Semantic and Pragmatic Fieldwork

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1 A Case study: Evidentiality and Modality

- A classic design feature of language (Hockett 1966): **displacement**

    - Temporal displacement: tense (i.e. *walked, walks, will walk*)
    - Spatial displacement: demonstratives (i.e. *this, that; here, there*)
    - 'Knowledge' displacement: grammatical evidentiality and (epistemic) modality

- All languages have the grammatical means that give speakers a way of talking about states, events, and activities that **the speaker does not have first-hand experience of**:

    - **Evidentials** are grammatical elements that indicate the speaker's type of evidence for her claim.
    - **Modals** are linguistic markers that encode the degree of its reliability, probability or certainty of some remote state, event, or activity.

- **The task for the field linguist:** Typologically, languages usually have either one or the other. Which one does your language have? Does it have both?

- First thoughts about how to approach this:

    - There is an inherent challenge in uncovering meanings of 'new' morphemes for the first time. Much trial and error.
    - Start with something manageable by delimiting your empirical spaces.

1.1 Empirical spaces

- Understanding your meta-language: the expressions of epistemic knowledge (modality and/or evidentiality) in English, Spanish, etc.

- Look for targets in the object language: Consult the grammar, or dictionary of the language or a related language. Look through transcribed texts for candidates (morphemes translated as modal or evidential verbs or adverbs).

- **Caveat:** do not expect any straightforward correspondence between the way the object and meta-language encodes these meanings – in fact, they can be quite different.

1.1.1   Epistemic Modality in English

- Expressions of epistemic modality mark the **necessity/possibility** of an underlying proposition (relative to some body of evidence/knowledge) (von Fintel and Gillies 2007).

- Modal verbs in English: *may, ought, should, can, could, have to, needn't, guess, seems.* Adverbial expressions such as *possibly, probably, certainly, apparently, supposedly, allegedly.*

1.1.2   Evidentiality in English

- Evidential verbs in English *see, hear, taste, feel* all take a sentential complement. They are **direct** evidentials (more on this below).

2   Basic Methodology

- We will use Gitksan (an endangered indigenous language spoken by around 200 people on the northwest coast of Canada) as a case study.[1]

- ★ **Goals:**

    1. To discover the specific morphemes in Gitksan dedicated to expressing epistemic knowledge.
    2. To be prepared to encounter other kinds of modal meanings. If so, what are they?

- Two step process in developing an elicitation plan:

    1. Construct a range of example sentences, paired with particular discourse contexts, and
    2. ask the speaker whether in the discourse contexts provided, the sentences are (a) **true** and (b) **felicitous**.

- Direct elicitation: asking for **translations** followed by asking for **judgments**.

- This is both incremental and reflexive: as we uncover meanings we need to constantly revise and re-test.

- Apply this methodology to evidentiality and modality in two stages:

    1. Identify morphemes restricted to epistemic contexts (broad)
    2. Test those morphemes across specific evidential contexts (narrow)

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[1]All data from fieldwork and Peterson (2010; 2018).

2.1 Stage I: Sorting out different kinds of modality

- Why start with modality rather than evidentiality? Because all languages express modal notions, *but not all languages have grammatical indirect evidentials* (more on this below).

- Beware of your metalanguage! Modal verbs in English are ambiguous. Consider the modal verb *have to* (adapted from von Fintel and Gillies 2007):

(1) (i.) EPISTEMIC: *Given all those wet umbrellas*, it **has to** be raining.

   (ii.) DEONTIC: *According to the hospital regulations*, visitors **have to** leave by six pm.

   (iii.) WISHES: *According to my wishes as your father*, you **have to** go to bed in ten minutes.

   (iv.) CIRCUMSTANCES: *Excuse me. Given the current state of my nose*, I **have to** sneeze.

   (v.) GOALS: *Given the choices of modes of transportation and their speeds*, to get home in time, you **have to** take a taxi.

   Step 1: Truth. What is/are the morpheme(s) that encodes epistemic contexts?

   Step 2: Felicity. Can these morphemes be used in other kinds of modals contexts (deontic, goals, etc.)?

   - **Yes:** Likely not an evidential; more likely a modal.
   - **No:** Good candidate for an evidential.

2.1.1 Truth: 'Discovering' an epistemic morpheme

- Direct elicitation of meaning to give us a baseline sentence; construct a simple, unambiguous sentence: How do you say *The berries are ripe.*

(2) *mukw=hl   maaɟ́*
    ripe=CND   berries
    "The berries are ripe."

- "Avoiding asking for translations of ambiguous or vague sentences." (Matthewson 2004, p. 391) Asking *how do you say 'the berries must be ripe'* is ambiguous in both English and Gitksan – but in completely different ways.[2]

- Present an epistemic context, creating a minimal pair with the non-modal sentence (set aside the issue of modal 'strength' (i.e. *might/must*) and evidence type for now):

(3) EPISTEMIC CONTEXT: People are arriving home after a day of berrypicking up in the Suskwa (traditional berrypicking grounds). They're carrying buckets of berries, and their hands are all purple. Do you think the berries are ripe?

   a. *mukw=**ima**=hl   maaɟ́*
      ripe=**ima**=CND   berries
      "The berries might be ripe."

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[2]Actually, it can be argued that in discourse there is rarely true ambiguity, as the context will almost always make things clear (cf. Kratzer 1991). That's precisely why we need them in elicitation!

b. **n̓akw**=hl   mukw=hl   maay̓
   n̓akw=CND   ripe=CND   berries
   "The berries must be ripe."
   "Looks like the berries are ripe."

(4)   EPISTEMIC CONTEXT: You and a friend are going fishing. You notice blood on the rocks ahead of you where your friend is walking.

a. ḵ'ots-i-n**=ima**=hl   'on̓-n
   cut-TR-2sg**=ima**=CND   hand-2sg
   "You may've cut your hand."

b. **n̓akw**=mi   ḵ'ots=hl   'on̓-n
   n̓akw=2sg   cut=CND   hand-2sg
   "You must've cut your hand."

- We are presenting contexts that target a speaker's base of knowledge for making a claim (i.e. ripe berries and cut hands; cf. the 'coding of epistemology' Chafe and Nichols 1986)

- An idealized scenario: I 'discovered' the truth of **=ima** and **n̓akw**, by eliciting from the speaker a response to the context – I did not ask them to translate anything from English!

- However, we're not done yet: this is **not** the same thing as claiming **=ima** and **n̓akw** are epistemic modals.

2.1.2   Felicity: Epistemic vs. Circumstantial

- We need to test if **=ima** and **n̓akw** are restricted to epistemic contexts. This can only be done through testing felicity.

- Felicity conditions can only be discovered through a judgment task, which cannot be elicited without contexts.

(5)   EPISTEMIC CONTEXT: You're planning with your friend to go to a spot in the Suskwa that you go to every year because you know it's a good patch.

limx̱s**=ima**=hl   maay̓   go'osun
grow**=ima**=CND   berries   LOC.here
"Berries might be growing here."

(6)   CIRCUMSTANTIAL 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. # limx̱s**=ima**=hl   maay̓   go'osun
     grow**=ima**=CND   berries   LOC.here
   "Berries might grow here."

b. da'ax̱hlxw=hl   maay̓   tim   limx̱s-t   go'osun
   CIRC=CND   berries   FUT   grow-3   here
   "Berries might be growing here."

2.1.3   Felicity: Epistemic vs. Deontic

(7)   EPISTEMIC CONTEXT: You need to ask John a favour, so you and a friend drive by John's place to see if he's home. John's truck is in the driveway.

n̓akw=hl   ta'a-(t)=s   John
EVID=CND   at.home-3=PND   John
"John must be home."

(8)   DEONTIC CONTEXT: It's 10:30pm, and your friend asks you where John is tonight. You know that John has a strict 10pm curfew.

   a.   # **n̓akw**=hl   ta'a-(t)=s   John
           EVID=CND   at.home-3=PND   John
     "John must be home."

   b.   *dim*   ta'a=t   John
       FUT   at.home=PND   John
     "John must be at home."

2.1.4   Emerging generalizations

- **Step 1: Truth.** What is/are the morpheme(s) that encodes epistemic contexts?

    – **=ima** and **n̓akw**

- **Step 2: Felicity.** Can **=ima** and **n̓akw** be used in circumstantial and deontic contexts?

    – **No:** Good candidate for an evidential. The next step is to check to see if it has a root modal meaning (see §3)

- This method is often reflexive: sometimes determining the truth values of a morpheme requires to look at the contexts it could be potentially felicitous in.

2.2 Stage II: Evidentiality and Evidentials

- Same methodology: Construct a range of example sentences, paired with particular discourse contexts, and ask the speaker whether in the discourse contexts provided, the sentences are (a) **true** and (b) **felicitous**.

- Direct elicitation: asking for **translations** and asking for **judgments**.

- **A heuristic move:** pick a typology of evidential meanings, i.e. Aikhenvald (2004); Willett (1988); Palmer (2006) etc.

(9) Aikhenvald (2004):

  (i.) Witness vs. Nonwitness

  (ii.) Firsthand vs. Secondhand vs. Thirdhand

  (iii.) Sensory

   a. Visual

   b. Nonvisual (i.e. auditory, olfactory, etc.)

  (iv.) Inferential

   a. Direct physical

   b. General knowledge

   c. Experience

   d. Past deferred realization

  (v.) Reportative

   a. Hearsay

   b. Quotative

  (vi.) Assumed

- **Truth:** What is/are the morpheme(s) that encode different evidence sources?

- **Felicity:** Can these morphemes be used with more than one type of evidence?

2.2.1 Incrementally adjusting a scenario

- **=ima** and **n̓akw** are restricted to epistemic contexts, therefore they are good candidates for being evidentials.

- Incrementally widen or narrow a context based on evidence type.

- Topics: berrypicking, the missing *hoxs*, sleeping granny.

(10) Sub-types of Aikhenvald's INFERENTIAL:

   (iv.) INFERENTIAL

         a. Direct physical
         b. General knowledge
         c. Experience

(11) INFERENTIAL – DIRECT PHYSICAL: 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. Do you
      think the berries are ripe?

      a. *mukw=**ima**=hl   maay̓*
          ripe=**ima**=CND   berries
          "The berries might be ripe."

      b. *n̓akw=hl   mukw=hl   maay̓*
          n̓akw=CND   ripe=CND   berries
          "The berries must be ripe."
          "Looks like the berries are ripe."

(12) INFERENTIAL – GENERAL KNOWLEDGE/EXPERIENCE: 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). Do you think the berries are ripe?

      a. *mukw=**ima**=hl   maay̓*
          ripe=**ima**=CND   berries
          "The berries might be ripe."

      b. # *n̓akw=hl   mukw=hl   maay̓*
             n̓akw=CND   ripe=CND   berries
          "The berries must be ripe."
          "Looks like the berries are ripe."

(13) INFERENTIAL – DIRECT PHYSICAL: You had five pieces of *hoxs* (half-smoked salmon) left
      when you checked yesterday. Today, you go to get some to make *hagwiljam* (a kind of soup)
      and you notice it's gone. It's not that you only think it's Fern, you know it's her because you
      see the *hoxs* skins in her room.

      a. *kup=**ima**=s   Fern=hl   hoxs*
          eat=MOD=PND   Fern=CND   hoxs
          "Maybe Fern ate the *hoxs*."

      b. *n̓akw=t   kup=s   Fern=hl   hoxs*
          n̓akw=3sg   eat=PND   Fern=CND   hoxs
          "Fern must've eaten the *hoxs*."

(14) INFERENTIAL – GENERAL KNOWLEDGE/EXPERIENCE: You had five pieces of *hoxs* left when you checked yesterday. Today, you go to get some *hoxs* to make *hagwiljam* and you notice they're gone. You're not sure who took them, but you know Fern is the person in your household who really likes *hoxs*, and usually eats a lot whenever she gets the chance.

    a. *kup**=ima**=s*   *Fern=hl*   *hoxs*
       eat=MOD=PND Fern=CND hoxs

       "Maybe Fern ate the *hoxs*."
       "Fern must've eaten the *hoxs*."

    b. # *ṅakw=t*   *kup=s*   *Fern=hl*   *hoxs*
         ṅakw=3sg eat=PND Fern=CND hoxs

       "Fern must've eaten the *hoxs*."

(15) INFERENTIAL – DIRECT PHYSICAL: You sneak into the bedroom and see that she's lying down with her eyes closed. Auditory: You can hear snoring.

    a. *wok̲**=ima**=t*   *naa'a*
       sleep=MOD=PND grandmother

       "Grandmother might be sleeping."
       "Maybe Grandmother is sleeping."

    b. *ṅakw=hl*   *wok̲=t*   *naa'a*
       ṅakw=CND sleep=PND grandmother
       "Grandmother must be sleeping."

(16) INFERENTIAL – GENERAL KNOWLEDGE/EXPERIENCE: It's 5 o'clock. Grandma is in her room and always has a nap at this time of day.

    a. *wok̲**=ima**=t*   *naa'a*
       sleep=MOD=PND grandmother

       "Grandmother might be sleeping."
       "Maybe Grandmother is sleeping."

    b. # *ṅakw=hl*   *wok̲=t*   *naa'a*
         ṅakw=CND sleep=PND grandmother
       "Grandmother must be sleeping."

- **An emerging generalization: ṅakw** is felicitous in a subset of evidential contexts that **=ima** is.

- Can we sharpen the contexts further?

- The use of **ṅakw** is also felicitous in the SENSORY class of contexts:

(17) Sub-types of Aikhenvald's SENSORY:

    (iii.) SENSORY

        a. Visual

        b. Nonvisual (i.e. auditory, olfactory, etc.)

(18) SENSORY – TACTILE: Your touch your daughter's forehead and it's very hot:

    n̓akw=hl   *siipxw-n*
    EVID=CND sick-2sg
    "You must be sick!"

(19) SENSORY – AUDITORY: Your hear your friend's stomach start to grumble loudly:

    n̓akw=hl   *xtaxw-n*
    EVID=CND hungry-2sg
    "You must be hungry!"

(20) SENSORY – OLFACTORY: You're chopping wood out by the smokehouse, and you can smell smoke and fish:

    n̓akw=hl   *si-hon-(t)=s*   *Bob*
    EVID=CND CAUS-fish-3sg=CND Bob
    "Bob must be smoking/preparing/doing up fish."

2.2.2 A lateral move: The reportative

(21) **Reportative evidentials:** The speaker claims to have heard of the situation described from someone who was a direct witness; can be called 'second-hand evidence'.

(22) SECOND-HAND EVIDENCE: The speaker is talking about a time during her childhood when she took a boat from Vancouver Island to Prince Rupert. The speaker does not remember herself exactly where the boat arrived, but was told about it by her older sister, who was there.

    *pakw=**k̲at***   *n̓uum̓* *k̲o'=hl*   *Prince Rupert*
    arrive.pl=REP 1pl   LOC=CND Prince Rupert
    "[I heard] We got to Prince Rupert."

(23) SECOND-HAND EVIDENCE: People are discussing the various contributions for a feast. Someone heard from the person who did the accounting that Walter also put in money, but the accountant didn't actually witness Walter doing this (as it's done anonymously).

    *luma**k̲**-t-i-(t)=**k̲at**=s*   *Walter=hl*   *taala*
    donate-t-TR-3=REP=PND Walter=CND money
    "Walter donated/contributed/put in money."

- **Conversational analysis:** The use of **=kat** from a story told by and elder, involving a typical description of the legend character, *Weget*:

(24) EVIDENCE FROM FOLKLORE:

  *la̲x-mo'on=**kat**   wil   skyat=s   Weget*
  LOC-salt=REP   COMP born=PND Weget
  "Weget was born in the sea."

2.2.3 Observed conversation and Texts

- Observing conversation can offer more insight as to the possible distribution of an evidential/modal.

- As with translations, this should be regarded as a clue: where possible you should always reconstruct the conversation with a consultant:

(25)   Q. *ga̲xguhl   witxws   Alvin?*
      ka̲xwi=hl   witxw=s   Alvin?
      when=CND   arrive=PND Alvin
      "When is Alvin arriving?"

   A1. *witxwima   n̓it t'aahlakw*
      witxw=**ima** n̓it t'aahlakw
      arrive=MOD   3   tomorrow
      "He might arrive tomorrow"
      "I think he'll arrive tomorrow."

   A2. **n̓akw**hl   *witxwt   t'aahlakw*
      n̓akw=hl   witxw-t t'aahlakw
      EVID=CND   arrive-3 tomorrow
      ≠ "He might arrive tomorrow."

- This example reinforces our generalization about **n̓akw**.

- In the following examples we can observe **=ima** and **=kat** attaching to a nominal in conversation:

(26) HW: *ga̲xguhl   witxws   Alvin?*
      ka̲xkwi=hl   witxw=s   Alvin?
      when=CND   arrive=PND Alvin
      "When is Alvin coming back?"

    GS1: *silkwsa̲x*
        silkwsa̲x
        noon
        "noon."

GS2: *silkwsaxima*
      silkwsa<u>x</u>=**ima**
      noon=MOD
      "Maybe noon."

(27) GS: *ga<u>x</u>guhl   witxws   Alvin?*
           ka<u>x</u>kwi=hl   witxw=s   Alvin?
           when=CND arrive=PND Alvin
           "When is Alvin coming back?"

      LW: *silkwsa<u>x</u>kat*
           silkwsa<u>x</u>=**kat**
           noon=REP
           "[I heard] noon."

- The reportative can be distinguished from the quotative, which is often easier to find in observed conversation or texts:

(28)   a. *tixtahlxw   se'-t,   tiya.*
          DISTAL.LOC find-3 say.3
          "'Up there he found it,' he/she/it said"

       b. *n̓itiit   yats=hl   kyat,   tiya=hl   hana<u>k</u>-ki.*
          3pl   sing=CND   man   say=CND   woman-DIST
          "'It was for them that the man sang,' the woman said."

- Where possible, reconstruct the context with a consultant:

(29) CONTEXT: B is talking to A about a discussion B overheard at bingo last night. Someone was asking to borrow money to play. John advised this person against lending the money. B talked to a friend who was there, so it's reasonable that he might've heard John's part in the exchange.

      A. *gwi<u>g</u>at   diyat   John*
         kwi=**kat**   tiya=t   John
         what=REP   say=PND John
         "What was it that John was supposed to have said?"
         "What was it that John was said to have said?"

      B. *ham   ji   gin̓amhl   daala   loodiit,   diya<u>g</u>at   John*
         ha-m   tsi   kin̓am=hl   taala   loo-tiit,   tiya=**kat**   John
         NEG-2sg IRR   give=CND money OBL.PRO-3pl say=REP   John
         "(It was said that) he said not to give them (any) money."

3   A semantic and pragmatic documentation toolkit

3.1   Truth and Felicity

(i.) **Truth:** When a speaker understands a sentence, s/he knows the conditions under which that sentence would be true.

> (30) *mukw=hl   maay̓*
>   ripe=CND   berries
>   "The berries are ripe."

(ii.) **Felicity:** The appropriate context for making an utterance.

> (31) Felicitous use of **n̓akw**
>
>   **n̓akw**=hl   *mukw=hl   maay̓*
>   EVID=CND   ripe=CND   berries
>   "The berries must be ripe."
>
>   Context: You see people running through the forest with buckets all happy, or people coming home from the Suskwa with buckets full of berries.

> (32) Infelicitous use of **n̓akw** (marked by #)
>
>   # **n̓akw**=hl   *mukw=hl   maay̓*
>   EVID=CND   ripe=CND   berries
>   "The berries must be ripe."
>
>   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.

3.2   Infelicity ≠ Ungrammaticality

- Felicity targets contexts: a sentence can be grammatical but infelicitous (cf. (31) and (32)).

- Grammaticality targets constructions: a sentence can be ungrammatical but felicitous. You can't stack clitics in Gitksan:

> (33) **mukw**=ima=k̲at**=hl   maay̓*
>   ripe=MOD=REP=CND   berries
>   (I heard) the berries might/must be ripe."
>   "I might've heard the berries are ripe."

- cf. Matthewson (2004, p. 386)

4   Different kinds of meaning

- **Entailment, presupposition** and **implicature** – are relevant for our investigation into modality and evidentiality.

4.1   Entailment

- Sentence A entails a sentence B if and only if there is no situation in which A is true and B is false: (a) entails (b); (a) cannot be true without (b) also being true; consequently, (c) is a contradiction.

(34)   a. Mary is a graduate student.

  b. Mary is a student.

  c. Mary is a graduate student, but Mary is not a student.

- This contradiction does not arise with modal evidentials in Gitksan and St'át'imcets (see Rullmann et al. 2008)

(35) *hla   yugwimahl   dim   wis,   ii   neeyima   hla   yukw   tim   wis*
       hla   yukw=**ima**=hl   tim   wis,   ii   nee=**ima** hla   yukw   tim   wis
       INCEPT   PROG=MOD=CND   FUT   rain, CONJ   NEG=MOD   INCEPT   PROG   FUT   rain
       (a.) "It might start raining, and it might not."
       (b.) #"It must start raining, and it might/must not have."

4.2   Presupposition

(36)   a. John stopped smoking. (presupposes John used to smoke)

  b. John didn't stop smoking. (still presupposes John used to smoke).

- Evidential meaning is actually presupposed, not entailed: the negation test shows us this:

(37) Indirect evidential =**ima** presupposes reported evidence

   *siipxw=**ima**=t   Mary*
   sick=MOD=PND   Mary
   "[I see] Mary is sick."

(38) Presupposed evidence 'survives' under negation

   *nee=**ima**=hl   siipxw=s   Mary*
   NEG=MOD=CND   sick=PND   Mary
   "[I see] Mary **isn't** sick."
   ≠ "[I didn't hear] Mary is sick."

(39) *nee=**kat**-t   lumak̲-t-di=s   Walter=hl   taala*
   NEG=REP=3sg   donate-t-3sg=PND   Walter=CND   money
   "[I heard] Walter **didn't** donate money."
   ≠ "[I didn't hear] Walter donated money."

4.3   Implicature

- The mirative (surprise) use of an indirect evidential is quite common cross-linguistically, but this meaning is neither entailed nor presupposed

(40)   DIRECT EVIDENCE (MIRATIVE) CONTEXT: John is standing in the doorway.

n̓akw=hl   witxw=t   John
EVID=CND   arrive=PND   John

"John's here!"
"Look who's here!"
"I see John's here!"

   a. "...not that I'm surprised or anything..."

   b. "...not that I wasn't expecting you..."

(41)   Tsafiki Dickinson (2000)

   a. *tse   lowa=bi   ne=chi   keere-i-i-nu-e*
      1FEM   bed=LOC   from=LOC   throw-become-NCONGR-EV/MIR-DECL
      'I must have fallen out of bed.' (I'm on the floor). (412)

   b. *moto   jo-nu-e*
      motorcycle   be-EVID-DECL
      'It's a motorcycle!' (411)

(42)   Qiang LaPolla (2003)

   b. *the: ʐdʐyta: ɦa-qi-k*
      3sg   chengdu.LOC   OR-go-INFER
      "He went to Chengdu."

   b. *dʐy   de-ʐge-ji-k*
      door   OR-open-CSM-INFER
      "The door is open!"

5   A 'toolkit' for investigating meaning

1. Underlying concepts: **truth**, **felicity** and **grammaticality**

2. Meaning relations: **entailment**, **presupposition**, and **implicature**

   – Universally accepted

   – Theory-neutral

   – Easily replicable

   – Applied to **any** kind of meaning, both utterances (i.e. sentences), and the parts of utterances (words: lexical entailment)

- **Realia:** using objects for eliciting the meaning of words and expressions for culture-specific material things

- **Story boards/video/photographs:** if you don't share a common metalanguage with your consultant, or you want to avoid the 'interference' of the metalanguage

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