

A semantic account of mirative evidentials*

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0 Overview

Object of study: mirative evidentials, morphemes across languages which are interpreted as an indirect evidential or a mirative marker (expressing speaker surprise)

Theoretical relevance of mirative evidentials:

- Why the cross-linguistic polysemy (what do indirect evidence and mirativity have in common)?
- What conditions the two interpretations of mirative evidentials?
- How do mirative evidentials relate to other mirative constructions (e.g. exclamations)?

Main empirical claims

- Mirative interpretations, across languages and constructions, only arise in a **mirative context**: when the speaker has recently learned that p , regardless of type of evidence
- In Cheyenne¹, the language we focus on, the evidential reading of a mirative evidential is part of the not-at-issue content, while the mirative reading is an illocutionary-level phenomenon.

Main theoretical proposals:

- Indirect evidentials – in contrast to direct evidentials – relate the at-issue proposition p to a contextually valued set E of epistemically accessible propositions: a salient set of expectations
- The expressive component of mirativity is conditional on the relative recency of the speech event and the event of the speaker learning that p
- We present a unified semantics for the Cheyenne mirative evidential

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¹Cheyenne is a Plains Algonquian language spoken in Montana and Oklahoma. The data presented are from Sarah Murray's fieldwork (Montana during summers since 2006) and draw on a Cheyenne grammar (Leman 2012), collections of texts (Leman 1980, 1987), and a dictionary (Fisher et al. 2006). For all included Cheyenne examples, the morphological analysis, glossing, and translation is Sarah's.

1 Mirativity across constructions

- **mirativity**: the expression of exceeded expectation
- we take the semantic contrast between (1a) and (1b) – conditioned by intonation – to be all and only one of mirativity

- (1) a. *Andy arrived on time.*
 b. *(Wow,) Andy arrived on time!*

- the ‘expression’ bit (Sadock and Zwicky 1985, Kaplan 1997, Castroviejo-Miró 2006, Rett 2011)

- mirativity is distinct from asserted speaker surprise

- (2) *I am surprised that Andy arrived on time.*

- it’s undeniable

- (3) A: *(Wow,) Those cupcakes are vegan!*
 B: *No, they’re vegetarian.* denial of descriptive content
 B':#*No, you’re not surprised/you knew they were vegan.* denial of expression

- doesn’t embed under negation

- (4) *(Wow,) Andy didn’t arrive on time!* %I’m not surprised that...

- and always speaker-oriented

- (5) a. *Mary said Andy arrived on time!* %mirativity associated with embedded clause
 b. **Where did Andy arrive on time!* %‘interrogative flip’; more later

- the ‘exceeded expectation’ bit

- Merin and Nikolaeva (2008), Rett (2008, 2011): speaker’s expectations violated or exceeded (‘speaker surprise’)

- but it seems as though there’s an element of suddenness or spontaneity:

- (6) *Wow, Hawk won the race!*
 a. context 1: speaker learns of win at 5:00, utters (6) to Sue at 5:01
 b. #context 2: speaker learns of win at 5:00, utters (6) to Sue at 6:00

- any evidence will do

- mirative constructions across languages are felicitous with any kind of evidence

- (7) *Wow, Hawk won the race!*
 a. context 1: speaker watched the race, sees Hawk win
 b. context 2: speaker was not at the race, hears the results the next day
 c. context 3: speaker was not at the race, goes to Hawk’s house and sees his trophy

2 Mirative evidentials across languages

2.1 Mirative evidentials are indirect evidentials

- Mirative evidentials (‘MEs’), across languages, mark indirect rather than direct evidence
- In e.g. Cuzco Quechua (Quechuan, Peru), the evidential interpretation of the ME is acceptable only in scenarios in which the speaker has hearsay or inferential evidence for the at-issue proposition *p*;

(8) *Q'iru p'aki-ku-sqa-n.*

cup break-REFL-IND!-DIR

‘The cup broke.’

“[F]elicitous in a situation in which the speaker finds the pieces of the broken cup, but did not witness the breaking itself” (Faller 2004, 52).

- In e.g. Udihe (Altaic, Eastern Russia), the evidential interpretation of the ME is acceptable only in contexts in which the speaker has inferential evidence that *p* (translated as ‘it turns out that’ and ‘apparently’; Nikolaeva and Tolskaya 2001, 462);
- In e.g. Cheyenne, the ME is the narrative evidential. The evidential interpretation is acceptable only if the speaker has indirect evidence that *p*; typically used in legends and folktales (Leman 2012, Murray 2010a)

(9) a. *É-x-hoo'kôhó-neho.*

3-REM.PST-rain-NAR.SG.INAN

‘Long ago, it rained, it is said.’

b. *É-hoo'kôhó-neho!*

3-rain-NAR.SG.INAN

‘It’s raining!’

2.2 Mirative evidentials can be mirative markers

- The mirative interpretations of MEs mark speaker surprise
 - speaker had no “premonitory awareness” (Slobin and Aksu 1982, 196)
 - used in situations of surprise and discovery (examples from Lhasa Tibetan; (10b) indicates that the speaker has just reached into his pocket and discovered to his surprise that he has some money, DeLancey 1992, 43–44)

(10) a. *ngar dngul tog=tsam yod*

I:DAT money some DIR

‘I have some money.’

b. *ngar dngul tog=tsam 'dug*

I:DAT money some IND

‘I have some money!’

- The mirative interpretations of MEs are acceptable regardless of evidence type
 - While the evidential interpretation of MEs is restricted to (specific types of) indirect scenarios, the mirative interpretation of MEs is acceptable regardless of the type of evidence.
 - for Cuzco Quechua, the contrast is between indirect information of Marya’s coming (11a) and direct evidence of Marya’s coming (11b) (Faller 2004, 52–3).

- (11) a. *Marya-qa hamu-sqa-n.*
Marya-TOP come-IND.PST-DIR
'Marya came.'
- b. *Kay-pi ka-sha-sqa Marya-qa.*
this-LOC be-PROG-IND.PST Marya-TOP
'Marya is here!'

- for Sunwar, the mirative interpretation of (12) is available with direct or hearsay evidence, “but only in circumstances which emphasize the fact that the information was not otherwise available” (DeLancey 1997, 41–2).

- (12) *Tangka Kathmandu-m 'baâ-tə*
Tangka Kathmandu-LOC IND-3SG.PAST
'Tangka is in Kathmandu.'

- miratively interpreted MEs, like exclamations (Rett 2011), are also natural as compliments

- (13) *Kiz-iniz cok iyi piyano cal-iyor-muş.*
daughter-your very good piano play-PRES-IND
'Your daughter plays the piano very well!' *Turkish*, Slobin and Aksu (1982)

- “But the complimentary sense follows directly from the “new knowledge” interpretation, the implication being something like “No matter how high my expectations might have been, what I have just heard exceeded them”” (DeLancey 1997, 38).

- (14) “does not convey that they had thought the addressee was a bad cook” (Faller 2004).

- (14) *Lawa-yki-qa sumaq-mi ka-sqa!*
soup-2-TOP nice-DIR be-IND.PST
'Your soup is very tasty!' *Cuzco Quechua*

2.3 Mirative evidentials and the recency restriction

- The mirative interpretations of MEs are acceptable only when the speaker has just learned *p*
 - “would usually be uttered at the time the speaker is perceiving the surprising situation” (Faller 2004, 53)
 - The mirative interpretation of (15b) is available in a situation in which “The speaker hears someone approach, opens the door, and sees Kemal – a totally unexpected visitor” (Turkish; Slobin and Aksu 1982, 187).

- (15) a. *Kemal gel-di.*
Kemal come-PST
'Kemal came.'
- b. *Kemal gel-miş.*
Kemal come-IND
'Kemal came.'

- The mirative interpretation of the Kalasha (Indo-Aryan, Pakistan Bashir 1999) ME sentence in (16) is natural “when the speaker first sees the work that his friend has accomplished” (DeLancey 1997, 47–8)

- (16) *aj'ab krom ka'da-his*
remarkable work do.PST.IMPF-IND.2SG
'You have done a remarkable job!'

- In Tsafiki, the ME is used instead of a direct evidential “When you get to the house you realize that you have been there before with Carlos. [...] If you were already aware that you had been there before you would use” the direct evidential (17a) (Dickinson 2000, 399).

- (17) a. *tse Carlos=be in=te fa-yo-e*
 1FEM Carlos=ASSOC DEM=LOC arrive.here-DIR-DECL
 ‘I’ve come here (before) with Carlos.’
 b. *Carlos=be tse in=te fa-i-e*
 Carlos=ASSOC 1FEM DEM=LOC arrive.here-IND-DECL
 ‘I’ve come here (before) with Carlos! (I just realized it).’

- In Tibeto-Burman grammars, the ME is characterized as marking “new knowledge” (DeLancey 1997, 2001).

- There are several sorts of propositions the mirative interpretation *tends* to correlate with:

- for 1st-person subjects, a lack of agency or volition (DeLancey 1997; Tsafiki data from Dickinson 2000, 394)

- (18) a. *tse katso-yo-e* b. *tse katso-i-e*
 1FEM sleep-DIR-DECL 1FEM sleep-IND-DECL
 ‘I slept.’ ‘I dozed off/fell asleep!’

- present tense; see (9) (Murray 2012)
- imperfective aspect; the Hare mirative evidential receives its mirative interpretation most naturally “in a context the speaker has first-hand knowledge of unanticipated information” (DeLancey 1997, 39).

- (19) a. *Mary e-wé’ ghálayeyĩda lõ*
 Mary its-hide work.PERF IND
 ‘Mary worked on hides (given what I’ve inferred or heard)’
 b. *Mary e-wé’ ghálayeda lõ*
 Mary its-hide work.IMPF IND
 ‘Mary is working on hides (I saw, to my surprise)’

2.4 Previous analyses of mirative evidentials

- Indirect evidentiality and mirativity have in common that they represent epistemic distance from the speaker. Both readings suggest that “the speaker feels distanced from the situation he is describing” (Slobin and Aksu 1982, 198); see also DeLancey (2001).

“At a more abstract level, evidentiality and mirativity, as well as modality, can be thought of as conceptually related. Each represents the grammatical indexation of ways in which a proposition can deviate from an ideal knowledge” (DeLancey 2001, 379)

- MEs are mirative because they are morphologically marked in the absence of a situation supporting their usual marked meaning (i.e. indirect evidence) (Dickinson 2000, Lazard 2001, Peterson 2010).

3 What type of meaning do mirative evidentials encode?

1. the evidential component of the Cheyenne ME is not-at-issue content (Murray 2010a,b, 2012)
2. the mirative component of the Cheyenne ME is illocutionary content

3.1 Cheyenne evidentiality is not-at-issue content

- The evidential component of Cheyenne evidentials is not deniable (Murray 2010a).²

- (20) a. *Méavé'ho' eno é-héstáhe-séstse Mókée'e.*
 Lame Deer 3-be.from-RPT.3SG Mókée'e
 'Mókée'e is from Lame Deer, I hear.'
- b. #*É-sáa-hetóméstové-hane-∅. Hovánee'e é-sáa-né-hé-he-∅.*
 3-neg-be.true-MOD_B-DIR nobody 3-neg-that-say-MOD_A-DIR
 #'That's not true. Nobody said that.'

- Evidentiality always scopes outside of negation (ibid.)

- (21) *É-sáa-némené-he-séstse Floyd.*
 3-neg-sing-MOD_A-RPT.3SG Floyd
 'Floyd didn't sing, I'm sure.'
 #'Floyd sang, I'm not sure.'

- The reportative (22) and narrative (23) evidentials participate in 'interrogative flip' (Faller 2002, a.o.), wherein the evidential content becomes hearer-oriented (not speaker-oriented) in questions.

- (22) *É-x-hó'táhevá-hoo'o Aénohe.*
 3-REM.PST-win-NAR.3SG Hawk
 'Given the stories I heard, Hawk won.'
- (23) *Mó=é-x-hó'táhevá-hoo'o Aénohe?*
 y/n=3-REM.PST-win-NAR.3SG Hawk
 'Given the stories you heard, did Hawk win?'

3.2 Cheyenne mirativity is illocutionary content

- The mirative interpretation of the ME is undeniable, unembeddable, and always speaker-oriented
- The mirative interpretation of the narrative evidential *hoo'o* – in contrast to its evidential interpretation, (23) – does not participate in interrogative flip.

- (24) ??*Mó=é-x-hó'táhevá-hoo'o Aénohe?*
 y/n=3-win-NAR.3SG Hawk
 Intended: %'Given that you're surprised, did Hawk win?' / %'Did Hawk really win?'

- Murray (2010a,b): challenging evidentiality results in contradiction, *distinct from infelicity*

²∅ is the direct evidential in Cheyenne (glossed 'DIR').

- (25) #_⊥É-hó'táheva-**sé̂stse** Floyd naa+oha Hovánee'e é-sáa-né-hé-he-Ø.
 3-win-RPT.3SG Floyd but nobody 3-neg-that-say-MOD_A-DIR
 'Floyd won, they say, but nobody said that.'

- The intuition is that (25) makes two explicit incompatible commitments
- This parallels evidential adverbials in English and (other) not-at-issue content...

- (26) a. Reportedly, Sue takes salsa lessons. #_⊥Though that was never reported.
 b. Gabe, who likes candy, teaches at UCLA. #_⊥He doesn't like candy.

- ...but not sincerity conditions (e.g. Moore's paradox), or exclamations, where one explicit commitment seems to contradict an implicit one.

- (27) a. It's raining, #but I don't believe it's raining.
 b. Does Sue like pizza? ...#I don't want to know

- (28) a. Gabe arrived on time! ...#I'm not surprised, I knew he'd be on time.
 b. How incredibly early Gabe was for his flight! ...#I'm not surprised, he arrived exactly when I thought he would.

- When *hoo'o* receives a mirative interpretation, denial of the mirative content – in contrast to its evidential interpretation, (25) – results in infelicity rather than contradiction.

4 The analysis

4.1 Theoretical preliminaries

- We use the semantics proposed in Murray (2010a,b, 2013) to encode the at-issue/not-at-issue distinction and the contributions of illocutionary mood

- three potential contributions of every sentence:
 1. **the at-issue proposition** p : input to the illocutionary relation
 2. **the not-at-issue restriction**: added directly to the common ground
 3. **the illocutionary relation**: structures the common ground with respect to p

- example: an English declarative sentence lacking not-at-issue content

- (29) a. *Hawk won (the race yesterday).*

b.	at-issue proposition	$p = \lambda w. \text{hawk won in } w$
	not-at-issue restriction	
	illocutionary relation	propose to add p to CG

- example: a Cheyenne evidential sentence (to be revised)

- (30) a. Hawk won-*hoo'o*

b.	at-issue proposition	$p = \lambda w. \text{hawk won in } w$
	not-at-issue restriction	p is part of a story
	illocutionary relation	propose to add p to CG

- We adopt the characterization of mirativity as an illocutionary mood proposed in Rett (2008, 2009, 2011), for the speaker s_C in a context C

(31) E-FORCE(p), when uttered by s_C , is appropriate in a context C if p is salient and true in w_C . When appropriate, E-FORCE(p) counts as an expression that s_C had not expected that p . (Rett 2011, 429)

- The utterance of an exclamation or mirative construction simultaneously:
 - a) asserts the at-issue proposition p ; and
 - b) expresses that the speaker did not expect that p (à la Kaplan 1997)
- example: an English exclamation lacking not-at-issue content (to be revised)

(32) a. *Hawk won (the race yesterday)!*

at-issue proposition	$p = \lambda w. \text{hawk won in } w$
not-at-issue restriction	
illocutionary mood	propose to add p to CG speaker did not expect that p

4.2 Formalizing recency and expectation

• The recency restriction

- A mirative construction with at-issue content p is felicitous only when the speaker utters it shortly after learning that p
- We'll encode this as a precondition on the felicitous utterance of any mirative construction (similar to the preparatory conditions in Searle 1969)
- What counts as 'shortly after learning that p ' varies across contexts and predicates; we'll characterize it in terms of:
 - * the speech event e_s and its time $\tau(e_s)$;
 - * the event e_l of the speaker i learning that p and its time $\tau(e_l)$;
 - * an immediate temporal precedence relation $<!$

(33) THE RECENCY RESTRICTION:

For the event e_s of a speaker i uttering a construction with at-issue content p , and for the event e_l of i learning that p , e_s satisfies the recency restriction iff $\tau(e_l) <! \tau(e_s)$

- We've defined the restriction in terms of temporal precedence, which we take to be context-sensitive; we could have instead defined it in terms of e_s and the target state of e_l (Parsons 1990).
- This is the first of two connections between mirativity and indirect evidentiality: the significance of the learning event (see also Nikolaeva 1999)

• The epistemic component

- A second connection between mirativity and indirect evidentiality: they both relate the at-issue proposition p to a salient set of expectations E .

- A formalization of Rett’s E-FORCE:
 - * E is a contextually-valued set of epistemically accessible propositions corresponding to an individual’s knowledge, beliefs and expectations (a proxy for the set of propositions an individual gives a sufficiently high expected value)
 - * E can be restricted to the speaker i (E_i) or to some other (group of) individual(s) x (E_x)
 - * E can be restricted temporally to e.g. the speech ($\tau(e_s)$) or learning ($\tau(e_l)$) time
- The expressive component of a mirative construction is that the at-issue proposition p was not in the speaker’s set of expectations during the learning event (i.e., before the end of the learning event, when the speaker learned that p).

$$(34) \quad \text{MIRATIVE ILLOCUTIONARY MOOD (cf. E-FORCE): } \tau(e_l) <! \tau(e_s) \rightarrow p \notin E_i^{\tau(e_l)}$$

- An example of exclamation in English, revised from (32):

(35) a. *Hawk won (the race yesterday)!*

b.	at-issue proposition	$p = \lambda w. \text{ hawk won in } w$
	not-at-issue restriction	
	illocutionary mood	propose to add p to CG $\tau(e_l) <! \tau(e_s) \rightarrow p \notin E_i^{\tau(e_l)}$

- English exclamation intonation is only licensed if $\tau(e_l) <! \tau(e_s)$, so the utterance of an exclamation with at-issue content p well after the speaker learns that p results in infelicity

• Epistemology and indirect evidentials

- Indirect evidentials – in contrast to direct evidentials – have in common that they too invoke a contextually valued set of expectations E in their not-at-issue content
 - * with hearsay or narrative evidentials, $E_x \models p$, for a third party x
 - * with inferential evidentials, $E_i^{\tau(e_l)} \models p$, for the speaker i at the time of the learning event (see also von Stechow and Gillies 2010)
 - * with miratives, $E_i^@ \models p$, for the speaker i at the speech time @ ($\tau(e_s)$)
- E is valued contextually by the salient set of expectations
 - * For indirect evidential markers, E is lexically unrestricted
 - * For e.g. reportative evidential markers, E may be lexically restricted to E_x
 - * In mirative evidential languages with more than one indirect evidential, the ME is the only indirect evidential with a lexically unrestricted E (but is, perhaps, restricted pragmatically from being valued in the same way as the lexically restricted markers)
 - * This raises the open question of whether **all** evidential languages have an ME.

4.3 A unified semantics for the Cheyenne mirative evidential

We begin by presenting each interpretation of an ME, then showing how the readings are unified under this approach.

• The narrative interpretation

- (a) the value of the epistemic state E is E_x

(b) the illocutionary mood is just that of assertion

(36) a. *Hawk won-hoo'o*. (Narrative only)

at-issue proposition	$p = \lambda w. \text{hawk won in } w$
not-at-issue restriction	$E_x \models p$
illocutionary relation	propose to add p to CG

• **The mirative interpretation**

(a) the value of the epistemic state E is $E_i^{\textcircled{a}}$

(b) the illocutionary mood includes an expression of surprise

(37) a. *Hawk won-hoo'o!* (Mirative only)

at-issue proposition	$p = \lambda w. \text{hawk won in } w$
not-at-issue restriction	$E_i^{\textcircled{a}} \models p$
illocutionary relation	propose to add p to CG $\tau(e_l) <! \tau(e_s) \rightarrow p \notin E_i^{\tau(e_l)}$

• **The unified analysis**

The Cheyenne ME makes the same semantic contribution in each case, but:

(a) the value of the epistemic state E differs across contexts; and

(b) the illocutionary mood is different, depending on when the speaker learned that p

(38) a. *Hawk won-hoo'o* (Narrative and Mirative)

at-issue proposition	$p = \lambda w. \text{hawk won in } w$
not-at-issue restriction	$E \models p$
illocutionary relation	propose to add p to CG $\tau(e_l) <! \tau(e_s) \rightarrow p \notin E_i^{\tau(e_l)}$

- Effectively, the recency restriction, when satisfied, results in a restriction on the not-at-issue relation between p and E
- Contrast with English: when it's not the case that $\tau(e_l) <! \tau(e_s)$, the Cheyenne ME has the not-at-issue content of a narrative evidential and the illocutionary mood of an assertion
- This analysis predicts that in a mirative context, only a mirative interpretation is possible.
 - An open empirical question
 - What role does intonation play in languages with mirative evidentials?

4.4 Connections with tense/aspect

The possible interpretations of MEs are often reported to loosely correlate with the tense/aspect of the at-issue proposition p . Here, we discuss how the two restrictions of MEs – that the evidence be indirect and that the learning event be recent – interacts with these semantic elements.

- p is present tense, imperfect (e.g. *It's raining; Your soup is tasty*) or perfect (e.g. *You have done a remarkable job, I have come here before* Portner and Zanuttini 2005)

- A speaker is most likely to have direct evidence for an event or state (in the case of imperfect aspect) or an endpoint or result state (in the case of perfect aspect) that is ongoing at the time of utterance (although this doesn't mean s/he cannot have indirect evidence for it)
- Since situations in which the speaker has direct evidence for an ongoing event or state are most likely those for which the speaker has recently learned that p , ME constructions inflected with present tense are likely to receive mirative interpretations
- p is past tense, imperfect (e.g. *John was old*) or perfect (e.g. *Mary worked on hides, Hawk won*)
 - There is no strong correlation between an event or state happening in the past and the sort of evidence a speaker might have for it.
 - There is also no strong correlation between an event or state happening in the past or present and the time of the learning event relative to the speech event.
 - As a result, ME constructions inflected with past tense can receive either an evidential or a mirative interpretation, depending on context.
 - One notable exception are propositions p in the remote past tense, for which a speaker is unlikely to have recently learned that p . In Cheyenne, ME constructions in the remote past (e.g. the example *Long ago, it rained* in (30a)) are most naturally interpreted as evidential.

5 Summary

Empirical generalizations

- Indirect evidentiality and mirativity are morphologically fused across language families (so we should prefer a unified account of the two types of meaning)
- Mirative interpretations are possible only when the speaker has recently learned the at-issue content p and when the speaker is surprised by p
- In Cheyenne – and possibly in other mirative evidential languages – evidentiality is not-at-issue content, while mirativity patterns with e.g. exclamation in being an illocutionary phenomenon

Theoretical proposals

- Mirative markers require that the learning event immediately precede the speech event
- MEs encode in not-at-issue content that p is entailed by some set of expectations E
- These requirements account for triggers of mirative readings (e.g. present tense, imperfect aspect)

Possible extensions

- Following DeLancey (2001), we're interested in languages whose perfect or past markers are morphologically fused with indirect evidentiality (Izvorski 1997, Koev 2011, Velázquez-Castillo 2013)
- Similarly, we are interested in the connection to languages whose imperfective markers are morphologically fused with mirativity (Andean Spanish; Torres Bustamante 2012).
- We're also interested in extending the epistemic part of this theory for parallels between evidentials and epistemic modals (Chafe and Nichols 1986, Izvorski 1997, Faller 2006, Matthewson et al. 2008).

Glosses

Evidential markers are bolded. Mirative evidentials will be underlined in the gloss.

ASSOC	associative	IND	indirect evidential	REFL	reflexive marker
DECL	declarative	LOC	locative	REM.PST	remote past tense
DEM	demonstrative	MOD	modal (agr on neg)	RPT	reportative evidential
DIR	direct evidential	NAR	narrative evidential	SG	singular
FEM	feminine	NEG	negation	TOP	topic marker
IMPF	imperfect aspect	PST	past tense	Y/N	question particle

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