Pragmatic Blocking in Gitksan Evidential Expressions*

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1. Introduction

Consider a simple assertion in Gitksan, given in (1):

(1) mukw=hl maay̓
ripe=CN.DET berries
"The berries are ripe."

This statement can be modified by two morphemes in Gitksan that code epistemic/evidential interpretations: example (2)a. illustrates what Tarpent (1987) originally glosses as and the modal/evidential *n̓akw*; and in (2)b. is the 'dubitative' enclitic *=ima*:[1]

(2) a. *n̓akw*=hl mukw=hl maay̓
EVID=CN.DET ripe=CN.DET berries
"The berries must be ripe." "Looks like the berries are ripe."

b. mukw=*ima*=hl maay̓
ripe=MOD=CN.DET berries
"The berries might/must be ripe."

From their translations, *=ima* and *n̓akw* appear to be similar: they both make epistemic claims of varying force about the ripeness of the berries. However, there are three semantic and pragmatic features that distinguish them. The first involves modal force: *=ima*

*Gitksan is the easternmost member of the Tsimshianic language family spoken in northwestern British Columbia. Examples are from fieldwork, and given in the Gitksan practical orthography (k̲ = [q]; g̲ = [ɢ]; x̲ = [χ]). Special thanks to my Gitksan consultants Fern Weget, Clara Weget, Gwen Simms, Barbara Sennot, Bob Wilson, Roy Wilson, and Louise Wilson. Thanks also to Lisa Matthewson, Hotze Rullmann, Henry Davis, and the audience at NELS 38 for comments. This research was made possible from a grant from *The Endangered Languages Documentation Program* (SOAS) awarded to Tyler Peterson and John Wynne, with additional support from SSHRC grant awarded to Lisa Matthewson. All errors are my own.

[1]There is a third evidential in Gitksan, the reportative *=k̲at*, which is not discussed in this paper. In anticipation of the following analysis, I have replaced Tarpent's original dubitative gloss of *=ima* with MOD.

can express either epistemic possibility or necessity (commonly translated by consultants as *must* or *might*), while *n̓akw* can only express necessity (often translated as *must* and never as *might*). The second difference regards evidence: *=ima* is compatible with direct or indirect evidence, a simple speculative judgment about the present or future with little or no evidence, or a recollection of a past event where the details are no longer clear. The distribution of *n̓akw* is more restricted: its interpretation requires the speaker to have some type of sensory evidence for the assertion. The context in (3) brings out this difference:

(3) Context: 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 (a traditional picking grounds).

This context involves speculation from general knowledge (i.e. indirect evidence; cf. Willett 1986). The sentence in example (2)b. using *=ima* is felicitous with this type of evidence, while *n̓akw* in (2)a. is infelicitous – it cannot be used with indirect evidence. In a related context, given in (4), where there is some kind of sensory (visual) evidence available to the speaker, both *n̓akw* and *=ima* are felicitous. This visual evidence interpretation is supported by the frequent translation of *n̓akw* as "It looks like . . . ":

(4) Context: People are arriving home after a day of berrypicking up in the Suskwa. They're carrying buckets of berries, and their hands are all purple.

Based on these and other generalizations (reviewed in the next section), Peterson (*to appear*) claims that *=ima* is an epistemic modal: it is a propositional operator which introduces quantification over possible worlds. Its evidential interpretation is the result of a presupposition that restricts the modal base to worlds where evidence of some type in the actual world holds. On the other hand, *n̓akw* is a spatial/temporal particle by default, but functions as a novel type of speech act, or what I call an 'evidential speech act operator'. What triggers the evidential interpretation of *n̓akw* is also an evidence presupposition. However, the presupposition attached to *n̓akw* is different from that of *=ima* in two respects: first, it is more specified in that it requires the speaker to have some kind of *sensory* evidence for an epistemic claim (cf. Willett's *direct attested*); and secondly, this presupposition is modeled as a sincerity condition of an assertion. A pragmatic treatment of *n̓akw* explains why it is infelicitous in contexts that lack sensory evidence, such as in (3), as well as other facts regarding its semantic and pragmatic distribution.

This sets the stage for what is examined in this paper: the contexts where both *=ima* and *n̓akw* are felicitous, or those contexts where there is what is sensory evidence of some kind (i.e. visual, auditory, tactile etc.). Consider the examples in (5) and their context:

(5) a. k̲ots-i-n=*ima*=hl 'on̓-n
cut-TR-2sg=MOD=CN.DET hand-2sg
"You **might**'ve cut your hand."

b. *n̓akw*=mi g̲ots-t=hl 'on̓-n
EVID=2sg cut-3=CN.DET hand-2sg
"You **must**'ve cut your hand."

Context: You and a friend are fishing. You're sitting on the rocks, cutting up bait. You notice blood on the rocks at your friend's feet.

In these sensory evidence contexts a speaker has a choice between *=ima* and *n̓akw*, and what distinguishes them is their expression of modal force: *n̓akw* maintains its interpretation as *must*, while *=ima* in these same contexts is relegated to expressing *might*.

The claim pursued here concerns the modal force alternations found in sensory evidence contexts of the kind exemplified in (4) and (5): the evidence presuppositions attached to *=ima* and *n̓akw* stand in a blocking relation to one another mediated by the application of *Maximize Presupposition*, which requires that the strongest possible presupposition be used in any given context (Heim 1991; Sauerland 2003; Schlenker 2006). *n̓akw* has a more informative presupposition – one that presupposes the speaker has sensory evidence for an epistemic claim – and therefore blocks *=ima* which lacks this specification in sensory evidence contexts. A speaker making an assertion using *n̓akw* is conveying to the listener that they believe they have sensory evidence for making that assertion. However, *=ima* is also felicitous in these contexts, but it indicates that a speaker does not believe the sensory evidence to be suitable for an epistemic claim. In formal terms, *=ima* 'implicates' the negated sensory evidence presupposition of *n̓akw*, thus conveying what is interpreted as *might* (Sauerland 2003).

2. Background

A recently emerging generalization in the theoretical literature on modals and evidentials is that evidential interpretations can arise on different levels of meaning. This has lead to two prominent theoretical hypotheses: In some languages, evidentials are a specialized type of epistemic modal: they are semantic operators that contribute to the truth conditions of a proposition; while in other languages, expressions of evidentiality are not a semantic phenomenon (i.e. they are not propositional operators): they are pragmatic operators (Izvorsky 1997; Faller 2002, 2003; Matthewson et al 2007; McCready and Ogata 2007; Davis et al *to appear*; Rullmann et al *to appear*) The evidential system of Gitksan provides evidence that this generalization is not only cross-linguistically viable, but that this semantics-pragmatics 'split' in the distribution of evidentials can occur within the same language.

Following in this line of research, in this section I summarize the analysis and claims made in Peterson (*to appear*) that *=ima* is an epistemic modal, and that *n̓akw* is an illocutionary operator. Given the differing levels of meaning *=ima* and *n̓akw* operate on, they both have presuppositions attached to them: *=ima* has a the simple presupposition that the speaker has evidence for an epistemic assertion, while *n̓akw* presupposes that a speaker has sensory evidence for an epistemic assertion.

2.1 *=ima* is an epistemic modal

In a series of articles, Matthewson et al (2007), Davis et al (*to appear*), Rullmann et al (*to appear*) claim that the individual evidential modals in St'átimcets lexically specify different conversational backgrounds, which they model as presuppositions. This analysis has its roots in Izvorski's (1997) analysis of the 'perfect of evidentiality' in Bulgarian, which has an indirect evidential reading in addition to its aspectual one. Izvorski claims that this kind of evidential interpretation requires a more restricted modal base than a regular epis-

temic modal base: it is not sufficient for a proposition to be known for it to be considered (indirect) evidence for the core proposition. The indirect evidence requirement is added in the form of a presupposition, which has the effect of restricting the modal base to those worlds where indirect evidence in the actual world holds.

Example (2)b. shows how =*ima* is compatible with both direct and indirect evidence, as represented in the contexts in (3) and (4). Following a similar analysis of evidentials in St'átimcets, Peterson (*to appear*) claims that =*ima* contributes to the proposition expressed in the same way that epistemic modals in English do, while modeling its evidence requirement as a presupposition. A modal analysis of =*ima* makes three empirical predictions, all of which are borne out in its distribution (Matthewson et al 2006).

First, a proposition embedded under =*ima* is predicted to be infelicitous if the truth or falsity of the proposition is known. (6)a. shows how =*ima* cannot be used if the event is witnessed, while (6)b. is infelicitous if the speaker know the proposition is false:

(6) a. #yukw=*ima*=hl dim wis, ii gya'a-ẏ̓
PROG=MOD=CN.DET FUT rain CONJ see-1sg
"It might/must be raining, and I see it (outside)."
Context: You're looking out the window during a storm.

b. #yukw=*ima*=hl dim maadim
PROG=MOD=CN.DET FUT snow
"It might/must be snowing."
Context: It's August.

Secondly, under a modal analysis, the premises that comprise the modal base should be transparent to the discourse participants, and can be directly challenged. If some aspect of a modal assertion can be challenged, i.e. questioned, doubted, rejected etc., then it forms part of the propositional content (Faller 2002, Papafragou 2000). In example (7), someone looks out of their kitchen window in Kispiox and makes the following claim with =*ima* in the embedded clause of the conditional. A listener is not denying the actual proposition, but rather agreeing in or disagreeing with this premise using either =*ima*, or paraphrastically:

(7) tsida yukw=hl wis go'o=hl anspayaxw ii hoti
COND PROG=CN.DET rain LOC=CN.DET Kispiox CONJ ?
yukw=*ima*=hl wis go'o=hl gitwangak̲
PROG=MOD=CN.DET rain LOC=CN.DET Kitwanga
"If it's raining in Kispiox, then it might/must be raining in Kitwanga."

a. n̓it=*ima*, ii ne=*ima*
3sg=MOD CONJ NEG=MOD
"Maybe, and maybe not"
Comment: True, it's possible because those are the usual weather patterns; You don't really know for sure - I was there once, and while it was raining in Kispiox it wasn't raining in Kitwanga

b. needii=hl ha'nigood-y̓ ji hugwax̲-n
NEG=DET think-1sg IRR correct-2sg
"I don't think you're right."
Comment: I don't think it's reasonable to assume that.

Matthewson et al (2007) discuss the prediction of embeddability, where modals may embed under verbs of saying. In semantic embedding, the evidence is related to the matrix subject, and not the speaker: it is Granny who has evidence that it will taste good. Example (8) shows how *=ima* can be semantically embedded:

(8) diya=t nits'iits' tim ixst'a=*ima* ji hla maadim
say=PN.DET grandmother FUT taste=MOD IRR INCEPT snow
"Granny said they might taste better in the winter."

These tests show that *=ima* contributes to the propositional content, and amenable to a modal analysis (see Peterson *to appear* for details).

2.2 *n̓akw* is an 'Evidential illocutionary operator'

The same diagnostics applied to *=ima* can be applied to *n̓akw*. However, the results are quite different: *n̓akw* cannot be a propositional operator. Evidence for this generalization comes from the fact that, unlike *=ima*, *n̓akw* cannot be embedded in any way, including under negation as in (9). Nor can *n̓akw* appear in the consequent of a conditional (10), or be used in a question in (11):

(9) a. *nee=*n̓akw*=hl mukw=hl maay̓

b. nee=*ima*=hl mukw=hl maay̓
NEG=MOD=CN.DET ripe=CN.DET berries
"The berries might not be ripe."

(10) *tsida yukw=hl wis go'o=hl anspayaxw ii hoti *n̓akw*
COND PROG=CN.DET rain LOC=CN.DET Kispiox CONJ ? EVID
yukw=hl wis go'o=hl gitwangak̲
PROG=CN.DET rain LOC=CN.DET Kitwanga
"If it's raining in Kispiox, then it must be raining in Kitwanga."

(11) a. *na=*n̓akw* 'an-t sdil=s Clara
who=EVID S.REL-3 go.with=PN.DET Clara
"Who must've gone with Clara?"

b. na=*ima* 'an-t sdil=s Clara
who=MOD S.REL-3 go.with=PN.DET Clara
"Who might/must've gone with Clara?"

Confirming or challenging judgments involving *n̓akw* is also not possible. Assenting or dissenting to a *n̓akw*-based assertion such as in (12) is ungrammatical:

(12) *n̓akw*=hl siipxw-t
EVID=CN.DET sick-3
"He must be sick."

a. *ee'e, *n̓akw*=hl ap wilt
≠ "Yes, it must be true." (I agree because his face is all red.)

b. *needii *n̓akw*=hl siipxwt-t
≠ "No, he can't be sick." (I saw him at work today and he looked fine.)

Example (13) shows how *n̓akw* also crucially differs from *=ima* in that a speaker may (in certain circumstances) make an assertion with *n̓akw* when they're actually witnessing the event. This characterizes a typical mirative, which relies on visual evidence that is experienced at the time of utterance to express surprise (DeLancey 2001):

(13) *n̓akw*=hl bakw=diit
EVID=CN.DET arrive.PL=3pl
"They're here!" "Look who's here!" "I see you're here!"
Context: a spontaneous comment from a consultant who is surprised when a couple family members walk through the door unexpectedly.

Another pragmatic feature of *n̓akw* is its non-literal/metaphorical use, rendering an expression similar to a *must*-type rhetorical question/statement in English in example (14):

(14) *n̓akw*=hl sins-t
EVID=CN.DET blind-3
"He must be blind!" "Is he blind or something?" "Looks like he's blind!"
Context: 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.

In both its metaphorical and mirative uses, *n̓akw* maintains its evidential function: the speaker is making a type of assertion based on what they believe is sensory evidence – in (14) the fact that the batter keeps missing the ball, and in (13) the fact that they can see people coming through their front door. In contrast, *=ima* in example (15) is also felicitous in the context in (14), but it cannot have this pragmatic effect: *=ima* can only express that the batter is may or must be literally blind:

(15) sins=*ima* n̓it
blind=MOD 3
"He might/must be blind."

In sum, *n̓akw* is aligned with non-assertive speech acts in two ways: first, *n̓akw* is in complementary distribution with other non-assertive speech acts; and second, *n̓akw* shares the clause-typing properties of other non-assertions such as questions and commands (see Peterson *to appear* for details). Given these generalizations, the claim pursued here is that *n̓akw* is not a modal evidential, rather, it lexically modifies the felicity conditions of an assertion by adding a presupposition that a speaker have sensory evidence for that assertion.

In accounting for the pragmatic properties of *n̓akw*, I will adopt a classical speech act approach, where utterances are treated as consisting of an illocutionary level of meaning, F, and a separate level of propositional content, ϕ, such that F and ϕ together, or $F(\phi)$, form a complete utterance used to accomplish a speech act (Searle 1969: 49-50). $F(\phi)$ can be expanded to formally include the context or mutual common ground the participants in a conversation share, (c), yielding the structure $F(\phi)(c)$ (cf. Stalnaker 1972).

Given this structure for speech acts, a groundwork for standard assertions can be laid out as follows: (i.) the participants of a conversation assume, for every stage of the conversation, a mutually known common ground c – the information which is believed to be shared by the discourse participants, and which is modified in the course of a conversation – and (ii.), if a speaker asserts proposition ϕ, the current common ground c becomes $c \cap \phi$. Additionally, there are felicity conditions that must be satisfied in order for a speech act to be properly performed. For standard assertions, the core felicity conditions are paraphrased in (16) (Searle and Vanderveken 1985: 54; Sadock 2006: 61):

(16) For any proposition ϕ

i. A speaker S has evidence (reasons etc.) for the truth of ϕ.

ii. It is not obvious to both S and the hearer H that H knows ϕ.

iii. S believes ϕ

Once these conditions are met, ϕ is assertable with respect to the common ground c.[2] We can then plug in an assertion operator such as ASSERT that, when applied to a proposition, takes an input common ground c to an output common ground $c \cap \phi$: ASSERT$(\phi)(c) = c \cap \phi$ iff ϕ is assertable with regards to (c).

This analysis is extended straightforwardly to *n̓akw* in the following way: first, it is claimed that *n̓akw* lexically modifies the first felicity condition in (16)i. of a standard assertion to specifically include a *sensory* evidence requirement. Secondly, this sensory evidence requirement is a presupposition. The outcome of this is the evidential speech act operator, lexically represented as *n̓akw*. (17) defines *n̓akw*, which requires that in order for a speaker to felicitously make the assertion ising *n̓akw*, they must have sensory evidence for making that assertion:

(17) *n̓akw*$(\phi)(c) = c \cap \phi$ iff ϕ is assertable with regards to c, and the speaker has *sensory* evidence in c for asserting ϕ.

[2] Additionally, I assume the following conditions apply to all types of speech acts: (i.) $c \cap \phi \neq c$ (ϕ expresses something that is not already established). (ii.) $c \cap \phi \neq \varnothing$ (ϕ doesn't express something that is taken to be incompatible in c) (adapted from Krifka 1995: 227).

Whereas semantic presuppositions are treated formally as conditions on the well-definedness of a proposition, and are characterized as constraints on the actual context, pragmatic presuppositions are beliefs about the context that must be attributed to a speaker (Simons 2006). A crucial component of this analysis is the 'promotion' of the felicity condition in (16)i. to a presupposition. It is claimed that by making a statement *ńakw*(ϕ), a speaker pragmatically presupposes that he or she has sensory evidence. In other words, *ńakw* lexically encodes a speaker's assessment and belief in what they regard as the 'strongest' kind of evidence short of making a plain assertion, as in example (18):

(18) *ńakw*=mi gots-t=hl 'on-n
EVID=2sg cut-3=CN.DET hand-2sg
"You must've cut your hand." "I see you cut your hand."
PRESUPPOSITION: The speaker has visual evidence (blood on the rocks).
ASSERTION: You cut your hand.
Context: You and a friend are fishing. You're sitting on the rocks, cutting up bait. You notice blood on the rocks at your friend's feet.

One prediction made by modeling this sensory evidence requirement as a presupposition, is that contexts which lack sensory evidence should result in a presupposition failure. This effect can be inferred from the consultant's comments in example (19):

(19) #*ńakw*=hl se-hon-(t)=s Bob
EVID=CN.DET CAUS-fish-3=CN.DET Bob
"Bob must be smoking/preparing/doing up fish."
Context: You're chopping wood out by the smokehouse.
Consultant's comment: Really? Can you smell something?

An important claim made here is that the common ground must provide sensory evidence that is both interpretable by the speaker making a *ńakw*-assertion, and available to the hearer in assessing the sensory evidence presupposition attached to *ńakw*. The infelicity of (19) can be attributed to the fact that the speaker does not have access to the sensory evidence – which is specifically targeted in their response – that would license the presupposition attached to *ńakw*-assertions, nor does a hearer have access to any sensory evidence that may lead them to accommodate such a presupposition.

This approach is similar to Faller's (2002) analysis of the Quechua evidential *-mi* in (20), which she also analyzes as an illocutionary operator:

(20) para-sha-n-*mi*
rain-PROG-3-EVID
p = 'It is raining.'
ILLOCUTIONARY ACT = $\text{ASSERT}_s(p)$
SINCERITY CONDITION = $\{Bel(s, p), See(s, e_p)\}$
STRENGTH = +1

Faller also represents the evidential requirement as a felicity condition, using the notation $See(s, e_p)$, which represents the fact that the speaker must actually see the event they are talking about. Assertions modified with *-mi*, such as (24), implicate that a speaker has 'best possible grounds' for believing p. Evidential *-mi* is strong or stronger in its speaker-certainty level than a plain assertion (as indicated by the strength metric +1), thus triggering a scalar implicature (Faller 2002: 161). This contrasts with *n̓akw*, which is interpreted as slightly weaker than an assertion (thus giving it its *must*-like translation). If the common ground provides sensory evidence to the speaker, thus licensing the evidence presupposition, the use of *n̓akw* similarly appears to trigger a scalar implicature: the speaker does not believe they can assert the truth of a proposition, but, rather, they believe they have sensory evidence that supports that assertion. In the next section it will be shown that this scalar implicature extends to include modal assertions made with *=ima*.

The challenging cases of *n̓akw* involve its metaphorical uses in (21), where the star batter on the speaker's favourite baseball team keeps striking out, jeopardizing the outcome of the game:

(21) *n̓akw*=hl sins-t
EVID=CN.DET blind-3
"He must be blind!" "Is he blind or something?"

PRESUPPOSITION: The speaker has visual evidence (the batter keeps missing the ball).
ASSERTION: The batter is blind.
IMPLICATURE: The batter is performing poorly.

It is beyond the scope of this paper to explore the complexities involved in the semantics and pragmatics of metaphorical interpretations (see Asher & Lascarides 2001 *inter alia*), however, it is worthwhile to examine the role of *n̓akw* in these types of sentences under the present analysis. There are two things to track in (21): the first is assertion that the batter being blind is obviously not true in reality. Rather, the function of such a statement is to express dissatisfaction at the batter's performance. Secondly, the speaker is relying on the sensory evidence presupposition, or what they perceive to be sensory evidence for supporting such an assertion in the first place: the fact that the batter keeps missing. It may be possible to attribute these interpretations to the flouting of the Maxim of Quality. However, it's not quite as simple as this: the first thing to consider is that something new must be added to the common ground. The flouting of Quality typically involves a speaker asserting the opposite to what is true, usually resulting in a sarcastic statement. The intuition expressed by consultants is that statements such as (21) are emphatic, and invites some kind of confirmation from the hearer. The assertion "The batter is blind" would amount to implying that the speaker is *not* blind, which is obviously true in (21), thus violating the condition that $c \cap \phi$ express something that is not already established (cf. fn. 2). I claim that the function of *n̓akw*-asserted metaphorical statements such as (21) is instead to invite the attention of the hearer to the bad playing, which actually constitutes the sensory evidence (visual in this case) for making a *n̓akw*-assertion.

3. Pragmatic Blocking

We are now in a position to examine the interpretations of *=ima* and *n̓akw* when they are felicitous in the same contexts, one where there is sensory evidence for an epistemic claim, such as in example (5), repeated in (22). In these contexts, *n̓akw* is typically interpreted as *must* while *=ima* is interpreted as *might*:

(22) a. k̲ots-i-n=*ima*=hl ʼon̓-n
cut-TR-2sg=MOD=CN.DET hand-2sg
"You **might've** cut your hand."

b. *n̓akw*=mi k̲ots-(t)=hl ʼon̓-n
EVID=2sg cut-3=CN.DET hand-2sg
"You **must've** cut your hand."

Context: You and a friend are fishing. You're sitting on the rocks, cutting up bait. You notice blood on the rocks at your friend's feet.

This context provides the speaker with what could be construed as visual evidence that the hearer cut himself while preparing bait at the river's edge. Recall from example (2)b. that *=ima* can be interpreted as either *must* or *might*, regardless of the (in)directness of evidence given supplied the contexts such as in (3) or (4). However, consultants often comment that when you have the appropriate context to use either *n̓akw* or *=ima* – one that has sensory evidence – *n̓akw* is somehow 'stronger' than *=ima*. I take this intuition as a starting point in working towards the claim that *n̓akw* takes over the *must*-type interpretation in these sensory evidence contexts, blocking *=ima* from a universal interpretation. In a nutshell, this can be attributed to the principle of blocking: *n̓akw* is more specialized for the 'strong' (i.e. *must*) reading than *=ima*, and thus blocks *=ima* from that reading.

The formal implementation of this blocking relationship is achieved by the application of *Maximize Presupposition*: use the most informative presupposition that is satisfied in a context (Heim 1991; Sauerland 2003; Schlenker 2006), defined in (23):

(23) *Maximize Presupposition (MP):*
If a sentence S_1 with the presupposition p_1 entails S_2 with the presupposition p_2, and p_1 is a scalar alternative of p_2, the assertion of p_2 entails that the speaker doesn't believe p_1 to be entailed by the common ground.

The use of *=ima* carries the semantic presupposition of evidence (of any kind), while *n̓akw* carries a pragmatic presupposition of *sensory* evidence. The direct evidence presupposition associated with *n̓akw* prevents it from being felicitous in indirect evidence contexts, such as those in example (3). The weaker presupposition of *=ima* is less specific, and is satisfied in contexts with any type of evidence, direct or indirect. These evidence presuppositions can be placed on a scale, schematized in (24) (adapted from Faller 2002):

(24) $\{\{\text{visual, auditory, other sensory}\}_{\textit{n̓akw}} \succ \text{reasoning, assumption}\}_{\textit{=ima}}$

The modal force readings of *=ima* and *n̓akw* map to this continuum: the more indirect the evidence, the 'weaker' the reading; the more direct the evidence, the 'stronger' the reading is.

One important assumption is that semantic presuppositions become the pragmatic presuppositions of speakers, as speakers should believe that contexts satisfy the conditions required to allow their utterances to be meaningful (Simons 2006). In other words, semantic presuppositions and pragmatic presuppositions become 'visible' to each other. Once this is in place, it should now be straightforward to apply MP to this scale in the following steps, assuming the following conditions are met: following Schlenker (2006), I assume that the application of MP is triggered by certain lexical items which have a pre-determined presuppositional scale, such as the evidential scale mapped to *=ima* and *n̓akw* in (24). As such, *n̓akw* and *=ima* are scalar alternatives as the presupposition of *n̓akw* in a sentence such as (22)b. entails the presupposition of *=ima* in (22)a.: having sensory evidence entails that you have evidence. Another requirement of MP is that it only compares utterances whose assertive components are contextually equivalent. This condition is met by by the fact that both (22)a. and b. are felicitous in the same context. MP now selects among these the assertion that carries the strongest presupposition compatible with the common ground without yielding a presupposition failure.

In (22), both *n̓akw*-assertions and *=ima*-assertions are felicitous (satisfying contextual equivalency), and the assertion of b. entails a. However, when the evidence is being assessed within a certain context, the use of the *n̓akw*-assertion blocks the *=ima*-assertion in that context if the speaker *believes* they have sensory evidence for making that epistemic assertion. Now, if a speaker uses an *=ima*-assertion associated with the weaker presupposition but in the same context where the use of *n̓akw* is potentially felicitous, such as in (22)a., the use of *=ima* with its non-specific evidence presupposition implies that you don't believe your direct sensory evidence is adequate to make a stronger claim, and thus implicates the negation of the sensory evidence presupposition (Sauerland 2003). In other words, (22)a. implicates that 'It is not the case that (I believe) I have sensory evidence that you cut your hand'. The outcome is that the *=ima*-assertion is interpreted as *might*. Thus, there are two interleaving pragmatic properties to evidential assertion in Gitksan: (i.) the scalar presuppositions lexically encoded by *n̓akw* and *=ima*, and (ii.) the scalar implicature that is triggered by either a *n̓akw*- or *=ima*-assertion.

3.1 A note on evidentials in English and the semantics of *n̓akw*

English does not have a dedicated system of evidentials, rather, they are achieved paraphrastically through 'sensory' verbs, as in "He *sounds* foreign", "He *looks* ill". or "I *see* you don't believe me" (Gisborne 1996). Example (25) is an unmarked, literal use of the verb *see* along with an appropriate context (Gilmour et al *to appear*):

(25) *I see you're working on your project.* (literal)
Context: You come home after work and notice your daughter doing her homework. You want to encourage her.

n̓akw is frequently translated as a general sensory evidential as in, (13) and (18); and just as its *must*-like translations can be used metaphorically, its evidential verb translations can be as well. Likewise, sensory verbs in English can also be used to flout Quality. Consider the context in (26):

(26) *I see you're working on your project.* (non-literal)
Context: Your daughter is only allowed to use the computer on the weekends. However, there is a assignment due at school, and she asks to use the computer on a weeknight to finish it. You give her permission, but when you come home, you see her playing computer games instead of working on her project.

Just as *n̓akw* does, this non-literal interpretation of *see* relies on evidential meaning of the verb: example (26) without the matrix verb *see* does not allow (in my judgment) a non-literal reading in this context: #"You're working on your project." The same observation holds in Gitksan: plain assertions such as *sins n̓it* "You're blind." only have a literal interpretation. Additionally, the non-literal use of *see* cannot be embedded without losing this interpretation, confirming a standard test for pragmatic effects such as this: #"I didn't see that you're working on your homework." Testing negation with *n̓akw* is a little trickier, as it was shown in §2.2, example (9) that *n̓akw* cannot embed under negation. However, (27) shows that *n̓akw* can in fact be negated, but it has no evidential meaning: it is a spatial/temporal adverb:

(27) needii *n̓akw*=hl mukw=hl maay̓
NEG DIST=CN.DET ripe=CN.DET berries
"The berries haven't been ripe for a long time."

This is the out-of-the-blue interpretation of *n̓akw*: an assertion without any evidential value. It also leaves us with a bit of a puzzle. What exactly is the semantic content of evidential *n̓akw*? A connection between the spatial/temporal semantics of *n̓akw*, and evidential uses of *n̓akw* has yet to be determined; I assume for the moment that it is likely a case of homophony. Nonetheless, (25) – (27) shows how context and evidence play a vital role for the pragmatic uses *n̓akw* and evidential verbs in English: both *see* and *n̓akw* rely on evidence in some specific utterance context in order to have a non-literal interpretation.

Finally, a blocking analysis as implemented by MP explains the weaker existential interpretation associated with =*ima* in sensory evidence contexts. This should also explain why =*ima* in example (15) above cannot be used metaphorically, based on the intuition that in order to trigger a Quality implicature (your displeasure a batter's performance) you have to actually witness the poor playing. This amounts to a speaker having sensory evidence for an assertion, in which MP predicts *n̓akw* must be used. A similar observation can be made in English using the same context: the statement "He must be blind." can have a metaphorical reading, whereas #"He might be blind." cannot.

It is beyond the scope of this paper to investigate this alternation in more detail, however, I tentatively suggest the use of *must* over *might* metaphorically is rooted the speaker's certainty level about the proposition expressed. Within the possible worlds semantics for modals, variation in certainty levels correlates with variation in the strength of

the quantification over possible worlds. Thus, a speaker who uses an existential modal is less certain about the truth of the embedded proposition than a speaker who uses a universal modal. It is not the type of evidence that determines this, as metaphorical uses of *must* are also felicitous in indirect evidence contexts: "She must be crazy!" is an appropriate response upon hearing that your sister just gave away all their lottery winnings. Rather, a Quality implicature relies on the strong degree of certainty, and this certainty is most effectively reinforced by evidence (rather than speculation). Recall the claim made in §2.2 that the metaphorical interpretations *n̓akw* are only felicitous if the common ground provides sensory evidence that is interpretable by both the speaker and hearer. It is these evidence contexts that increase a speaker's certainty, which in turn ideally supports the emphatic effect of Quality implicatures of this type. The outcome is the use of the universal modal in conveying the implicature.

3.2 Summary

Maximize Presupposition has been effectively applied to a variety of phenomena involving the scalar distribution of presuppositions. This paper contributes to this line of research by applying MP to evidential readings in Gitksan: the modal *=ima* carries the presupposition that a speaker has some kind of evidence for an assertion, while the evidential *n̓akw* carries the presupposition that a speaker has sensory evidence for an assertion. When the common ground provides sensory evidence for an assertion, MP selects among these the assertion that carries the strongest presupposition compatible with the common ground without yielding a presupposition failure.

One component of this analysis that needs to be examined more carefully are the semantics of *=ima* when it is interpreted as *might* in sensory evidence contexts (cf. (22)). By treating *=ima* as a modal (cf.§2.1), this would amount to it having existential quantification. The two questions are: (i.) how is quantificational variability accounted for in the semantics of *=ima* in contexts that allow it (cf. (2) and (3)), and (ii.) how is existential quantification fixed in sensory evidence contexts where MP selects *n̓akw*? One potential line of analysis is to first assume that the effects of quantificational variability can be attributed to the ordering source (Kratzer 1991). It would now be a matter of examining how sensory evidence contexts contribute to this contextually-determined parameter.

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