

A Modular Approach to Evidentiality

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1 Goals

- Evidentiality is a well-established morphosyntactic category (Aikhenvald 2004, Faller 2002, 2012, Garrett 2002, Murray 2010).
- Definitions:
 - Chafe and Nichols (1986):
Evidentials are devices used by speakers to mark the source and reliability of their knowledge.
 - McCready (2015):
Evidentials are expressions which indicate a speaker’s source of justification for the speech act being made
- Examples from the Northwest Amazonian language Tariana (Aikhenvald 2003):
 - (1) tʃinu niwahāka dina
‘The dog bit him (we have seen it).’
 - (2) tʃinu niwahāmahka dina
‘The dog bit him (we have heard the noise).’
 - (3) tʃinu niwahāsika dina
‘The dog bit him (he has a scar and I can make an inference).’
 - (4) tʃinu niwahāpidaka dina
‘The dog bit him (someone told me).’
- Languages such as Tariana (above), Quechua (Faller 2002), and Tuyuca (Barnes 1984) have fully grammaticalized evidentiality marking: regular declarative statements carry mandatory morphological marking that indicates the type of information source upon which the statement is based.
- Not all languages have such mandatory, morphological evidentiality marking.
- However, all languages have some means of marking sources of evidence: *apparently, someone told me that..., I saw that...*
- In this paper, we will try to develop an analysis that captures the commonalities between different types of evidentiality marking, while maintaining the important distinction between grammaticalized and non-grammaticalized evidentiality.

2 Grammaticalized evidentiality

- Grammaticalized evidentiality: Evidentiality marking that is obligatory, at least in certain tenses. Typically marked with bound morphology.
- In about a quarter of the world’s languages, every statement is overtly marked for the type of evidence that statement is based on (Aikhenvald, 2004).
- **[Comment: Perhaps add a short snippet in this section about how grammaticalized (“true”) evidentiality seem to follow certain criteria (like they’re not-at-issue following Murray, Faller, and others). We probably won’t actually capture this in our analysis, but our paper is about capturing the basic type-of-evidence meanings contributed by evidentials: direct/indirect, visual, reportative + the more detailed distinction that only occur only in non-grammaticalized evidentiality.]**
- Types of evidentials in Tariana (cf. (1–4) above) **[Comment: perhaps move this up?]**:
 - (1) Visual evidence
 - (2) Non-visual sensory evidence

- (3) Inferred evidence
- (4) Reportative evidence

- Cherokee, firsthand and non-firsthand:

- (5) wesa u-tlis-**Λʔi**
cat it-run-FIRSTHAND.PAST
'A cat ran' (I saw it running.)
- (6) uyo ges-**Λʔi**
spoiled be-FIRSTHAND.PAST
'It was spoiled' (I smelled it)
- (7) u-wonis-**eʔi**
he-speak-NON.FIRSTHAND.PAST
'He spoke' (someone told me)
- (8) u-gahnan-**eʔi**
it-rain-NON.FIRSTHAND.PAST
'It rained' (I woke up, looked out and saw puddles of water)

2.1 F-structural evidentiality features

- In languages with grammaticalized evidentiality, evidentiality is an obligatory morphosyntactic category, on a par with tense and aspect.
- We propose that languages with grammaticalized evidentiality encode evidentiality at f-structure as well as at s-structure.
- There is cross-linguistic evidence that evidentiality is an active morpho-syntactic feature, and it is therefore reasonable to model evidentiality at f-structure.
- Aikhenvald (2004: Chapter 4) is an overview of how evidentials interrelate with other grammatical categories. Examples:
 - Evidentiality marking in dependent clauses is restricted, with language-specific restrictions. For example, Qiang only allows evidentials in direct speech complements, not in relative or conditional clauses (LaPolla 2003, cited in Aikhenvald 2004),
 - In Takelma, the inferential evidential is one of six tense/mood systems, mutually exclusive with other tense/moods (Aikhenvald 2004: 241).
- Based on the typological summary provided in Aikhenvald (2004: Chapter 2), we propose that evidential languages make use of (a subset of) the following grammatical evidentiality f-structure features: [DIRECT +/–], [VISUAL +/–], [REPORTED +/–].
- These three binary features go a long way in capturing the evidentiality marking cross-linguistically, although more features may prove necessary in order to cover the full typology.
- Potential additional candidates are: QUOTATIVE, AUDITORY and SENSORY features.
- Nevertheless, grammaticalized evidentiality is quite restricted.
- Languages of course have the means to express much more nuanced details about information sources than our simple feature system conveys: this is done by means other than grammaticalized morphology and is modelled in the lexical entries and semantics, not with syntactic features in the f-structure.

2.1.1 Evidentiality at f-structure: Tariana as an example

The f-structural features of Tariana evidentiality morphology:

1. Visual evidence	-ka	[DIRECT +]	[VISUAL +]
2. Non-visual sensory evidence	-mahka	[DIRECT +]	[VISUAL –]
3. Inferred evidence	-sika	[DIRECT –]	[REPORTED –]
4. Reportative evidence	-pidaka	[DIRECT –]	[REPORTED +]

2.1.2 Evidentiality at f-structure: Cherokee as an example

The f-structural features of Cherokee evidentiality morphology:

1. Firsthand evidence	Λʔi	[DIRECT +]
2. Non- firsthand evidence	eʔi	[DIRECT –]

2.2 Evidentiality at s-structure

- The features listed above also express semantic content.
- We capture this content as modifiers on events in Glue semantics (refs)

Add stuff from abstract here, including Tariana. Add Cherokee!

3 Non-grammaticalized evidentiality

- Languages that do not have grammaticalized evidentiality have other means of expressing sources of information. They do by with lexical means: *reportedly, I heard/saw...*
- Languages with grammaticalized evidentiality can add further information lexically.
- Non-grammaticalized evidentiality partially overlaps with grammaticalized evidentiality. We capture these commonalities at s-structure.
- English does not have true, obligatory evidentials.
- However, we will discuss copy-raising and perceptual resemblance verbs as an example of non-grammaticalized evidentiality marking.

3.1 English copy-raising and perceptual resemblance verbs: Basic characteristics

Comment: What term do you want to use? We should have a term for all these verbs, in the it-frame and cr-frame. You suggested “comparative perception verbs”. I don’t think I like that.... Maybe just “perceptual resemblance verbs”? You can decide though, you will be the person actually speaking.

- verbs: *seem, appear, look, sound, smell, taste, feel*
- Attested examples (from www):

- (9) Brooke Adams **seems** like she is in a good mood
- (10) another boy **appears** as if he’s trying to destroy their shelter with an ax
- (11) The bathtub **looked** like it hadn’t been cleaned ever
- (12) the engines will **sound** like they are speeding up
- (13) He **smelled** like he’d been outside all day
- (14) the shrimp **tasted** like it had come out of a can
- (15) The shirt **feels** like it is made with quality materials

- subject + verb + like/as if + finite clause containing a pronominal copy of the matrix subject
- Very similar: *it seems/appears/looks/sounds/smells/tastes/feels like...* (cf. (17))
- True copy raising verbs: *seem, appear*
- Perceptual resemblance verbs: *look, sound, smell, taste, feel*
- Copy-raised subjects are interpreted as the perceptual source of evidence for the proposition denoted by the subordinate clause (Rogers 1972, Asudeh and Toivonen 2007, 2012).
- In (16), the evidence that *Sarah is tired* necessarily comes from *Sarah*. This is not the case in (17):

(16) Sarah looks/sounds like she’s tired.

(17) It looks/sounds like Sarah is tired.

- Experimental evidence: Rett and Hyams (2014), Chapman et al. (2015a,b)
- The subject-as-perceptual-source generalization has led Asudeh and Toivonen (2012), Rett and Hyams (2014), Chapman et al. (2015a,b) suggest that copy raising encodes **direct evidentiality**.
- How much does copy raising specifically and perceptual source verbs more generally have in common with what’s traditionally called evidentiality marking?

- According to the definitions above, perceptual source verbs are evidential markers; consider also definitions such as Chafe's (1986):
"Evidentiality" can be used broadly to cover any linguistic expression of attitudes toward knowledge."
- However, according to the following definitions, perceptual source verbs **xxx terminology??** would not be classified as evidential markers:
 - Linguistic evidentiality is marked grammatically (not lexically) and the marking is obligatory (Aikhenvald 2004: Ch. 1).
 - Evidentials are not themselves the main predication of the clause but are rather a specification added to a factual claim about something else (Anderson 1986).
- We will argue:
 - **Copy raising verbs mark evidentiality broadly construed, but they are not grammaticalized, morphosyntactic, mandatory evidentials such as those found in Tariana and Cherokee.**
 - **The evidential contributions are seen in the lexicon and s-structure, not at f-structure.**
 - **Copy raising actually marks *indirect*, not direct evidentiality.**

3.2 English copy-raising and perceptual resemblance verbs: Indirect evidence

3.2.1 Direct perception verbs and perceptual resemblance verbs

- Compare (18) to (19–20): [comment: you can change "laugh" to "laughing" if you prefer]

(18) Sara saw Margaret laugh.

(19) It looked to Sara like Margaret laughed.

(20) Margaret looked to Sara like she laughed.

- Examples (18–20) all relate that Sara has visual evidence that indicates that Margaret laughed.
- In example (18), Sara directly saw the event of Margaret laughing. Sara has DIRECT evidence that Margaret laughed.
- In (19–20), Sara saw something which led her to infer that Margaret laughed. Sara has INDIRECT evidence that Margaret laughed.
- It is possible to continue (19–20) with *...but Margaret was in fact not laughing*. This is odd in the context of (18).
- These characteristics (visual, direct/indirect) are familiar from the literature on evidentiality.
- Example (20) further specifies that the visual indirect evidence that Margaret laughed comes from Margaret.
- Identifying the *specific* source of evidence does not seem to be common for true evidentials Doran (2015), but it does seem to occur: in Maaka, evidential markers can be attached to NPs, and the implication is that there is evidence from the noun to which the morpheme attaches (Storch and Coly 2014):

(21) làa nàmáa-**dìyà** sáy mìnè-póDí-ní gè-gòrkù-wà
 child this-JOINT:VIS must 1pl-remove:TEL-OBJ-3sg:MASC LOC-village-DEF
 'This child [whom we can both see], we must chase him from the village.'

- "...the suffix *-dìyá* [...] indicates that both speakers and hearer know or see the participant in question." (Storch and Coly 2014)
- A tricky thing about copy-raising examples such as (20): there is indirect evidence for the subordinate clause, but the evidence may directly come from the subject.
- In (20), Sara has indirect evidence that Margaret laughed. Sara got this evidence from Sara, possibly directly.
- In the attested example in (22), the speaker has not directly heard Dinah:

(22) "I hope we can also arrange a walk with our dogs as I would love to meet Dinah – she sounds like she is a real character."
 (www)

- Direct perception verbs *see/hear* and the perceptual resemblance verbs are similar in that they can specify type of evidence (visual, aural...)
- An important difference between direct perception verbs *see/hear* and the perceptual resemblance verbs is the difference between direct and indirect evidence.

- The verbs *seem* and *appear* do not specify the type of evidence, but they do specify that the evidence is indirect.
- *Fiona heard Sue cry* is different from *Fiona heard that Sue cried*: the latter does not entail that Fiona directly heard Sue crying.
- Asudeh, Sullivan & Toivonen (2017) present the results of a series of experimental studies that lend support to the claim that direct perception verbs and perceptual resemblance verbs differ in whether the evidence is direct (Section 3.2.3).

3.2.2 Reliability and evidentiality

- Reliability is relevant for evidentiality.
- Speakers mark the most reliable source of information if more than one type of evidence is available (see, e.g., Faller 2002, Aikhenvald 2004, McCready 2015, Lesage et al. 2015).
- Cross-linguistic generalizations:
 1. Direct perceptual evidence outranks indirect perceptual evidence.
 2. Direct perceptual evidence outranks reportative evidence.
 3. Visual evidence outranks non-visual sensory evidence.
- For example, direct perceptual evidence outranks indirect perceptual evidence.
- In cases of indirect visual evidence and reportative evidence, the speaker makes a judgement based on (a) how convincing the visual evidence is, and (b) the general reliability (trustworthiness) of the person who gave the report.
- If *see/hear* signal direct evidence and *look/sound* signal indirect evidence, then the *see/hear* statements should convey that the evidence is more reliable, more certain than when *look/sound* is used.
- Listeners should therefore take (23), but not (24) as clear evidence that Nadya left:

(23) Laura saw Nadya leave.

- (24) a. It looked like Nadya left.
b. Nadya looked like she left.

3.2.3 Asudeh, Sullivan & Toivonen (2017)

OUR STUDY, SUMMARY:

- Indirect evidence: less certain, less reliable
- Asudeh et al. (2017) conducted psycholinguistic experiments using the methods of Lesage et al. (2015).
- The results indicate that perceptual source examples (including copy raising) do not encode direct evidence: even if it looks like Sue is tired, it is not certain that Sue actually is tired.
- *See/hear* examples were ranked higher than *look like/sound like* examples.
- Copy raising examples were ranked the same as *it* examples.

(25) Pete saw Sue decorate the office.

(26) Pete heard Sue decorate the office.

(27) It looked like Sue was decorating the office.

(28) It sounded like Sue was decorating the office.

(29) Sue looked like she was decorating the office.

(30) Sue sounded like she was decorating the office.

3.2.4 Summary

- Evidential aspects of *see, hear, look, sound...*:
 - specify the type of source of information: *visual, aural...*
 - specify whether the information is direct or indirect.

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