиʔišʔaɬ} \quad \text{Ann hitaʔap} \]
\[ \text{wik-ckvi-ʔišʔaɬ} \quad \text{Ann hitaʔap} \]
\[ \text{NEG-PAST.EVID-3.IND-PL Ann win} \]

'It was not Ann's team that won.' (=scen. 1, ≠ scen. 2)

The evidential moods show the same behaviour as the others. In (334) wik 'negation' occurs with the dubitative mood -qača, and the negation is a part of the prejacent proposition.
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It is felicitous in the scenario where Kay didn't see Ann's team win but can infer that they did, and it is infelicitous in the scenario where Kay saw Ann's team win and therefore didn't infer it. The second scenario should be felicitous if the evidential could be in the scope of negation.

(334)  *Scenario*: 1) Kay and Bill saw Ann come out after lhal, and she didn't look happy. Kay said this to Bill.
        *Scenario*: 2) Kay saw Ann's team win at lhal, and afterward she told Bill this.

\[
\begin{align*}
\text{wiktumqač'aʔat} & \quad \text{Ann hitaʔap} \\
\text{wiktum-qač'əʔat} & \quad \text{Ann hitaʔap} \\
\text{NEG.PAST-3.DUB-PL} & \quad \text{Ann win}
\end{align*}
\]

'Ann's team probably didn’t win.' (=scen. 1, ≠ scen. 2)

The sentence in (335) contains wik ‘negation’ and the quotative mood -waʔiš. This is only felicitous in a situation where the origo Kay has a report that Ken is not home. It cannot be used felicitously when Kay knows Ken is home because she saw him, and therefore is not relying on a report.

(335)  *Scenario*: 1) Ann told Kay over the phone that Ken wasn’t home, and afterwards Kay told Bill this.
        *Scenario*: 2) Kay saw Ken, who had been out of town, in his front yard when she walked by, and afterwards told Bill this.

\[
\begin{align*}
\text{wikwaʔiš} & \quad \text{Ken waɬyuu} \\
\text{wik-} & \quad \text{Ken waɬyu:} \\
\text{NEG-3.QUOT} & \quad \text{Ken home}
\end{align*}
\]

'Ken isn't home.' (=scen. 1, ≠ scen. 2)

In (336) we find wik ‘negation’ occurring with -haʔč ‘indirect interrogative’, and the meaning is that Kay expects Bill to answer based on a report rather than direct knowledge. The negation indicates that the Kay thinks the answer will be in the negative. This sentence is infelicitous when Kay is assuming the answer will be positive and is asking Bill to answer without relying on a report.
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(336)  Scenario: 1) Olive was getting ready to go, and she needed her shoes, so Ann took a pair that looked like Olive’s into the bedroom, but then came back out with them. Bill was near the door, and would have heard what Olive said, so Kay asked him this.

Scenario: 2) Same as above, but Olive doesn’t come back out with the shoes. Bill isn’t near the door

wikhāc  ṭuuč Olive
wik-ḥač  ṭuč Olive
NEG-3.INDIR.INTER own Olive

‘Does it not belong to Olive?’ (=scen. 1, ≠ scen. 2)

We have now seen that negation is always part of the prejacent, meaning it is in the at-issue dimension. None of the evidentials can come under the scope of negation, as expected if their meaning is in the not-at-issue dimension: not-at-issue content is inaccessible to at-issue content.

7.2.2 Interrogative

While negation is interpreted as part of the prejacent when it occurs in a clause with an evidential, the same does not happen with interrogatives when they occur with evidentials. When a speaker uses an evidential in a question, he or she assumes the addressee will use that evidential in the answer. This property has been noted in many languages (see Bendix 1992, Garrett 2001, Faller 2002, Speas and Tenny 2003). This does not mean the evidential is in the scope of interrogative, however. If it were, we might expect a sentence like that in (337) to mean that Kay wanted to know if it was true that she herself thought it looked cold out. Nor does it mean that Kay wants to know if it is true that Bill thought it looked cold out. Kay wants to know if it is cold out, but since she knows Bill is inside, she expects him to infer it from what he can see.

(337)  Scenario: Bill was sitting at the table beside the window, and Kay was in another room and couldn’t see outside. She asked him this.

mataaḵukh
mat-(y)a-ḵuk-h
cold-CONT-VIS.EVID-3.INTER

‘Does it appear to be cold?’

In the remainder of this section I look at each evidential in turn and show that it is not in the scope of the interrogative.

When the indirect visual evidential -kuk is in an interrogative it means that the speaker believes the addressee has seen something from which they can infer an answer to the question.
For example in (338) the speaker Kay doesn't think Bill knows for sure whether his aunt is home, but since he went in first, he might be able to see Olive's coat, or dishes moved around, or something that would allow him to infer whether she is home yet or not (scenario 1). It cannot mean that Kay is asking whether Bill has visual evidence for his aunt being home (scenario 2).

(338) **Scenario:** 1) Kay and Bill live in the same house as Bill's aunt Olive. Olive went out of town for a few days, but hadn't been sure what day she would return. One day Kay and Bill came home, and Bill went in first. Wondering if Bill could tell if his aunt was home, Kay asked him this.

**Scenario:** 2) Kay knew that Bill's aunt Olive is home, but wanted to know if it looks like she's home (her lights are on, her curtains open), and so she asked Bill this.

\[
\begin{align*}
\text{wa} & \text{lyu} \text{kukh} & \text{na} & \text{i} \\
\text{wa} & \text{lyu} & \text{kuk} & \text{h} & \text{na} & \text{i} \\
\text{be} & \text{home} & \text{vis} & \text{evid} & 3 & \text{inter} & \text{aunt} / \text{uncle}
\end{align*}
\]

‘Does your aunt seem to be home?’ (=1, ≠ 2)

The auditory evidential na?at cannot occur in an interrogative, as shown in (339). As I describe in §6.3, na?at also cannot occur in an embedded clause where the origo is not first person. I attribute both of these facts to the property of na?at that it specifies the speaker’s perceptual grounding, rather than the origo’s. In environments where the origo is not the speaker, na?at is not permitted.

(339) **Scenario:** The addressee lives in the apartment next to Ken’s, and can usually hear him closing doors when he’s home. The speaker called the addressee on the phone wondering if Ken was home, and so asked this.

\[
\begin{align*}
\text{#wa} & \text{lyu} & \text{h} & \text{na} & \text{i} & \text{nat} & \text{Ken} \\
\text{wa} & \text{lyu} & \text{h} & \text{na} & \text{i} & \text{nat} & \text{Ken} \\
\text{be} & \text{home} & 3 & \text{inter} & \text{aud} & \text{evid} & \text{Ken}
\end{align*}
\]

‘Does it sound like Ken is home?’

The evidential suffix -matak ‘inference’ can occur in an interrogative, as in (340), and when it does it indicates that the speaker believes the addressee doesn’t know for sure, but should hazard a guess (scenario 1). It cannot be used if Kay already knows the answer but wants to find out what Bill’s guess is (scenario 2).
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(340) Scenario: 1) Kay and Bill both knew that Ken had gone out to the mall. They were going to stop by his place while they were on that side of town, so when they were about to head back home Kay said this to Bill.

Scenario: 2) Kay and Bill both knew that Ken had gone out to the mall. They were going to stop by his place while they were on that side of town, so when they were about to head back home, Kay stopped and used a payphone to call him on his cell. He answered and told her he was home. When she got back to Bill, Kay said this to Bill to see what he thought.

\[
\text{wałyuumatakàxh} \quad \text{Ken} \\
\text{wałyu-} \text{matak-}^\text{a}k-\text{h} \quad \text{Ken} \\
\text{be.home} \text{-IND.EVID-now-3.INTER Ken}
\]

‘Do you think Ken is home now?’ (=1, ≠2)

When -ck“i: ‘past inference’ occurs in an interrogative it indicates that the speaker believes the addressee doesn’t know the answer directly, but is able to make an inference as to what the answer is. In other words, the speaker expects the addressee to answer using -ck“i: as well. In (341) Kay believes that Bill hadn’t seen it rain during the night but saw the ground outside when he got up and would be able to infer that it either rained (if the ground was wet) or didn’t (if the ground was dry). If the evidential were in the scope of the interrogative, it could mean that Kay wants to know if Bill knows that it rained or if he only saw the ground in the morning, but this reading is not possible.

(341) Scenario: 1) In the morning Kay hadn’t looked outside yet, but Bill has been up for a while. Kay asks this to see if he saw the ground wet outside, which would indicate that it rained overnight.

Scenario: 2) Kay stayed up late, and Bill went to bed early. It started raining before Kay finally went to bed, and in the morning it had stopped. When she finally got up, after Bill had been up for a while, she asked him this to see if it was still raining by the time he got up, or if he could see that the ground was wet.

\[
\text{mi̱ḵaack*ih} \\
\text{mi̱ḵ-(y)a-ck“i-h} \\
\text{rain-CONT-PAST.EVID-3.INTER}
\]

‘Was it raining?’ (=1, ≠2)

The evidential moods -qa’ča ‘dubitative’, -wa’aiš ‘quotative’ and -ha’č ‘indirect interrogative’ cannot occur together with the interrogative mood, since they occupy the same position. However, -ha’č is the interrogative counterpart of -wa’aiš, and the evidential component of its meaning interacts with the interrogative component the same way the non-mood
evidentials interact with the interrogative mood. The sentence in (342) is in the indirect interrogative mood, and it is used in a situation where the speaker Kay is asking Bill if the pie is hers, but she believes he knows the answer by report only, since he did not bake it himself.

(342) **Scenario:** Kay’s mom baked a pie for each of her children and told them to come and pick them up. When Kay got there, her mom wasn’t home, but Bill was. She asked him this.

\[
\text{síyaasháčas} \quad \text{hi}=^+
\]
\[
\text{síya-a's-háčas} \quad \text{hi}=^+
\]
\text{1sg.pro-poss-1sg.indir.inter this}

‘Does this belong to me?’

In the examples below, we can see that none of the evidential moods can occur with the interrogative mood, regardless of the ordering of the two mood suffixes. The two sentences in (343) show that the dubitative mood -qa'ča cannot occur with the interrogative mood -h.

(343) a. *níxaqa'iláča
\[
\text{míx-(y)a'-qa'ča-h}
\]
\text{rain-cont-3.dub-3.inter}

b. *níxaatláča
\[
\text{míx-(y)a'-h-qa'ča}
\]
\text{rain-cont-3.inter-3.dub}

We can see in (344) that the quotative mood -wa'čiš cannot occur with the interrogative mood.

(344) a. *níxaawaláčiš
\[
\text{míx-(y)a'-wa'čiš-h}
\]
\text{rain-cont-3.quot-3.inter}

b. *níxaaláčiš
\[
\text{míx-(y)a'-h-wa'čiš}
\]
\text{rain-cont-3.inter-3.quot}

Finally, in (345) we can see that the indirect interrogative mood -ha'č cannot occur with the ordinary interrogative mood.

(345) a. *nawáyuhač
\[
\text{wañyu-ha'č-h}
\]
\text{be.home-3.indir.inter-3.inter}

b. *nawáyuhač
\[
\text{wañyu-h-ha'č}
\]
\text{be.home-3.inter-3.indir.inter}
7.2.3 Antecedent of conditional

The final test I discuss involves putting the evidentials in the antecedent of a conditional, which, in Nuu-chah-nulth is always in the conditional mood (-qu:). None of the evidential morphemes can occur in the antecedent of a conditional. The evidential moods are of course in complementary distribution with the conditional mood, but the sensory evidentials and evidential modes are also prohibited due to what must be semantic restrictions, since they are a syntactically and morphologically heterogeneous group of morphemes and evidentials can occur in other uses of the conditional mood. However, sorting out the exact reason for this restriction would require an analysis of conditionals in Nuu-chah-nulth, which is outside the scope of this dissertation.

The data to support my claim is presented in the following way. First I give an acceptable conditional sentence in (346), and then I insert an evidential into the antecedent to test it. I deal with the evidentials in three groups: sensory evidentials, evidential modes, and evidential moods.

(346) Scenario: Bill and Kay were driving to Port Alberni and he asked her *našiḵwiišin Ken ‘Are we going to see Ken?’. She had her cell phone with her so she could call Ken to see if he was home, and so she replied with this.

?anyaʔaqḵniš wə̑lak hitirʔquu
?anyaʔaqḵ-niš wə̑-(ʔ)aːkʷ hitaʔ-i,t-qu:
only:if-FUT-1PL.IND go-DUR LOC-in.house-3.COND

‘We’ll only go there if he’s home.’

Neither of the two sensory evidentials -kuk ‘visual inference’ and naʔaat ‘auditory evidence’ can occur in the antecedent of a conditional, as shown in (347).47

(347) a. *?anyaʔaqḵniš wə̑lak hitiʔKukquu
?anyaʔaqḵ-niš wə̑-(ʔ)aːkʷ hitaʔ-i,t-Kuk-qu:
only:if-FUT-1PL.IND go-DUR LOC-in-house-VIS.EVID-3.COND

b. *?anyaʔaqḵniš wə̑lak hitiʔquu naʔaat
?anyaʔaqḵ-niš wə̑-(ʔ)aːkʷ hitaʔ-i,t-qu: naʔaat
only:if-FUT-1PL.IND go-DUR LOC-in-house-3.COND AUD.EVID

The two evidential mode suffixes -matak ‘inference’ and -ckʔi ‘past inference’ cannot occur in the antecedent of a conditional, as shown in (348).

47When proofreading these examples just before I submit this dissertation, one of my consultants said that (347a) and (348b) are acceptable. I have not had a chance to look into this further. It is not clear to me what would separate -kuk and -matak from naʔaat and -ckʔi in terms of their acceptability in conditionals. More work is required.
7.2. Argument 1: Nuu-chah-nulth evidentials project

(348) a. *ʔanyaʔaqə̱n̓ iš waʔaak hitii†matakquu
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-matak-qu:
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-IND.EVID-3.COND

b. *ʔanyaʔaqə̱n̓ iš waʔaak hitiirčk^iquu
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-čk^i-qu:
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-PAST.EVID-3.COND

The three mood evidentials -q̄ač’a ‘dubitative’, -waʔiš ‘quotative’ and -hač’ ‘indirect interrogative’ cannot occur with the conditional mood, because they occupy the same morphosyntactic position. In (349) we see that -q̄ač’a ‘dubitative’ can neither follow nor precede -qu: ‘conditional’.

(349) a. *ʔanyaʔaqə̱n̓ iš waʔaak hitii†quuqac’a
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-qu:-qač’a
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.COND-3.DUB

b. *ʔanyaʔaqə̱n̓ iš waʔaak hitiirqačaquu
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-qač’a-qu:
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.QUOT-3.COND

Likewise, in (350) we can see that the quotative -waʔiš can neither follow nor precede the conditional -qu:

(350) a. *ʔanyaʔaqə̱n̓ iš waʔaak hitii†quuwaʔiš
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-qu:-waʔiš
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.COND-3.QUOT

b. *ʔanyaʔaqə̱n̓ iš waʔaak hitiiwaʔišquu
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-waʔiš-qu:
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.QUOT-3.COND

And finally, in (351) we see that the -hač’ ‘indirect interrogative’ can neither follow nor precede -qu: ‘conditional’.

(351) a. *ʔanyaʔaqə̱n̓ iš waʔaak hitii†quuhač
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-qu:-hač’
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.COND-3.INDIR.INTER

b. *ʔanyaʔaqə̱n̓ iš waʔaak hitiihačquu
   ?anya-ʔaqk-niš wa†-(ʔ)a’kw hita-’i†-hač’-qu:
   only:if-FUT-IPL.IND GO-DUR LOC-in.house-3.INDIR.INTER-3.COND

The examples discussed above show that the evidentials in Nuu-chah-nulth cannot be in the antecedent of a conditional. There are two additional kinds of examples I would like to discuss, each of which has an evidential and the conditional mood. The first are cases where the prejacent proposition of an evidential is a conditional proposition, and the second are cases...
7.2. Argument 1: Nuuchahnulth evidentials project

where evidentials occur in a clause in the conditional mood which is not the antecedent of a conditional.

The following example contains a sentence where a conditional statement is the pre-jacent of an evidential. In such sentences the evidential, here -waʔiš 'quotative', appears in the consequent clause. The antecedent clause is in the conditional inferential mood, indicating that it is within the scope of the evidential in the matrix clause. This sentence is only felicitous when the origo obtained the conditional proposition as a whole by report.

(352) **Scenario**: Kay’s son Ken didn’t want to go to the store with his uncle, and when the uncle came back Kay heard him tell Ken that he would have bought him candy if he went with him. Ken started to cry, and Bill came in and asked what happened. Kay told him this.

naʔukitquuč naʔaapkukʷahitwaʔiš candy
naʔuk-(m)it-quč ?u-’a-p-’at-uk-’aḥ-(m)it-waʔiš candy
go.along-PAST-3.COND_INF TRANS-buy-SHIFT-POSS-IRR-PAST-3.QUOT candy

‘If he had gone with him, he (his uncle) would have bought him candy.’

I have only been able to elicit examples where the conditional proposition was obtained by report, and have not discovered any contexts in which it makes sense that an origo could have arrived at the conditional statement by inference.

The next set of examples contain a clause in the conditional mood which is not the antecedent of a conditional proposition. In these sentences the conditional mood is used in yes-no questions embedded under the verb ?aʔataʔ ‘ask’. These show that the semantics of the conditional mood alone is not the reason that evidentials cannot occur in the antecedent of a conditional.

In (353) the two sensory evidentials, -kuk ‘visual inference’ and naʔaːt ‘auditory evidence’ appear in embedded yes-no questions in the conditional mood.

(353) a. **Scenario**: Ken lives across the street from Kay and Bill. One day Linda called and asked Kay walyuuʔukʰ Ken ‘Does it look like Ken’s home?’ After she got off the phone, Kay said this to Bill.

?aʔataʔiš Linda walyuuʔukkuq Ken
?aʔataʔ-(m)it-iš Linda walyuː-ʔuk-quot Ken
ask-PAST-3.IND Linda be.home-VIS.EVID-3.COND Ken

‘Linda was asking if Ken appears to be at home.’

b. **Scenario**: Ken lives in the apartment right next to Kay and Bill. One day Linda called and asked Kay walyuuʔ Ken naʔaat ‘Does it sound like Ken’s home?’ After she got off the phone, Kay said this to Bill.
7.3. Argument 2: Nuuchahnulth evidentials do not address the question under discussion

The sentences in (354) contain the evidential mode suffixes -\textit{matak} `inference' and -\textit{ck} `past inference' in embedded yes-no conditionals in the conditional mood.

(354) a. \textit{Scenario}: Ken was upstairs and Linda noticed he hadn't been downstairs for a while. She asked Kay \textit{ha\textbar wiiq\textbar matak}\textbar Ken `Do you think Ken's hungry?’. Bill didn't hear what Linda said, so Kay said this to him.

\begin{verbatim}
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}s} \quad \text{Linda} \quad \text{wa\textbar tyuuquu} \quad \text{Ken} \\
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}}\textit{(m)}\text{-}\textbar {\textbar}{\textbar}{\textbar}{\textbar}s \quad \text{Linda} \quad \text{wa\textbar tyu\textbar -qu} \quad \text{Ken}
\end{verbatim}

`Linda was asking if it sounds like Ken is home.'

\textit{Scenario}: Ken was going to be late getting in, so Linda left supper for him in the fridge. In the morning she asked Kay \textit{ha\textbar u\textbar c\textbar k} `k\textbar Ken `Has Ken eaten?’ Bill came in the room just then, and didn't know what Kay and Linda were talking about. Kay said this to him.

\begin{verbatim}
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}s} \quad \text{Linda} \quad \text{ha\textbar u\textbar c\textbar k\textbar iquu} \quad \text{Ken} \\
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}}\textit{(m)}\text{-}\textbar {\textbar}{\textbar}{\textbar}{\textbar}s \quad \text{Linda} \quad \text{ha\textbar u\textbar k\textbar -ck\textbar iqu\textbar -qu} \quad \text{Ken}
\end{verbatim}

`Linda was asking if it's possible Ken is hungry.'

b. \textit{Scenario}: Ken was going to be late getting in, so Linda left supper for him in the fridge. In the morning she asked Kay \textit{ha\textbar u\textbar k\textbar e\textbar c\textbar k} `k\textbar Ken `Has Ken eaten?’ Bill came in the room just then, and didn't know what Kay and Linda were talking about. Kay said this to him.

\begin{verbatim}
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}s} \quad \text{Linda} \quad \text{ha\textbar u\textbar c\textbar k\textbar iquu} \quad \text{Ken} \\
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}}\textit{(m)}\text{-}\textbar {\textbar}{\textbar}{\textbar}{\textbar}s \quad \text{Linda} \quad \text{ha\textbar u\textbar k\textbar -ck\textbar iqu\textbar -qu} \quad \text{Ken}
\end{verbatim}

`Linda was asking if Ken had eaten.'

The evidential moods, however, still cannot co-occur with the conditional mood, as they are both competing for the same morphological position. I give one example here, with the quotative \textit{-wa\textbar ?i\textbar s} to illustrate this.

\begin{verbatim}
*(?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}s} \quad \text{Linda} \quad \text{wa\textbar tyuuquu} \quad \text{Ken} \\
?\text{a\textbar ata}t\text{\bar{\textbar}{\textbar}{\textbar}{\textbar}}\textit{(m)}\text{-}\textbar {\textbar}{\textbar}{\textbar}{\textbar}s \quad \text{Linda} \quad \text{wa\textbar tyu\textbar -qu\textbar -wa}\textbar ?i\textbar s \quad \text{Ken}
\end{verbatim}

7.3 Argument 2: Nuu-chah-nulth evidentials do not address the question under discussion

Much like the not-at-issue content associated with the possessive determiner \textit{my}, the meaning contributed by an evidential in Nuu-chah-nulth is ignored in determining a sentence's relevance to the question under discussion—only the meaning of the prejacent needs to be relevant. This behaviour has been noted previously for epistemic modals (Lyons 1977, von Fintel and Gillies 2010, 2011).
7.3. Argument 2: Nuu-chab-nulth evidentials do not address the question under discussion

In (356) the question under discussion is whether Ken is OK, not whether Kay knows the answer or is inferring it. The use of -qa’ça 'dubitative' is not-at-issue since its meaning does not need to be relevant to the question under discussion.
7.3. Argument 2: Nuuchahnulth evidentials do not address the question under discussion

(356) Scenario: Ken walked in and looked to Kay like he’d been sleeping. Bill noticed he didn’t look right and asked Kay (356a), and she answered with (356b).

a. wiikšiníh
   wí:kšin-í
   be.alright-3.INTER Ken
   ‘Is Ken OK?’

b. waʔčitqaʔá
   waʔč-(m)it-qaʔá
   sleep-PAST-3.DUB
   ‘He must have been sleeping.’

Kay’s answer to the question of Ken’s whereabouts in (357) contains -waʔčiš ‘quotative’ which doesn’t itself address the question under discussion, but its prejacent, that Ken and them are not home, does.

(357) Scenario: Linda told Kay that Ken and his family were out, and later Bill asked Kay (357a), and she replied with (357b).

a. waasíh
   wáːs-í
   where-3.INTER Ken
   ‘Where is Ken?’

b. wikuuswaʔcišá
   wí:kus-waʔčíš-a
   not.in-3.QUOT-PL Ken
   ‘Ken and them are not home.’

The question under discussion in (358) is who ate the salmon, and Kay’s answer contains -čk”i: ‘past inference’, indicating that she doesn’t know for sure, but can infer it from the fact that Linda told her he did.

(358) Scenario: Linda told Kay that Ken was eating salmon, and later Bill saw the salmon was all gone and asked her (358a), and she replied with (358b).

a. huhtakk
   yaqitíi
   haʔukšík
   suuHaa
   know-2SG.INTER REL-PAST-3.INDF eat-MOM salmon
   ‘Do you know who ate the salmon?’

b. ūhčk”iʔá
   ūh-čk”i-ʔá
   FOC-PAST.EVID-3.IND Ken
   ‘It must have been Ken’
7.4 Revised translations of Nuuchahnulth evidentials

We now have evidence that the evidential content of Nuuchahnulth evidentials is not-at-issues, and that the at-issue content of utterances containing an evidential is the prejacent proposition itself. With these facts in mind, I give revised translations for the evidentials in Nuuchahnulth. The translation of each evidential will contain an at-issue element as well as a not-at-issue element. The not-at-issue content is identical to the translation I provided for the morpheme in Chapter 5. The at-issue content for each of the evidentials except -\(\text{-ha'c}\) ‘indirect interrogative’ passes the prejacent through unmodified. I discuss why -\(\text{-ha'c}\) is different when I present the revised translations below.

The at-issue portion passes the prejacent through unmodified, while the not-at-issue portion is the translation presented in §5.5.2.2. Both parts of this revised translation take the same types of arguments in the same order, what differs between them is the type of truth value they result in, at-issue (\(t\)) and not-at-issue (\(t^*\)) respectively. This ensures that both parts can have their arguments filled as they are passed up the tree.

The dubitative mood -\(\text{-qa'c}\) has the revised translation in (360). Its at-issue content is its propositional argument with the origo filled in by \(o^*_s\), the speaker in the utterance situation, and the not-at-issue content is the same as was given for it in §5.5.1.3.

\[
(360) \quad \text{-qa'c}a_1 \Rightarrow \lambda p[p(o^*_s)]
\]

\[
\lambda p\lambda w[\text{cont.inf}(o^*_s)(s_1)(p) \land w = w_{s_1}]
\]
In (361) I give the revised translation for -waʔix ‘quotative’. Much like the dubitative mood, the at-issue content here passes the prejacent through unmodified, while the not-at-issue content is the same as the translation presented in §5.5.3.1.

(361) -waʔix₁ ⇒ \[
\lambda p[p(o^*)] \\
\rightarrow \lambda p\lambda w[\text{report}(o^*)(s_1)(p) \land w = w_{s_1}]
\]

The revised translation for -haʔč ‘indirect interrogative’ is given in (390c). Here the at-issue portion is not inert as it converts the prejacent to an interrogative. This is due to the fact that -haʔč is an interrogative mood. The not-at-issue portion is identical to that presented in §5.5.3.2, which results in both the at-issue and not-at-issue portions being under an interrogative operator. Since a sentence containing -haʔč is a question, the at-issue content should have interrogative semantics, and since the evidential component indicates the evidence of the expected answer, the not-at-issue content should also have interrogative semantics.

(362) -haʔč₁ ⇒ \[
\lambda p[\text{Int}(\lambda o[p(o)])] \\
\rightarrow \lambda p[\text{Int}(\lambda o\lambda w[\text{report}(o)(s_1)(p) \land w = w_{s_1}])]
\]

In (363) I give the revised translation for -matak ‘inference’. Again, the at-issue portion passes along the prejacent, while the not-at-issue portion is the translation presented in §5.5.1.1.

(363) -matak₁ ⇒ \[
\lambda P[P] \\
\rightarrow \lambda P\lambda s\lambda o\lambda w[\text{cont.inf}(o)(s_1)(P(s)) \land w = w_{s_1}]
\]

The translation of -cmwi ‘past inference’, given in (364), passes the prejacent along unchanged in the at-issue domain, while the not-at-issue portion is the translation presented in §5.5.1.2.

(364) -cmwi₁ ⇒ \[
\lambda P[P] \\
\rightarrow \lambda P\lambda s\lambda o\lambda w[\text{cont.inf}(o)(s_1)(P(s)) \land t_s < t_{s_1} \land w = w_{s_1}]
\]

The revised translation of -kuk ‘visual inference’ is given in (365). The at-issue portion passes the prejacent along unmodified, and the not-at-issue portion is the same as the translation presented in §5.5.2.2.

(365) -kuk₁ ⇒ \[
\lambda P[P] \\
\rightarrow \lambda P\lambda s\lambda o\lambda w[\text{grounding}_{vis}(s)(o)(s_1)(P(s)) \land \text{cont.inf}(o)(s_1)(P(s)) \land t_{s_1} = t_s \land w = w_{s_1}]
\]

Finally, the revised translation for naʔat ‘auditory evidence’ given in (366) is much the same. The at-issue portion passes the prejacent along unmodified, and the not-at-issue portion is the translation presented in §5.5.2.1.
7.5 Consequences of the not-at-issue analysis

In the not-at-issue analysis laid out in §7.4 above, evidentials leave the prejacent in the at-issue domain, while adding the evidential semantics in the not-at-issue domain. This predicts that two evidentials in a single clause could share a single prejacent. This prediction is borne out. I first show that two evidentials can share a prejacent (§7.5.1), then I show that two evidentials need not share a prejacent (§7.5.2).

7.5.1 Evidentials can share a prejacent

Multiple evidentials can often co-occur in the same clause (Aikhenvald 2004, 87–95), and there are different ways that their meanings can interact. In this section I discuss two kinds of interaction found in Nuu-chah-nulth, both of which are predicted on the basis of the general analysis developed in Chapter 5 and expanded in this chapter, but only one of which can be derived with the particular instantiation of this analysis using the lambda calculus. However, by allowing multiple domains of meaning, this difficulty can be overcome.

The auditory evidential naʔa:t, as shown in (367a), specifies the perceptual grounding between an origo and a situation, but not the manner of support. Certain other evidentials such as the dubitative mood -qača, as shown in (367b), specify the manner of support, but do not specify the perceptual grounding.

(367) a. naʔa:t1 ⇒ \( \lambda P[\lambda s(\lambda o(\lambda w[\text{grounding}_{\text{aud}}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s_1))) \land t_{s_1} = t_s \land w = w_s]) \]

b. -qača1 ⇒ \( \lambda p[\lambda w[\text{cont.inf}(o^*)(s_1)(p) \land w = w_{s_1}]] \)

These two evidentials contrast with -kuk ‘visual inference’, which specifies both that the perceptual grounding is visual and that the perceived situation supports the prejacent by contingent inference.

(368) -kuk1 ⇒ \( \lambda P[\lambda s(\lambda w[\text{grounding}_{\text{vis}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1))) \land t_{s_1} = t_s \land w = w_s]) \]

Since naʔa:t ‘auditory evidence’ and -qača ‘dubitative’ have complementary semantics, they can both occur in the same clause, where the resulting meaning is that the origo can make a contingent inference to the prejacent based on a situation they heard. There is a single prejacent in such a case, and a single origo. Each evidential contributes to the evidential
7.5. Consequences of the not-at-issue analysis

meaning of the clause as a whole. For example the sentence in (369) has the meaning that the origo Kay has heard some situation from which she can infer the prejacent proposition that Ken is home. Each evidential contributes a part of this meaning: \textit{na?aat} indicates that the origo has auditory perceptual grounding for the prejacent, and \textit{-qa\-\textchar'\textasciiacute{}a} indicates that the origo has made a contingent inference to the prejacent.

(369) \textit{Scenario:} Kay lives next to Ken, and whenever Ken goes out, his kids turn up the stereo. One day Kay heard the stereo turn off, and she said this to Bill.

\textit{wa\-\textit{yaqpi\-\textchar'\textasciiacute{}aq\-\textchar'\textasciiacute{}a}} Ken \textit{na?aat}
\textit{wa\-\textit{yaq-pi(\textchar'\textasciiacute{}a\textchar'\textasciiacute{}a)}} Ken \textit{na?aat}
\textit{go-having.done-in.house.mom-now-3.DUB} Ken \textit{AUD.EVID}

'It sounds like Ken is home now.'

The derivation of the sentence in (369) is shown in (370) below. The prejacent is the at-issue content, and it is left unmodified by \textit{na?aat} and the temporal suffix -\textchar'\textasciiacute{}\textchar'\textasciiacute{}. The null tense suffix saturates the situation argument of both the at-issue and not-at-issue content. The dubitative \textit{-qa\-\textchar'\textasciiacute{}a} finally adds its own not-at-issue uncentred proposition distinct from that of the auditory evidential \textit{na?aat}. This results in there being two not-at-issue uncentred propositions in [3], each of which gives part of the origo's relationship to the prejacent.
7.5. Consequences of the not-at-issue analysis

(370)
7.5. Consequences of the not-at-issue analysis

7.5.2 Evidentials need not share a prejacent

As we saw above, the interaction between -qaʔča ‘dubitative’ and naʔa.t ‘auditory evidence’ is harmonic, rather than one of embedding, where by harmonic I mean that the two evidentials share a single prejacent proposition and a single origo. When a reportative evidential occurs with another evidential in the same clause the interaction is embedding rather than harmonic. This is perhaps better understood by illustration than by description. Take for example the sentence in (371) below. Here the reportative -waʔiš ‘quotative’ occurs with the past inferential -ck*ii, yielding the meaning that the speaker obtained a report that someone else is able to make a contingent inference to the prejacent proposition that Ken was hungry. There are two origos here, rather than just one. One, the speaker, has reportative evidence as specified by -waʔiš, while the other, who must be someone other than the speaker, is able to make a contingent inference as specified by -ck*ii.

(371) Scenario: Olive saw Ken eat half a loaf of bread, and then told Kay hawiiqčak*iiʔiš Ken hiyaqčiʔiš sapni ‘Ken must have been hungry, he ate all the bread.’. When Bill came in a few minutes later, Kay told him this.

hawiiqčak*iwaʔiš Ken hiyaqčwaʔiš sapni
hawiiqč-ck*i-waʔiš Ken hiš-aqč-waʔiš sapni:
hungry-past.evid-3.quot Ken all-in.body-3.quot bread

‘Ken must have been hungry. He ate all the bread.’

Note that the type of interaction between two given evidentials is determined by their semantics: if one evidential is a reportative, the other can be embedded in the report, and if one specifies only perceptual grounding, and the other the manner of support, then they can each contribute to the evidential relationship between a single origo and a single prejacent.

The present model does not yet have a way to capture the embedding reading obtained when an evidential occurs under a reportative. Intuitively, the reportative is like a verb of saying, and not-at-issue content can be attributed to the embedded origo. We need the report relation to take something bigger than a centred proposition as its argument—we need it to take an at-issue centred proposition and whatever not-at-issue content is associated with it. Further work is needed to determine exactly how this should be accommodated.

According to the analysis presented in Chapter 5, reportative evidentials introduce a distinct origo, and this permits the embedded reading of an additional evidential in the same clause. That analysis did not allow harmonic readings—in a sentence with two evidentials, one had to be within the prejacent of the other, depending on their order of composition. The modifications presented in this chapter allow for harmonic readings, and with some further development, could also allow embedded readings in the case of reportatives.
Chapter 8

Evidentials and temporal morphemes

8.1 On the interaction of evidentiality with tense

Nuu-chah-nulth evidentials interact with tense in three distinct ways. First, relative to their interaction with past tense -(m)it, sensory evidentials (the visual inferential -kuk and the auditory evidential naʔaʔit) and non-sensory evidentials show an ordering contrast. Sensory evidentials only ever precede the past tense. In contrast to this, non-sensory evidentials may either precede or follow the past tense. This morpheme ordering difference is also reflected by a difference in the order of composition. While sensory evidentials must compose with the predicate before the past tense does, non-sensory evidentials can compose with the predicate either before or after the past tense does.

Second, relative to their interaction with future -ʔaqƛ́, there is again a contrast between sensory and non-sensory evidentials. Sensory evidentials never combine with future -ʔaqƛ́, while non-sensory evidentials do.

And third, one of the evidentials is inherently specified for a temporal value, namely the past inferential -ckwɨ. Because of its past tense orientation, this evidential predictably fails to combine with the future marker -ʔaqƛ́. But, somewhat surprisingly, past inferential -ckwɨ also fails to combine with past tense -(m)it.

This chapter is devoted to arriving at an understanding of these three descriptive generalizations. I start by introducing some background relating to mechanisms that account for how meaning is composed (§8.2.1), and then show how they account for the interaction of Nuu-chah-nulth evidentials with the past tense (8.3), the future tense (8.4), as well as accounting for the apparently exceptional behavior of the past inferential ckwɨ (8.5). Section 8.6 concludes.

8.2 Three assumptions and their predictions

I argue that the interaction of evidentiality with tense is the by-product of general mechanisms that constrain semantic composition. First, there is a correlation between morpheme order and semantic composition. Second, tense—which locates an event in time—has
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a privileged relation with the situation argument. Third, tense imposes an ordering relation between the origo (utterance) situation and the event situation. Specifically, I adopt the three assumptions stated in (372).

(372) **Morpheme ordering:**
Morpheme order reflects semantic composition.

**Saturation:**
Tense saturates a situation argument.

**Temporal ordering:**
Tense is an ordering relation between the origo (utterance) and the event situation.

After presenting the conceptual and empirical motivations for each of these assumptions (§§8.2.1–8.2.3), I assess their predictions (§8.2.4).

8.2.1 Assumption 1: morpheme order reflects semantic composition

Following Rice (2000), I assume that morphemes are composed in the order in which they appear in a word. With this in mind, consider the morphological template of the Nuu-chah-nulth verb complex given in (373). Notice that the root is leftmost in Nuu-chah-nulth, and that all affixes are suffixal.48 (For details concerning the distinction between core and peripheral affixes, see Chapter 2.)

(373) \[[\text{Verb.Root}] [-\text{Derivational-Aspectual}] -\text{Mode-Va}lence/\text{Tense-Mood-Discourse}\]

Core Suffixes | Peripheral Suffixes

Abstracting away from specific morpheme labels, the general structure of the verbal template is as in (374):

(374) \[[\text{Verb.Root}] [-\text{Suffix}^*]\]

If the linear order of morphemes corresponds to their order of composition, and we apply this to the Nuu-chah-nulth morpheme template, then we expect the compositional structure given in (375). On this view, the compositional order of any two morphemes in a word is transparent: the leftmost one is composed with the root first. As we shall see below, the assumption that morpheme ordering reflects semantic composition has consequences for the analysis of how evidential suffixes interact with tense. This is because some evidential suffixes precede tense, while others follow tense.

\footnote{Nuu-chah-nulth does have prefixal reduplication, but it is always triggered by the presence of a suffix. In the rare cases where there is reduplication by itself, I assume the presence of a null suffix.}
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(375)

\[
\begin{array}{c}
\text{stem} \\
\text{stem} & -\text{sufffix} \\
\text{root} & -\text{sufffix}
\end{array}
\]

8.2.2 Assumption 2: tense saturates a situation argument

A sentence can contain more than one expression that specifies a temporal relation, but only one of them can be tense. Moreover, the expression of tense is obligatory. To see this, consider the English examples in (376a–376c). In (376a), the verb *see* is inflected for past tense; this satisfies the requirement that tense be expressed. But it is also possible for adverbial modifiers such as *yesterday* and *last week* to co-occur with a verb that is inflected for past tense, (376b). However, the temporal modifiers cannot by themselves satisfy the requirement that there be an expression of tense; this is why the sentences in (376c) are ill-formed.

(376) a. Ken saw John on the ferry.
   b. i. Ken saw John on the ferry last week.
      ii. Ken saw John on the ferry yesterday.
   c. i. *Ken see John on the ferry last week.
      ii. *Ken see John on the ferry yesterday.

The obligatory presence of tense can be accounted for by treating tense as an argument of every predicate. In a model that includes situations, this does not mean postulating an extra “time argument”. This is because situations already have a time component (see Chapter 5 for details), and it is this time that is ordered relative to the utterance time, as discussed by Kratzer (2011).

If every predicate has a tense argument—which is introduced by the time component of the situation—then one can define tense as in (377):

(377) Tense saturates a situation argument but does not introduce another situation argument.

One consequence of the definition in (377) is that once tense has combined with a predicate no further situation can be combined with it. Logically, it is possible for a morpheme to saturate a situation argument and introduce another situation argument; this is essentially McCawley’s (1971) analysis of the English perfect. The claim being made here is that tense cannot do this. Rather, tense simply saturates a situation argument.

49 Or to whichever time is relevant, according to the tense specification in combination with any other temporal modifiers that may be present.
Given that tense is an argument of every predicate, it follows that it can function as a variable. I treat the tense argument as a free variable whose value is contextually determined, much like a pronoun (McCawley 1971, Partee 1973). More specifically, tense is a situation variable that saturates the situation argument of its sister. The temporal restrictions themselves—past, present, future—are encoded as a not-at-issue restriction on this situation variable. (For definition of “not-at-issue”, see Chapter 7.) To make this concrete, I show how this applies to the tense morphemes in Nuu-chah-nulth.

The three tense morphemes in Nuu-chah-nulth are listed in (378) along with their semantic translations. These translations were used in earlier chapters with the presuppositional content given in curly brackets, but here I make use of the bullet to separate the at-issue content from the not-at-issue content, as introduced in Chapter 7. The at-issue content of each morpheme is a free situation variable, and their temporal restrictions are treated as not-at-issue. In the translation of -(m)it ‘past’, its at-issue content is the situation $s_n$ ($n$ being an index) and its not-at-issue content is a restriction that the time of $s_n$ precedes the utterance time $t^*$. The phonologically null tense does not specify a temporal relation. I therefore treat it as a situation with no restrictions, though it would be more accurate to treat it as non-future: it can be used in either present or past situations, but not future ones (Davidson 2002, 104). I am also treating the future -?aq? as a tense, a situation variable with the restriction that its time follows the utterance time.

\[
\begin{align*}
\text{UNMARKED} & \quad -\emptyset_n & \Rightarrow & & s_n \\
\text{PAST} & \quad -(m)it_n & \Rightarrow & & s_n \bullet \\ & & & t_{sn} < t^* \\
\text{FUTURE} & \quad -?aq\lambda_n & \Rightarrow & & s_n \bullet \\ & & & t_{sn} > t^*
\end{align*}
\]

These are simplifications made for the sake of clarifying the discussion, and which a fuller analysis of the language would need to spell out in more detail. A robust analysis of tense in Nuu-chah-nulth is outside the scope of this dissertation, and so I give no substantive arguments for using these translations. It is possible, for instance, that the future should be treated as a modal operator—a quantifier over situations—rather than a situation itself. By analyzing all three tense morphemes as situation variables I avoid complicating the discussion needlessly. The internal structure of tense is not as important here as what it does: it combines with something that has an open situation argument and it yields something that does not.

I assume that tense relates the time of its situation variable to the utterance time, rather than the origo time. In matrix clauses, the utterance time ($t^*$) and the origo time ($t_o$) will

---

50The unmarked tense I assume for Nuu-chah-nulth is quite similar to that proposed by Matthewson (2006) for the unmarked tense Lillooet. The unmarked tense in both languages allows either present or past readings, with stative predicates getting a present reading and eventive predicates getting a past reading.
8.2. Three assumptions and their predictions

be the same, as represented schematically in (379a). But in embedded clauses, the two times will, in general, be different, as in (379b). In principle, it should be possible to tease apart the utterance time from the origo time, namely by looking for sequence of tense effects (Giorgi 2010). For example, one could set up a scenario where a speaker was saying that, prior to the utterance time, someone held a propositional attitude about a centred proposition that would occur in the future with respect to attitude-holding, but that occurred in the past with respect to the utterance time. If tense is relative to origo time (i.e., what Comrie (1985) calls “relative tense”), the matrix clause containing the propositional attitude verb would be in the past tense, while the embedded clause would be in the future. If tense is relative to the utterance time (i.e., Comrie’s “absolute tense”), both clauses would be in the past.

\[ \text{(379) a. [Matrix Clause...]} \quad t_o = t^* \]

\[ \text{b. [Matrix Clause... [Embedded clause...]} \quad t_o = t^* \quad t_o \neq t^* \]

8.2.3 Assumption 3: tense orders utterance, event, and perceived situations

As defined above, in addition to saturating the time argument of a predicate, a tense morpheme introduces a not-at-issue temporal ordering relation between the utterance situation and the event situation or the perceived situation. There are three cases to consider:

1. a temporal ordering between the utterance situation and the event situation

2. a temporal ordering between the utterance situation and the perceived situation, where the perceived situation is non-distinct from the event situation

3. a temporal ordering between the utterance situation and the perceived situation, where the perceived situation is distinct form the event situation

8.2.3.1 Temporal ordering of the utterance situation and the event situation

Consider the Nuu-chah-nulth sentence in (380a), which is inflected with past tense, which in this language takes the form of the suffix -(m)it. In order to evaluate the contribution of past -(m)it—or any past tense morpheme for that matter—one must consider the relation between two situations, namely the event situation and the utterance situation. In the formula in (380b), the time of the event situation corresponds to $t_{s1}$, and the time of the utterance situation corresponds to $t^*$.  

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(380) a. mižaamitũš
   miž-(y)a-(m)it-ũš
   rain-CONT-PAST-3.IND
   ‘It was raining.’

\[ \lambda w[\text{raining}(s_1)(o*)(w)] \]

b. \[ t_{s_1} < t^* \]

Recall that the utterance time \( t^* \) refers to the time of the utterance situation \( s^* \), and that a special set of functions are associated with the speech act of an utterance, and these are indicated with an asterisk. (See Chapters 5 and 7 for details.) Now consider the two situations relevant for the evaluation of the past tense in (380):

1. the utterance situation \( s^* \)
2. the event situation \( s_1 \), the situation in which it was raining

I discuss each in turn.

The utterance situation is supplied by the mood suffix -ũš ‘3 indicative’, via the \( o^* \) variable. Formally, an origo \( o \) corresponds to a pair \( \langle j_o, s_o \rangle \), consisting of an individual \( j_o \) and a situation \( s_o \). Situations are inherently temporal, so the function \( t_s \) yields the time of a situation \( s \). Further, \( o^* \) yields the speaker in the utterance situation, and \( t^* \) yields the time of the utterance situation.

As for the event situation \( s_1 \)—namely the situation in which it was raining—it is supplied by the past tense suffix -(m)it, which also specifies that the event situation precedes the utterance situation.

The compositional structure of the sentence in (380) is given in (381) below. First the predicate miža ‘raining’ combines with the past tense suffix -(m)it. As a tense morpheme, the latter saturates the situation/time argument of the predicate. It also adds a not-at-issue restriction that orders the event situation before the utterance situation.
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8.2.3.2 Temporal ordering of the utterance situation and the perceived situation
(perceived situation = event situation)

Sensory evidentials introduce another situation into the semantics: the perceived situation. They do this by means of the perceptual grounding relation. Here the event situation is $s'$, and the perceived situation is $s$.

\[
\text{grounding}(s)(o)(s')(P) \iff \text{perceived}(s)(o) \land \text{support}(s)(o)(s')(P)
\]

In a scenario where the origo directly perceives the event situation, the perceived situation is the event situation, as in (383a). Here the auditory evidential introduces the event situation $s_1$, and the perceived situation is $s_2$. Nothing prevents $g(s_1)$ and $g(s_2)$ from having different values, but nothing prevents them from having the same value, either. They will tend to be assigned the same value because of conversational implicatures—Grice’s maxim of quantity comes in to play here. Since there are morphemes which indicate the manner of support is inference or report, and the speaker is not using these here, the implicature arises that the manner of support is neither inference nor report. The only other possibility is direct support, in which case perceived situation and event situation are one and the same. The implicature in the scenario in (383a) is that Kay heard the situation in which Ken was hollering.

(383) a. Scenario: Kay and Bill were walking past Ken’s house, and they could hear him yelling, but they couldn’t see him. Kay said this to Bill.

`Ken is hollering.'
8.2. Three assumptions and their predictions

b. \[ \lambda w[\text{hollering}(s_1)(o^*)(w)(k)] \]
   \[ \lambda w'[\text{grounding}_{\text{aud}}(s_2)(o^*)(s_1)(\lambda s \lambda o[\text{hollering}(s)(o)(w)(k)]) \]
   \[ \land \text{speaker}(o^*)(\lambda o \lambda w[\text{hollering}(s_1)(o)(w)(k)]) \]
   \[ \land t_{s_1} = t_{s_2} \land w' = w_{s_2} \]

8.2.3.3 Temporal ordering of the utterance situation and the perceived situation
(perceived situation ≠ event situation)

There are scenarios where the perceived situation is different from the event situation. This is the case when, for example, the origo makes an inference based on something they perceived, as in (384a). In the semantic translation given in (384b), the perceived situation is \( s_1 \) and the event situation is \( s_2 \).

(384) a. Scenario: Kay was out in the front yard, and Bill came by looking for Ken. Kay saw the light on in Ken’s window, so she said this.
   
   hi‘aayi‘kuk’iš
   hi‘-a-yi‘-kuk-’iš
   be.there-above-\text{vis},\text{evid},3.\text{IND}
   ‘He appears to be upstairs.’

b. \[ \lambda w[\text{upstairs}(s_2)(o^*)(w)(x_1)] \]
   \[ \lambda w'[\text{grounding}_{\text{aud}}(s_3)(o^*)(s_2)(\lambda s \lambda o[\text{upstairs}(s)(o)(x_1)]) \]
   \[ \land \text{cont.inf}(o^*)(s_3)(\lambda o \lambda w[\text{upstairs}(s_2)(o)(w)(x_1)]) \]
   \[ \land t_{s_3} = t_{s_2} \land w' = w_{s_3} \]

Another context where the perceived situation is distinct from the event situation arises with hearsay reports, as in (385a). Here the situation of the report is the same as the situation of the event situation, namely Ken ending up in jail. The semantics of this sentence are complicated by the presence of a focus predicate. Since the relevant details are in the semantics conveyed by the report relation I give the meaning of the report relation in (385b), rather than the translation of the sentence. The situation of the report is \( s \), which will be a free variable supplied by the reportative evidential. The speaker perceived this situation, which is distinct from the event situation contained within \( p \).

(385) a. Scenario: The police arrested someone, but the newspapers didn’t say who it was. Olive told Kay that it was Ken. Later, Kay said this to Bill.

   ?uhi’twa‘iš Ken na‘aat màxpiš
   ?uh-\text{m}i‘t-wa‘iš Ken na‘a-t màx-pi(\kappa)
   \text{FOC-PAST-3.QUOT Ken \text{AUD.EVID} tied-in.house.MOM}
   ‘It was Ken who ended up in jail (reportedly).’
8.3 Sensory evidentials occur below tense morphemes

b. \( \text{report(o)(s(p))} \xi = 1 \Leftrightarrow \) there exists a context of utterance \( c' \) whose situation is \( g(s) \), such that there is a report \( \langle c', g(p) \rangle \) in the context \( g(o) \)'s set of reports \( R_g(o) \), the speaker of \( c' \) is not the addressee of \( c \) and \( \text{agnostic(o)(p)} \xi = 1 \)

8.2.4 Predictions

As we will see below, sensory evidentials add a restriction to the situation argument of a predicate, while non-sensory evidentials do not. Additionally, once tense saturates the origo argument, no further restrictions can be added to it. It therefore follows that sensory evidentials have to precede tense morphemes in the order of composition. And assuming that the relative order of morphemes is the same as their relative order of composition, this means that sensory evidentials have to precede tense morphemes. Non-sensory evidentials do not need to have access to the event situation argument, and they can occur before or after tense morphemes. I argue in §8.3 that this prediction is borne out with respect to the sensory evidential suffix in Nuuchahnulth, -kuk 'visual inference'.

Since sensory evidentials introduce a perceived situation into the semantics, it is possible that they will saturate the event situation and introduce the perceived situation as an argument. This perceived situation argument would then be saturated by a tense morpheme, and any temporal restrictions associated with the tense would apply to the perceived situation rather than the event situation. In §8.4 I argue that this prediction is borne out with respect to the sensory evidential suffix -kuk 'visual inference'. I extend the analysis of the suffixal visual evidential -kuk to the auditory evidential naʔat, which is an independent particle. I show that the latter also conforms to the generalization that sensory evidentials compose with the predicate before they compose with tense.

Also, by the saturation hypothesis, any evidentials that include a temporal restriction have to be composed before any tense morphemes. For evidential suffixes, this means linearly preceding any tense morphemes. Nuu-chah-nulth has one such evidential: the past inferential -ck"i. In §8.5 I argue that, as predicted, this evidential composes with the predicate before tense does.

8.3 Sensory evidentials occur below tense morphemes

The model of evidentiality developed in this thesis predicts certain differences between sensory evidentials and other evidentials. Because sensory evidentials indicate a specific perceptual relationship between the origo and the situation which anchors the prejacent proposition, they must be introduced before the situation variable is supplied by the tense morpheme. Once the situation argument of the prejacent is saturated it is no longer accessible to the semantics of any additional morphemes.
8.3. Sensory evidentials occur below tense morphemes

The results are summarized in table 8.1. The sensory evidentials, as predicted, precede the past suffix, and some non-sensory evidentials precede the past while some follow it. Two points need to be mentioned. First, naʔa:t ‘auditory evidence’ is a particle and not a suffix, meaning that its relative ordering cannot be determined directly. I leave discussion of it until §8.3.3. Second, the past inferential -ckʷiː cannot occur in the same clause as -(m)it ‘past’, but based on its ordering with other suffixes that precede -(m)it, we can still determine that it precedes the position where -(m)it appears; I discuss this further in §8.3.2.1. The non-

<table>
<thead>
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<th>sensory</th>
<th>-kuk</th>
<th>‘vis.inf.’</th>
<th>✓</th>
</tr>
</thead>
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<td>‘rep.evid.’</td>
<td>✓</td>
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<tr>
<td></td>
<td>-haːč</td>
<td>‘rep.evid.’</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 8.1: Relative ordering of evidentials and tense

sensory evidentials are split, with the modes preceding and the moods following the past. As I mentioned above, the theory makes no prediction regarding the relative position of non-sensory evidentials and past morphemes; it allows them to either precede or follow the -(m)it ‘past’.

The data is presented in pairs below, first with the evidential preceding -(m)it ‘past’, and then following it. I divide the discussion into sensory and non-sensory evidentials.

8.3.1 Sensory evidentials precede tense

There are two sensory evidentials in Nuu-chah-nulth, naʔa:t ‘auditory evidence’ and -kuk ‘visual inference’. Only one of these, -kuk, is a suffix, and so it is the only sensory evidential whose relative order with tense can be examined directly. As I show shortly, -kuk precedes tense as predicted.

The core property of an evidential relating to its ordering with respect to temporal morphemes is the presence or absence of a perceptual grounding relation. The translation for -kuk ‘visual inference’ is given in (386), and it contains the relation groundingGvis. Because this perceptual grounding relation requires a situation argument, it is expected that -kuk will compose with the verb before—and therefore precede—any tense suffixes, which by definition saturate the situation argument of the verb.

\[
\begin{align*}
(386) \quad -kuk_1 \Rightarrow & \quad \lambda P \lambda s[P(s)] \\
& \quad \lambda P \lambda s \lambda o \lambda w[\text{grounding}_{\text{Gvis}}(s)(o)(s_1)(P) \land \text{cont.inf}(o)(s)(P(s_1)) \land t_{s_1} = t_s]
\end{align*}
\]

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The tree in (387) illustrates this schematically. The sensory evidential -kuk takes an unsituated proposition and passes it through in the at-issue domain, while adding its grounding relations in the not-at-issue domain. It is only able to do this if it combines with the predicate before the tense morpheme saturates the predicates situation argument.

(387)

```
(\langle s,t \rangle \cdot \langle s,t^n \rangle)
```

The sole suffixal sensory evidential -kuk ‘visual inference’ must precede -(m)it, as shown in (388a). If it instead follows -(m)it, the result is ungrammatical, as shown in (388b). This is the crucial case, since the theory predicts that -kuk must compose with the predication before -(m)it saturates its situation argument.

(388) a. Scenario: Ken had been out of town for a while when Kay walked by Ken’s house one night and saw his lights on. When she got home she told Bill this.

\[\text{walyuuKukvit/iS walyu:-Kuk -(m)it/i;S be.home vis.evid past 3.ind/in/in comp KvaHsit/inkv-'a;Hs-(m)it-0 rein.vessel past3.abs} \]

'It looked like he was home. His lights were on.'

b. *walyuumitKuk/iS walyu:-(m)it-Kuk-i;S be.home-VIS.EVID-PAST-3.IND COMP fire-in.vessel-PAST-3.ABS

8.3.2 Non-sensory evidentials can be found preceding or following tense

Since non-sensory evidentials do not encode a perceptual grounding relation, they do not need to have access to a situation argument. They will be able to occur to the right of tense morphemes, but they do not have to. If a non-sensory evidential precedes tense, it will pass the situation argument up so that the tense will still be able to saturate it.

The non-sensory evidentials which precede tense are the modes -matak ‘inference’ and -ckw ‘past inference’. The translation of each of these is given in (389). The key point is that they do not contain a perceptual grounding relation. I discuss their order with respect to tense in §8.3.2.1. These two take an unsituated proposition argument, like the sensory evidentials, but they simply pass along the situation argument they receive to their unsituated proposition.
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argument without adding any restrictions on the situation. Nothing in the semantics of the cont.inf relation requires access to this situation. The past inferential happens to include a temporal restriction on its situation argument, and so must occur before tense for this reason. I discuss this further in §8.5.

(389)  a. -matak1 ⇒ \[ \lambda P \lambda s [P(s)] \]
\[ \lambda P \lambda s \lambda o \lambda w [\text{cont.inf}(o)(s_1)(P(s)) \land w = w_{s_1}] \]

b. -ckw'i1 ⇒ \[ \lambda P \lambda s \lambda o \lambda w [\text{cont.inf}(o)(s_1)(P(s)) \land t_s < t_{s_1} \land w = w_{s_1}] \]

Those which follow tense are the moods -qa'ča ‘dubitative', -wa'řiš ‘quotative' and -ḥa'č ‘indirect interrogative’. As non-sensory evidentials they do not contain a perceptual grounding relation. Neither the cont.inf relation nor the report relation require a situation argument. Combining after tense as they do, the mood suffixes lack access to any situation arguments whatsoever, manipulating only centred propositions and origos. I discuss their order with respect to tense in §8.3.2.2.

(390)  a. -qa'ča1 ⇒ \[ \lambda p [p(o^*)] \]
\[ \lambda p [\text{cont.inf}(o^*)(s_1)(p) \land w = w_{s_1}] \]

b. -wa'řiš1 ⇒ \[ \lambda p [\text{report}(o^*)(s_1)(p) \land w = w_{s_1}] \]
\[ \lambda p [\text{Int}(\lambda o \lambda w [\text{report}(o)(s_1)(p) \land w = w_{s_1}])] \]

c. -ḥa'č1 ⇒ \[ \lambda p [\text{Int}(\lambda o \lambda w [\text{report}(o)(s_1)(p) \land w = w_{s_1}])] \]

The semantic types of the pre-tense and post-tense evidentials are necessarily different, since tense saturates a situation argument. But this is arbitrary. Another language could have a reportative evidential preceding tense, and an inferential following it. Yet another language could have all evidentials preceding tense.

8.3.2.1 Non-sensory evidentials which precede tense

The first non-sensory evidential I turn to is -ckw'i: ‘past inference', which presents a problem: it cannot co-occur with -(m)it ‘past' in either order, as shown in (391).

(391)  a. *mīžaackw'initiš
mīž-(y)a-ckw'i-(m)it-š
rain-CONT-PAST.EVID-PAST-3.IND

b. *mīžaamitckw'iš
mīž-(y)a-(m)it-ckw'i-š
rain-CONT-PAST-PAST.EVID-3.IND
8.3. Sensory evidentials occur below tense morphemes

Before briefly discussing possible reasons for this co-occurrence restriction, I present a less direct argument supporting the conclusion that the position of -ck"i: precedes that of -(m)it based on the relative ordering of each of these suffixes with respect to other suffixes.

There are suffixes which follow -ck"i: ‘past inference’ but precede -(m)it ‘past’. Three I have identified are -'aλ 'now', -'at 'shift', and -uk/-ʔa'k 'possessive'. The relative ordering of these suffixes and -ck"i: and -(m)it is illustrated in (392). Since -ck"i: precedes these three suffixes and -(m)it follows them, by transitivity of linear ordering, -ck"i: also precedes -(m)it.

(392) -ck"i: -'aλ -'at -uk -(m)it
PAST.EVID NOW SHIFT POSS PAST

In (393a) we see that -ck"i: ‘past inference’ precedes -'aλ 'now', and in (393b) -'aλ precedes -(m)it ‘past’.\footnote{The relative ordering of -'aλ 'now', -'at 'shift', and -uk/-ʔa'k 'possessive' is not crucial to the point at hand, but there are several examples of words containing all three in the Nootka Texts, for example ŝukviʔaλatuks now they were after his Saay and Swadesh 1939, 38, and in Caroline Little's texts, for example suk"iʔaλatuks Little 2003, 36. The order in these examples match the order given in (392).} From this we can infer that the position of -ck"i: precedes the position of -(m)it.

(393) a. ʰaʔuqʰeckʰaʔiʔiś wiiwaʔa Ken ʰaʔaʔisukʔi
ʰaʔuqʰeckʰi:-'aʔ-ʔiʔiś wiiwaʔa Ken ʰaʔaʔ-ís-uk-ʔi:
take.turn-PAST.EVID-NOW-3.IND throw.tantrum Ken child-DIM-POSS-DEF
'It must have been Ken's child's turn to throw a tantrum.'

b. ʰaʔuqʰaʔitʰiʔiś wiiwaʔa Ken ʰaʔaʔisukʔi
ʰaʔuqʰ-ʔaʔ-(m)it-ʔiʔiś wiiwaʔa Ken ʰaʔaʔ-ís-uk-ʔi:
take.turn-NOW-PAST-3.IND throw.tantrum Ken child-DIM-POSS-DEF
'It was Ken's child's turn to have a tantrum.'

Likewise, in (394a) -ck"i: ‘past inference’ precedes -'at 'shift', and -'at precedes -(m)it ‘past’ as shown in (394b), permitting us to infer that the position of -ck"i: precedes the position of -(m)it.

(394) a. ŝuʔckʰiʔatʔiś haaʔawiiqšʔat ʔaʔasiqšak
ŝuʔckʰi:-'at-ʔiʔiś haw-awiqš[L]-'at ʔaʔsi-iʔq-su-ʔa'k
FOC-PAST.EVID-SHIFT-3.IND eat-invite-SHIFT niece-KIN-KIN-POSS
'It must have been his niece who invited him for a meal.'

b. ŝuʔʔaniʔiś haaʔawiiqšʔat ʔaʔasiqšak
ŝuʔ'-ʔat-(m)it-ʔiʔiś haw-awiqš[L]-'at ʔaʔsi-iʔq-su-ʔa'k
FOC-SHIFT-PAST-3.IND eat-invite-SHIFT niece-KIN-KIN-POSS
'He got invited to eat by his niece.'

The possessive suffix has two allomorphs, -uk, which occurs when the stem ends in a non-nasal consonant, and -ʔa'k, which occurs when the stem ends in a vowel or nasal consonant.
8.3. Sensory evidentials occur below tense morphemes

Since -ck"iː' ends in a vowel, the -ʔa'k allomorph occurs when -ck"iː' immediately precedes the possessive, as in (395a). In (395b) the possessive -uk precedes -(m)it.

(395)  

a. ?uhk"iː'ak?iː' wiiwaak'w Kay ūnaʔiː

?uh-ck"iː-ʔa'k-ʔiː' wiiwaak'w Kay ūnaʔiː

FOC-PAST.EVID-POSS-3.IND throw:tantrum Kay child-DIM

'It must have been Kay's child that was throwing a tantrum.'

b. ?uhuk'?iː' wiiwaak'w Kay ūnaʔiː

?uh-uk(ʔ)m-it-ʔiː' wiiwaak'w Kay ūnaʔiː

FOC-POSS-PAST-3.IND throw:tantrum Kay child-DIM

'It was Kay's child that was throwing a tantrum.'

The fact that these three suffixes, -aλ 'now', -at 'shift', and -uk/-ʔa'k 'possessive', follow -ck"iː' 'past inference' but precede -(m)it 'past' gives us evidence that -ck"iː' precedes -(m)it, or rather that the position of -ck"iː' precedes the position of -(m)it.

The last of the evidentials to precede -(m)it 'past' is -matak 'inference', as shown in (396a). In (396b) the same sentence but with -matak following -(m)it, is ungrammatical.

(396)  

a. Scenario: Kay and Bill were at work in the morning, and Ken wasn’t there yet, though he usually is. Kay said this to Bill.

waʔčswimatakitʔiː

waʔč-(c)swi-matak-(m)it-ʔiː

sleep-go:through-IND.EVID-PAST-3.IND

‘He must have overslept.’

b. *waʔčswimitmatakʔiː

waʔč-(c)swi-(m)it-matak-ʔiː

sleep-go:through-PAST-IND.EVID-3.IND

‘He must have overslept.’

8.3.2.2 Non-sensory evidentials which follow tense

The remaining three evidentials, -qa'ča 'dubitative', -waʔʔiː' 'quotative' and -ʔха'č 'indirect interrogative', are all moods, and all follow -(m)it 'past'. First looking at -qa'ča, the example in (397a) with -qa'ča preceding -(m)it is ill-formed. The sentence in (397b) is grammatical, since -qa'ča follows -(m)it.
8.3. Sensory evidentials occur below tense morphemes

(397) a. *waŋčeqać’amit
   waŋčeq-aŋča-(m)it
   sleep-3.DUB-PAST

b. *Scenario: Kay and Bill were sitting in the living room, and Ken came out of his room looking like he’d been sleeping and went into the kitchen. Bill asked *wiikššinh Ken ‘Is Ken OK?’ and Kay replied with this:

   waŋčeqiča
   waŋčeq-(m)it-qacı’a
   sleep-PAST-3.DUB

   ‘He must have been sleeping.’

The reportative evidential -waʔiš cannot precede -(m)it ‘past’, as in (398a). Instead it must follow it, as in (398b) in order to be grammatical.

(398) a. *hitaʔapwaʔišit
    hitaʔap-waʔiš-(m)it
    win-3.QUOT-PAST

b. *Scenario: One day Ken called Kay and told her that he won at poker the night before. When she got off the phone Kay said this to Bill:

   hitaʔamitwaʔiš Ken ʔathíimíʔi
   hitaʔap-(m)it-waʔiš Ken ʔathíi-(m)it-ʔi
   win-PAST-3.QUOT Ken night-PAST-DEF

   ‘Ken must have won last night.’

Finally, the reportative interrogative -ha’č, like the other evidential moods, cannot precede -(m)it ‘past’, as illustrated by the example in (399a). Instead, -ha’č must follow -(m)it, as shown by the well-formed example in (399b).

(399) a. *waŋčucuʔhačit
    waŋčucu-(k)-ha’č-(m)it
    sleep-MOM-3.INDIR.INTER-PAST

b. *Scenario: Kay and Bill hadn’t heard anything from Bill’s father’s room for a while, and eventually Bill went in to see him. Kay heard Bill and his father talking, and when Bill came back out she asked him this:

   waŋčucuʔíihač
   waŋčucu-(k)-(m)it-ʔa’č
   sleep-MOM-PAST-3.INDIR.INTER father

   ‘Did your father go to sleep?’
8.3. Sensory evidentials occur below tense morphemes

8.3.3 The particle naʔat is introduced before the tense suffix: excorporation

Alongside -kuk ‘visual inference’ in the set of sensory evidentials is naʔat ‘auditory evidence’. They differ morphosyntactically in that -kuk is a suffix while naʔat is a particle. Particles are free morphemes, and obligatorily so. Because naʔat is a particle rather than a suffix, we cannot determine the order of its composition relative to tense by examining their linear order—it necessarily linearly follows all the suffixes on the predicate because it is a separate word. Its semantics gives us a clue as to where it is composed though: if it has a perceptual grounding relation, that relation needs to have access to a situation variable, and therefore naʔat will have to be composed with the verb before any tense suffix. The translation of naʔat provided in Chapter 7 is repeated in (400) below. Its first argument is an unsituated proposition $P$, and its second is a situation $s$, which is the situation in which $P$ holds. Call $s$ the prejacent situation. In the not-at-issue dimension there is an auditory perceptual grounding relation, which introduces an indexical situation $s_1$. That situation is the perceived situation. The remainder of the not-at-issue meaning restricts the origo to be the speaker, and ensures that the time of the perceived situation is within the time of the prejacent situation.

(400) \[ \text{naʔat} \Rightarrow \lambda P \lambda s \lambda o \lambda w [\text{grounding}_\text{aud}(s)(o)(s_1)(P) \land \text{speaker}(o)(P(s_1)) \land t_{s_1} = t_s \land w = w_s] \]

It is possible for naʔat ‘auditory evidence’ to be in the same clause as a tense suffix like -(m)it ‘past’, as shown in (401). The past suffix introduces the prejacent situation, which in this case is the same as the perceived situation, since the speaker heard the noise itself.

(401) \begin{scenario}
A man was outside running a machine that made a loud noise. After a while it stopped, and then Kay said this to Bill.

\begin{align*}
\text{wišxatukʷit̓iš} & \quad \text{naʔat} \\
\text{wišx-a-tuk-(m)it-ʔiš} & \quad \text{naʔat} \\
\text{annoying-sound-past-3.IND AUD.EVID} &
\end{align*}

That was an annoying sound.'
\end{scenario}

A question that needs to be answered is: why is naʔat ‘auditory evidence’ a particle and not a lexical suffix? Put another way, if naʔat has to combine with the verb at about the same level as -kuk ‘visual inference’, why is it not linearized in about the same position as -kuk? It is instead linearized after the mood suffixes which follow it compositionally. My answer is this: naʔat is lexically specified as a free morpheme, rather than a bound one, and it raises out of the verb stem in order to avoid compounding, which is prohibited in Nuu-chah-nulth (Rose 1981, Davidson 2002, 92).
8.4 Tense and perceived situations

Since there is a general prohibition on combining two free morphemes below the level of the word in this language, any free morphemes which are introduced compositionally below the level of the word will need to end up above it for it to be grammatical. One mechanism which could handle this is excorporation, where a head which is adjoined to another head raises to adjoin to a higher head (Roberts 1991). This is illustrated in (402), where α is a head that was originally adjoined to X. It is excorporated out of X and adjoined to Z, the next highest head.

\[(402)\]

Roberts used excorporation to model clitic climbing in Italian and verb raising in Dutch. The main similarity between these and the case of naʔa:t in Nuuchahnulth is that the element excorporated does not take any additional material with it, distinguishing them from typical cases of head-movement. I offer this as a possible analysis, leaving arguments for or against it for future research.

8.4 Tense and perceived situations

The origo hypothesis predicts that it is possible for sensory evidentials to saturate the event situation and introduce the perceived situation as an argument, and this is in fact what we find in Nuu-chah-nulth. When sensory evidentials occur with -(m)it `past' or -ʔaqƛ̓ `future' it is the perceived situation which is ordered temporally with respect to the utterance situation. In (401) and (388a) the sensory evidentials naʔa:t `auditory evidence' and -ʔuk `visual inference' occurred with -(m)it, and the scenario in each case involved the perceived situation preceding the origo (utterance) situation.

In this section I present data where each of the evidentials occurs with the future -ʔaqƛ̓. The distinction between perceived situations and event situations is made clearer with the future, since it is a fact about our world that we cannot perceive events before they happen. Thus, if sensory evidentials work as I claim, and introduce a perceived situation argument, and the future supplies a situation variable and specifies that it has not yet occurred, sentences
8.4. Tense and perceived situations

containing both sensory evidentials and the future -?aqλ should be pragmatically very odd. On the other hand, non-sensory evidentials, which do not introduce a perceived situation argument, should be compatible with -?aqλ, since it will saturate the event situation argument and locate it in the future with respect to the origo time. And this is what we find.

Table 8.2 summarizes the judgments of each of the evidentials in a clause with -?aqλ ‘future’. As expected, the sensory evidentials are pragmatically odd (indicated by #), requiring an impossible context. All the non-sensory evidentials are compatible with -?aqλ (indicated by ✓), except for -ck°i ‘past inference’ (as indicated in the table by ×) which already encodes a temporal relation between the event situation and the utterance situation (see §8.5).

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</tr>
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<td>-qaʔča</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>non-sensory</th>
</tr>
</thead>
<tbody>
<tr>
<td>-waʔiš</td>
</tr>
<tr>
<td>-laʔč</td>
</tr>
</tbody>
</table>

Table 8.2: Co-occurrence of evidentials with ?aqλ ‘future’

8.4.1 Sensory evidentials provide a perceived situation

In discussing the sensory evidentials I present the data in pairs, the first containing the past -(m)it, and the second containing the future -?aqλ. I do this because the sensory evidentials are incompatible with -?aqλ, and the reason for this could be something other than what I claim. If we also consider the scenarios in which sensory evidentials can occur with -(m)it, then my case is much stronger. My claim is that sensory evidentials introduce a perceived situation argument, and that this is the situation the tense morphemes provide when a sensory evidential is present.

My claim predicts that sensory evidentials will be incompatible with -?aqλ because we cannot remember perceiving situations which have not yet happened nor can we be certain that we will perceive such situations in the future. We can, on the other hand, remember perceiving situations that happened in the past, and scenarios like these are exactly when we can get sensory evidentials occurring with -(m)it.

In the felicitous sentence in (388a), repeated in (403a) below, -kuk ‘visual inference’ appears with -(m)it and the meaning is that the perceived situation, the situation of Kay seeing the lights on in Ken’s house, precede the origo (utterance) time. The event situation of Ken being home overlaps the perceived situation. The sentence in (403b) contains -kuk and -?aqλ,
8.4. Tense and perceived situations

where the meaning should be that the perceived situation follows the utterance time, but the speaker cannot remember perceiving something that has not yet happened. This sentence also cannot be used to mean that the speaker will see something that will allow her to infer that Ken will win.

(403)  a. Scenario: Ken had been out of town for a while when Kay walked by Ken’s house one night and saw his lights on. When she got home she told Bill this.

\[ \begin{align*}
\text{wa} & \text{yu} \text{uk} \text{it} \text{?i} \text{?i} \text{?in} \text{?ink} \text{?a} \text{hsit} \\
\text{wa} & \text{yu} \text{-} \text{kuk} \text{(m)} \text{it} \text{-} \text{?i} \text{?i} \text{?in} \text{?ink} \text{-} \text{a} \text{hs} \text{(m)} \text{it} \text{-} \emptyset \\
\text{be} \text{-} \text{home} \text{-} \text{vis} \text{. evid} \text{-} \text{past} \text{-} 3. \text{ind} \text{ comp} \text{ fire} \text{ - in} \text{ vessel} \text{- past} \text{- 3. abs} \\
\text{‘It looked like he was home. His lights were on.’}
\end{align*} \]

b.\#\text{hit} \text{a} \text{ap} \text{kuk} \text{aq} \text{?i} \text{?i}

\[ \begin{align*}
\text{hi} & \text{ta} \text{ap} \text{ k} \text{kuk} \text{aq} \text{?i} \text{?i} \\
\text{win} \text{-} \text{vis} \text{. evid} \text{-} \text{fut} \text{-} 3. \text{ind}
\end{align*} \]

The derivation for the sentence in (403b) is given in (404) below. The crucial point is that in \( s_3 \) the contextually defined situation \( s_3 \) is the perceived situation, as specified by the grounding relation, and temporally follows the time of the utterance situation, \( t^* \). For this to be true, the origo has to have seen a situation that has not yet happened. Because this is an impossible feat, this sentence will always be infelicitous.
The other sensory evidential in Nuu-chah-nulth, *naʔat‘auditory evidence’, exhibits the same interactions with temporal morphemes. In (405a) *naʔat occurs in the same clause as -(m)it ‘past’ yielding the meaning that the perceived situation, Kay hearing the machine outside, preceded the origo (utterance) situation. The event situation overlaps the perceived situation, and therefore also precedes the utterance situation. The future suffix -ʔaqƛ cannot occur in the same clause as *naʔat. If it could occur with it, the meaning would be that the situation in which Kay heard the machine follows the origo (utterance) situation.
8.4. Tense and perceived situations

(405) a. **Scenario:** Kay and Bill were inside when someone outside started up a machine with a high-pitched whine. It ran for a few minutes, then turned off. Kay said this to Bill.

\[
\begin{align*}
&\text{wišxaatuk*it'iš} \\
&\text{wišx-a'tuk-(m)it'-iš} \\
&\text{annoying-sound-PAST-3.IND AUD.EVID}
\end{align*}
\]

‘That was an annoying sound.’

b. *\[\text{wišxaatuk?aqx'iš}\]

\[
\begin{align*}
&\text{wišx-a'tuk?aqx'-iš} \\
&\text{annoying-sound-FUT-3.IND AUD.EVID}
\end{align*}
\]

8.4.2 Non-sensory evidentials do not introduce a perceived situation argument

The non-sensory evidentials fall into two classes, those which precede tense and those which follow tense. These correspond to mode suffixes and mood suffixes respectively. Because the mode suffixes precede tense, they must yield a function with an open situation argument, but this situation corresponds to the event situation rather than the perceived situation. I discuss these in §8.4.2.1. Because the mood suffixes follow tense, they do not yield a function with an open situation argument (they provide the origo for their sister to yield a truth value), and they cannot introduce a perceived situation. These are discussed in §8.4.2.2.

8.4.2.1 Mode suffixes are non-sensory evidentials which precede tense

Turning now to the modes -\(\text{ck}'\text{i}\) ‘past inference’ and -\(\text{matak}\) ‘inference’, we find first that -\(\text{ck}'\text{i}\) is incompatible with -\(\text{aqx}\) ‘future’ just as it is incompatible with -(\(m)\text{it}\) ‘past’, as shown in (406).

(406) *\[\text{hawiqx-ck'i-aqx}\]

\[
\begin{align*}
&\text{hawiqx-ck'i-?aqx-∅} \\
&\text{hungry-PAST.EVID-FUT-3.ABS father}
\end{align*}
\]

The derivation for this sentence is given in (407) below. The reason -\(\text{ck}'\text{i}\) cannot occur with -\(\text{aqx}\), I claim (see §8.5), is because -\(\text{ck}'\text{i}\) adds a restriction to the event situation, namely that the event situation precedes the perceived situation, which is the situation argument of the \text{cont.inf} relation. At this point in the derivation (node \(\Box\)), it still has an unsaturated situation argument—the event situation. The future can saturate this situation argument while adding its own restriction, namely that the event situation follows the utterance situation. There are now two temporal restrictions, one of which says that the event situation precedes the perceived situation, and the other of which says the event situation is in the future. For both
of these restrictions to be true, the perceived situation would have to be in the future. For an
utterance of this sentence to be felicitous, the speaker has to have perceived a situation that
has not yet happened. Since this is impossible, this sentence can never be uttered felicitously.

However, -matak can occur with -ʔaqλ, as long as -matak precedes -ʔaqλ linearly, and
it is the event situation that is specified as following the utterance situation. In (408a), the
perceived situation of Bill’s father working outside on a car until noon precedes (or perhaps
overlaps) the utterance situation. However the event situation of Bill’s father being hungry is
identified as following the utterance situation—it hasn’t happened yet at time of the utterance
situation. The example in (408b) shows that -ʔaqλ cannot precede -matak.
8.4. Tense and perceived situations

(408) a. Scenario: Bill’s father was outside working on a car all morning, and when it was around noon Kay said this to Bill.

\[\text{hawiiq\text{-}matak}\text{-}aqz\text{-}\text{r}\text{-}\text{t}\text{-}\text{m}\text{-}\text{a} \quad \text{nuwi} \quad \text{hawii\text{-}a\text{-}k\text{-}quu}\text{-}\text{mamuuk}\text{-}\text{now}\text{-}\text{work}\]

‘Your father will probably be hungry when he’s finished working.’

b. *hawiiq\text{-}aqz\text{-}matak\text{-}r\text{-}t\text{-}m\text{-}a

\[\text{hawii\text{-}aqz\text{-}matak}\text{-}r\text{-}t\text{-}m\text{-}a \quad \text{hungry\text{-}FUT\text{-}IND\text{-}EVID\text{-}3\text{-}IND}\]

The sentence in (408a) has the derivation shown in (409) below. The perceived situation is the situation argument of the cont.inf relation. This argument is saturated by -matak, which then adds another situation argument—the event situation. This argument is saturated by the future -aq\text{\textlambda}. It is the event situation which is specified as taking place in the future.

(409)

\[\lambda\lambda_s\lambda_\omega\lambda[w[\text{hungry}^{\text{\textprime}}(s)(o)(w)(x)] \quad f\]

\[\lambda_\omega[w[\text{hungry}^{\text{\textprime}}(s)(o)(w)(f)]\]

\[\lambda_\omega'[\text{cont.inf}(o')(s_1)(\lambda_\omega[\text{hungry}^{\text{\textprime}}(s_2)(o)(w)(f)]) \land w' = w_{s_2}, t_{s_2} > t^*\]

\[\lambda_\omega'[\text{cont.inf}(o')(s_1)(\lambda_\omega[\text{hungry}^{\text{\textprime}}(s_2)(o)(w)(f)]) \land w' = w_{s_1}, t_{s_2} > t^*\]

\[\lambda_\omega'[\text{cont.inf}(o')(s)(\lambda_\omega[\text{hungry}^{\text{\textprime}}(s')(o)(w)(f)]) \land w' = w_{s_1}\]

\[\lambda P_\lambda s[P(s)]\]

\[\lambda P_\lambda s'[\text{cont.inf}(o')(s_1)(P(s')) \land w' = w_{s_1}\]
8.4.2.2 Mood suffixes are non-sensory evidentials which follow tense

The evidential moods follow -ʔaqɬ ‘future’. In (410a) the mood suffix -qa’ča ‘dubitative’ follows -ʔaqɬ, and the meaning is the same as that for the example with -matak in (408a): that the event situation, one where Bill’s father is hungry, follows the utterance situation. The example in (410b) with the mood -qa’ča preceding -ʔaqɬ is ill-formed; all moods must follow -ʔaqɬ.

(410) a. Scenario: Bill’s father was out fishing, and around noon while he was still out on the water Kay said this to Bill.

haʔiŋqʔaʔqɬaʔqa’ča nawi hitasaʔaʔqqu
haʔiŋqʔaʔqɬaʔqa’ča nawi hita’sa’ʔaʔqqu:
hungry-FUT-3.DUB father dock-now-3.COND

‘Your dad will probably be hungry when he comes in.’

b. *haʔiŋqʔaʔqɬaʔqa’ča
haʔiŋqʔaʔqa’ča-ʔaqɬ
hungry-3.DUB-FUT

The quotative mood -waʔiš follows the same pattern as the dubitative -qa’ča: when both occur, -ʔaqɬ linearly precedes -waʔiš and the event situation is future with respect to the utterance situation.

(411) a. Scenario: Kay, Bill and Ken were going to go to the lake, and Ken told Kay that he was going to eat something before leaving. After a bit Bill asked Kay why Ken was taking so long and she replied with this.

haʔukʔaʔqɬaʔwiʔiš čaani
haʔuk-ʔaʔqɬ-aʔwiʔiš ča’ani
eat-FUT-3.QUOT first

‘He’s going to eat first.’

b. *haʔukwiʔišʔaʔqɬ
haʔuk-qa’ča-ʔaqɬ
eat-3.QUOT-FUT

The indirect interrogative mood -ha’č appears following -ʔaqɬ in (412a), and the meaning is that the event situation of Bill’s younger brother eating is in the future with respect to the utterance situation, the situation where Bill replies to Kay; because it is a question the origo is the addressee Bill. The situation of the report in this scenario follows the utterance situation, but it could also precede it, as in a scenario where Kay heard Bill and his younger
brother talking but didn’t hear what they were saying. The example in (412b) shows that -ha'č cannot precede -ʔaqƛ.

(412) a. Scenario: Kay, Bill and his younger brother are getting ready to travel and Kay wants to know if Bill’s younger brother is going to eat before they leave, so she asks Bill this, with the expectation that he will go and ask him.

\[
\begin{align*}
\text{haʔukʔaqƛ-} & \text{hač} \\
\text{haʔukʔ-} & \text{ʔaqƛ-} \\
\text{eat-FUT-3.INDIR.INTER younger.sibling} \\
\end{align*}
\]

‘Is your younger sibling going to eat?’

b. *waaʔičsinhíhačʔaqƛ

\[
\begin{align*}
\text{waʔičsinhí[LS]-} & \text{ʔaqƛ} \\
\text{sleep-try.to-3.INDIR.INTER-FUT} \\
\end{align*}
\]

8.5 Evidentials that include a temporal restriction

According to the origo hypothesis and the basic theory of tense given in (8.1), it would not be possible for an evidential that occurred higher than tense to impose any temporal restrictions on any situations, since there are no situation arguments available. The only situation they have access to is the origo situation, but there needs to be two situations available in order to have a temporal precedence relation between them.

However, evidentials which occur below tense have access to the event situation and it is possible for them to impose a temporal restriction on it. This would be lexically specified, and not all evidentials that occur below tense are expected to encode a temporal relation, but if there are such evidentials, they have to occur below tense according to the origo hypothesis. There is such an evidential in Nuu-chah-nulth: -ck“i: ‘past inference’.

We have seen in §8.3.2.1 above that -ck“i occurs below tense, but also that it is incompatible with tense. One possible explanation for this incompatibility is that -ck“i is itself a tense. It is compatible with the origo hypothesis that an evidential could saturate the situation argument of an unsituated proposition, in which case such an evidential would by definition be a tense, and would not be compatible with other tense morphemes. However, I argue that this is not the case for -ck“i, and that -ck“i adds a restriction to the event situation without saturating it. Whether -ck“i is a tense or not is not crucial to the origo hypothesis. Rather, it is a language-specific, even a morpheme-specific, question. All that is crucial to the origo hypothesis is that such morphemes do not compose before tense.

The argument that -ck“i ‘past inference’ is not a tense goes as follows. If it were a tense, it would saturate the situation argument of the predicate, leaving only the origo argument. That is, its semantic type would be \(\langle s, \langle o, l \rangle \rangle, \langle o, l \rangle \rangle \). However, there are suffixes (-′aƛ′ now, -′at
8.5. Evidentials that include a temporal restriction

‘shift’ and uk ‘possessive’) that occur between -ck"i: and tense suffixes, as I showed in §8.3.2, and so these suffixes will have to be able to both precede and follow tense. They will have to combine with something of type \(\langle o, t \rangle\) when occurring with -ck"i:, and with something of type \(\langle s, \langle o, t \rangle \rangle\) when not. This would require multiple lexical entries for each of these suffixes. If -ck"i: were not a tense, this problem vanishes.

A further problem, at least potentially, is that the suffix - 'aλ 'now' occurs after -ck"i:. I do not have an analysis of this suffix, but since it is involved in temporal sequencing (Davidson 2002, 306) it will most likely need access to a situation argument. If -ck"i: were a tense and saturated the situation argument, - 'aλ would not be able to access the situation argument.

I have given my arguments for -ck"i: ‘past inference’ not being a tense, and now I turn to my proposed analysis for it. It signifies a restriction to the effect that the situation argument of its sister temporally precedes the utterance situation, and it carries that situation argument up, not saturating it. This situation argument is then saturated by the null tense suffix -∅, which indicates only that it is not in the future with respect to the utterance situation.

Let’s look at a semantic derivation of a sentence containing -ck"i: ‘past inference’ in detail, a sentence like that in (413).

(413) Scenario: When Bill and Kay went to bed it wasn’t raining, but the next morning Kay woke up before Bill and saw that the ground was wet, indicating it had rained sometime during the night. When Bill woke up, Kay said this to him.

\[ \text{mīlːaːk不幸} \]
\[ \text{mīlː-(y)aː-ck"iː-ǐː} \]
\[ \text{rain-CONT-PAST.EVID-3.IND} \]

‘It must have rained’

The semantics of this sentence is constructed as shown in the tree in (414). The past inferential -ck"i: combines with mīlːaa ‘be raining’, and it adds the restriction that the situation argument of mīlːaa, \(s\) temporally precedes the perceived situation, \(s_1\). The null tense suffix -∅ supplies the event situation, the contextually defined \(s_2\). In this case the indicative mood suffix -īː$ supplies the speaker as the origo, and so the result is that the event situation precedes the utterance situation.
8.6 Summary

If an evidential combines with the predicate before tense does, it is possible for it to add temporal restrictions without saturating the situation argument. I have argued that -ckw’i: ‘past inference’ does just this.

8.6 Summary

This chapter explored the temporal effects of evidentials. The origo hypothesis made a number of predictions about how different evidentials would interact with tense morphemes, and these predictions were borne out in Nuu-chah-nulth. First, sensory evidentials need to combine with the verb stem before a tense suffix, in order for the sensory evidential to have access to the situation variable of the verb. Thus, sensory evidential suffixes should precede tense suffixes. The single sensory evidential suffix -Kuk displays exactly this ordering.

Second, sensory evidentials introduce a perceived situation into the semantics, and it is this new situation that is made accessible to any further temporal specifications. The future suffix was seen to be incompatible with the sensory evidentials, which follows from the fact that humans cannot remember seeing things that have not yet happened.

Finally, one of the evidentials includes a temporal specification, providing another example of a semantically complex evidential morpheme.
Chapter 9

Conclusion

9.1 My claims and some unresolved questions

In this dissertation I analyzed evidentials as encoding one or more of the three factors of evidentiality—perspectival status, manner of support, and perceptual grounding, as shown in Figure 9.1. The presence of any one of these factors in the semantics of a given morpheme is sufficient to call it an evidential.

\[
\begin{array}{c}
\text{origo} \\
\text{perspectival status} \\
\text{perceptual grounding} \\
\text{prejacent proposition} \\
\text{MANNER OF SUPPORT} \\
\text{perceived situation} \\
\end{array}
\]

Figure 9.1: Three factors of evidentiality

Multiple evidentials can appear in a clause, with each contributing a portion of the evidentiality. This is only possible in a language where the evidential morphemes do not occur in a single paradigm. We saw in Chapter 4 that Nuu-chah-nulth is such a language, and multiple evidentials per clause are possible in it.

I presented a model of evidentiality in Chapter 5 that is based on the factorization of evidentiality illustrated in Figure 9.1, and is couched in a compositional possible worlds semantics. Each of the three factors is represented by a relation, and each relation can be used independently from the others in the lexical entry for an evidential morpheme. The evidentials in Nuu-chah-nulth were assigned translations which encoded one or more of these relations in addition to any other semantics (such as the past temporal restriction on -ck"i: ‘past inference’, or the assignment of an origo in the evidential moods).

This factorization of evidentiality is intended to be cross-linguistically valid. That is, any language could have an evidential which indicates any combination of one or more factors. Nuu-chah-nulth evidentials fall into three of the seven categories, with most of them belonging to the same class as -waʔiš ‘quotative’, encoding both perspectival status and manner of support.
9.1. My claims and some unresolved questions

Other languages should provide examples of the other classes.

<table>
<thead>
<tr>
<th>Perspectival Status</th>
<th>Manner of Support</th>
<th>Perceptual Grounding</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>na?a:t 'auditory evidence'</td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td></td>
<td>evidential moods and modes</td>
</tr>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-kuk 'visual inference'</td>
</tr>
</tbody>
</table>

Table 9.1: Typology of evidentials

The ways the origo is assigned in different clausal environments was examined in Chapter 6. It was argued in Chapter 6 that i) matrix clause moods assign the origo directly, ii) complement clauses have the origo restricted by the verb whose complement they are, and iii) adjunct clauses have their origo determined by context.

It was shown in Chapter 7 that the semantic contribution of evidentials is not-at-issue. I use a modified version of Potts’s (2005) logic of conventional implicatures to handle the composition of the not-at-issue content of a sentence alongside its at-issue content. This approach is able to capture the use of multiple evidentials in a sentence to specify different factors of evidentiality for a single prejacent proposition, since the prejacent proposition is passed along unchanged in the at-issue dimension.

Finally, the temporal properties of the evidentials in Nuu-chah-nulth were explored in Chapter 8. By defining time as a function of situations, and by defining tense as saturating the situation argument of a predicate, predictions are made regarding the ordering of evidentials with respect to tense. In particular, it is expected that evidentials which encode a perceptual grounding relation, such as -kuk ‘visual inference’, will combine with the predicate before tense does. This is because the perceptual grounding relation needs to add restrictions to the situation argument of the predicate, and can only do this before the situation argument is saturated. For the same reason, any evidential which encodes temporal restrictions, such as -ckw’il ‘past inference’, will also have to combine with the predicate before tense. These predictions are both borne out. It was also shown that tense determines the time of the perceived situation in the case of the sensory evidentials -kuk ‘visual inference’ and na?a:t ‘auditory evidence’, and the time of the event situation in the case of the non-sensory evidentials.
9.2. Are evidentials assertive?

In the remainder of this closing chapter, I focus on the following unresolved questions:

1. Are evidentials assertive? (§9.2)
2. What is special about sensory evidentials? (§9.3)
3. How are evidentials related to modals? (§9.4)

9.2 Are evidentials assertive?

According to Austin (1962, 50), assertion has a sincerity condition on it which must be satisfied in order for it to be felicitous. Sincerity conditions are a subclass of felicity condition. The felicity conditions of an utterance are those conditions which must hold of the context in order for it to be felicitous. For example, it is infelicitous for someone to say \textit{I bet you that bottle of wine there that it's raining in Beijing} if they don't own that bottle of wine; one of the felicity conditions on making a bet is that the bettor owns whatever they are staking. Sincerity conditions are felicity conditions relating to the mental state of the speaker. It is insincere, and therefore infelicitous, for someone to say \textit{I promise to call you tomorrow} if they have no intention of doing so; one of the sincerity conditions of making a promise is that the promisor intends to do whatever they are promising.

The sincerity condition of an assertion is given in (415). In terms of the model developed in chapter 5 this means that a speaker can only assert propositions that are in their perspective.

(415) If a speaker asserts a proposition $p$, he or she must believe that $p$ is true.

For an assertion to be felicitous the speaker must believe that its content is true. If Kay says ‘The bus was late this morning’, she must believe that it is true or be lying. However, many evidentials, in fact all but $na?a.t$ ‘auditory evidence’ in Nuu-chah-nulth, are felicitous only when the speaker does not believe the content of the prejacent is true. This is precisely the opposite of an assertion. Consider the examples with the dubitative mood -$qa\text{-}\acute{c}\text{a}$ in (416) below. In (416a), Kay is agnostic about Ken being hungry. She has evidence that he is, but she does not consider it sufficient to believe that he is. Kay can utter this sentence felicitously, even though she does not believe the prejacent proposition is true. In (416b), Kay believes that she is hungry. But it is infelicitous for her to utter this sentence in this scenario, precisely because she believes the prejacent to be true.

(416) a. \textbf{Scenario}: Kay saw Ken looking in the fridge, and she said this to Bill.

\begin{itemize}
  \item [hawiq\text{-}qa\acute{c}\text{a}]
  \item [hawiq\text{-}qa\acute{c}\text{a}]
  \item [hungry-3.DUB]
\end{itemize}
9.3. What is special about sensory evidentials?

The auditory evidential naʔaːt sits apart from other evidentials in Nuu-chah-nulth, both in its form—it is a particle while the others are all suffixes—and in its meaning—it does not specify a manner of support while the others all do. Two other languages in British Columbia have their own similarly unique sensory evidential: ñakw in Gitksan, a Tsimshianic language (Peterson 2010) and lákwʔa in Lillooet, a Salish language (Matthewson 2011).

9.3.1 Gitksan n’akw

I begin by summarizing the facts about ñakw in Gitksan as described by Peterson (2010) and comparing it to naʔaːt in Nuu-chah-nulth, then discuss how ñakw could be modelled under the origo hypothesis.

Peterson (2010) examines three evidentials in Gitksan, shown in Table 9.2. Two of these, =ima ‘inference’ and =kat ‘reportative’, are enclitics, while the third, ñakw ‘sensory’, is a verb which takes a nominalized clause as its complement.

| =ima | inference |
| =kat | reportative |
| ñakw | inference from sensory evidences |

Table 9.2: Evidentials in Gitksan

The origo of ñakw is always the speaker, since it cannot occur in embedded clauses or in questions, as Peterson shows. A sentence containing ñakw will be felicitous if the speaker can
9.3. What is special about sensory evidentials?

make a contingent inference to the prejacent proposition from some situation that he or she perceived. The situation can be perceived using any sense, including visual (417a) and auditory (417b). Peterson’s abbreviations cnd and pnd stand for common noun determiner and proper noun determiner respectively.

(417) a. Scenario: You see Baby lying on her tummy, not moving.

\[ \overset{\text{EVID=CND}}{\overset{\text{cont.inf}}{\text{arrive}}}((\text{o}^*)((\text{s}_2)((\text{o}^*)(x_1)))) \]

\[ \overset{\text{arrive}}{\overset{\text{s}_2}}((\text{o}^*)((\text{s}_2)((\text{o}^*)(x_1)))) \]

‘Baby must be sleeping.’ (Peterson 2010, 72)

b. Scenario: You hear your friend’s stomach start to grumble loudly.

\[ \overset{\text{EVID=CND}}{\overset{\text{cont.inf}}{\text{arrive}}}((\text{o}^*)((\text{s}_2)((\text{o}^*)(x_1)))) \]

‘You must be hungry!’ (Peterson 2010, 75)

While the basic meaning of \( \overset{\text{nakw}}{\text{arrive}} \) involves inference, Peterson shows that it can be used when the speaker has the prejacent proposition in his or her perspective, in which case it has a mirative interpretation. In (418) the speaker can see the people coming in, and so does not need to infer that they have arrived. Peterson argues that the mirative interpretation arises as a conversational implicature, due to the flouting of Gricean maxims.

(418) Scenario: You see people walking through the door.

\[ \overset{\text{EVID=CND}}{\overset{\text{arrive,pl=3pl}}{\text{bagwiidit}}} \]

‘Looks like they’ve arrived.’ (Peterson 2010, 82)

Compositionally \( \overset{\text{nakw}}{\text{arrive}} \) may pose a problem, since, as Peterson notes, it functions syntactically as a verb taking its prejacent as a nominalized clause. Recall from Chapter 8 that sensory evidentials require access to the situation argument of the prejacent, and this can only be done before the situation argument is saturated by tense.

(419)

\[ \overset{\text{arrive}(s_2)((o^*)((x_1)))}{\text{grounding}(s_3)((o^*)((\lambda o[\text{arrive}(s_2)((o)((x_1))])) \land \exists Q[\text{cont.inf}((o^*)((Q(s_3)))(\text{arrive}(s_2)((o^*)((x_1)))))])} \]

9.3.2 Lillooet \( \overset{\text{lakw7a}}{\text{lákw7a}} \)

Matthewson (2011) gives a description of the evidential \( \overset{\text{lakw7a}}{\text{lákw7a}} \) in Lillooet. According to her, this evidential can be used to indicate that the origo perceived the prejacent situation
directly, but by a non-visual sense, or the origo perceived some sort of results of the prejacent situation. In the case of perceiving results, the origo is not limited to non-visual senses, and can perceive them visually.

If we compare this to naʔa:t ‘auditory evidence’ in Nuu-chah-nulth, we see that both indicate that the origo perceived a situation which supports the prejacent proposition without specifying the manner of support. They are also similar in that neither can be used if the origo perceived the prejacent situation visually. On the other hand, naʔa:t can only be used when the origo perceived something auditorily—other non-visual senses are not compatible with it—while läkw7a is compatible with any non-visual sense. They also differ in that naʔa:t is non-visual regardless of the manner of support, while läkw7a is compatible with the origo visually perceiving a situation which supports the prejacent by inference. A further difference is that naʔa:t entails that the perceived situation and the prejacent situation occurred at the same time, while läkw7a entails that the prejacent situation preceded the perceived situation in the case of an inference.

Recall that naʔa:t ‘auditory evidence’ can co-occur with other evidentials which can then restrict the manner of support. This does not seem to be possible with läkw7a (Matthewson p.c.): it is incompatible with inferentials, and with the reportative indicates the perceptual grounding of the reporter rather than the speaker. In terms of how läkw7a could be analyzed in the origo hypothesis, it seems that läkw7a indicates either 1) manner of support as well as perceptual grounding (direct support with non-visual perceptual grounding) or 2) agnostic perspectival status.

9.4 How are evidentials related to modals?

English epistemic modals have been argued to be evidentials (Westmoreland 1995, 1998, von Fintel and Gillies 2010), and bear further examination. Below I discuss some facts which could be followed up with further research.

9.4.1 Fixed modal base: English has evidentials

In my native dialect of English must only has an epistemic sense, as in (420a). A sentence like (420b), which requires the deontic sense, is not possible in it, and for me to interpret it I have to convert it mentally to You gotta leave.

(420)  a. You must be Bill.
  b.#You must leave a tip.

I should note that I have learned to use must in its deontic sense in written English, though I still cannot use it colloquially in speech.
If it is correct to treat epistemic must as an evidential, as Westmoreland (1995, 1998) and von Fintel and Gillies (2010) argue, this means that English, for some dialects at least, has at least one dedicated evidential. English must could be analyzed in the origo hypothesis as an evidential which indicates the manner of support as being inference.

9.4.2 Temporal and aspectual properties

English modals have aspectual restrictions on them. In particular, an epistemic reading of must is only possible if the predicate is stative. For me, the judgments are quite strong because must can only have an epistemic reading, and therefore must cannot occur with a non-stative predicate such as leave, as shown in (421d).

(421)  
  a. This must be the place.  
  b. He must know where he’s going.  
  c. She must have left.  
  d. #She must leave.

If must and might differed only in quantificational force, then we would expect the same behaviour with might. But this is not the case. It is possible for might to occur with either stative predicates, as in (422a)(422c), or non-stative predicates, as in (422d).

(422)  
  a. This might be the place.  
  b. He might know where he’s going.  
  c. She might have left.  
  d. She might leave.

Thus, it cannot be that must and might differ only in quantificational force. The fact that must selects for predicates of a particular kind of aspect while might does not is not expected under Kratzer's (1981) analysis of modals. Of course, Kratzer does not give a compositional account, and a compositional account would seem to be beneficial here.

Assuming that situations come in either stative or non-stative form, it seems that must selects for a predicate with a stative situation argument, while might is not picky about what kind of situation argument its predicate has. And if must is picky about the situation of its predicate, it is reasonable to assume that its semantics make use of the situation argument in some way.
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