Evidentiality and Epistemic Modality in Gitksan

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1 Introduction

This chapter presents a sketch of the grammatical evidential system and related epistemic meanings in Gitksan, a critically endangered indigenous language of the Tsimshianic language family spoken in the northwest interior of Canada. In addition to providing a description of the kinds of evidential meanings the individual evidentials encode, I apply a number of basic syntactic and semantic tests that provide a more detailed picture of the individual evidentials. A specific feature of the Gitksan evidentials, which is examined in detail, is how they can be used to express epistemic modal meanings, and how a speaker’s choice of which evidential to use in a particular speech context is conditioned by her evaluation of the information acquired in that context. One of the effects of this choice is the expression of what can be translated as modal force.

1.1 The Tsimshianic Language Continuum

The Tsimshianic languages are spoken on the northwest coast of Canada, almost entirely within the province of British Columbia, adjacent areas of the interior, and the southern tip of the Alaska panhandle.

There are four linguistic and socio-cultural divisions that make up the Tsimshianic family, given in (1):

(1) The Tsimshianic Languages (Rigsby 1986; Mulder 1994; Tarpent 1997)

COAST TSIMSHIANIC (CT)
   Coast Tsimshian (S’malgyax)
   Southern Tsimshian (Sgüüxs)

INTERIOR TSIMSHIANIC (IT)
   Nisga’a or Nisgha’a
   Gitksan or Gitxsan

The Coast Tsimshian (S’malgyax) reside to the north and south of the Skeena River delta, and the South Tsimshian (Sgüüxs) were reported to live to the south of this area, primarily in the villages of Klemtu and Hartley Bay. The Nisga’a reside in the Nass River Valley and along Observatory Inlet, and the Gitksan reside in the easterly adjacent upper Skeena and
Figure 1: Map of the Three Tsimshianic Territories (and neighbouring languages): Coast Tsimshian (S’malgyax), Nisgha’a, and Gitksan (source: maps.fphlcc).
Kispiox valleys, and the Skeena watershed. The word *Gitksan* is morphologically complex, meaning ‘people of the Skeena River’ (*gir* ‘people of’, *xsan* ‘(to) gamble’; ‘Skeena River’). The Gitksan often refer to their language as *si’malgax*, which means ‘the real or true language’ (*si’m-algax* ‘true-language’). The language has been referred to as Gitxsan or Gitksan by scholars, or Gitxsanimx or Gitxsanimax by native speakers when distinguishing it from Nisgà’a (Nisgà’amx) or Coast Tsimshian (Ts’imsanimx). However, the Nisgà’a and Coast Tsimshian people also refer to their languages using *si’malgax*. This has created some confusion, as many publications on Coast Tsimshian simply refer to the language as S’malgyax.² With respect to the Interior Tsimshianic languages, the names Gitksan and Nisgà’a are more significant for political and socio-cultural reasons than linguistic ones: aside from some lexical and pronunciation differences, the two languages are mutually intelligible.

While there are no exact or official figures, in my own estimation, based on the reports of several community members, there are approximately between 350 – 400 speakers of Gitksan, most of whom are over the age of 50. Although there are some teaching materials (for example Powell and Stevens 1977), as well as recent efforts to introduce the Gitksan language into the public school system using materials developed by community teachers, children are no longer acquiring the language. These facts place Gitksan on the list of the world’s many endangered indigenous languages.

1.2 Methodology

There are unique challenges in documenting evidential and modal meanings in languages with grammatical evidentials, where there is often no obvious lexical counterpart in a metalanguage such as English. In this chapter I adapt the semantic fieldwork methodology of Matthewson (2004), a central feature of which is the use of contexts to test both felicity and grammaticality judgments of speakers. I also show the we can further enrich our understanding of the individual grammatical evidentials by utilizing a number of standard, pre-theoretical syntactic and semantic tests. Much like we use minimal pairs to discover what a phoneme is in a language, or constituency tests to show, for example, what an noun phrase is in a language, I demonstrate how a number of simple tests can further deepen the description of the syntactic, semantic and pragmatic features of a grammatical evidential in declarative sentences. Specifically, in this chapter I examine how each of the individual evidentials in Gitksan behave with respect to negation, syntactic and semantic embeddability, and what effect the speaker’s knowledge has of the proposition expressed by an evidential sentence. Additionally, I look at what effect the insertion of an evidential or modal has when inserted in into a different clause type, such as a Gitksan question.

Fortunately, there are still places in the Gitksan communities and family households where one can hear the language used on a daily basis. This afforded me the opportunity to observe the language and how it’s used spontaneously and creatively in a natural setting between fluent speakers of the language. Not surprisingly, evidentials were abundant in natural conversation. Thus, with the permission of my language consultants, I made notes of these overheard conversation fragments. Later I would identify relevant sentences containing evidentials and re-elicit them from the same speakers. Additionally, data was gathered from the transcriptions of personal narratives and stories of several of my consultants. The tests mentioned above, taken together with language observation and transcriptions all contribute different but
complementary aspects to the descriptions if the evidentials.

Data was collected from 16 speakers, representing each of the six major Gitksan speaking communities in northern BC (excluding Kitwancool), plus two urban speakers in Vancouver, and across the two main dialects of Gitksan, Western and Eastern Gitksan. I found that there is no discernible differences relevant to evidential or modal meaning between these dialects or communities.

1.3 Grammatical evidentials in Gitksan

This study of grammatical evidentials in Gitksan has its roots in Tarpent (1987), who identifies three morphemes which encode epistemic and evidential meanings in Nisg’aa. These are what Tarpent characterizes as the ‘reportative’ =kat, the ‘dubitative’ =ima, and the modal/evidential ’nakw. Both =ima and =kat are described by Tarpent as verbal enclitics; however, the modal/evidential ’nakw has the syntactic distribution of an auxiliary verb (a feature discussed in detail in section 4). Table 1 below summarizes Tarpent’s original glosses and types of information source for the Nisg’a evidential system.

<table>
<thead>
<tr>
<th>Tarpent’s original gloss</th>
<th>Type of information source</th>
</tr>
</thead>
<tbody>
<tr>
<td>=kat</td>
<td>REPORTATIVE</td>
</tr>
<tr>
<td>=ima</td>
<td>DUBITATIVE</td>
</tr>
<tr>
<td>’nakw</td>
<td>MODAL/EVIDENTIAL</td>
</tr>
</tbody>
</table>

Table 1: The grammatical evidential system in Nisg’a (Tarpent 1987)

Tarpent’s descriptions of =kat, =ima, and ’nakw in Nisg’a generally hold for their cognates in Gitksan, but in this chapter I further refine their meanings by applying the methodology outlined in section 1.2 above. In anticipation of this, I have replaced Tarpent’s original glosses in Gitksan: =ima is reglossed as ‘MOD’ (modal), and the MODAL/EVIDENTIAL gloss for ’nakw is now ‘EVID’ (evidential). However, I’ve maintained Tarpent’s original gloss for the reportative, =kat. The glosses used in the remainder of this chapter, and their corresponding types of information source, are given in Table 2 below:

<table>
<thead>
<tr>
<th>Gloss</th>
<th>Type of information source</th>
</tr>
</thead>
<tbody>
<tr>
<td>=kat</td>
<td>REPORTATIVE (REP)</td>
</tr>
<tr>
<td>=ima</td>
<td>MODAL (MOD)</td>
</tr>
<tr>
<td>’nakw</td>
<td>EVIDENTIAL (EVID)</td>
</tr>
</tbody>
</table>

Table 2: The grammatical evidential system in Gitksan (Peterson 2010a)

In the following section I show that =kat encodes an information source in the form of a report, much like a standard reportative evidential. However, =ima requires more explanation: =ima does not encode any specific type of information. Rather, =ima expresses epistemic modal meaning that is compatible with a variety of information sources, hence the designation ‘not specific’. This, and it’s epistemic modal properties are examined in detail in section 3.
Evidential ‘nakw, on the other hand, encodes a speaker’s inference based on information acquired through the senses, such as sight, smell, and touch. However, Gitksan speakers also use ‘nakw to express what is translated as modal meaning, especially in contexts where =ima would also be felicitous. The evidential meanings of ‘nakw and its interactions with =ima are examined in section 4.

2 The Reportative =kat

Reportative =kat combines the meanings of a reported evidential with inference (similar to other languages with few grammatical evidential, including the ones described for Turkic see Johanson, this volume), whether that source is known to the speaker or not. Examples (2) and (3) involve contexts where the source of the information is ‘once removed’ (or second-hand) from the speaker of the sentence:

(2) Context: Louise is telling her friends at the coffee shop that Mary had her long hair cut recently. Louise hasn’t seen Mary’s new haircut herself yet, but Louise has evidence in the form of a report, from the hairdresser who did it. Louise says

\begin{verbatim}
gungo
gokù
kwin-
CAUS-
cut-TR-3sg=REP=PND
Mary=CND
Mary=hl
Mary=hl
Mary=hl
\end{verbatim}
[I heard] Mary had her hair cut.

(3) Context: John isn’t at work today. Bob asks one of his co-workers where John is. None of them have seen John, but their boss – the source of the report – told one of Bob’s co-workers earlier in the morning. Bob’s co-worker replies

\begin{verbatim}
siipx
sick=REP=PND
John
\end{verbatim}
[I heard] John is sick.

Reportative =kat can also be used in contexts where the original source of the information isn’t precisely known, as with the parent’s report in (4):

(4) Context: All of the children in the neighbourhood are excited about a new dog in the neighbourhood, which belongs to a man down the street. A parent is talking to a neighbour about the new dog after overhearing from the children call the dog Sammy; the parent responds

\begin{verbatim}
siwa
CAUS-
caus-T-TR-3=REP=CND
man=CND
dog OBL=CND
\end{verbatim}
[I heard] The man named his dog Sammy. (adapted from Rigsby 1986: 291)
The grammatical reportative in many languages is often translated into English using “I hear(d)...”. This is also common in Gitksan. However, =kat is also frequently translated using a modal adverb such as apparently, as in (5) (see also Hunt 1993 and Tarpent 1978: 499 for other examples of epistemic modal translations of =kat in Gitksan and Nisga’a):

(5) ‘majigathl ha’niiguy’pax ‘ahl lo’op
‘mats-į(t)=kat=hl ha-‘nii-kuy’pax ‘a=hl lo’op
hit-TR-3=REP=CND INSTR-in-light LOC=CND rock
(i.) I hear he hit the window with a rock (and broke it).
(ii.) Apparently, he hit the window with a rock.

Rather than treating this simply as an effect of translation, this observation provides additional insight into the meaning of =kat, as speakers will choose one translation over the other depending on how reliable they perceive the source of the report to be. With translation (5i), the speaker is using the report of an adult who happened to be working across the street in their yard when they saw the window of the speaker’s house being broken. The speaker judges this to be a reliable source, and this sentence receives a “I hear/heard...” translation. However, in translation (5ii), the speaker either holds a neutral attitude towards the report, or has less confidence in the report. This would be the case if the speaker uses the report from one of the children who were there but wanted to avoid punishment or blame. As such, the modal translations of =kat indicate that it combines meanings of inference and the speaker’s assumptions about the context of the =kat-utterance. This contrast can also be observed in (6):

(6) lumakdigas John=hl daala
lumakt-į(t)=kat=s John=hl daala
donate-TR-3=REP=PND John=CND money
(i.) I heard John put in money (for the feast).
(ii.) It seems John put in money. (cf. Tarpent 1987: 499)

In the context of (6) a group of people are counting up the contributions after a feast, and speculating about the different contributions people made that night. A speaker may translate (6) as (6i) if they overheard the information from one of the people who are responsible for the final accounting, thus normally a reliable source. On the other hand, if someone simply overheard from an unknown voice in a crowded room that John also contributed, the translation in (6ii) is felicitous. It is important to note that this is not necessarily an unreliable source: by using the evidential-like construction it seems a speaker is conveying a neutral attitude towards the proposition – maybe the report is reliable, maybe it isn’t.

2.1 Knowledge of the proposition embedded under =kat

A speaker’s use of =kat in a particular speech context is conditioned by two factors: (i.) the speaker’s belief in – or at least the plausibility of – the reported evidence in that context, and (ii.) a lack of knowledge of the truth (or falsity) of the proposition (p) embedded under =kat in that context. In other words, the speaker cannot know that the proposition embedded under =kat is true or false. For example, (7) is felicitous in a context where the speaker was
standing outside the bingo hall having a cigarette when they overheard the announcer inside announcing John’s winning. As such, (7) expresses the assertion of \( p \), that John won at bingo last night, and that the speaker has reported evidence for \( p \).

\[
(7) \quad \text{\textit{xstag}s} \quad \text{John \textit{go’ohl} bingo ga\textit{xw}} \quad \text{\textit{kat}=s} \quad \text{John \textit{ko’}=hl bingo kax\textit{xw}} \quad \text{\textit{win}=\textit{REP}=\textit{PND} John \textit{LOC}=\textit{CND} bingo \textit{last.night}}
\]

[I heard that] John won at bingo last night.

\( p = \) John won at bingo last night

However, if a speaker knows for a fact that John won – or that John didn’t win – then the use of \( \textit{kat} \) is infelicitous, as the minimal pair of contexts in (8) show:

\[
(8) \quad \text{\#\textit{xstag}ag\textit{it} John \textit{go’ohl} bingo ga\textit{xw}}
\]

**Context where \( p \) is true:** Louise was at bingo last night where she witnessed John win the jackpot (she saw him went up to the stage to accept the money). The next day a friend asks her who won the jackpot.

**Context where \( p \) is false:** Louise is telling her friend that she heard at the coffee shop that John won at bingo last night, but Louise knows that’s not true because she also there playing and witnessed the confusion about a number that was incorrectly called.

When a speaker witnesses an event first hand, or they know the truth of a proposition, a simple evidentially neutral assertion is made. The strategy to report something a speaker believes or knows is false is to use the embedding sensory verb \( \textit{lax} \) ‘hear’, as in (9):

\[
(9) \quad \text{\textit{lax}=y wil \textit{xstas} John \textit{go’ohl} bingo ga\textit{xw} ii ’ap} \quad \text{\textit{lax}=y wil \textit{xta}=s John \textit{go’o}=hl bingo ga\textit{xw} ii ’ap} \quad \text{\textit{hear-1sg} COMP \textit{win}=\textit{PND} John \textit{LOC}=\textit{CND} bingo \textit{last.night} CONJ ASSERT} \quad \text{\textit{wilaa}=y wil \textit{needii \textit{xstat}}} \quad \text{\textit{wila}=y wil \textit{needii \xstt}} \quad \text{\textit{know-1sg} COMP NEG \textit{win-3}}
\]

I heard that John won at bingo last night, but I know he didn’t win (because I was there too).

These tests show that \( \textit{kat} \) is a reportative evidential. However, these facts, combined with observed modal translations of \( \textit{kat} \) in (5) and (6), show that \( \textit{kat} \) combines the meanings of speech report with assumption and inference, which give it modal-like overtones. Note that the same infelicity arises if a modal auxiliary in English such as \textit{might} or \textit{must} is used either of the contexts in (8), as in \# John must’ve won. I elaborate on this claim in section 3.1.

A comment about evidentially neutral assertions in Gitksan is necessary at this point: in many languages with grammatical evidentials sentences that do not have an evidential can be analyzed as a zero exponent of firsthand evidentiality (Aikhenvald 2004: 72-78 and Aikhenvald, this volume). However, sentences in Gitksan – at least synchronically – that do not have an evidential do not express that the speaker witnessed first-hand, for example, the ripeness of the berries in (10):
mukwhl maa’y
mukw=hl maa’y
ripe=CND berries
The berries are ripe.

Evidence for this claim comes from the fact that a speaker can know the berries are ripe based on knowledge that is not the result of direct visual (or other sensory) evidence (i.e. seeing the ripe berries): the assertion of (10) may be based on witnessing the ripe berries, but it could also be expressing the belief that the berries are ripe because of the speaker’s past experiences in berry-picking.

2.2 Embeddability

In more complex sentences the attachment of =kat to either the matrix or embedded clause corresponds to whether the speaker of the sentence has reportative evidence, or the subject of the matrix clause is reporting what someone else said. In (11), which does not contain =kat, the speaker was present when Mark made the statement, and the speaker is directly reporting what Mark said, that John would leave for the coast:

(11) mahldis Mark ’ahl gimxdit dim wil saa daa’whls John
mahl-T-i-(t)=s Mark ’a=hl kimxt-t tim wil saa taa’whl=s John
tell-t-TR-3=PND Mark OBL=CND sister-3 FUT COMP away leave=PND John
go’ohl laxmo’on
ko’=hl lax-mu’n
LOC=CND GEO.LOC-coast
Mark told/said to his sister that John is leaving for the coast. (Rigsby 1986: 324)

In example (12) =kat attaches to the verb within the matrix clause, and the speaker is now reporting that she heard about Mark telling his sister that John would leave for the coast. In this case, the reportative evidence is oriented towards the speaker: she heard from Mark’s co-worker that Mark told his sister that John would leave for the coast.

(12) REPORT: The speaker is asserting, based on evidence in the form of a report, that Mark told his sister John would leave for the coast.

Context: Louise heard from Mark’s co-worker that John was going to be away for the weekend, and the co-worker overheard Mark talking to his sister on the phone about John going to the coast.

mahldigas Mark ’ahl gimxdit dim wil saa
mahl-t-i-(t)=kat=s Mark ’a=hl gimxt-t tim wil saa
tell-t-TR-3sg=REP=PND Mark OBL=CND sister-3sg FUT COMP away
daad’whls John go’ohl laxmo’on
taa’whl=s John ko’=hl lax-mu’n
leave=PND John LOC=CND GEO.LOC-coast
Reportedly, Mark told/said to his sister that John is leaving for the coast. (adapted from Rigsby 1986: 324)
However, if $=\text{kat}$ is attached to the verb in the embedded clause, as in example (13), the reportative evidence is now re-oriented to the subject of the matrix clause, Mark, and not to the speaker of the sentence: in other words, it is Mark who has reported evidence that John will leave for the coast, not the speaker of the sentence. In (13) the speaker is simply reporting what Mark said, which includes Mark’s reportative evidence:

(13) REPORT: John is leaving for the coast (as a report heard by Mark).

Context: Louise had lunch with Mark. While at lunch his sister came up and Mark told her that he heard John would leave for the coast.

```
mahldis        Mark  'ahl         gimxdit  dim  wil  saa
mahl-T-i-(t)=s Mark  'a=hl           kimxt-t tim wil saa
tell-t-TR-3sg-PND Mark  OBL=CND sister-3sg FUT COMP away
daar'whtlgattt  John  go'ohl      laxmo'onn
taa'whl=tl=kat=t John  ko'=hl  lax-mo'nn
leave=3sg=REP=PND John  LOC=CND  GEO.LOC-coast
```

Mark told/said to his sister that he was told that John is leaving for the coast.

It is generally understood that we can test a word to determine whether its contribution is to the illocutionary force of an utterance or its propositional content (Faller 2002). First, if a word contributes only to the illocutionary force of an utterance, then in an indirect speech context that word cannot be understood as part of the propositional content of the indirectly described speech act. In other words, we do not expect illocutionary operators to be embeddable. This effect can be observed with illocutionary adverbials such as frankly, honestly, and with attitudinal adverbials such as unfortunately, sadly (Ifantidou-Trouki 1993). However, what tests in (12) show is that $=\text{kat}$ can be both syntactically and semantically embedded. An expression is semantically embedded if it is interpreted in the scope of some other semantic operator, in this case the matrix verb: the embedding of $=\text{kat}$ orients the reported evidence to the matrix subject. As such, $=\text{kat}$ contributes to the propositional content of an utterance.

### 2.3 Negation

In a majority of the world’s languages that have grammatical evidentials evidential meaning is not within the scope of negation (see Aikhenvald 2004: 256-7 for details). This is also the case in Gitksan. Negation in Gitksan is the sentence-initial word nee=tii, which is composed of the negation particle nee and what is glossed in the Gitksan literature as the contrastive enclitic =tii. Although at the moment we do not have a complete picture of the relative orderings of the numerous clitics in Gitksan, a robust observation is that the negation particle nee serves as a host for $=\text{kat}$, which is followed by the contrastive enclitic =tii (and then, depending on the transitivity of the clause, an agreement enclitic such as the third person enclitic =t). As such, morphosyntactically $=\text{kat}$ displays all of the hallmarks typical of a second-position clitic. However, negation also reveals an important semantic feature of $=\text{kat}$: the insertion of negation into a $=\text{kat}$-sentence does not negate the reported evidence; rather, negation only negates the asserted content of the utterance – despite the fact the negation precedes $=\text{kat}$ morphosyntactically:
The reason why this observation is significant is that negation is a standard test for presupposed meaning: in examples (14) and (15) the reported evidence projects through negation, as thus cannot be a part of the asserted content. As such, the evidential meaning of \( =_k a t \) is presupposed, and not asserted.

In sum, the tests regarding a speaker’s lack of knowledge of the proposition in (7) and (8), taken together with the embeddability tests in (12) and (13), support the claim that \( =_k a t \) is a kind of epistemic modal. The negation tests show that the reported evidence is presupposed, and not a part of the asserted content. We can now draw these together into a unified analysis of \( =_k a t \): a speaker’s use of a \( =_k a t \)-sentence presupposes evidence in the form of a report and asserts the possibility of \( p \). Using (2) as an example, repeated in (16), we can represent this analysis in the following way, using the the logical symbol ‘\( \Diamond \)’ to represent the weak, might-like modal force \( =_k a t \)-sentences are often translated with:

\[
(16) \quad \text{gungo}jigas \quad \text{Mary}-hl \quad 4\text{gest} \\
\quad \text{kwin-}kots-i-(t)=_k a t=s \quad \text{Mary}=hl \quad k\text{es-t} \\
\quad \text{CAUS-}\text{cut-}TR-3sg=\text{REP}=\text{PND} \quad \text{Mary}=\text{CND} \quad \text{hair-3sg} \\
\quad [\text{I hear that}] \text{Mary had her hair cut.} \\
\quad p = \text{Mary had her hair cut} \\
\quad \text{The speaker presupposes evidence for} \ p \ \text{in the form of a report} \\
\quad \text{The speaker asserts} \ \Diamond p
\]

3 Modal \( =_{ima} \)

The uncertain or dubitative nature of \( =_{ima} \) that Tarpent describes in Nisga’a can be observed in Gitksan when someone is speculating about future events, as in (17), or in the spontaneous exchange between family members in (18):

\[
(17) \quad \text{Context: Feeling lucky, Leiwa is thinking about going to bingo tonight. She remarks to her daughter} \\
\quad \text{x}st\text{ayima} \quad \text{'nii’y} \\
\quad \text{xsta}=_{ima} \quad \text{'nii’y} \\
\quad \text{win}=\text{MOD} \quad 1\text{sg}
\]
I might win. I’ll probably win.

(18) Alvin makes regular trips to Smithers in the morning. He’s almost always back from these trips in time for lunch.

GS:  
gaxguhl  witxws  Alvin?
  kaxkwihl  witxws  s  Alvin?
  when=CND  arrive=PND  Alvin
When is Alvin arriving?

LW:  witxwima  ’nit  silkwsax
  witxws  ima  ’nit  silkwsax
  arrive=MOD  3sg  noon.time
He’ll probably arrive around noon.

The speculative nature of the assertions in response to the contexts in (17) and (18) show how a speaker is likely relying on general knowledge (that winning money is possible if you play bingo), or LW’s experience with similar situations (I’ve won at bingo before, or the fact that Alvin is usually returns in time for lunch whenever he goes to Smithers). These examples indicate that =ima does not encode any specific information source; rather, it displays many of the characteristics of an epistemic modal and not an evidential. This section argues that =ima is indeed a epistemic modal which combines reference to inference (based on a variety of information sources), and assumption (based on similar experiences or general knowledge).

An important feature of =ima-sentences in Gitksan is that they are usually translated into English using a variety of modal-like words, such as must, might, maybe, probably, etc. Paying closer attention to these translations we find that these modal-like words include the range of modal forces, from weak end of the scale might/maybe, to the stronger must/probably. The type of information available to a speaker and what they can infer from it naturally influences the strength of belief in the truth of the proposition, and this exercise in translating a grammatical evidential into an (epistemic) modal shows this. This is important for another reason: =ima is also compatible with sensory evidence, but in sensory evidence contexts =ima is usually translated as having only a weaker modal force. For example, in Context 1 of (19) and (20) the speaker is inferring from past experience from similar situations or general knowledge. However, Context 2 involves an inference based on sensory evidence, in both cases, observable evidence. When faced with the task of translating an =ima-sentence involving sensory evidence, the Gitksan speaker will almost always use a weaker modal word:

(19) **Context 1: Inference from a speaker’s experience with similar situations:** You need to ask John for a favour. You’re sitting at John’s friend’s place and you ask her if she knows if John is back from work yet. She says that he is always back from work by 5pm, so John’ll be home by now.

**Context 2: Inference from observable evidence:** You need to ask John for a favour. You drive by his place with a friend and notice the lights are on and his truck is in the driveway.
Translations in Context 1: John may/must be at home. John’s probably at home.
Translations in Context 2: Maybe John’s at home. John might be at home.

(20) Context 1: Inference from general knowledge: You’re sitting at home talking about going berry-picking. It’s August, and the berries are usually ripe this time of year on the Suskwa.
Context 2: Inference from observable evidence: People are arriving home after a day of berry picking up in the Suskwa. They’re carrying buckets of berries, and their hands are all purple.

Translations in Context 1: The berries might be/are likely ripe.
Translations in Context 2: Perhaps the berries are ripe. The berries could be ripe.

This is a robust generalization in the translations of =ima-sentences, and I return to examine more closely the significance of the variable modal of =ima in section 4, which is easier to make sense of when =ima is compared with evidential ‘nakw.

3.1 Knowledge of the proposition embedded under =ima

As with reportative =kat, a crucial property of =ima is that it cannot be used if the speaker knows that the proposition expressed by the sentence is either true or false. It is perhaps a little odd under most circumstances for a speaker to make a statement, evidential or not, that she knows to be false (except perhaps in cases involving lying or deception). Nonetheless, example (21) shows the infelicity of an =ima-sentence in a context where the speaker knows the proposition embedded under =ima to be false, just as it is in English:

(21) John is in Vancouver visiting his sister; L knows this because she just spoke to him on the phone. As such, L knows John is in Vancouver and not at home in Kispiox:

#t’ayimat John
t’a=ima=t John
at.home=MOD=PND John
#John may/must be at home.

Cases where the speaker knows the proposition is true are somewhat more complicated. Example (22) shows the infelicity of an =ima-sentence where the speaker knows the proposition embedded under =ima is true; in this case the speaker actually sees the deer in the forest:
(22) #ye’eyimathl wan asun, ii gya’a’y loot ’ahl spagaytgan ye’e=ima=hl wan a-sun, ii kya’a-’y loo-t ’a=hl spakaytkan walk=MOD=CND deer LOC=here CONJ see-1sg OBL-3 LOC=CND forest

A deer might be around here, and I see it in the forest.

Consultant’s comment: ‘There’s no point saying it might be around here if you can see the deer yourself.’

The infelicity of (22) arises from the modal semantics of =ima, just as it did with =kat. A clue to this can be found in the modal translation of (22) in English, which is also infelicitous in this context: ‘#A deer might be around here...’ This is because English epistemic modals are subject to the restriction again asserting $\diamond p$ if the speaker knows that $p$ is true.

Let us examine this claim a little more closely: example (23) involves speculation about a future possibility, based on previous experiences in the past:

(23) Context: L has won something every time she went to bingo this month; F suggests that L is on a winning streak, and that she should go again to bingo tonight because

\[x\text{stayima }\tilde{n}\text{iin}\]
\[x\text{sta}=ima \tilde{n}\text{iin}\]
\[\text{win=MOD }2\text{sg}\]

You might win. Maybe you’ll win.

Recall that =ima can be used in speculative contexts such as these. The =ima-sentence in (23) asserts that a ‘you might win’ – a modal assertion of the form $\diamond p$. I claim that this is not just an effect of translation. Evidence for claiming that =ima has a modal semantics comes from coordination, a standard test for modality: if a sentence expressing a proposition is coordinated with a sentence expressing the negation of that proposition, we expect a logical contradiction. This is sketched out in (24a) using the proposition the horse ran away. However, when a modal with weak force takes wide scope over negation, the resulting coordinated sentences are logically contingent, as in (24b)

(24) a. #The horse ran away and the horse didn’t run away. $p \land \neg p$

b. Maybe the horse ran away and maybe the horse didn’t run away. $\diamond p \land \diamond \neg p$

The Gitksan sentence in (24a) is a contradiction, just as it is in English. However, if =ima did not have a modal semantics, then we would expect (25) to also be a contradiction; however, it is contingent:

(25) guxwimahl gyuwadan, ii neeyimahl
kuxw=ima=hl kyuwatan, ii nee=ima=hl
run.away=MOD=CND horse CONJ NEG=MOD=CND

\[\text{guxwimahl gyuwadan}\]
\[\text{kuxw-(t)=ima=hl kyuwatan}\]
\[\text{run.away-3sg=MOD=CND horse}\]

Maybe the horse ran away, and maybe the horse didn’t run away. $\diamond p \land \diamond \neg p$

This shows that a speaker using an =ima-sentence asserts $\diamond p$, and not simply $p$, just as we observed with reportative =kat.
3.2 Embeddability

Example (26) shows that the same results found with =kat obtain with =ima when it is attached to the embedding verb mahl: the indirect evidence is now oriented towards the speaker, and not the subject of the matrix clause, Granny. In (26) the speaker was learning how to can berries with Granny, and in this context she can infer from the fact she had this learning experience, that it’s possible Granny told her that a certain berry will taste better once it’s left until autumn:

(26) Context: You learned from your aunt how to can berries last autumn. Several people were also there, including Granny, who also has experience in canning berries.

```
mahliyimas nits’iits’ loo’y dim ixs’ta ji hla xwsit
mahl-i-(t)=ima=s nits’iits’ loo-’y tim ixs’ta tsi hla xwsit
say-TR-3sg=MOD=PND grandmother OBL-1sg FUT taste IRR INCEPT autumn
Granny might’ve said to me that it will taste better in the autumn.
```

By contrast, when =ima is embedded in the complement of a verb, it has the same effect as it does with =kat: the evidence is related to the matrix subject, and not to the speaker. In example (27), a speaker is asserting that Granny has indirect evidence, based on her experience in canning berries, that the berries might taste good in the autumn:

(27) Context: You’re learning how to can berries, and you’re telling a friend that Granny suggested that the particular berry you were canning might taste better the longer it’s left to sit, maybe by the autumn.

```
mahlis nits’iits’ loo’y dim ixs’tayima ji hla xwsit
mahl-i-(t)=s nits’iits’ loo-’y tim ixs’ta=ima tsi hla xwsit
say-TR-3sg=PND grandmother OBL-1sg FUT taste=MOD IRR INCEPT autumn
Granny told me it might taste better in the autumn.
```

What these examples show is that =ima, like reportative =kat, can be both syntactically and semantically embedded: =ima contributes its modal semantics to the propositional content of the utterance.

3.3 Negation

The exact same results found with =kat with respect to negation obtain with =ima: when negation is inserted into an =ima-sentence the evidential meaning takes wide scope, as (28) shows:

(28) neeyimahl mukwhl maa’y
nee=ima=hl mukw=hl maa’y
NEG=MOD=CND ripe=CND berries
[I have indirect evidence that] The berries might not be ripe.
≠ [It’s not the case that] I have indirect evidence that] The berries might be ripe.
As with =kat, this test shows that the evidential meanings of =ima are presupposed, and not a part of the asserted content. I return to examine in more detail the negation facts with =ima in section 3.3.

The tests regarding a speaker’s lack of knowledge of the proposition in (7) and (8), taken together with the embeddability tests in (12) and (13), support the claim that =ima is a kind of epistemic modal. The negation tests show that the indirect evidence is presupposed, and not a part of the asserted content. We can now draw these together into a unified analysis of =ima: a speaker’s use of a =ima-sentence presupposes information (including speculative and sensory evidence), and asserts the possibility or probability of \( p \). Using (17) as an example, repeated in (29), we can represent this analysis in the following way:

(29) mugwimahl maa’y
mukw=ima=hl maa’y
ripe=MOD=CND berries
The berries might/must be ripe.
\( p = \) The berries are ripe
The speaker presupposes indirect evidence for \( p \)
The speaker asserts \( \Diamond p \) or \( \Box p \) (where ‘\( \Box \)’ symbolizes modal necessity)

Note that the proposition in (29) is the berries are ripe and not the berries might/must be ripe. This is precisely what the semantic contribution of =ima is: as a semantic operator it inserts modality into the assertion of that proposition, with evidential overtones – analyzed as presupposition – based on assumptions, experience with previous situations, and general knowledge.

The presupposition analysis also accounts for the minimal pair in (30), which shows how the modal meanings of =ima are restricted to epistemic contexts:

(30) Context: You’re up in the Suskwa and notice a burnt patch of forest. You know that huckleberries typically take seed in burnt alpine areas.

a. \#limxsimahl maa’y go’osun
   limx=ima=hl maa’y go’osun
grow=MOD=CND berries LOC.here
   Berries might/must be growing here.

b. da’akhlxwihl maa’y dim limxst go’osun
da’akhlhxw=hl maa’y dim limx-t go’osun
   CIRC=CND berries FUT grow-3 here
   Berries might/must be growing here.

The context in (30) involves facts about alpine climates and soil conditions; this is not an evidential nor epistemic context. As such, the circumstantial modal \( da’akhlxw \) grammatically encodes this kind of modal meaning.
4 Inferential evidential ’nakw

Tarpent (1987, p. 354) describes ’nakw in Nisga’a as an evidential-modal that turns a sentence into ‘a highly probable statement based on direct evidence’. Tarpent translates ’nakw as the epistemic modal must, but does not include with her examples contexts which illustrate how its evidential meaning encodes ‘direct evidence’. Nonetheless, Gitksan consultants corroborate this translation of ’nakw in Gitksan. One consultant provided a typical evidential-like context for its use, given in (31):

(31) Context: After being put to bed, Baby kept crying most of the evening. However, it has been quiet for the past little while.

’nakwhl woks beebii
’nakw=hl wok -(t)=s peepii
EVID=CND sleep-3sg=PND Baby
Baby must be sleeping. It sounds like Baby is sleeping. (BS)

In (31) the speaker is making an inference based on audible information specific to that speech context (the silence). In this section I claim that ’nakw is an inferential evidential that encodes a speaker’s inference based on information acquired through the senses, which includes audition (31), vision (32), touch (33), and olfaction (34) (see chapter 1 of this volume for more details).

(32) Context: Bob needs to ask John a favour, so Bob and a friend drive by John’s place to see if he’s home. John’s light are on and his truck is in the driveway. Bob’s friend says

’nakwhl ta’as John
’nakw=hl ta’a -(t)=s John
EVID=CND at.home-3=PND John
John must be home.
Looks like John’s home.

(33) Context: You touch your daughter’s forehead and it’s very hot.

’nakwhl siipxwin
’nakw=hl siipxw-n
EVID=CND sick-2sg
You must be sick!

(34) Context: You’re chopping wood out by the smokehouse, and you smell smoke and fish.

’nakwhl sihons Bob
’nakw=hl si-hon -(t)=s Bob
EVID=CND CAUS-fish-3sg=CND Bob
Bob must be smoking/preparing/doing up fish.
in fact, 'nakw is felicitous only in contexts where a speaker can make an inference based on the sensory acquired information in the context, such as those in (31) – (34). Given the lack of observable evidence in (35) and (36), both of which involve speculation based on speculation or a speaker’s experience with similar situations, 'nakw is infelicitous:

(35)  Q. gaxguhl wixtw= CND Alvin?
      kaxwi=hl wixw=s Alvin?
      when=arrive=PND Alvin
When is Alvin arriving?

A1. wixwima 'nit t’aahlakw
      wixw=ima 'nit t’aahlakw
      arrive=MOD 3 tomorrow
He might arrive tomorrow.

A2. '#nakwhl wixwt t’aahlakw
    'nakw=hl wixw-t t’aahlakw
    EVID=arrive=3 tomorrow
    He must arrive tomorrow.

(36)  *Inference from a speaker’s experience with similar situations:* There was a terrible storm earlier in the day, which can spook the horse. Alvin knows that the horse is prone to escaping from the field whenever it gets startled by the weather; he speculates

a. guxwimahl gyuwatan
    kuxw=ima=hl kyuwatan
    run.away=MOD=CND horse
    The horse might’ve/must’ve run away.

b. '#nakwhl guxwhl gyuwadan
    'nakw=hl kuxw-(t)=hl kyuwatan
    EVID=run.away=3sg=CND horse
    The horse must’ve ran away.

Recall from section 3 that modal =ima is compatible with a range of information sources, including contexts that provide sensory evidence as in (31) – (34). One of the effects of this is what is translated as variable modal force. This creates a kind of overlap, where in sensory evidence contexts both =ima and 'nakw can be used. In order to uncover what conditions both the variable modal force of =ima, and the choice a speaker makes in using either =ima or 'nakw in these sensory evidence contexts, an alternative elicitation strategy was used: =ima was directly contrasted with 'nakw by constructing minimal pair sentences that express the same proposition. The, the consultants were asked to differentiate between them by constructing the appropriate contexts that match the sentences. This was done in (37) and (38):

(37) mugwimahl maa’y
    mukw=ima=hl maa’y
    ripe=MOD=CND berries
The berries might/must be ripe.
Consultant’s comments: ‘When you say *mugwimahl maa’y* to someone it’s like you’re sitting at home talking about it, trying to decide if you go picking or not.’ (BS; LW)

(38) *nakw* *mukw* *maa’y*
   *nakw=*hl mukw=hl maa’y
   EVID=CND ripe=CND berries
   The berries must/#might be ripe.
   Consultant’s comments: ‘When you say *nakw* *mukw* *maa’y* you see people running through the forest with buckets all happy, or people coming home from the Suskwa with buckets full of berries. Not really good when you’re just thinking about it.’ (BS; LW)

Consultants consistently comment that this sensory evidence makes *nakw* carry more ‘force’, which is why they frequently translate *nakw*-sentences using stronger modals such as *must* and *probably*. Thus, the translation in (38), “The berries *might* be ripe”, is not typically an acceptable translation of a *nakw*-sentence.

Notice how in example (37) =*ima* expresses variable epistemic modal force, as discussed in section 3 above. By adjusting the context to include visually acquired information that supports an inference that the horse must’ve run away, as in (39), *nakw* is felicitous. In these visual information contexts, the modal strength interpretations are ‘split’ between =*ima* and *nakw*, where =*ima* expresses *might*, and *nakw* expresses *must*:

(39) **Inference from observable evidence:** You see there are tracks in the snow that lead through a hole in the fence.

a. *guxwimahl* *gyuwatan*
   kuxw=*ima*=hl kyuwatan
   run.away=MOD=CND horse
   The horse *might’ve* run away.

b. *nakw* *guxw* *gyuwatan*
   *nakw*=hl kuxw-(t)=hl kyuwatan
   EVID=CND run.away-3sg=CND horse
   The horse *must’ve* ran away.

This effect on the translation of =*ima* is corroborated by the Gitksan consultants, where they describe how the choice of =*ima* over *nakw* in these contexts is meant to express how they evaluate the information their inference is based on. Example (40) shows this effect:

(40) **Context:** You and a friend are going fishing. You notice blood on the rocks ahead of you where your friend is walking.

a. *k’ojinimahl* *’o’nin*
   k’ots-i-n=*ima*=hl ’o’n-n
   cut-TR-2sg=MOD=CND hand-2sg
   You *may’ve* cut your hand.
b. \textit{'nagwimi g'otshl 'o'nin}
\textit{'nakw=mi k'ots=hl 'o'n-n}
EVID=2sg cut=CND hand-2sg

You must\textsuperscript{ve} cut your hand.

Consultant’s comments (paraphrased): When you say \textit{k'otsinimahl 'o'nin} you might’ve cut your hand, or I think you cut your hand. When you say \textit{'nagwimi g'otshl 'o'nin} it looks like you cut your hand, you must’ve because there’s blood on the rocks.

In (40a), a speaker is expressing that it’s not necessarily the case that the blood on the rocks is from your friend’s hand – it could be blood from the bait you were cutting up, whereas in (40b) the speaker is committing to the claim that blood they observe on the rocks is indeed from your hand.

In sensory evidence contexts, where both evidentials are felicitous, =\textit{ima} can only express a \textit{might-}like modal, whereas \textit{'nakw} can only express \textit{must-}like force. Peterson (2009, 2010a, 2012) analyzes this as a case of \textit{lexical blocking}: the function of expressing \textit{must-}like force is fulfilled by \textit{'nakw} because it is more specialized than =\textit{ima} for this function. The effect is that the use of =\textit{ima} in sensory evidence contexts can only express weak modal force. This approach can be connected to the notion of \textit{preferred evidentials}. Aikhenvald (2004: 307-9) discusses the primary importance of visual evidence (and other kinds of firsthand evidence) and how this is preferred over information that is reported or assumed. This preference is manifested in the choice of an evidential a speaker makes in a language that has grammatical evidentials encoding these kinds of information sources, which are placed on a hierarchy of preference: the speaker will use the evidential highest on the hierarchy that is supported in that context (see also Barnes 1984; Oswalt 1986 for a description and analysis of similar phenomena). This would predict that a speaker evaluating the visual information in the context in (39) (tracks in the snow that lead through a hole in the fence) would prefer the use of \textit{'nakw} over the modal =\textit{ima}, as the latter only involves assumption or the speaker’s previous experiences with similar situations that is \textit{compatible} with the visual evidence. However, the use of =\textit{ima} in this context still fills an expressive space: to implicate that the speaker does \textit{not} believe the visual (or other kinds of sensory acquired) information in that context supports the stronger claim made by \textit{'nakw}.

4.1 Knowledge of the proposition embedded under \textit{'nakw}

Evidential \textit{'nakw} is also quite different than =\textit{ima} or =\textit{kat} with regards to knowledge of the proposition embedded under it. First, when a speaker uses \textit{'nakw} knowing the embedded proposition is false, a non-literal (metaphorical) use is intended, or an expression similar to a \textit{must-}type rhetorical question/statement in English, as in (41a). Conversely, when a speaker uses \textit{'nakw} knowing a proposition is true a \textit{mirative} meaning is expressed, as in (41b). Mirativity is the marking of a proposition that represents information which is new and possibly surprising to the speaker (DeLancey 1997; Aikhenvald 2012, and see Peterson 2010b, 2015 for more details on mirativity and the non-literal uses of \textit{'nakw}):

\begin{verbatim}
(41) a. \textit{'nakwhl sins}
    \textit{'nakw=hl sins-t
    EVID=CND blind-3
\end{verbatim}
He must be blind! Is he blind or something? Looks like he’s blind!

**Context A – Sensory evidence:** You see a man walking down the street with a white cane.

**Context B – The proposition is known to be false (non-literal):** You’re watching a baseball game. The star batter on the speaker’s favourite team keeps missing the ball and striking out, jeopardizing the outcome of the game.

b. ‘nakwlh bagwdiit

'nakw=hl pakw=tiit
EVID=CND arrive.pl=3pl

They’re here! Looks like they made it!

**Context A – Sensory evidence:** You see a pickup in the driveway.

**Context B – The proposition is known to be true (mirative):** You see your friends standing in the doorway.

In contrast, =ima in example (42) is also felicitous in the context in (41), but it cannot have this pragmatic effect: =ima must express that the batter is literally blind, or indirect evidence of the arrival of people:

(42) a. sinsima 'nit

sins=ima 'nit
blind=MOD 3

He might/must be blind. (always literal)

b. bagwima 'nidiit

bakw=ima 'ni-tiit
arrive.pl=MOD DET-3pl

They might be here. (always non-mirative)

### 4.2 Embeddability

The embedding facts of ‘nakwl w are also markedly different from =kat and =ima. Recall from above that both =kat and =ima can be embed in a complement clause, where the evidence is oriented to the subject of the matrix clause and not the speaker of the sentence. However, (43) shows that ‘nakwl w cannot embed in a complement clause – even if the sensory evidence predicts felicity:

(43) Context: You’re talking with your friends about the soccer game that morning. You weren’t there yourself, but you were talking earlier with Louise, who was there. Louise knew that Tony made the winning goal, but she wasn’t sure if he was assisted by John – who is the striker on the team – or another player.

*mahlis Louise loo’y wilt [’nakwlh hlo’oxsis John-hl hlit ‘as Tony] embedded clause

In order to better understand the significance of this observation, we need to delve a little deeper into the basic morphosyntax of a Gitksan clause and the syntactic properties of ‘nakwl w. Peterson (2010b) claims that ‘nakwl w has the same morphosyntactic distribution as the Gitksan
auxiliary verbs *yukw* (progressive), and *hliskw* (imperfective). When auxiliary verbs such as *yukw* and *hliskw* are inserted into an intransitive sentence they appear sentence-initially, before the verb, and also serving as a host for the common noun enclitic determiner =hl. This is sketched out in (44):

(44) a.  *yukw*hl  gahahlal’stdiithl  haanak
    [yukw]aux=[hl  kahahlal’st-tiit=hl  haanak]  
    PROG=CND  REDUP.pl-work-3pl=CND  women.pl
    The women are working.

b.  *hliskw*hl  gahahlal’stdiithl  haanak
    [hliskw]aux=[hl  kahahlal’st-tiit=hl  haanak]  
    IMPERF.=CND  REDUP.pl-work-3pl=CND  women.pl
    The women finished working.

c.  ’nakw*hl  gahahlal’stdiithl  haanak
    [’nakw]aux=[hl  kahahlal’st-tiit=hl  haanak]  
    EVID=CND  REDUP.pl-work-3pl=CND  women.pl
    The women must be working.

As *yukw* and *hliskw* are propositional operators (encoding progressive and imperfect meanings respectively), we expect them to be able to be semantically and syntactically embedded within, for example, a conditional. Example (45a) shows the basic structure of a conditional in Gitksan, and the embeddability of the progressive *yukw*. (45b) shows that =*ima* – which was also shown to be a propositional operator – can also embed in the consequent, while (45c) shows that *’nakw* cannot appear in this same embedded position:

(45) a.  ji  da  *yukw*hl  wis  go’ohl  ansbayaxw  ii  hodi
    tsi  ta  *yukw*=hl  wis  ko’=hl  ansbayaxw  ii  hoti
    IRR  COND  PROG=CND  rain  LOC=CND  Kispiox  CONJ  COMP
    *yukw*hl  wis  go’ohl  gitwangak
    *yukw*=hl  wis  ko’=hl  kitwangak
    PROG=CND  rain  LOC=CND  Kitwanga
    If it’s raining in Kispiox, then it’s raining in Kitwanga.

b.  ji  da  *yukw*hl  wis  go’ohl  ansbayaxw  ii  hodi
    tsi  ta  *yukw*=hl  wis  ko’=hl  anspayaxw  ii  hoti
    IRR  COND  PROG=CND  rain  LOC=CND  Kispiox  CONJ  COMP
    yugwimahl  wis  go’ohl  gitwangak
    yugw*ima*=hl  wis  ko’=hl  kitwangak
    PROG=MOD=CND  rain  LOC=CND  Kitwanga
    If it’s raining in Kispiox, then it might/must be raining in Kitwanga.

c.  *... ii hoti ’nakw* yukw=hl  wis  ko’=hl  kitwangak

The embedding test shows that, unlike =*kat* and =*ima*, which contribute their modal meanings to the asserted content, *’nakw* cannot be a propositional operator. This also entails that *’nakw* cannot be a modal, and suggests that *’nakw* contributes its evidential meaning at the illocutionary level.
4.3 Negation and dissent

'nakw also diverges from other the auxiliaries and other propositional operators with respect to negation: 'nakw and negation cannot occur in the same sentence. Example (44) shows the basic (and well documented) sentence-initial position of nee=tii, which is then followed either by the auxiliaries yukw or, in this example, hliskw:

(46) needii hliskwhl gahahlal'stdiithl haanak
nee=tii hliskw=hl kahahlal'stiit=hl haanak
NEG=CONTR IMPERF.=CND REDUP.pl-work-3pl=CND woman.pl
The women are not finished working.

Unlike yukw and hliskw, 'nakw cannot appear under negation, as shown in (47a). Example b. shows that placing 'nakw before negation also does not rescue the grammaticality of the sentence:

(47) a. *needii 'nakwhl gahahlal'stdiithl haanak
b. *'nakwhl needii gahahlal'stdiithl haanak

These restrictions taken together are interesting because they suggest the possibility of an expressive gap: why would a language that has evidentials not provide a grammatical strategy for negating evidential meaning, or at least negating the propositional content of a sentence containing the evidential? I suggest that this may not be so much about grammatical negation, but more of a question of dissent. In order to observe the effects of dissent, suppose someone looks out of their kitchen window in Kispiox and makes the following claim with =ima in the matrix clause of the conditional in (48) (see also Faller 2002: 130-133):

(48) ji da yukwhl wis go’ohl Kispiox ii hoti
 tsi ta yukw=hl wis ko’=hl Kispiox ii hoti
IRREALIS COND PROG=CND LOC=CND Kispiox CONJ COMP
 yugwimahl wis go’ohl gitwangak
 yukw=ima=hl wis ko’=hl kitwangak
PROG=MOD=CND rain LOC=CND Kitwanga
If it’s raining in Kispiox, then it might/must be raining in Kitwanga.

The antecedent of the conditional sets up a premise for the modal claim made in the consequent. In Gitksan a listener may agree with the modal claim as in (49a), or disagree as in b. using =ima, or challenge it as in c., which is the Gitksan equivalent to a “That is (not) true” dissent, or “I don’t think you’re right”:

(49) a. ’nidima
 ‘nit=ima
3sg=MOD
Maybe.
Consultant’s comment: True, it’s possibly raining because those are the usual weather patterns.
b. neeyima
   nee=ima
   NEG=MOD
   Maybe not.
   Consultant’s comment: You don’t really know for sure - I was there once, and while it was raining in Kispiox it wasn’t raining in Kitwanga.

c. neediihl    ha’nigood’y    ji    hugwayn
   nee=tii=hl    ha’nigood’-y    tsi    hugwax-n
   NEG=CONTR=CND    think-1sg    IRR    correct-2sg
   I don’t think you’re right (it’s not true that it must/might be raining in Kitwanga).

Recall that the evidential and epistemic meanings of =kat and =ima take wide scope over negation: the insertion of negation into a =kat- or =ima-sentence negates the epistemic modal claim expressed by the sentence, and not the evidential meaning encoded. (49) shows that a modal claim (as expressed by =ima) can either be assented to or dissented from, the latter of which involves negation. Statements involving any kind of dissent and ’nakw are judged by speakers to sound, at best, odd and unnatural, and at worst ungrammatical. In example (50), a speaker is making a ’nakw statement based on the visual and auditory evidence of someone sneezing. While not technically ungrammatical, the response in (50a) with ’nakw cannot be used to assent to the claim in (50). A stronger effect is observed in another response in (50b) using negation. The negative response used in (50c) cannot be used to dissent from the meaning of ’nakw:

(50) ’nakw=hl    siipxw-t
     EVID=CND    sick-3sg
     He must be sick.

a. #ee’e, ’nakw=hl    ap    wil-t
    No,    EVID=CND    ?    do.something-3sg
    ≠ Yes, this must be what’s happening. (I agree because his face is all red.)

b. *nee=tii    ’nakw=hl    siipxw-t
    NEG=CONTR    EVID=CND    sick-3sg
    ≠ No, he can’t be sick. (I saw him at work today and he looked fine.)

c. #nee=tii=hl    ha’nigood’-y    tsi    hugwax-n
    NEG=CONTR=CND    think-1sg    IRR    correct-2sg
    ≠ I don’t think you’re right. (cf. 49c)

Peterson (2010b) explains the divergent embedding and negation/dissent properties of ’nakw by analyzing it as an evidential sentential force specifier. It is beyond the scope of this paper to further evaluate the details of this analysis, but in a nutshell, Peterson claims that ’nakw has clause-typing properties that prevent it from syntactically and semantically embedding.
5 Gitksan evidentials and modals in questions

Both =ima and the reportative =kat have a productive use in questions. When =kat is used in a question, a speaker is not reporting a question, but is asking the addressee what she knows about something on the basis of reported evidence. In other words, a speaker asking a question with a reportative is targeting an answer that the addressee may know, or may only have reportative evidence for. This can be observed in example (51), where a speaker is enquiring about when the bus will arrive in Prince George. By using =kat in the question, the speaker implies that the answer to this question, given in c., is going to be second hand, since they know their companion is not the one who determines the bus schedule:

(51) Context: You and a friend are taking the overnight bus to Prince George. You can’t remember what time you arrive, but your friend who was the one who booked the tickets and she might know.

a. gaxgwixwim dim bagwi’m
   kaxgwitim pakw’-m
   when FUT arrive.pl-1pl
   When is it we’ll get there?

b. gaxgwigat dim bagwi’m
   kaxgwit=kat tim pakw’-m
   when=REP FUT arrive.pl-1pl
   When is it (did they say) we’ll get there?
   When is it (did you hear) we’ll get there?

c. silkwsax t’aahlagwigat
   silkwsax  t’aahlakw=kat
   noon tomorrow=REP
   (I heard/They said) at noon tomorrow.

In questions, =kat is oriented towards the addressee’s knowledge: the speaker is enquiring about the reported evidence the speaker assumes the addressee has for an answer (i.e. from the ticket agent).

The insertion of the modal =ima into a question has a different effect from that of =kat: it takes an interrogative clause type, which has the speech act of requesting information, and creates a non-interrogative utterance, roughly translatable using ‘I wonder...’, as in (52):

(52) Context: You’re sitting around with friends discussing life. You know that you need to find another job, but you also have the possibility of going back to college.

gwiyimahl dim jab’y jox’kuuhl
kwimi=hl tim tsap’-y tox’kuuhl
what=MOD=CND FUT do/make-1sg next.year
I’m wondering what to do next year.
(53) Context: Someone unfamiliar pulls into the driveway to talk to your uncle.

a. naa tun
   naa t=xwin
   who PND=this.one
   Who is this person?

b. naayima tun
   naa=ima t=xwin
   who=MOD PND=this.one
   I wonder who this person is.

The use of modal =ima in questions and the effect it has in reducing the interrogative force of a question to something akin to a rhetorical question (Littell et al. 2010).

As we’ve seen with the other tests, ’nakw diverges significantly from =ima and =kat: ’nakw cannot be inserted into an interrogative clause. Example (54) is a yes/no question, formed by adding the sentential interrogative enclitic =a to the sentence. Even with not having to compete with a sentence-initial wh-word occupying the clause-initial position (cf. (44)) ’nakw is ungrammatical:

(54) *’nakwhl ’x’miyeenis Jasona
     ’nakw=hl ’x’-miyeen-(t)=s Jason=a
     EVID=CND consume-smoke-3sg=PND Jason=INTERROG
     ≠ Must Jason be smoking?

Comparing (55a) with b. shows how the progressive auxiliary verb yukw can occur within a question: ’nakw, despite having the same syntactic behaviour in declarative clauses as yukw, cannot. Example (55c) shows how moving ’nakw to the first position of a wh-question is also ungrammatical:

(55) a. nayukw ’ant sdil=s Clara
     na=yukw ’an-t sdl=sd Clara
     who=PROG S.REL-3sg go.with=PND Clara
     Who is going with Clara?

b. *na=’nakw ’an-t sdil=s Clara

b. *’nakw=na ’an-t sdil=s Clara

This test provides further support that both =ima and =kat are propositional operators, while ’nakw is incompatible with interrogative speech acts of any syntactic kind. Peterson (2010b) uses this observation to support an analysis of ’nakw as typing its own clause (an evidential sentential force specifier): a clause typing analysis predicts that ’nakw-sentences should not be able to co-occur with other clause types, such as interogatives.
6 Discussion and Summary

This chapter presented a semantic and morphosyntactic description of the three grammatical elements that encode evidential and epistemic meanings in Gitksan. Some discussion of the translations of these elements into English is in order, especially as =kat, =ima, and 'nakw are frequently translated into English using the modal auxiliaries might and must. A plausible criticism of these translations is that they might simply be an effect of translating from an object language that lacks grammatical elements that encode modal force distinctions (i.e. must and might) into a metalanguage that does, like English. However, I argue that this is not simply an effect of translation; rather, the modal translations of =kat, =ima, and 'nakw provide a view on how reliable a speaker views the evidence they are using to base their inference on. With =kat, a more reliable source is translated with ‘I hear(d)...’ while less reliable source is translated as a weak epistemic modal such as might.

One of the other aims of this chapter was to demonstrate how the application of basic syntactic and semantic tests can enrich our descriptions of a grammatical evidential. The effectiveness of these tests can be measured not only in the generalizations they produce, but also in the further questions they lead us to. For example, the coordination test applied to =ima-sentences in section 3.1 showed that =ima introduces an epistemic modal into the proposition content of a sentence. However, what does this test predict when applied to the reportative =kat? Are coordinated =kat sentences logically contingent in the same way? This also generates another related question: if the evidential meaning of =kat and =ima is presupposed and not asserted (as shown by the negation test), then what happens to this presupposition in an embedded context, such as (13): does the presupposition attached to =kat project through the matrix clause? The results so far are inconclusive and require further study. Nonetheless, we have an independently motivated guide – the coordination, negation, and embedding tests – that leads to new insights.

Finally, these tests also provide an independently motivated methodology for connecting languages that have grammatical evidentials, thus widening the scope cross-linguistic generalizations. For example, we now have a way of testing whether a grammatical evidential contributes to the illocutionary or the propositional content of an utterance (Waldie et al. 2009). This has proven to be a fruitful strategy that has generated new insights into the semantic and pragmatic properties of evidentials, as well as providing an additional empirical foundation for theoretical analyses of evidentiality. This is not to suggest that these tests replace time tested and proven methods of working with texts and language observation (both of which were used in this chapter); rather, they complement each other.

References


Notes

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2Further discussion of the use of these terms can be found in Rigsby (1986), and see Brown (2010) for a detailed discussion of Gitksan and Tsimshianic relations and language scholarship.

3TARPENT alternates between glossing ‘nakw as a modal and evidential in her grammar. Additionally, TARPENT includes =ima and =kat as part of a system of ‘evidential postclitics’ (1987, p. 489). See also Brown et al. (2016) for details on the other postclitics in this paradigm.

5The edges of the enclitic =kat are subject to the phonological rules of obstruent voicing and deletion. This results in the various allomorphs =gat, =ka, and =ga, which are often written at the orthographic level.

5There is a class of verbs called ‘T’-class verbs in Nisg̱a’a and Gitksan. The meaning or function of the morpheme -t- has not been determined (although see TARPENT 1987 for details on its morphosyntactic distribution); thus, I follow the convention in the Gitksan/Nisg̱a’a literature and maintain the ‘T’ glossing.

6See also TARPENT 1987, p. 350, who describes ‘nakw as an auxiliary verb, along with yukw and hliskw