Examining the Mirative and Nonliteral Uses of Evidentials[*]

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1.   Introduction

This paper presents an analysis of how evidentiality contributes to both the mirative and metaphorical interpretations of sentences. The connection between evidentiality and mirativity has received some attention in the literature, particularly in various language grammars and typological studies, yet the category of mirativity has still not found a place within any theory of meaning. In a nutshell, mirativity refers to the grammatical marking of a proposition as representing information which is new and perhaps surprising to the speaker (DeLancey 1997, 2001). A mirative interpretation is associated with the evidential *n̓akw* in the Tsimshianic language, Gitksan (1):

(1)   Gitksan

      a. *bagw*   *n̓idiit*
         arrive.PL 3pl
         "They've arrived."

      b. ***n̓akw**=hl*   *bagw=diit*
         EVID=CND arrive.PL=3pl
         "They must've arrived!"
         "Looks like they've arrived!"

      Under its evidential reading, the use of *n̓akw* means the speaker has indirect sensory evidence for a proposition, such as a truck parked in the driveway, or noise in the hallway.

When a speaker witnesses an event, ṅakw can be used to express surprise at a situation, such as the unexpected arrival of guests at a party.

However, there is another pragmatic feature associated with ṅakw: in addition to its evidential and mirative uses, ṅakw has a metaphorical use. Consider a context where the speaker is 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. Out of exasperation, the speaker exclaims:

(2)   ṅakw=hl   sins-t
       EVID=CND   blind-3sg

       "He must be blind!"
       "Is he blind or something?"
       "Looks like he's blind!"

This is a nonliteral use of ṅakw: the speaker is not asserting that the batter is literally blind, rather, they are drawing attention to the poor performance of the batter by attributing his missing the ball as a result of blindness. Whereas there is an established tradition of research on metaphor in literary studies, philosophy, and linguistics, its connection to evidentiality has not been previously explored in much detail. There is suggestive evidence from a variety of languages that there is a connection between the nonliteral uses of miratives and evidentials. This can be observed even in the translations of the Gitksan example in (2), which would also be appropriate nonliteral statements in English in this context.

Cross-linguistically, there is a robust connection between evidentiality and mirativity (DeLancey1997, 2001; Aikhenvald 2004). A classic example of mirativity comes from Turkish, where the evidential suffix -mIş can be used to indicate surprise, in addition to its evidential meaning (Aksu-Koç & Slobin 1986):

(3)   Turkish (Aksu-Koç & Slobin 1986: 159)

       a. *Kemal   gel-di*
          Kemal   come-PAST
          "Kemal came."

       b. *Kemal   gel-**miş***
          Kemal   came-MIR/EVID
          "Kemal came."

Aksu-Koç & Slobin (1986: 159) report two interpretations of *-miş* in (3)b.[1] The first interpretation involves indirect evidence: the speaker sees Kemal's coat hanging in the hallway, but hasn't yet seen Kemal. Thus, the speaker infers the presence of Kemal from this evidence. The second interpretation involves the speaker's surprise at Kemal's arrival: the speaker hears someone approach, opens the door, and sees Kemal – a totally unexpected visitor. The use of the evidential *-miş* in this context signals the mirative:

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[1]See also Stott et al. in this volume for more discussion of *-mIş*.

a speaker's immediate experience of an event does not correlate well with the speaker's expectations. Aksu-Koç & Slobin note that the evidential suffix *-mIş* can also express degrees of metaphorical or "feigned surprise" (1986: 163). Example (4) can be used to convey doubful scorn on someone you know hates exercise:

(4)   Turkish (Aksu-Koç & Slobin 1986: 163)

> *her*   *gün*   *koş-uyor-**muş***
> every   day   run-PRES-EVID
> "(It is said that) he jogs every day."

Here the nonliteral interpretation is more subtle, and more sarcastic in intent. Also in English we see the link between evidentiality and nonliteral interpretations in how evidential verbs such as *see* can be used in the following context in (5) (see also Gilmour et al, this volume):

(5)   "I see you're working on your project." (nonliteral/evidential)

> Context: Your daughter is only allowed to use the computer on the weekends. However, there is an 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. (Example adapted from Gilmour et al., this volume)

However, a survey of mirativity across languages shows how mirative interpretations can project not only from evidentials (including aspect), but from a wide variety of syntactic and morphological constructions, discourse particles, information structure marking such as intonation, and different speech acts. Hare (Athapaskan) has a lexical item which encode mirativity. In example (6), the mirative marker *lõ* encodes a speaker's surprise that Mary is working on hides:

(6)   (DeLancey 2001: 376)

> *Mary*   *ewé'*   *ghálayeda*   ***lõ***
> Mary   work.3sg.subj.IMPERF   MIR
> "Mary is working on hides."

Even language-internally, a quick survey of how mirativity is conveyed in English reveals a wide variety of ways of how one can express surprise when a friend unexpectedly shows up at a party:

(7)   *You made it!*
> *I don't believe you made it!*
> *Looks like you made it!*
> *That must be you!*
> *Wow, you're here!*
> *Is that really you?!*

> *That can't be who I think it is!*
> *etc.*

There are a number of leading questions that come out of the observations above. The first involves examing the notion of mirativity as a natural linguistic class. Why are lexical evidentials used in conveying mirativity as in Gitksan and Turkish, yet in other languages such as Hare mirativity is encoded lexically on its own? How is mirativity or distributed across a variety of seemingly unrelated constructions, as in English in (7)? Is there are systematic connection between evidentiality and metaphor? Are there any emprical generalizations that can draw these features of mirativity and metaphor together, and can this be approached in a compositional way?

This paper addresses these questions by examining evidentiality as the semantic and pragmatic drivers of mirativity, the constructions and morphemes mirativity is associated with, and its source in the psychological orientation of a speaker to evidence and events. In all of its manifestations, mirativity is shown to be linked the semantics and pragmatics of evidentiality.

From here, steps are taken towards a formal account of mirativity as a pragmatic phenomenon: mirativity operates at the speech act level, and does not contribute to the truth conditional meaning of a sentence. In a nutshell, what distinguishes a mirative statement from a non-mirative statement in an example such as (1) is implicature. Languages divide the labour of expressing of mirativity into two familiar types of implicature:

(8)   (i.) *Conversational implicature:* evidential expressions (aspect, lexical evidentials) have a mirative interpretation as the result of a Quantity implicature.

     (ii.) *Conventional implicature:* mirativity is lexicalized, and thus mostly independent of evidentiality.

The main claim is that in all languages, mirativity is the result of implicature. Mirativity conversationally or conventionally implicates a speaker's surprise or unprepared mental state at an unexpected turn of events. In languages such as Turkish, Gitksan and Georgian, mirativity is parasitic on evidentiality. When evidentials are used in certain contexts, specifically, where a speaker witnesses an event, a mirative meaning is conversationally implicated. In other languages such as Hare, Dargwa and Chechen (discussed in §4), mirative meaning is formally detached from evidentiality, although it is still dependent on it. Because these languages have morphology dedicated to mirative meaning, mirativity is conventionally implicated.

In a statement of the form $\text{EV}(p)$, where p is the proposition associated with the evidential (EV), a speaker cannot know for certain p is in fact true.[2] If a speaker knows p is true, then we expect Gricean considerations to ensure that a speaker assert p, and not $\text{EV}(p)$. A mirative statement results when a speaker knows $\text{EV}(p)$ is in fact true. Under this view, a mirative statement doesn't assert something new because p is already a part of the common ground, and this is what results in implicature.

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[2]This is not the true of all evidentials. For example, in Cuzco Quechua a speaker may use the direct evidential *-mi* if they know p is true (Faller 2002).

This will then serve as a foundation for the examination of metaphorical interpretations as expressed through evidentiality.[3] The flipside of mirativity with regards to the truth value of p is the use of an evidential in a metaphorical statement, which arises when a speaker knows $\text{EV}(p)$ is in fact false. I take a fairly standard approach to analyzing the nonliteral uses of evidentials, such as the Gitksan example in (2). For example, upon uttering (2), the speaker literally says that 'he must be blind', something he knows is is false. Thus, the speaker is flouting the maxim of Quality ("do not say what you believe to be false"). What the speaker is doing is asserting (2) in order to implicate that the batter is performing counter to expectations, or that the batter has the attributes of blindness.

This forms a three-way formal system for the pragmatic use of an evidential, as give in (9):

(9)   (i.) In asserting $\text{EV}(p)$, the Speaker does not know if p is true or false: *Evidential without any implicated meaning*

       (ii.) In asserting $\text{EV}(p)$, the Speaker knows p is true: *mirativity as Quantity implicature*

     (iii.) In asserting $\text{EV}(p)$, the Speaker knows p is false: *metaphor as Quality implicature*

This bears directly on the status of mirativity as a natural linguistic class, and the debate within the literature as to whether or not mirativity is a separate semantic category, or simply an extension of evidentiality (cf. DeLancey 1997; 2001). One of the outcomes of this analysis is a unified treatment of mirativity: its effects are derived from other components of the grammar in a predictable way through implicature. This analysis also predicts a relation between mirativity and metaphor based on the speaker's knowledge of the truth or falseness of p.

The next section examines in detail the meanings and sources of mirativity and its systematic relation to evidentiality. The results of this are divided into two sections: in §3 a formal pragmatic analysis is presented of how mirativity is conversationally implicated, and in §4 how mirativity is still connected to evidentiality, yet mirative meaning has been conventionalized. §4 turns to the nonliteral uses of evidentials in examing the effect of an evidential statement when the speaker knows the embedded proposition is false. §5 concludes.

2.   Approaching the Category of Mirativity

Although descriptions of the mirative have appeared in various language grammars and in the typological literature, discussions of mirativity as a cross-linguistic phenomenon usually begin with DeLancey (1997; 2001), who defines mirativity as marking information which is 'new to the speaker', or more specifically:

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[3]The features of metaphor and their study are numerous and complex. My intention here is not to offer an account of metaphor in general or argue for a particular approach to metaphor, but only to explore the link between evidentials and metaphorical interpretations.

> [Mirativity] marks both statements based on inference and statements based on direct experience for which the speaker had no psychological preparation, and in some languages hearsay data as well. What these apparently disparate data sources have in common ... is that the proposition is one which is new to the speaker, not yet integrated into his overall picture of the world.
>
>   (DeLancey 1997: 35-36)

Mirativity covers semantic dimensions variously described as 'non-expected' information (Egerod & Hansson 1974), information for which the speaker is 'not prepared' (Slobin & Aksu 1982), 'immediate meaning' (Nichols 1986), and 'new knowledge' (DeLancey 1986; and see 2001: 369 for other references). Dickenson (2000: 379) refines the definition of mirativity to include the speaker's immediate experience of an event: if the event does not correlate well with a speaker's expectations, the proposition coding the event receives special marking.[4] However the 'mirative' (and the related 'admirative') include not only expressions of newly emerged evidence, but often also inferences based on such evidence (Friedman 2003; Aikhenvald 2004: 195-215 for an overview).

What these descriptions from various languages and studies suggest is that mirativity, as a conceptual category at least, may be universal: it is a plausible claim that all languages have the means to encode an event or state as occurring outside normal expectations. In order to deepen our understanding of mirativity, and to draw these descriptions together into a more cohesive and focussed picture, it is useful to examine the systematic relationship mirativity has with the better understood categories of evidentiality and epistemic modality. Mirativity forms a conceptual natural class with evidentiality and epistemic modality as these three categories express something about a speaker's physical, psychological and temporal orientation to events and states (cf. Dickenson 2000; DeLancey 2001: 379). The summary in (10) outlines this connection:

(10)   (i.)   *Epistemic modality marking:* encodes the speaker's attitude towards the proposition in terms of certainty or probability.

    (ii.)   *Evidential marking:* encodes the source of the speaker's knowledge.

  (iii.)   *Mirative marking:* encodes the relationship between the proposition and the speaker's overall expectations and assumptions in a given context.

We can examine the various possible links between modality, evidentiality, and mirativity, each in turn.

2.1   Epistemic Modality and Evidentiality

Current research has shown a formal link between epistemic modality marking and evidential marking: in some languages, evidentials are a specialized type of epistemic modal:

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[4]Dickenson (2000: 379) also notes another construal of mirativity based on the speaker's past experiences of similar situations and his general knowledge, based on physical interactions or cultural and social norms. I won't be discussing this occurence of the mirative, as I believe the this construal still reduces to a speaker's unprepared state of mind at the time of utterance.

they are semantic operators that contribute to the truth conditions of a proposition (Izvorski 1997; Faller 2002; Matthewson et al 2007; McCready and Ogata 2007; Rullmann et al 2009; Peterson 2010).[5] We can find this kind of conflation between evidentiality and certainty in the epistemic modal system of English, such as the 'must have' construction, as in example (11):

(11)   "I must've cut my hand."
       Context: You're preparing bait for fishing and you notice blood on the rocks at your feet.

        Epistemic modal are identified by Matthewson et al (2007), Rullmann et al (2009), in St'át'imcets (Salish). They analyze lexical evidentials are in fact individual, specialized epistemic modals. In their approach, the individual evidential/modals lexically specify different kinds of contexts. This is achieved through a presupposition which restricts the contexts where a speaker has a specific kind of evidence. Gitksan possesses this kind of evidential modal: in (12) the the use of the modal enclitic =*ima* presupposes that a speaker have indirect evidence for a statement:

(12)   <u>k</u>ots-i-n=ima=hl   'on-n
       cut-TR-2=MODAL=CND   hand-2sg
       "You might've/must've cut your hand."

2.2   Evidentiality and Mirativity

The primary function of an evidential is to give a speaker a way of talking about events they haven't personally seen, heard, or otherwise taken part in. In the Gitksan example in (13), a the evidential *ṅakw* is used to encode that a speaker has sensory evidence for an event that they have not witnessed directly:

(13)   Gitksan

       ṅakw=hl   se-hon-(t)=s   Bob
       EVID=CND   CAUS-fish-3=CND   Bob
       "Bob must be smoking fish"
       "Looks like Bob is smoking fish"

       Context (sensory evidence): You get to Bob's place and you can smell or see smoke.

        At an intuitive level, an event that is witnessed is more certain than one that occurs sight unseen, and an event that is witnessed from beginning to end is less surprising than one that is only inferred or deduced from its results (Dickenson 2000). If we adjust the context slightly to include not only the sensory evidence, but the speaker actually *witnessing*

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[5]This same research has shown that in other languages evidential meanings are not a semantic phenomenon (i.e. they are not propositional operators), rather, they operate at the pragmatic level, and thus are characterized as illocutionary operators.

the event of Bob smoking fish, (13) is still felicitous. However, (13) carries an additional meaning: the speaker is surprised or otherwise unprepared for the fact that Bob is smoking fish. This additional meaning of an evidential characterizes the mirative use of an evidential, and illustrates the notion of the 'unprepared mind' (DeLancey 1997): an evidential event is may be percieved to be out of one's control, unexpected, and thus surprising to the speaker if they either experience that event, or come into contact with the results of the event.

However, the distinction between witnessing the event and witnessing the results of the event can be subtle. We saw in the introduction how the the inferential evidential suffix *-mIş* in example (3) has the same effect as *n̓akw* in Gitksan in conveying both evidentiality and mirativity. In example (14), both *n̓akw* and *-mIş* have an evidential meaning when the speaker infers they cut themselves upon observing blood at their feet. When they observe their cut hand, the mirative meaning emerges: the speaker didn't actually witness the event of cutting, but the results of the event are nonetheless surprising to the speaker:

(14)   a. Gitksan

        n̓akw=n   *kots-(t)=hl*   *'on-n*
        MIR/EVID=1sg cut-3sg=CND hand-1sg
        "I must've cut my hand."
        "I see I cut my hand."

     b. Turkish

        el-im-i   *kes-miş-im*
        hand-1sg.poss-ACC cut-MIR/EVID-1sg
        "I must've cut my hand."

    Inferential: There is blood at your feet.
    Mirative: You see the cut on your hand.

In Gitksan, if a speaker witnesses the actual event of cutting, they can still use a non-evidential statement which would lack a mirative effect. It is only in the context where the speaker uses *n̓akw* when a plain assertion would also be felicitous, that the mirative meaning emerges.

There is also another angle of meaning. The event(s) leading to the cut hand in (14) were likely inadvertent. This implies a lack of involvement or control on the part of the speaker, thus they react with surprise at the outcome. Example (15) also shows this, where a speaker could comment to a mother at the conclusion of her daughter's piano recital:

(15)   Turkish (Aksu-Koç and Slobin 1986: 162)

kiz-iniz   çok   iyi   piyano çal-iyor-muş
daughter-2pl.poss very good piano   play-PRES-MIR/EVID
"Your daughter plays the piano very well."

The speaker directly witnessed the entire event of piano playing, but indicates using *-mIş* that he was not psychologically prepared for the high quality of the performance. In addition to its evidential properties, Slobin and Aksu (1982: 196) describe *-mIş* as representing an experience for which the speaker had no 'premonitory awareness' . When *-mIş* occurs with a first person subject, it indicates lack of conscious awareness on the part of the speaker, not simply lack of speaker involvement.

The extended meaning of an evidential to convey a sense of surprise also presents us with a potential contradiction: the use of *n̓akw* when the speaker actually witnesses the event they have evidence for in (13), would appear to undermine its evidential meaning: Gricean considerations would compel a speaker to simply assert "Bob is smoking fish" if the speaker did indeed witness the event of Bob smoking fish. However, we can draw these two interpretations of *n̓akw* together if we view this in terms of distancing: whereas evidentiality indicates *physical* distancing from an event, mirativity meaning includes indicates *psychological* distancing (Dickenson 2000). In some languages these are marked separately (this is discussed §2.4) but in Gitksan and Turkish and many other languages, evidentiality and mirativity are encoded by the evidential markers of the the language.

In languages that do not have lexical evidentials, evidential meanings can arise through the use of the perfect aspect. In a nutshell, the perfect describes a completed event in the past relative to the moment of utterance, but which has lasting consequences perceptible at the time of speech. Comrie (1976: 110) "the semantic similarity . . . between perfect and inferential lies in the fact that both categories present an event not in itself, but via its results." This can be observed in many languages such as Bulgarian, Georgian and Bagvalal, where the 'perfect of evidentiality' (glossed as 'PE') has an indirect evidential interpretation in addition to its aspectual one:

(16)   Bulgarian (Izvorski 1997: 228)

Maria celunala   Ivan
Maria   kissed.PE Ivan
PERFECT = "Maria kissed Ivan."
PE = "Maria apparently kissed Ivan."

(17) Georgian (Topadze 2007)

 teat'r-ši bevri xalx-i q'opil-a
 theatre-in many people-NOM be.PERF-3sg
 PERFECT = "There were many people in the theatre."
 PE = "As it seems, there were many people in the theatre."

 Context: Someone told me about it / In inferred it from the many cars parked outside

  Because of the evidential interpretation of the perfect in these languages, it is not surprising that we find a mirative use of the perfect as well. In Bagvalal, the aspectual auxilliary *ek₀'a* carries a mirative meaning:

(18) Bagvalal (Tatevosov 2001)

 di-č'   as b-uk'a-b-o ek₀'a!
 1.sg.OBL-CONT money N-be-N-CONV AUX.PRS
 "(I see) I have money!"

 Context: The speaker looks into his desk and finds 100 rubles there; he had completely forgotten about this money being there.

(19) *ali-r butuna ẽs̄a-m-o   ek₀'a!*
  Ali-ERG hat put.on-N-CONV AUX.PRS
  "Ali has put on the hat!"

 Context: The speaker watches Ali trying to put on the hat. At last Ali succeeds.

  English also lacks lexical evidentials, although a mirative meaning can be attributed to evidential verbs when these are used in the context of witnessing the actual event. Example (20) uses the same context as the Gitksan example in (13) with *n̓akw*: evidential verbs such as *looks like* and *see* are felicitous when the speaker observes the event embedded under the evidential verb. This expresses the mirative:[6]

(20) "**Looks like** Bob is smoking fish!"
  "I **see** Bob is smoking fish!"

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  [6]Intonation is another way to express mirativity in English, and may overlay the evidential statements in (20). A 'surprise' intonation is how a plain assertion such as "Bob is smoking fish!" can register mirativity. Nonetheless, the sentences in (20) can still express the unexpected or unprepared psychological state of the speaker at witnessing Bob smoking fish, although usually with the support of intonation.

2.3   Mirativity and Epistemic Modality

There is also a relation between epistemic modality marking and mirativity. As with evidential-marked miratives, a mirative reading of an epistemic modal in English is mostly clearly obtained where a speaker is surprised at the results of a previous event. In the context given in example (21), a mirative interpretation can be expressed using either the strong epistemic modal *must* in (i.), or a plain assertion in (ii.). A mirative interpretation is less felicitous with the weak epistemic modal *might*, as in (iii.):

(21)   (i.) "I must've fallen asleep!"

    (ii.) ? "I fell asleep!"

    (iii.) #"I might've fallen asleep!"

    Context: Said upon awakening over one's books after a long night studying (context adapted from Aksu-Koç & Slobin 1986: 160)

It is beyond the scope of this paper to examine in more detail the mirative use of epistemic modals in languages such as English, as I will be limiting myself to the relationship between evidentiality and mirativity, as described in the previous subsection. However, there are two points worth making. The first point regards the use of modal force: in (21), the strong modal *must* is used to convey mirativity over both the weaker modal *might* and a plain assertion. Because modals don't overtly encode an evidence source/type, they may reveal something different of the nature of mirativity than we find with evidentials. It seems natural that, in encoding a speaker's state of surprise, the 'strongest' lexical item would be used. However, there are other distinctions to be found: mirativity is not exclusive to strong modals. In example (22), the weaker modal *might* is used to convey a speaker's unprepared state, not upon encountering any kind of evidence as in (21), but at the possibility of winning:

(22)   (i.) "I might've won!"

    (ii.) # "I must've won!"

    (iii.) # "I won!"

    Context: Your husband tell you that he thinks your lucky numbers came up on the weekly lotto.

This is entirely expected, as when a speaker is surprised at a possibility, a possibility modal is naturally. However, intonation is carrying the mirative contribution in (22), as the possibility is actually part of the proposition a speaker is surprised at. This is different from example (21), where the proposition a speaker is surprised at is the plain one without any modal. It is in those cases where the strong modal must be used for the mirative.

Secondly, a mirative use of an epistemic modal in English is infelicitous in a context where the speaker actually witnesses the event, as in (23):

(23)   (i.) "You're here!"

   (ii.) # "You must be here!"

 (iii.) # "You might be here!"

Context: A friend unexpectedly shows up a party.

This restriction likely follows from the fact that epistemic modals are propositional operators (refs.) This would also predict that evidential modals, such as those in St'át'imcets in §2.1 cannot be used miratively. This is in fact the case in Gitksan with the modal evidential =*ima* in example (24), which cannot be used if the speaker witnesses the event umbedded under it:

(24)   *#ḵots-i-n=ima=hl   'on-n*
    cut-TR-2=MODAL=CND   hand-2sg
    "You might've/must've cut your hand."

Context: Your friend is showing you how to cook something, and while watching them you see them accidentally cut themself.

The lack of mirativity in the modals in (**??**) and (24) is derived in their status as propositional operators. However, in (22) the proposition a speaker is surprised at is the plain one with a weak modal. This shows that if one is really surprised at a necessity statement, *must* would be felicitous in a mirative. As in (22), if you see some evidence that you've won, for example, if there is a person walking towards you holding out the trophy, then you 'I must've won!' would be felicitous. However, it is not the modal that's conveying mirativity, but the intonation.

2.4   Lexical Mirativity

In §2.2 above it was shown that languages in which these evidential and mirative meanings are conflated on the evidential system in many languages. However, there are languages in which evidentiality and mirativity are encoded independently by different lexical items. Both Hare (Athapaskan) and Chechen have lexical items which encode mirativity. In example (25), the mirative marker *lõ* encodes a speaker's surprise that Mary is working on hides. As with the evidential-miratives, (25) can be uttered when while the speaker actually observes Mary working on the hides:

(25)   (DeLancey 2001)

    *Mary   ewé'   ghálayeda   **lõ***
    Mary   work.3sg.subj.IMPERF   MIR
    "Mary is working on hides."

In example (26), Chechen has both an evidential meaning as contributed by the perfect, and a separate suffix for encoding surprise:

(26) Chechen (Molochieva 2007)

    a. *Zaara j-iena*
       Zara   j-come.PERF
       "Zara has come."

    b. *Zaara j-iena-q*
       Zara   j-come.PERF-MIR
       "Zara has come!" (I didn't expect her to come!)

Based on evidence from Hare, and other languages, DeLancey (2001) argues that mirativity must be recognized as a distinct semantic and grammatical category. In section §4, an analysis of lexical miratives is presented that claims the kinds of mirative particles in Hare and Chechen are not directly linked to the lexical evidential system as they are in Gitksan, but nonetheless maintain an link to evidentiality through the perfect and imperfective aspect constructions they appear in.

2.5   In sum

These observations and analyses can be drawn together into one generalizaton regarding evidentiality: mirative statements rest squarely upon the distinction between witnessed and non-witnessed events. A mirative statement is felicitous both in contexts where a speaker is reacting with surprise at witnessing the actual event itself embedded under the evidential (cf. (13)), or witnessing the result of some prior event (cf. (14)). This mirative effect is found with both lexical evidentials, and evidentiality that is projected from the prefect. In languages that have both evidentiality and mirative markers (i.e. Hare), this still generalization holds: the only difference is that mirativity is encoded separately when a speaker witnesses the event marked by the evidential.

    The next section presents a pragmatic treatment of mirative meaning that not only brings together the various observations outlined above, but also treats mirativity as a unified phenomenon, whether as part of an evidential system, or lexicalized on its own.

3.   The Mirative as Conversational Implicature

In this section I work through an analysis that shows mirativity is a pragmatic phenomenon involving implicature. More specifically, when a speaker makes a mirative statement, they are flouting the Maxim of Quantity, the two parts of which are given in (27):

(27) *Maxim of Quantity* (Grice 1989)

    (i.) Make your contribution as informative as is required for the current purposes of the exchange.

    (ii.) Do not make your contribution more informative than is required.

The central claim here is that what is interpreted as mirativity – a sense of surprise, and/or dealing with new and unexpected information – is the result of the flouting of Quantity, specifically, the part (ii.) of the maxim. A simple example illustrating mirativity as a Quantity implicature can be found in a context where John is standing in the doorway and Gwen says "You're here!". While this statement is true, literally speaking, our intuition tells us that it does not contribute to the discourse in any meaningful way, since we can assume that everyone in the immediate vincinity is well aware of John's presence. This is the first indication that "You're here!" is in violation of Quantity. At this point, John in this context must find some alternative meaning to Gwen's statement in order to maintain the assumption of cooperation.[7] Let us assume that John knows that Gwen is aware that what she said violates Quantity (by making a contribution more informative than required), and assuming that Gwen is cooperative, John concludes that Gwen must be expressing something beyond the statement "You're here!". In attempting to attribute an alternative meaning to this statement, John concludes that his appearance is unexpected and perhaps surprising to Gwen. What is notable is that mirative statement violate (**??**)(ii.): in our scenario involving Gwen's surprise at John's arrival by making the assertion "You're here!", we can assume that it is obvious to both Gwen and John that John knows that John is in fact there (and possible anyone else in the immediate vincinity).

In Gitksan, a simple statement, such as example (28), does not have a mirative meaning. In the given context, the speaker is in full control of the circumstances, and thus carrying no sense of unexpectedness or surprise.

(28) *witxw=t   John*
      arrive=PND   John
      "John's here."

      Context: Calling out to your mother in the other room.
      NON-MIRATIVE

The use of the evidential *n̓akw* carries with it the presupposition that the speaker has sensory evidence for a *n̓akw*-assertion (Peterson 2010). In order for the sentence in (29) to be felictous, a speaker must have some kind of sensory evidence available to them in the context, in this case, a pick-up in the driveway:

(29) **n̓akw*=hl*   *witxw=t   John*
      EVID=CND   arrive=PND   John
      "John must be here"
      "Looks like John's here"

      PRESUPPOSITION: The speaker has indirect sensory evidence of John's presence (i.e. his pick-up in the driveway; you can hear loud music playing inside his house).
      ASSERTION: John is here.
      NON-MIRATIVE

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[7]An interesting aspect to explore is whether this statement is directed at John or more generally to anyone in the vincinity.

There is also nothing inherently mirative about (29): as in (28), we assume the speaker is also making an informative contribution to the common ground; they have visual evidence from which they can infer the presence of John. However, *n̓akw* takes on a mirative meaning in example (30):

(30) **n̓akw**=hl   witxw=t   *John*
      EVID=CND   arrive=PND   John

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

      PRESUPPOSITION: The speaker has indirect sensory evidence (John is standing in the doorway; his pick-up in the driveway; you can hear loud music playing inside his house).
      ASSERTION: John is here.
      MIRATIVE

As in (29), the use of *n̓akw* in (30) is felicitous because the speaker has sensory evidence for the assertion they're making: John standing in the doorway. The key question here is: what determines the mirative from the non-mirative uses of *n̓akw*? In order to answer this question, it is worth carefully breaking down the circumstances around (29) and (30) in terms of the propositions that make up the common ground, or the set of facts the speakers agree on for the purposes of conversation.

Imagine a common ground made up of the following propositions in (31):

(31) CG = {the proposition that John's pick-up is in the driveway; the proposition that there is loud music playing inside his house; etc...}

Starting with example (29), a speaker, faced with the visual evidence of a pick up in the driveway, makes the *n̓akw*-claim inferring that John is here, reflected in the various translations of *n̓akw* involving sensory verbs (i.e. *look*, *see*). Consider now the context in which John is standing in the doorway. The common ground in this case would already contain the proposition that John is here, as in (32)(i.). The *n̓akw*-assertion in (30) is felicitous in this context: a speaker has visual evidence for the claim that John is here (as he is standing right in front of her), however, because this proposition is already a member of the common ground, as shown in the (32):

(32) CG = {**the proposition that John is standing in the doorway**; the proposition that John's pick-up is in the driveway; the proposition that there is loud music playing inside his house; etc...}

The *n̓akw* statement in (30) is making a contribution to the discourse that is uninformative. Under a Gricean view, (30) is *too* informative, and thus Quantity is flouted. This is the core of the mirative implicature, which can be calculated as follows:

(33)   (i.) This information expressed by the proposition is relevant to the context, and the speaker has (sensory) evidence for the proposition's truth.

(ii.) A cooperative speaker generally does not make additional, redundant statements that all the discourse participants already pragmatically presuppose.

(iii.) The speaker must be conversationally implicating that they were previously unaware of this fact, and its discovery possibly counters their expectations.

The notion of 'informative' in the Gricean sense in (27) warrants closer examination. What's actually happening when someone makes a mirative statement is that they are flouting (27) by making an apparently redundant or uninformative statement, which is made non-redundant/informative once we calculate the implicature, as in (33).

In the Stalnakerian sense mirative statements are uninformative – nothing new is added to the common ground (Stalnaker 2002). Mirative statements always make explicit some proposition that is already pragmatically presupposed, as in (32). This in turn drives the Gricean effect: the hearer flouts Quantity in making a statement that is too informative, as the mirative/evidential-marked proposition was already assumed to be a shared belief of the participants in the conversation, crucially including the speaker. This flout triggers implicature which a hearer interprets as one of surprise or unpreparedness on the part of the speaker.

However, there is the issue of the conversational intent of a mirative statement. In English at least, a mirative statement expects, or at least often receives, some explanation or comment. In the case of mirative "You're here!", a response could be "Yeah, I know you weren't expecting me but I decided to come after all."[8] Given this fact, mirative statements, or the implicature that conveys mirativity, can be targeted and reinforced – one of the predicted outcomes of an implicature analysis. Along those same lines, treating mirativity as implicature makes the prediction that you should be able to cancel the 'surprised' or 'unexpected meaning'. We can see this in the English example in (34): the speaker is exclaiming (34) in the context of actually seeing John standing in the doorway. This triggers the mirative implicature. The implicated surprise can be cancelled in (34)a., and the implicated unexpectedness of the speaker can be cancelled in (34)b.:[9]

(34) "Look who's here!"

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

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

Context: John is standing in the doorway.

This pragmatic treatment of mirativity applies straightforwardly to the Turkish evidential *-miş*, as introduced in example (3), repeated in (35). Recall that in addition to its evidential function, Aksu-Koç & Slobin (1986: 160) describe the function of *-miş* as representing an experience for which the speaker has no 'premonitory awareness'. This can correspond to both reportative and inferential interpretations, as well as expressing the mirative (Slobin & Aksu 1982: 187):

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[8]Thanks to Lisa Matthewson for the example and pointing this out to me.

[9]There are likely more subtle implicated meanings behind a statement such as (34), such as happiness or sarcasm.

(35) Turkish

*Ahmet   gel-**miş***
Ahmet   came-MIR/EVID
"Ahmet came."

Inference: The speaker sees Ahmet's coat hanging in the hallway, but hasn't yet seen Ahmet.

Hearsay: The speaker has been told that Ahmet has arrived, but has not yet seen Ahmet.

MIRATIVE: The speaker hears someone approach, opens the door, and sees Ahmet – a totally unexpected visitor.

Under the mirativity-as-implicature analysis, when a speaker utters (35) in a discourse context that does not include an event of Kemal arriving, the hearer will interpret *-miş* as an evidential without implicature: the speaker is making an informative assertion that contributes to the common ground similar to the Gitksan exmaple (29). However, when a speaker utters (35), in a discourse context that includes actual witnessing of the event of Kemal's arrival, the mirative emerges through implicature: the speaker is making an apparently uninformative or redundant contribution to the discourse through flouting Quantity, and then the mirative implicature is calculated.

4.   The Mirative as Conventional Implicature

What has been presented so far is only part of the mirative picture: it was shown above that there is a class of languages in which mirativity is 'linked' to evidentiality, such as in Turkish and Gitksan. However, a challenge is presented where languages lexically mark mirativity independently of evidentiality, as noted by DeLancey (1997, 2001). For example, de Reuse (2003: 81) identifies the particle *lą̄ą̄* in Western Apache (Athapaskan) in (36) as "more fundamentally a mirative than an inferential":

(36) Western Apache (de Reuse 2003: 81)

Kı̄ī Nnēē   itisgo nłt'ēēgo   ch'idits'ad   lą̄ą̄!
he Apache more 3sg.IMP.ASP.be.good=SUB sg.IMP.ASP.understand MIR
"He understands Apache better!"

The cognate of *lą̄ą̄* can be found in Hare *lõ* in example (37) (DeLancey 1997: 40), which also has primarily a mirative meaning that does not have any evidential function:

(37) Hare

ĩdõ   lõ
drink.2 MIR
"You're drinking!"[10]

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[10]DeLancey leaves *lõ* unglossed – I've added the 'MIR' (mirative) gloss.

DeLancey (2001: 379) claims that languages such as Hare show that mirativity is coded independently of an evidential system. Thus, mirativity cannot be considered simply as a dependent subsystem or extension of evidentiality. In this section I maintain the claim that in all languages, mirativity is the result of a Quantity implicature. In mirative-evidential languages, this is the result of a conversational implicature – mirative meaning is simply an extra pragmatic effect that is parasitic on evidentials. However, in mirative-non-evidential languages such as Apache and Hare, the mirative meaning has become lexicalized, and is thus *conventionally* implicated. This analysis is supported by DeLancey's descrption that "the aspect of the context which licenses the particle *lõ* is not indirect perception but the sudden (direct) perception of an unexpected fact." (2001: 376). There are two important things I take from this description. First, that Hare also has evidential contexts of the aspectual kind as we saw in previous sections with the Bulgarian 'perfect of evidentiality'. Secondly, conventional mirativity still relies on this evidential context, plus the witnessing of the event itself.

In looking more closely at the particle *lõ* in Hare, it appears to have a very similar function as *n̓akw* in Gitksan, and *-miş* in Turkish in expressing a speaker's surprise at an event. However, unlike in Gitksan and Turkish, DeLancey claims that *lõ* functions independently of an evidential paradigm, and is a specialized morpheme the sole function of which is to express mirativity. This is based on the fact the *lõ* does not encode any evidence type, nor does it distinguish between indirect and direct perception. Example (38) shows the use of *lõ* in an inferential context, and example (39) clearly shows witnessing an event may be marked with *lõ*:

(38) *deshĩta yedaníyie*   ***lõ***
      bush   be.smart.2sg.subj.IMPERF. MIR
      "You're smart for the bush!"

(39) *heee, gúhde   daweda!*   *ch'ifi dachída* ***lõ***
      hey,   up.there SG.sit.3sg.IMPERF. guy   sitting   MIR
      "Hey, he's sitting up there! The guy is sitting up there!"

However, *lõ* retains an evidential feel to it, and is similar to Gitksan *n̓akw* (cf. (30)), in that *lõ* can be translated as "I see...", as in example (40):

(40) *ewé' ghálayĩda*   ***lõ***
           work.2sg.subj.IMPERF. MIR
      "I see you're working on hides."

Example (41) can be uttered in a context where the speaker had no previous knowledge of the situation: the speaker has just gone to Mary's house and found her working on a hide. As DeLancey describes it, (41) "is most likely to occur in a context where the speaker does have firsthand knowledge, but the information is entirely new and perhaps unexpected" (2001: 376):

(41) *Mary ewé' ghálayeda*   ***lõ***
      Mary   work.3sg.subj.IMPERF MIR
      "Mary is working on hides."

        The relevant feature to track in these examples is the co-occurence of mirative *lõ* with the aspect of the clause: in the Hare examples above, *lõ* occurs with the imperfective form of the verb. We can observe the interaction between a lexical mirative and aspect in other languages. For example, in Dargwa (Tatevosov 2001: 454), mirativity is lexically marked independently of evidentiality, which is achieved through the perfect aspect:

(42) Non-mirative, inferring evidence:

      du-l   ka-b-iq-ub-li-da   *šika*
      1sg-ERG PRF-N-kill.PFV-PST-CONV-1sg bear
      "(I see) I killed the bear."

      Context: The speaker is a good hunter. He sees a bear in the forest and fires. The bear cries loudly and runs away. The speaker, being sure that the bear is wounded and won't go far, follows him. Ten minutes later he finds the bear dead.

        The mirative is marked by the suffix *-q'al*, which co-occurs with the perfect:

(43) Mirative, indirect evidence:

      *du-l   ka-b-iq-ub-li-da-**q'al***   *šika*
      1sg-ERG PRF-N-kill.PFV-PST-CONV-1sg-MIR bear
      "(I see) I killed the bear!"

      Context: The speaker went hunting for the first time. Suddenly he sees a bear and fires. The bear disappeared in the forest, but later the speaker finds the bear's carcass.

(44) Mirative, direct evidence:

      *du-l   ka-b-iq-ub-da-**q'al***   *šika*
      1sg-ERG PRF-N-kill.PFV-PST-1sg-MIR bear
      "(I see) I killed the bear!"

      Context: The speaker went hunting for the first time. Suddenly he sees a bear and fires. The bear falls down and dies.

        The mirative in Chechen (Molochieva 2007) is expressed by the suffix *-q*, which does not appear to be dependent on evidentiality and can be combined with it.

(45)   a. *Zaara j-iena*
           Zara   j-come.PERF
           "Zara has come."

b. *Zaara j-iena-q*
   Zara   j-come.PERF-MIR
   "Zara has come!" (I didn't expect her to come!)

We saw in the previous section the association between a perfect construction and the inferential evidential interpretation it has (in languages which have the perfect of evidentiality, such as Bulgarian and Bagvalal). In many languages, an evidential interpretation follows from the inherent semantics of the perfect, which orients a completed event in the past relative to the moment of speech: the occurence of an event, which has lasting consequences perceptible at the time of speech, is known to the speaker only through perception of those lasting results (Comrie 1976; DeLancey, 2001). A speaker may be prepared, or expect an event on the basis of previous knowledge or perception of a chain of events leading up to it. A mirative interpretation is projected only when one witnesses the event itself or secondary evidence for it, and the speaker is unprepared for this. In languages that mark evidentiality through the perfect (i.e. Georgian), or lexically (i.e. Gitksan), sentences of the form $\text{EV}(p)$ trigger the mirative implicature. We can take the imperfective in sentences such as (41) as having the same effect. The imperfective can be characterized as taking an inside view of an ongoing event; there is no indication regarding the completeness of the event, however its internal structure is relevant to the present discourse. As with the perfect, it is when the speaker witnesses this internal structure and is surprised by it, it receives special marking such as *lõ*. This both follows and is compatible with DeLancey's claims that the semantics of the imperfective – like the perfect – is what licenses the felicity of mirativity of particles such as *lõ*, and that the mirative, by definition, is restricted to contexts in which the speaker's discovery of the reported fact is relatively recent: "once one has known something for a certain length of time, it can no longer be considered new or unexpected (2001: 378). The use of the perfect and the imperfective enforce this temporal restriction on the mirative.[11]

Given this aspectual restriction, the mirative markers shown in the various languages above do not encode any evidential distinctions. The evidential interpretations associated with these sentences follows from the semantics of the perfect or imperfective, and the mirative markers are specialized for conveying mirativity. Because these mirative markers are independent from evidentiality, I suggest that have conventionalized mirative meaning, and thus are a conventional implicature.

4.1   At-Issue meaning and conventional implicature

Conversational implicatures are based on an addressee's assumption that the speaker is following the conversational maxims or at least the cooperative principle. When a speaker uses a sentence of the form $\text{EV}(p)$ when they know p to be true, the flout the maxim of Quantity, thus conversationally implicating their surprise or unpreparedness for event denoted by p. Thus, a mirative expression relies on the context of use of an $\text{EV}(p)$ sentence.

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[11]So far, I have not come accross examples of a mirative particle used non-perfect/perfective sentences in any of the cited languages. A prediction of this analysis is that they would be infelicitous.

Conventional implicatures differ in that the implicated meaning has a stable association with a particular linguistic expression: they are not subject to the conversational maxims nor the cooperative principle. Conventional implicatures have largely idiosyncratic meanings, although pragmatic information can on specific occasions of use contribute to their interpretation (Potts 2005) All three of these languages use a mirative particle with the perfect or imperfective aspect, thus hinting that a mirative as conventional implicature still either relies on having an evidential context.

As a starting point, I take Potts' (2005) defininition of conventional implicatures as "primarily devices for situating the main clause in the web of information that comprises the discourse (p.2). A sentence with a conventional implicature comprises of two parts: *at-issue* (propositional) content of the utterance, and the conventionally implicated meaning that is added by a particular expression. Example of this are in (46) and (47):

(46)   Lara is **still** studying.

       AT-ISSUE: Lara is studying.
       CONVENTIONAL IMPLICATURE (CI): Lara was studying earlier.

(47)   **Even** Bart passed the test.

       AT-ISSUE: Bart passed the test.
       CI: Bart was among the least likely to pass the test.

The meanings of *still* and *yet* are implicated and not asserted, as they do not contribute to the truth-conditions of the sentence as a whole. Yet, their meanings are fixed to these words. Conventionally implicated meanings vary widely, and are often hard to characterize, but one common feature is that they reveal something of the attitude of the speaker towards the at-issue content. This can be seen in the use of honourifics in Japanese:

(48)   Japanese (Potts and Kawahara 2004)

       Sam-ga   *o-warai-**ninat**-ta*
       Sam-NOM **subj.HON**-laugh-**subj.HON**-PAST
       "Sam laughed."

       AT-ISSUE: Sam laughed.
       CONVENTIONAL IMPLICATURE (CI): The speaker honours Sam

A CI analysis can be straightforwadly applied to the kinds of lexical miratives observed in the languages above. For example, the mirative particle *lõ* in Hare encodes the speaker's attitude of surprise at the at-issue content. This can be seen by comparing (49)a. with b.:

(49) Hare (DeLancey 2001: 375)

    a. *júhye   sa   k'ínayeda*
       hereabout bear sg.go.around.3sg.subj.PERF
       "There was a bear walking around here."
       AT-ISSUE: There was a bear walking around here.
       CI: ∅

    b. *júhye   sa   k'ínayeda*   ***lõ***
       hereabout bear sg.go.around.3sg.subj.PERF MIR
       "I see there was a bear walking around here."
       AT-ISSUE: There was a bear walking around here.
       CI: I'm surprised to see that there was a bear walking around here.

We can see how a CI-mirative behaves independently of the evidential meaning conveyed by the perfect aspect in Dargwa. In comparing examples (50)a. and b., the mirative particle *-q'al* functions independently of the inferential evidence encoded in the perfect: in both examples the speaker has inferential evidence for having killed a bear, but b. is marked with *-q'al* which conventionally implicates a speaker's surprise at killing a bear. What is crucial is that (50)c. requires the CI-mirative *-q'al* in order to express mirativity, even when the at-issue content is witnessed:

(50) Dargwa

    a. Non-mirative, indirect evidence (non-witnessed):

       du-l   ka-b-iq-ub-li-da   *šika*
       1sg-ERG PRF-N-kill.PFV-PST-CONV-1sg bear
       "(I see) I killed the bear."

       AT-ISSUE: I killed a bear.
       PRESUPPOSITION: There is inferential evidence that I killed a bear. (i.e. the bear's carcass) CI: ∅

    b. Mirative, indirect evidence (non-witnessed):

       *du-l   ka-b-iq-ub-li-da-**q'al***   *šika*
       1sg-ERG PRF-N-kill.PFV-PST-CONV-1sg-MIR bear
       "(I see) I killed the bear!"

       AT-ISSUE: I killed a bear.
       PRESUPPOSITION: There is inferential evidence that I killed a bear. (i.e. the bear's carcass)
       CI: I'm surprised to see that I killed a bear.

c. Mirative, direct evidence (witnessed):

*du-l　　ka-b-iq-ub-da-**q'al**　　　　　śika*
1sg-ERG　PRF-N-kill.PFV-PST-1sg-MIR　bear
"(I see) I killed the bear!"

AT-ISSUE: There was a bear walking around here.
PRESUPPOSITION: There is inferential evidence that I killed a bear. (i.e. the bear's carcass)
CI: I'm surprised to see that I killed a bear

Dargwa differs from languages such as Bagvalal (cf. (18)) where the perfect of evidentiality alone can conversationally implicate mirativity when it is used in a context where a speaker witnesses the at-issue content.

This analysis mirativity as conventional implicature makes a number of empircal predictions that haven't been addressed yet. First, this analysis predicts that the perfect in languages such as Hare cannot be used miratively, and require a specialized mirative particle in order for it to have a mirative interpretation. Secondly, that the perfect in these languages would be infelicitous if used when the speaker witnesses the event, since it can't have a mirative meaning. We also predict that in a language such as Dargwa a mirative marker is infelicitous in sentences that lack an evidential. Additionally, what happens in languages which also have lexical evidentials? A prediction would be that a lexical evidential should also be able to license the conventional implicature. There is suggestive evidence for this in Qiang. LaPolla (2003) describes two other morphemes that co-occur with the inferential evidential *-k*: the adverbial particle *-ŋi* which marks surprise and/or disbelief; and the emphatic marker *-wɑ*:

(51)　Qiang (LaPolla 2003:6)

　　　a. *me:　de-ʨi-**k-w**ɑ*
　　　　rain　OR-release-**INFER-EMPHATIC**
　　　　"It's raining!"

　　　b. *the:　ʐdʑytaː　　ɦa-qə-**k-ŋi***
　　　　3sg　chengdu.LOC　OR-go-**INFER-ADVERB**
　　　　"He went to Chengdu."

4.2　In sum so far

The two previous sections sketched out a pragmatic approach to mirativity. The main empirical claim was that the expression of mirativity is associated with evidential constructions (evidentials, aspect). The main theoretical claim is that mirativity is the result of a speaker flouting the Maxim of Quantity, the implicature which results is what actually carries the mirative meaning. §3 showed how mirativity is conflated with the evidential system, and when a speaker makes an EV(p) statement when they know p is true, mirativity is conversationally implicated. §4 showed how mirativity is separately encoded from

the evidential system, but still relies on it. Because mirative meaning is fixed to these morphemes, it is conventionally implicated.

The next section turns to the third part of the theoretical typology presented in (9): when a speaker makes an $\text{EV}(p)$ statement when they knows p is false, a nonliteral meaning is implicated.

5.   Nonliteral uses of evidentials

Aksu-Koç & Slobin note that, in some contexts, evidentiality can be pragmatically extended, expressing degrees of metaphorical or "feigned surprise" (1986: 163).

(52) *her   gün koş-uyor-**muş***
       every   day run-PRES-MIR/EVID
       "(It is said that) he jogs every day."

   Context: Used to convey doubtful scorn on someone you know hates exercise.

The Gitksan evidential *n̓akw* also has a nonliteral (metaphorical) interpretation in addition to its evidential meaning:

(53) *n̓akw=hl   sins-t*
       EVID=CND   blind-3
       "He must be blind!"
       "Is he blind or something?"

   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.

(54) *n̓akw=hl   maalu-(t)=hl   smax tust*
       EVID=CND   crazy-3=CND   bear that
       "Is that bear crazy or something?"
       "That bear must be crazy!"

   Context: You're watching a bear wandering around the streets in the village during broad daylight.

There are two things to track in an example such as (53): (i.) The first is that the assertion that the batter is blind is obviously not true in reality: the function of such a statement is to express dissatisfaction at the batter's performance, and (ii.) 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 the ball. In this section, it is shown that these are *nonliteral* uses of evidentials. This is the third part of the theoretical typology introduced in (9): In asserting $\text{EV}(p)$, the speaker knows p is false. This involves metaphorical use of an evidential such as *n̓akw*, which is treated below as a Quality implicature.

Broadly speaking, metaphorical statements are made to implicate a realtionship of resemblance or analogy. In interpreting a metaphorical statment, a hearer is required to match or contrast certain properties of a *topic* with a *vehicle*, and then to identify a subset

of properties which they have in common (e.g. Tversky 1977; Ortony 1979a). This is easiest to see when we attrribute the properties of animals to humans. For example, a metaphorical statement such 'my room mate is a pig' would involve considering those properties the hearer has stored as part of his knowledge of the speaker's roomate and of pigs, and selecting a subset of these properties which the speaker's room mate and pigs share, for example the properties of 'being filthy', 'being messy', 'not being hygienic', 'smelling funny' etc. These properties are taken to form the grounds for interpretation (Glucksberg et al. 1997a; example adapted from Morena 2004).

Metaphor has been approached and analyzed in various ways in the literature. However, for the present purposes, I will adopt a fairly standard, Gricean model of metaphor (see Camp 2003 for details, although see Fernández 2007 for an overview and objections to this). Metaphor is a kind of conversational implicature that arises from a violation of Quality. For example, there is a literal reading of blindness in (53) to which a truth condition can be assigned. This serves as an input to some inferential schema that generates a secondary, figurative reading (Nunberg 2004: 345). It may be possible to attribute these interpretations to the flouting of the Maxim of Quality. In (53) the speaker is literally asserting that he must be blind, something the speaker knows to be false, thus potentially violating co-operativity. However, what the speaker implicates with (53) is that the batter is playing *as if* he was blind, and thus the speaker registers his dissatisfaction at his performance. This re-establishes the situation and serves to show that his behaviour is cooperative: the speaker has made the false assetion 'he must be blind' to convey the implicated meaning.

However, it's not quite as simple as this: something new must be added to the common ground. A Quality implicature typically involves a speaker asserting the opposite to what is true, usually resulting in a sarcastic statement, as may be the case in the Turkish example above. However, the assertion "The batter is blind" would amount to implicating that the speaker is *not* blind, which is obviously true in (53), thus violating the condition that $c \cap \phi$ express something that is not already established. The function of *ṅakw*-asserted metaphorical statements such as (53) 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 *ṅakw*-assertion.

(55) *ṅakw=hl   sins-t*
     EVID=CND   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.

(56) n̓akw=hl   maalu-(t)=hl   smax   tust
      EVID=CND   crazy-3=CND   bear   that

      "Is that bear crazy or something?"
      "That bear must be crazy!"

      PRESUPPOSITION: The speaker has visual evidence (watching a bear wandering around the village).
      ASSERTION: The bear is crazy.
      IMPLICATURE: This is unusual behaviour for a bear; it could be dangerous (to the people and bear).

      Context: You're watching a bear wandering around the streets in the village during broad daylight.

   In both of these contexts, a speaker is witnessing an event that is not only surprising, but also countering their (or perhaps common) expectations regarding the role of a batter at a baseball game, or the behaviour of bears. Also as with mirative expressions, these interpretations rely on the coincidence of sensory evidence perceived at the time of utterance.

   We see the same kind of effects with evidentiality in English. English does not have a dedicated system of evidentials, rather, they are achieved paraphrastically through 'sensory' verbs (Gisborne 1996):

(57)   a. "He *sounds* foreign"

        b. "He *looks* ill"

        c. "I *see* you don't believe me"

   Example (58) is an unmarked, literal use of the verb *see* along with an appropriate context:

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

   Likewise, sensory verbs in English can also be used to flout Quality. Consider the context in (59):

(59) "I see you're working on your project." (nonliteral/evidential)
      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.[12]

   This nonliteral interpretation of *see* relies on evidential meaning of the verb: example (59) without the matrix verb *see* does not allow a nonliteral reading in this context:

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[12]Contexts adapted from Gilmour et al., this volume

(60) #"You're working on your project." (nonliteral)

The same observation holds in Gitksan: plain assertions such as *sins n̓it* "You're blind." only have a literal interpretation. Additionally, the nonliteral use of *see* cannot be embedded without losing this interpretation, confirming a standard test for pragmatic effects such as this:[13]

(61) #"I didn't see that you're working on your homework." (nonliteral)

What the examples above crucially show is 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 nonliteral interpretation.

In order to trigger a Quality implicature (your displeasure at a batter's performance) you have to actually witness the poor playing. This amounts to a speaker having sensory evidence for an assertion, and the evidential *n̓akw* must be used. This relates to an observation that can be made in English using the same baseball context in (55). In example (62), the strong *must* is more felicitous than the weaker *might* in expressing a nonliteral meaning:

(62) "He must be blind." (nonliteral)
       #"He might be blind." (nonliteral)

I claim that the use of *must* over *might* metaphorically is rooted in 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. This is related to the evidential use of *must* in conveying mirativity, as was shown in example (11) above.[14] However, it is not the type of evidence that determines this, as metaphorical uses of *must* are also felicitous in indirect evidence contexts:

(63) "She must be crazy!" (nonliteral)
       #"She might be crazy!" (nonliteral)
       Context: Your sister told you she just gave away all her lottery winnings.

A Quality implicature is supported by the strong degree of certainty, and this certainty is most effectively reinforced by evidence (rather than speculation). Metaphorical interpretations of *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. In non-evidential languages such as English, it is predicted that the the universal modal will be used in conveying the implicature.

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[13]Testing negation with *n̓akw* is a little trickier, as *n̓akw* cannot embed under negation for independent syntactic reasons. See Peterson 2010 for details.

[14]At this point it may be too strong to claim there is a robust and systematic connection between mirativity and metaphor. However, these data suggest that further research on this would determine if there is a such a connection or not.

6.   Summary and Future Directions

There are several typological and theoretical studies devoted to meaning of evidentiality, especially in the area of testing their propositional and pragmatic status. This paper looks in a slightly different direction, and contributes to the research on evidentiality by examining two uses of evidentials in expressing mirativity and metaphor. An analysis was presented that analyzes mirativity as pragmatic phenomenon that is the result of implicature. Specifically, it is context in which an evidential statement of the form EV(p) is made determines its interpretations as either a statement of inference, or as statement of mirativity or metaphor. When a speaker knows or believes p is true (by witnessing the event), mirativity is implicated. When they know or believe p is false, a nonliteral meaning is implicated.

However, there are many empirical stones left unturned, and I will only highlight a few. A starting place would be mirativity in English. It was shown above that mirativity is implicated in the modal system in English. However, intonation is what plays a crucial role in conveying the mirative effect. A logical starting place would be to treat intonational mirativity as conventional implicature. However, given the complexities of intonation and how it interacts with other meanings such as focus, a very systematic and focussed study would be required to test intonational mirativity, its interaction with modality, and the felicity of these combinations when an event is witnessed.

Dickenson (2000) discusses in detail mirative marking in Tsafiki (Barbacoan). Mirativity markers in Tsafiki encode the degree to which the information coded in the proposition is *congruent* with the speaker's general knowledge. In (64)a., the speaker knows he has money, which is marked with the congruent marker -*yo*-. In b. the speaker suddenly discovers he has some money he did not think he had; this is marked with the incongruent marker -*i*-:

(64)   Tsafiki (Dickenson 2000: 401)

      a. *kala   ta-yo-e*
         money   have-**CONGR**-DECL
         "I have money."

      b. *kala   ta-i-e*
         money   have-**INCONGR**-DECL
         "I have money!"

There are two notable features in Tsafiki that relate to the discussion and analysis above: first, mirativity is lexically encoded separately from evidentiality; secondly mirative markers are both obligatory and occur in paradigmatic distribution, as seen in (64). This offers an ideal testing ground for examining a conventional implicature analysis of mirativity, as nothing excludes the obligatoriness of mirative marking, nor it's separation from the encoding of evidentiality. In this case, we would need to focus attention on the kinds of contexts mirative-marked statements are used in which could potentially license a conventional implicature.

There is also an interesting link between mirativity and exclamativity. Exclamatives express the emotional attitude of a speaker towards the situation that a sentence or nominal denotes, as in "What a nice guy he is!", or "The strange things that he says!" Portner & Zanuttini (2004) suggest exclamative sentences may be a type of mirativity. They develop an interface theory of exclamatives, as they involve not only the semantics of questions, but also the pragmatic force of an utterance (Portner & Zanuttini 2000, 2004). This is used to capture the various interpretations of exclamatives such as 'a sense of surprise' or 'unexpectedness', but which are question-like statements. Can mirativity, or some sub-type of it be reduced to exclamativity and illocutionary force? Portner & Zanuttini suggest, however, that this may only be partly the case, as "the connection to exclamatives more generally only seems relevant in the use of the mirative marker having to do with unexpected information, not indicating inferential [evidentiality]". This bears directly on the empirical claim made here that mirative meaning is always licenses by evidentiality, and opens the door to examining mirativity as illocutionary force..

Given the diverse range of constructions that mirativity and metaphor can be associated with, this paper presents a set of theoretical tools capable of testing the core link between evidentiality and how it is used in context to project these two kinds of meanings. This would ideally serve as a foundation for more focussed, language-specific studies of mirative and nonliteral meaning in evidential languages. As these emerge in the literature, we may get a more complete and systematic picture of mirativity and its status a natural class of meaning which can cover this diverse collection of constructions.

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