Prosodically marked mirativity

Jessica Rett

rett@ucla.edu

WCCFL 38
March 6, 2020

overview

mirative marking
- defining mirativity
- mirative strategies

a unified semantic analysis
- illocutionary content
- a semantics for illocutionary content

prosodically marked mirativity
- prosody: an overview
- elicitation
- results
- discussion

conclusions

overview

- mirativity is the encoding of implicit speaker surprise or exceeded expectation (DeLancey 1997)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

overview

- mirativity is the encoding of implicit speaker surprise or exceeded expectation (DeLancey 1997)
- it's encoded using a variety of strategies (Rett 2012):
  - morphologically, in sentence particles (e.g. Finnish);
  - syntactically, in focus fronting (e.g. Spanish);
  - prosodically (e.g. English)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

overview

- mirativity is the encoding of implicit speaker surprise or exceeded expectation (DeLancey 1997)
- it's encoded using a variety of strategies (Rett 2012):
  - morphologically, in sentence particles (e.g. Finnish);
  - syntactically, in focus fronting (e.g. Spanish);
  - prosodically (e.g. English)
- I'll first present a semantic account of mirativity across these strategies qua 'illocutionary content' (Rett 2019)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

overview

- mirativity is the encoding of implicit speaker surprise or exceeded expectation (DeLancey 1997)
- it's encoded using a variety of strategies (Rett 2012):
  - morphologically, in sentence particles (e.g. Finnish);
  - syntactically, in focus fronting (e.g. Spanish);
  - prosodically (e.g. English)
- I'll first present a semantic account of mirativity across these strategies qua 'illocutionary content' (Rett 2019)
- I'll then present an investigation of the properties of prosodic mirative marking in English

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

overview

- mirativity is the encoding of implicit speaker surprise or exceeded expectation (DeLancey 1997)
- it's encoded using a variety of strategies (Rett 2012):
  - morphologically, in sentence particles (e.g. Finnish);
  - syntactically, in focus fronting (e.g. Spanish);
  - prosodically (e.g. English)
- I'll first present a semantic account of mirativity across these strategies qua 'illocutionary content' (Rett 2019)
- I'll then present an investigation of the properties of prosodic mirative marking in English
- The Goals of the Talk:
  - a straightforward semantic analysis of mirativity;
  - a study of prosodically marked mirativity;
  - and a discussion of why the former might need to be supplemented to fit the latter

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

acknowledgments

This talk is based in part on joint research led by Beth Sturman, and was funded by a 2019 UCLA COR Faculty Research Grant.

It has also benefitted from comments from audiences at UCLA; the 6th Cornell Workshop in Linguistics and Philosophy; the Berkeley Meaning Sciences Club; the Workshop on Encoding Emotive Attitudes in Non-truth-conditional Meaning at DGfS 41; the Functional Categories and Expressive Meaning Workshop at the Universitat Autònoma de Barcelona; and the Second UC Irvine Workshop in Logical Semantics.

overview

mirative marking
- defining mirativity
- mirative strategies

a unified semantic analysis
- illocutionary content
- a semantics for illocutionary content

prosodically marked mirativity
- prosody: an overview
- elicitation
- results
- discussion

conclusions

what is mirativity?

I use the term ‘mirative’ as a label for any natural-language expression of exceeded expectation

(1) a. Jane won the race.
b. (Wow) Jane won the race!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

what is mirativity?

I use the term 'mirative' as a label for any natural-language expression of exceeded expectation

(1) a. Jane won the race.
b. (Wow) Jane won the race!

- the 'expression' bit (Kaplan 1997; Castroviejo 2006)
  - like any expressive speech act, can be uttered insincerely (Searle 1969)

    (2) (Wow) Airline seats are so tiny these days!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

what is mirativity?

I use the term 'mirative' as a label for any natural-language expression of exceeded expectation

(1) a. Jane won the race.
b. (Wow) Jane won the race!

- the 'expression' bit (Kaplan 1997; Castroviejo 2006)
  - like any expressive speech act, can be uttered insincerely (Searle 1969)

    (2) (Wow) Airline seats are so tiny these days!

  - undeniable, non-negatable

    (3) A: (Wow) Those cupcakes are good!
    B: #No, you knew exactly how good they'd be.

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

what is mirativity?

mirativity = expression of exceeded expectation

- the 'exceeded expectation' bit
  - Merin & Nikolaeva (2008); Rett (2011): speaker's expectations violated or exceeded
  - "No matter how high my expectations might have been, what I have just heard exceeded them" (DeLancey '01)
  - a violated expectation can be flattering or insulting, depending on the relevant expectations

(4) You did better than the faculty expected you to.

overview

mirative marking

defining mirativity

mirative strategies

a unified semantic analysis

illocutionary content

a semantics for illocutionary content

prosodically marked mirativity

prosody: an overview

elicitation

results

discussion

conclusions

what is mirativity?

mirativity = expression of exceeded expectation

- the 'exceeded expectation' bit
  - Merin & Nikolaeva (2008); Rett (2011): speaker's expectations violated or exceeded
  - "No matter how high my expectations might have been, what I have just heard exceeded them" (DeLancey '01)
  - a violated expectation can be flattering or insulting, depending on the relevant expectations

    (4) You did better than the faculty expected you to.

  - generally speaker-oriented

    (5) a. #Mary said Jane won the race!
    b. *How did Jane win the race!?

what is mirativity?

mirativity = expression of exceeded expectation

- the 'exceeded expectation' bit
  - Merin & Nikolaeva (2008); Rett (2011): speaker's expectations violated or exceeded
  - "No matter how high my expectations might have been, what I have just heard exceeded them" (DeLancey '01)
  - a violated expectation can be flattering or insulting, depending on the relevant expectations

    (4) You did better than the faculty expected you to.

  - generally speaker-oriented

    (5) a. #Mary said Jane won the race!
    b. *How did Jane win the race!?

  - tied to the here and now (Rett & Murray 2013);'novel information' or 'unprepared mind' (DeLancey 1997, 2001; Peterson 2010);'spontaneous reaction to a new, salient, often surprising event' (Aikhenvald 2004)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a taxonomy of mirativity

- there are a variety of different strategies of mirativity marking (Rett 2012):
  1. independent miratives
     - morphologic
     - syntactic
     - prosodic

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

a taxonomy of mirativity

- there are a variety of different strategies of mirativity marking (Rett 2012):
  1. independent miratives
     - morphologic
     - syntactic
     - prosodic
  2. mixed-expression miratives
  3. dependent miratives

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

a taxonomy of mirativity

- there are a variety of different strategies of mirativity marking (Rett 2012):
  1. independent miratives
     - morphologic
     - syntactic
     - prosodic
  2. mixed-expression miratives
  3. dependent miratives
- instead of providing semantics for a given strategy (e.g. discourse particles), we should aim to provide semantics for a given unit of meaning (i.e. 'sememes')

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a taxonomy of mirativity

- there are a variety of different strategies of mirativity marking (Rett 2012):
  1. independent miratives
     - morphologic
     - syntactic
     - prosodic
  2. mixed-expression miratives
  3. dependent miratives
- instead of providing semantics for a given strategy (e.g. discourse particles), we should aim to provide semantics for a given unit of meaning (i.e. 'sememes')
- a clear need for a compositional semantics: mirativity interacts not just with the proposition it ranges over, but with other properties of its marker (mixed-expression) or the context (dependent miratives).

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

independent miratives

- in Finnish, the focus-sensitive sentence particle *-pä*

(6) a. Täällä on paljon kukk-ia.
here be-3RD.SG a.lot flower-PRT.INDF.PL
'There are lots of flowers here.'

b. Täällä-pä on paljon kukk-ia.
here-PA be-3RD.SG a.lot flower-PRT.INDF.PL
'(Wow) There are lots of flowers here!'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

independent miratives

- in Finnish, the focus-sensitive sentence particle *-pä*

(6) a. Täällä on paljon kukk-ia.
here be-3RD.SG a.lot flower-PRT.INDF.PL
'There are lots of flowers here.'

b. Täällä-pä on paljon kukk-ia.
here-PA be-3RD.SG a.lot flower-PRT.INDF.PL
'(Wow) There are lots of flowers here!'

- Mandarin: (anti-)mirative adverbials (Wu 2008)

(7) Zhangsan **guoran/jingran** lai le.
Zhangsan MIR/ANTI-MIR come PART
'Zhangsan came (as expected/not expected).'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

independent miratives

- in Finnish, the focus-sensitive sentence particle *-pä*

(6) a. Täällä on paljon kukk-ia.
here be-3RD.SG a.lot flower-PRT.INDF.PL
'There are lots of flowers here.'

b. Täällä-pä on paljon kukk-ia.
here-PA be-3RD.SG a.lot flower-PRT.INDF.PL
'(Wow) There are lots of flowers here!'

- Mandarin: (anti-)mirative adverbials (Wu 2008)

(7) Zhangsan **guoran/jingran** lai le.
Zhangsan MIR/ANTI-MIR come PART
'Zhangsan came (as expected/not expected).'

- Spanish: via focus fronting (Cruschina 2012, 2019)

(8) ¡Imagínate! ¡Con el director quería hablar!
imagine.IMP.2SG with the director want.IMPF.3SG talk.INF
'Guess what! The director he wanted to talk to!'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

independent miratives

- in Finnish, the focus-sensitive sentence particle *-pä*

(6) a. Täällä on paljon kukk-ia.
here be-3RD.SG a.lot flower-PRT.INDF.PL
'There are lots of flowers here.'

b. Täällä-pä on paljon kukk-ia.
here-PA be-3RD.SG a.lot flower-PRT.INDF.PL
'(Wow) There are lots of flowers here!'

- Mandarin: (anti-)mirative adverbials (Wu 2008)

(7) Zhangsan **guoran/jingran** lai le.
Zhangsan MIR/ANTI-MIR come PART
'Zhangsan came (as expected/not expected).'

- Spanish: via focus fronting (Cruschina 2012, 2019)

(8) ¡Imagínate! ¡Con el director quería hablar!
imagine.IMP.2SG with the director want.IMPF.3SG talk.INF
'Guess what! The director he wanted to talk to!'

- English exclamation intonation, as in (1) (more soon)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

mixed-expression miratives

- mirative conjunctions: second conjunct is surprising independent of the first ('lo and behold'), e.g. Russian

(9) On zabolel **da** **i** umer.
he fell.ill CONJ PTCL died
'He fell ill and died (I did not expect it).'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

mixed-expression miratives

- mirative conjunctions: second conjunct is surprising independent of the first ('lo and behold'), e.g. Russian

(9) On zabolel **da i** umer.
he fell.ill CONJ PTCL died
'He fell ill and died (I did not expect it).'

- expressive intensifiers, e.g. German *sau* ('female pig'); *total* ('totally'); *voll* ('fully'; Gutzmann 2015)

(10) Die Party war **sau** cool.
the party was SAU cool
'The party was very cool (I can't believe how cool!).'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

dependent miratives

- mirative evidentials are mirative only with direct evidence (e.g. Tsafiki, Dickinson 2000)

(11) Moto jo-**nu**-e.
motorcycle be-EVID-DECL
speaker hears motor: 'It is apparently a motorcycle.'
speaker thought he heard a car, but sees a motorcycle coming: 'It's a motorcycle!'

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

dependent miratives

- mirative evidentials are mirative only with direct evidence (e.g. Tsafiki, Dickinson 2000)

  (11) Moto jo-**nu**-e.
  motorcycle be-EVID-DECL
  speaker hears motor: 'It is apparently a motorcycle.'
  speaker thought he heard a car, but sees a motorcycle coming: 'It's a motorcycle!'

- additional language-specific licensing requirements:
  - Gitksan: licensed by first person (Peterson 1999)
  - Hare: licensed by the imperfect (DeLancey 1997, 2001)

    (12) a. Mary e-wé' ghálayeỹida lõ.
    Mary its-hide work.PERF *lõ*
    'Mary worked on hides (I inferred).'

    b. Mary e-wé' ghálayeda lõ.
    Mary its-hide work.IMPF *lõ*
    'Mary is working on hides (I saw, to my surprise).'

  - Cheyenne: licensed by present tense (Murray 2010)
  - Georgian: by individual-level preds (Korotkova 2012)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a unified semantic analysis

- a discourse particle is a morphological strategy; discourse particles can do a bunch of different stuff (Malamud & Stephenson 2015)
- mirativity is pretty semantically uniform across languages, but the way it's encoded varies
- intuitively, we should have a unified account of this 'sememe':
  - does mirativity behave the same way across languages and strategies?
  - if so, does it behave like any other sememe?
  - if so, how should we analyze it semantically?
  - (and how should we treat any differences?)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

mirativity is not-at-issue

- mirativity is not-at-issue (NAI) content
  - it's undeniable in discourse
  - it cannot be targeted by truth-conditional operators

(13) A: (Wow) Jane won the race!
B: That's not true, she came in second.
B′:#That's not true, you knew she would.

(14) (Wow) Jane did not win the race!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

mirativity is not-at-issue

- mirativity is not-at-issue (NAI) content
  - it's undeniable in discourse
  - it cannot be targeted by truth-conditional operators

(13) A: (Wow) Jane won the race!
B: That's not true, she came in second.
B′:#That's not true, you knew she would.

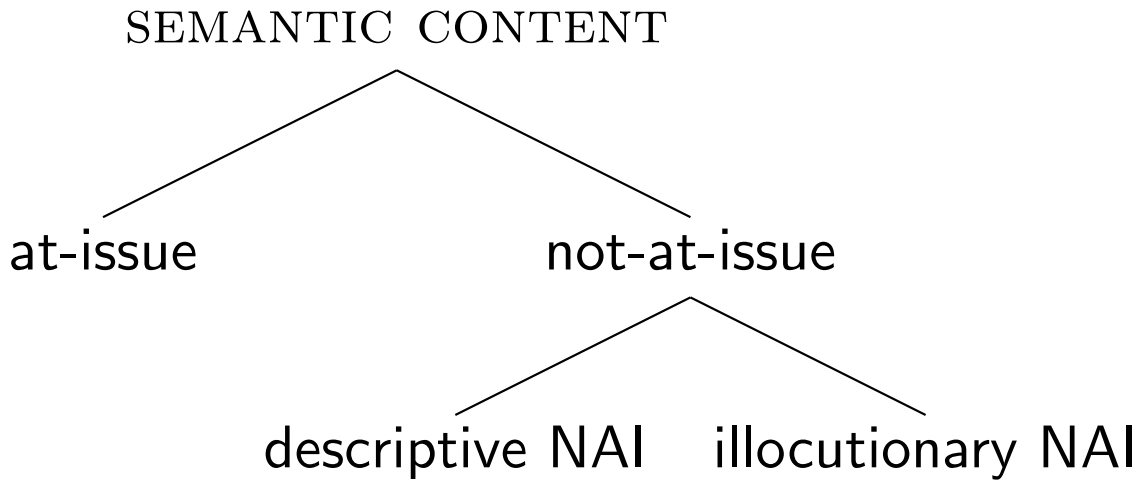
(14) (Wow) Jane did not win the race!

- the same goes for all of the mirative strategies listed previously
  - morphologically encoded independent markers like *alas* and Finnish *pä*;
  - dependent and mixed-expression miratives like mirative evidentials

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a partial typology of NAI content

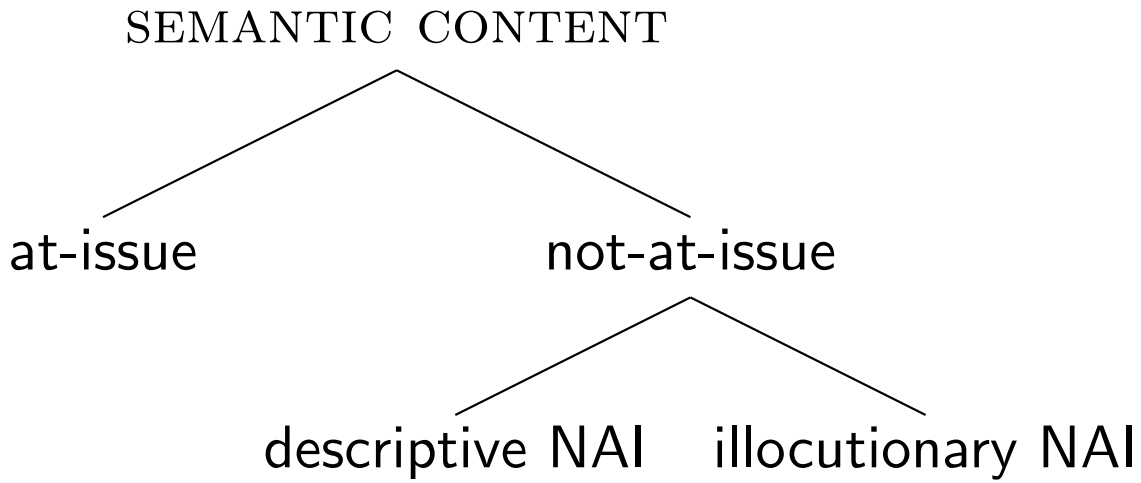
- but mirative marking behaves differently from other types of NAI content like appositives or evidentials, requiring distinct semantic treatment (Rett 2019)



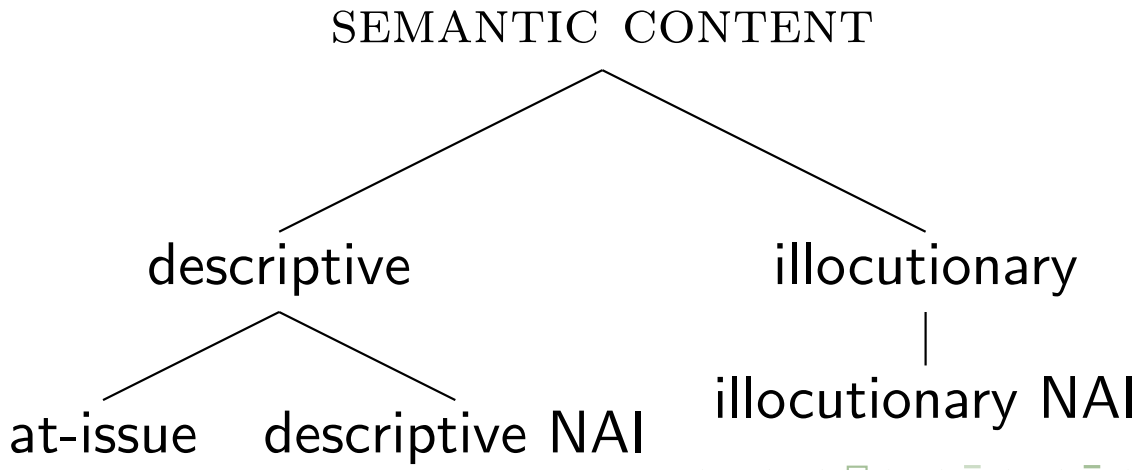
overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a partial typology of NAI content

- but mirative marking behaves differently from other types of NAI content like appositives or evidentials, requiring distinct semantic treatment (Rett 2019)



- alternatively:



overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

descriptive vs. illocutionary NAI content

- descriptive NAI markers: appositives, evidentials, utterance modifiers, CIs (Potts 2005)

(15) a. Allegedly, Jane won the race.
b. Frankly, Jane won the race.

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

descriptive vs. illocutionary NAI content

- descriptive NAI markers: appositives, evidentials, utterance modifiers, CIs (Potts 2005)

(15) a. Allegedly, Jane won the race.
b. Frankly, Jane won the race.

- illocutionary NAI markers: *alas, (un)fortunately*, mirative markers like Finnish *pä* (Rett 2019)

(16) a. Alas, Jane won the race.
b. (Wow) Jane won the race!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

descriptive vs. illocutionary NAI content

- descriptive NAI markers: appositives, evidentials, utterance modifiers, CIs (Potts 2005)

(15) a. Allegedly, Jane won the race.
b. Frankly, Jane won the race.

- illocutionary NAI markers: *alas, (un)fortunately*, mirative markers like Finnish *pä* (Rett 2019)

(16) a. Alas, Jane won the race.
b. (Wow) Jane won the race!

- descriptive not-at-issue markers contribute to the descriptive content of an utterance – what is said
- "illocutionary content" is not-at-issue meaning pertaining to how the speaker is using the utterance in the context

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

diagnostics of illocutionary content

1. susceptibility to Moore's Paradox

- standard Moore's Paradox:

  (17) #It's raining, but I don't believe it's raining.

- Murray (2010): denial of mirativity is paradoxical (#); denial of evidentiality is contradictory ($_\perp$)
- to the extent that English speakers recognize this difference, the English data pattern the same way.

  (18) a. #$_\perp$Allegedly, Jane lost the race, but no one alleged she did.
  b. # Alas, Jane lost the race, but I'm not disappointed she did.
  c. #Wow Jane lost the race! But I'm not surprised she did.

diagnostics of illocutionary content

1. susceptibility to Moore's Paradox

- Moore's Paradox is suspended in suppositional or conditional contexts (Yalcin 2007)

  (19) Suppose it's raining, but I don't believe it is raining.

- so is the content encoded by emotive markers (20-b), but not e.g. evidential adverbials (20-a)

  (20) a. #Suppose that, allegedly, Jane lost the race, but that no one alleged that she did.

  b. Suppose that, alas, Jane lost the race, but that I'm not disappointed she did.

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

diagnostics of illocutionary content

2. scope-taking: illocutionary markers associate with a single salient proposition

- they're incompatible with utterances associated with multiple propositions (Cheyenne, Rett & Murray 2013)

(21) a. Mó=é-x-hó′ tȧhevá-**hoo′o** Aénohe?
y/n=3-REM.PST-win-NAR.3SG Hawk
'Given the stories you heard, did Hawk win?'

b. %Mó=é-hó′ tȧhevá-**hoo′o** Aénohe?
y/n=3-win-NAR.3SG Hawk
'Given your surprise, did Hawk win?'

- they scope differently with other sentential operators than descriptive NAI markers do

(22) a. #Alas, if Jane loses, at least we'll flip the Sen.

b. If, alas, Jane loses, at least we'll flip the Sen.

(23) a. #Apparently, if Jane loses, I will run for office.

b. #If, apparently, Jane loses, I will run for office.

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, informally

(24) (Wow) Jane, who hates politics, won the race!

a. **at-issue**: Jane won the race
b. **descriptive NAI**: Jane hates politics
c. **illocutionary NAI**: speaker hadn't expected Jane to win the race

- at-issue content:
  - acts as a proposal to submit the proposition to the Common Ground (Stalnaker 1973)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, informally

(24) (Wow) Jane, who hates politics, won the race!

a. **at-issue**: Jane won the race
b. **descriptive NAI**: Jane hates politics
c. **illocutionary NAI**: speaker hadn't expected Jane to win the race

- at-issue content:
  - acts as a proposal to submit the proposition to the Common Ground (Stalnaker 1973)
- descriptive not-at-issue content:
  - directly updates the Common Ground (Murray 2010)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, informally

(24) (Wow) Jane, who hates politics, won the race!

a. **at-issue**: Jane won the race
b. **descriptive NAI**: Jane hates politics
c. **illocutionary NAI**: speaker hadn't expected Jane to win the race

- at-issue content:
  - acts as a proposal to submit the proposition to the Common Ground (Stalnaker 1973)
- descriptive not-at-issue content:
  - directly updates the Common Ground (Murray 2010)
- illocutionary content:
  - updates the speaker's Discourse Commitments (Gunlogson 2001)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

a note on sincerity conditions

- extant dynamic accounts of declarative mood do not formally model the sincerity condition, i.e. 'Speaker believes that p'

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

a note on sincerity conditions

- extant dynamic accounts of declarative mood do not formally model the sincerity condition, i.e. 'Speaker believes that *p*'
- arguably, emotive markers like mirativity do the same sort of thing, contribute something like 'Speaker is surprised that *p*'
  - Searle 1965: Moore's Paradox arises when a sincerity condition is denied
  - mirativity and other emotive markers also susceptible to Moore's Paradox (Searle & Vanderveken 1985: *alas* qua speech-act modifier)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

a note on sincerity conditions

- extant dynamic accounts of declarative mood do not formally model the sincerity condition, i.e. 'Speaker believes that *p*'
- arguably, emotive markers like mirativity do the same sort of thing, contribute something like 'Speaker is surprised that *p*'
  - Searle 1965: Moore's Paradox arises when a sincerity condition is denied
  - mirativity and other emotive markers also susceptible to Moore's Paradox (Searle & Vanderveken 1985: *alas* qua speech-act modifier)
- Discourse Commitments (Gunlogson 2001):
  - originally proposed to account for speaker bias in rising declaratives
  - originally characterized in terms of the speaker's beliefs (and "public in the sense that the participant is mutually recognized as committed to them").
- I treat public commitment as a proxy for belief, for the purpose of modeling (sincere) conversation

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, formally

- Farkas & Bruce (2010), with Gunlogson's (2001) Discourse Commitments (and Murray's (2014) treatment of descriptive NAI content)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

analysis, formally

- Farkas & Bruce (2010), with Gunlogson's (2001) Discourse Commitments (and Murray's (2014) treatment of descriptive NAI content)
- with a declarative mood operator

(25) *Declarative operator* (**D**), for sentences S_p with at-issue content p and not-at-issue content q:
$\mathbf{D}(S_p, a, K_i) = K_o$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{believes}, p\rangle\}$
(ii) $T_o = \text{push}(\langle S_p; \{p\}\rangle, T_i)$
(iii) $ps_o = ps_i \cup \{p\}$
(iv) $CG_o = CG_i \cup \{q\}$

analysis, formally

- Farkas & Bruce (2010), with Gunlogson's (2001) Discourse Commitments (and Murray's (2014) treatment of descriptive NAI content)
- with a declarative mood operator

(25) *Declarative operator* (**D**), for sentences S_p with at-issue content p and not-at-issue content q:
$\mathbf{D}(S_p, a, K_i) = K_o$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{believes}, p\rangle\}$
(ii) $T_o = \text{push}(\langle S_p; \{p\}\rangle, T_i)$
(iii) $ps_o = ps_i \overline{\cup} \{p\}$
(iv) $CG_o = CG_i \cup \{q\}$

- plus "flavored Discourse Commitments": ordered pairs of propositional attitudes and propositions, e.g. $\langle$believes, $p\rangle$; $\langle$is-disappointed, $p\rangle$; $\langle$is-surprised, $p\rangle$

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, formally

(26) MIR, for clauses C with content p:
$\text{MIR}(C, a, K_i) = (C, a, K_o)$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{is-surprised}, p \rangle\}$

(ii) $T_o = \text{push}(\langle C; \{p\} \rangle, T_i)$

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

analysis, formally

(26) $\textsc{Mir}$, for clauses C with content p:
$\textsc{Mir}(C, a, K_i) = (C, a, K_o)$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{is-surprised}, p\rangle\}$
(ii) $T_o = \text{push}(\langle C; \{p\}\rangle, T_i)$

(27) $[\![\text{Jane won the race!}]\!] = \mathbf{D}(\textsc{Mir}(S, a, K_i)) = K_o$
such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{believes, Jane won the race}\rangle\}$
(ii) $T_o = \text{push}(\langle S; \text{ Jane won the race}\rangle, T_i)$
(iii) $ps_o = ps_i \cup \{\text{Jane won the race}\}$
(iv) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{is-surprised, J won the race}\rangle\}$

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

analysis, formally

(26) $\textsc{Mir}$, for clauses C with content p:
$\textsc{Mir}(C, a, K_i) = (C, a, K_o)$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{is-surprised}, p\rangle\}$
(ii) $T_o = \text{push}(\langle C; \{p\}\rangle, T_i)$

(27) $[\![\text{Jane won the race!}]\!] = \mathbf{D}(\textsc{Mir}(S, a, K_i)) = K_o$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{believes, Jane won the race}\rangle\}$
(ii) $T_o = \text{push}(\langle S; \text{Jane won the race}\rangle, T_i)$
(iii) $ps_o = ps_i \cup \{\text{Jane won the race}\}$
(iv) $DC_{a,o} = DC_{a,i} \cup \{\langle \text{is-surprised, J won the race}\rangle\}$

- emotive markers can interact scopally with descriptive NAI and AI content via sub-sentential dynamic update
- THM: Mirative markers, like all emotive markers, encode NAI content. But it's qualitatively different than canonical, 'descriptive' NAI content: it operates at an illocutionary level

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody
  - a good reminder that prosody needs to be represented in our compositional semantics (Pierrehumbert & Hirschberg 1990)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody
  - a good reminder that prosody needs to be represented in our compositional semantics (Pierrehumbert & Hirschberg 1990)
- previous work on the semantics of prosody:
  - prosody can mark illocutionary mood (Pierrehumbert 1980, Jeong & Potts 2016)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody
  - a good reminder that prosody needs to be represented in our compositional semantics (Pierrehumbert & Hirschberg 1990)
- previous work on the semantics of prosody:
  - prosody can mark illocutionary mood (Pierrehumbert 1980, Jeong & Potts 2016)
  - prosody can mark orientation (speaker or hearer; Gunlogson 2001, Rudin 2018)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody
  - a good reminder that prosody needs to be represented in our compositional semantics (Pierrehumbert & Hirschberg 1990)
- previous work on the semantics of prosody:
  - prosody can mark illocutionary mood (Pierrehumbert 1980, Jeong & Potts 2016)
  - prosody can mark orientation (speaker or hearer; Gunlogson 2001, Rudin 2018)
  - prosody can mark other content like uncertainty, incredulity (Hirschberg & Ward 1992)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodically marked mirativity

- unified semantic treatment of mirativity (and emotive markers writ large):
  - some languages do things with morphemes and syntax that other languages do with prosody
  - a good reminder that prosody needs to be represented in our compositional semantics (Pierrehumbert & Hirschberg 1990)
- previous work on the semantics of prosody:
  - prosody can mark illocutionary mood (Pierrehumbert 1980, Jeong & Potts 2016)
  - prosody can mark orientation (speaker or hearer; Gunlogson 2001, Rudin 2018)
  - prosody can mark other content like uncertainty, incredulity (Hirschberg & Ward 1992)

My claim: English exclamation intonation is multi-faceted, marking something like illocutionary content as well as secondary effects like surprise, emphasis

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

English mirativity marking, a.k.a. exclamation intonation

- sentence exclamation

(28) a. Jane carves gorgeous sculptures.
b. (Wow) Jane carves gorgeous sculptures!

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

English mirativity marking, a.k.a. exclamation intonation

- sentence exclamation

(28) a. Jane carves gorgeous sculptures.
b. (Wow) Jane carves gorgeous sculptures!

- exclamatives

(29) a. What gorgeous sculptures Jane carves!
b. Can Jane carve gorgeous sculptures!
c. The gorgeous sculptures Jane carves!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

English mirativity marking, a.k.a. exclamation intonation

- sentence exclamation

(28) a. Jane carves gorgeous sculptures.
b. (Wow) Jane carves gorgeous sculptures!

- exclamatives

(29) a. What gorgeous sculptures Jane carves!
b. Can Jane carve gorgeous sculptures!
c. The gorgeous sculptures Jane carves!

  - discourse particles optional
  - distinct from rhetorical questions, e.g. *How cool is that?*
  - exclamatives differ from sentence exclamations, in English at least, in that the object of surprise needs to be a degree instead of a proposition (Rett 2011)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

English intonation

In English, utterances are associated with varying intonational contours, i.e. tunes

- tunes are composed of one or more intermediate phrases
- intermediate phrases each have a pitch accent
- pitch is measured by tracking the speaker's fundamental frequency (f0)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

English intonation

In English, utterances are associated with varying intonational contours, i.e. tunes

- tunes are composed of one or more intermediate phrases
- intermediate phrases each have a pitch accent
- pitch is measured by tracking the speaker's fundamental frequency (f0)
- pitch accents are composed of one or more pitch targets, with the star anchored to the stressed syllable

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

English intonation

In English, utterances are associated with varying intonational contours, i.e. tunes

- tunes are composed of one or more intermediate phrases
- intermediate phrases each have a pitch accent
- pitch is measured by tracking the speaker's fundamental frequency (f0)
- pitch accents are composed of one or more pitch targets, with the star anchored to the stressed syllable
- intermediate phrases are distinguishable in having:
  1. their own pitch accents (with a stressed syllable);
  2. their own phrase accent (with final lengthening);
  3. pitch range reset (a new ceiling after a down step)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

English intonation

In English, utterances are associated with varying intonational contours, i.e. tunes

- tunes are composed of one or more intermediate phrases
- intermediate phrases each have a pitch accent
- pitch is measured by tracking the speaker's fundamental frequency (f0)
- pitch accents are composed of one or more pitch targets, with the star anchored to the stressed syllable
- intermediate phrases are distinguishable in having:
  1. their own pitch accents (with a stressed syllable);
  2. their own phrase accent (with final lengthening);
  3. pitch range reset (a new ceiling after a down step)

Annotated with MAE_ToBI (Beckman & Ayers-Elam 1997)

- relatively coarse: can't mark some things, e.g. speaker's relative height (high vs. extra-high)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

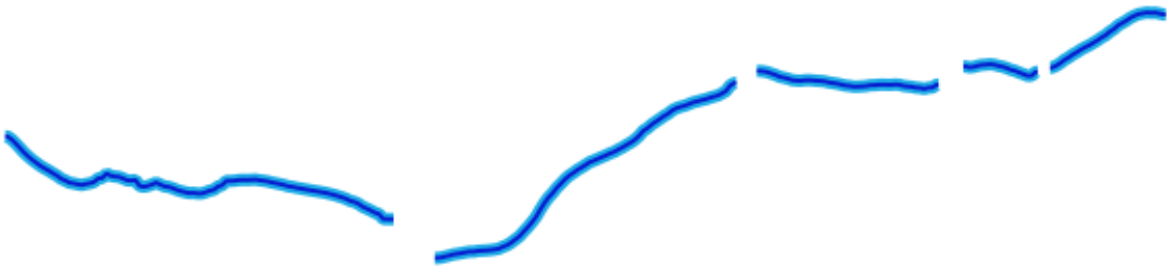
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

intermediate phrases

Does the governor of Iowa endorse a radio program?

L* H-H%



overview

mirative marking

defining mirativity

mirative strategies

a unified semantic analysis

illocutionary content

a semantics for illocutionary content

prosodically marked mirativity

prosody: an overview

elicitation

results

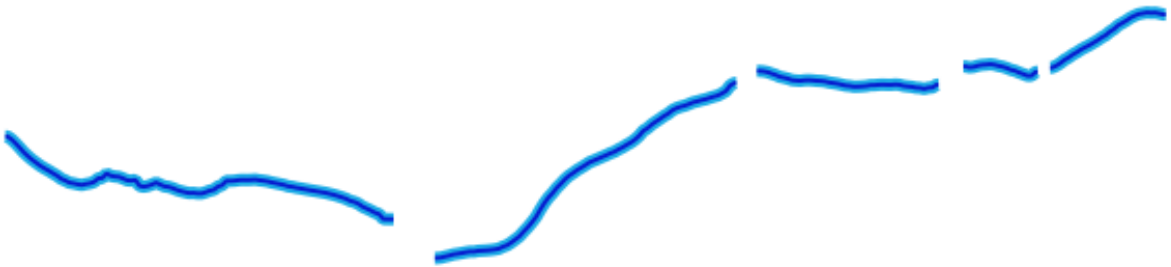
discussion

conclusions

intermediate phrases

Does the governor of Iowa endorse a radio program?

L* H-H%



- QUD: Which governors endorse a radio program?

overview

mirative marking

defining mirativity

mirative strategies

a unified semantic analysis

illocutionary content

a semantics for illocutionary content

prosodically marked mirativity

prosody: an overview

elicitation

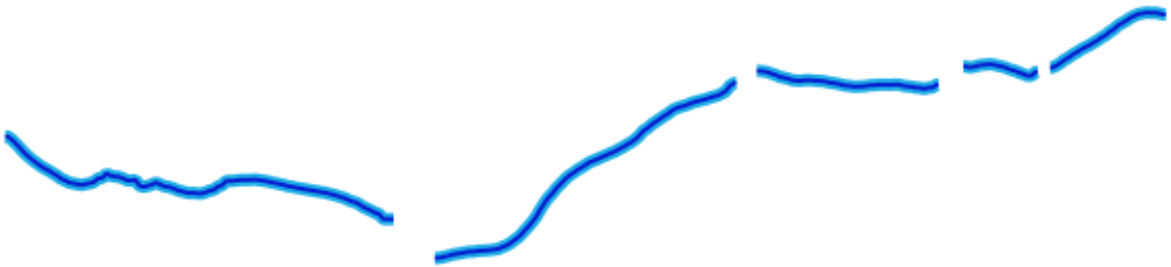
results

discussion

conclusions

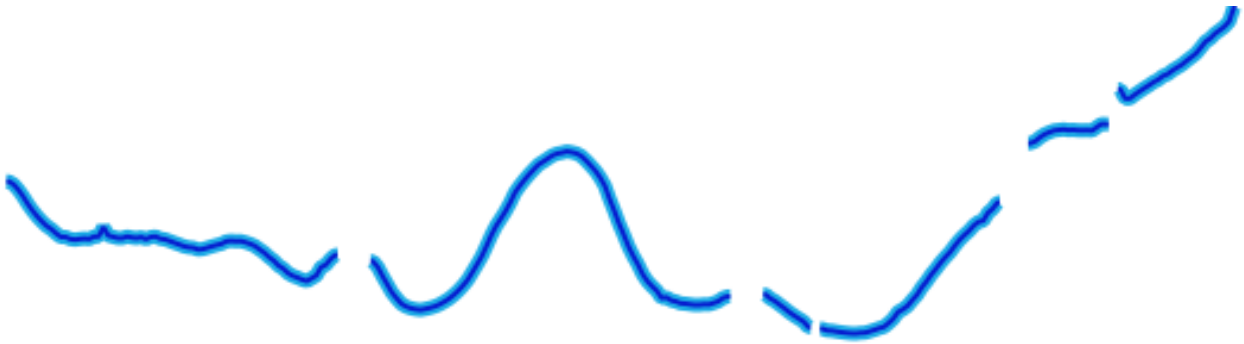
intermediate phrases

Does the governor of Iowa endorse a radio program?
L* H-H%



- QUD: Which governors endorse a radio program?

Does the governor of Iowa endorse a radio program?
L* H- L* H-H%



- QUD: out of the blue (Hirschberg & Ward 1992)

the semantics of pitch accents

- different canonical tunes (pitch accents+boundary tones) are associated with different illocutionary moods (Pierrehumbert 1980, Pierrehumbert & Hirschberg 1990)
  - declarative sentences: H* L-L%

    (30) Miriam made the lemonade.

  - polar questions & rising declaratives: L* H-H%

    (31) Miriam made the lemonade?

  - confirmation questions/rising imperatives: H* H-H%

    (32) Make the lemonade?

the semantics of pitch accents

- different canonical tunes (pitch accents+boundary tones) are associated with different illocutionary moods (Pierrehumbert 1980, Pierrehumbert & Hirschberg 1990)
  - declarative sentences: H* L-L%

    (30) Miriam made the lemonade.

  - polar questions & rising declaratives: L* H-H%

    (31) Miriam made the lemonade?

  - confirmation questions/rising imperatives: H* H-H%

    (32) Make the lemonade?

- ...as well as perlocutionary effects (Jeong & Potts 2016)
  - falling intonation: authoritativeness/assertion
  - level intonation: annoyance
  - rising intonation: politeness/positivity (cf. hedging)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

research questions

1. are English exclamations marked with uniform prosody?
2. if so, how are they marked?
3. how can we represent it semantically?
4. (is the prosodic marking of mirativity in English semantically arbitrary?)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

elicitation methodology

- two consultants: one female, one male
- conditions: 4 (construction) x 2 (±discourse particle)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

elicitation methodology

- two consultants: one female, one male
- conditions: 4 (construction) x 2 (±discourse particle)
- stimuli: 32 items per condition (256 total), btwn subjects (128 per subject)

(33) *context: You dont expect Julian to make beautiful paintings, but you find out he did. You tell Sara:*

a. (Wow) Julian makes beautiful paintings!
b. (Wow)What beautiful paintings Julian makes!
c. (Wow) Does Julian make beautiful paintings!
d. (Wow) The beautiful paintings Julian makes!

(34) *context: You don't expect Ariel's stories to cause confusion, but you find out they have. You tell Sara:*

a. (Wow) Ariel's stories caused confusion!
b. (Wow) What confusion Ariel's stories caused!
c. (Wow) Did Ariel's stories cause confusion!
d. (Wow) The confusion Ariel's stories caused!

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

elicitation methodology

- fillers: 4 construction conditions: declaratives; *wh*-questions; polar questions; definite subjects/clefts
- 32 in each condition (128 total), btwn subjects (64 ea.)

(35)
a. Anna is good at chess.
b. What is Anna good at?
c. Is Anna good at chess?
d. The game Anna is good at is chess.

(36)
a. James is an expert at knitting.
b. What is James an expert at?
c. Is James an expert at knitting?
d. The thing James is an expert at is knitting.

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

elicitation methodology

- fillers: 4 construction conditions: declaratives; *wh*-questions; polar questions; definite subjects/clefts
- 32 in each condition (128 total), btwn subjects (64 ea.)

(35)
a. Anna is good at chess.
b. What is Anna good at?
c. Is Anna good at chess?
d. The game Anna is good at is chess.

(36)
a. James is an expert at knitting.
b. What is James an expert at?
c. Is James an expert at knitting?
d. The thing James is an expert at is knitting.

- consultants were instructed to read the sentences as they'd be naturally uttered (in the provided context)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

elicitation methodology

- fillers: 4 construction conditions: declaratives; *wh*-questions; polar questions; definite subjects/clefts
- 32 in each condition (128 total), btwn subjects (64 ea.)

(35)
a. Anna is good at chess.
b. What is Anna good at?
c. Is Anna good at chess?
d. The game Anna is good at is chess.

(36)
a. James is an expert at knitting.
b. What is James an expert at?
c. Is James an expert at knitting?
d. The thing James is an expert at is knitting.

- consultants were instructed to read the sentences as they'd be naturally uttered (in the provided context)
- the recordings were transcribed in Praat using MAE_ToBI by one of the authors, and confirmed by another trained transcriber

elicitation results

both consultants consistently:

1. pronounced exclamations with L+H* pitch accents;

	L+H*	H*	H+!H*	L*	L*+H
SE	.96	.04	–	–	–
WH	.85	.10	.05	–	–
INV	.94	.04	–	–	.02
NOM	.93	.03	–	.04	–
average	**.92**	**.05**	**.01**	**.01**	**<.01**

Table : proportion of items with L+H* pitch accents, **female**

	L+H*	H*	H+!H*	L*	L*+H
SE	1	–	–	–	–
WH	.96	.04	–	–	–
INV	1	–	–	–	–
NOM	.94	.06	–	–	–
average	**.98**	**.03**	–	–	–

Table : proportion of items with L+H* pitch accents, **male**

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

elicitation results

both consultants consistently:

2. pronounced exclamations with extra-high targets:
   - the high target exceeds expected height for position (after a downstep, etc.);
   - target exceeds default pitch maximum by at least 5%
   - cf. fillers, with zero extra-high targets

	+*wow*	−*wow*
SE	. 78	.78
WH	.94	.88
INV	.69	.53
NOM	.78	.94

Table : proportion of items with at least one extra high target

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

elicitation results

both consultants consistently:

2. pronounced exclamations with extra-high targets:
   - the high target exceeds expected height for position (after a downstep, etc.);
   - target exceeds default pitch maximum by at least 5%
   - cf. fillers, with zero extra-high targets

	+*wow*	−*wow*
SE	. 78	.78
WH	.94	.88
INV	.69	.53
NOM	.78	.94

Table : proportion of items with at least one extra high target

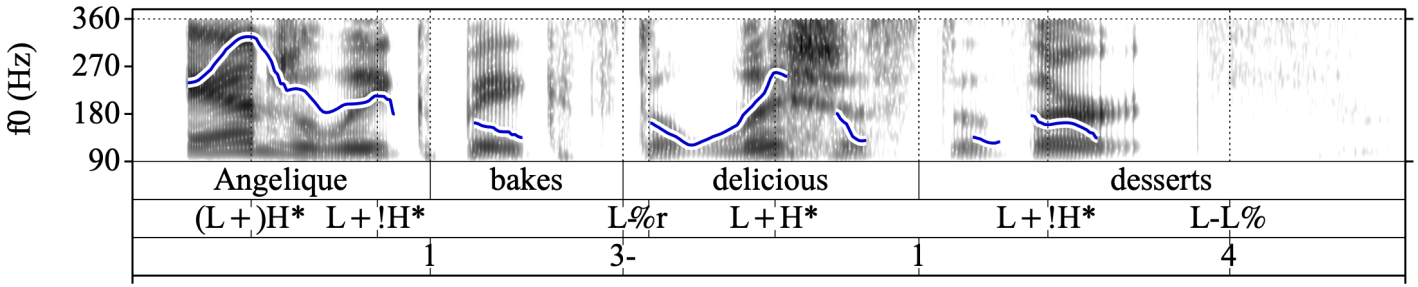
3. and inserted additional intermediate phrase boundaries
   - additional mid-sentence pitch-range resets
   - additional nuclear pitch accents (NPAs) relative to fillers
   - consequently, words in the exclamations sounded more prominent than filler counterparts

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

example utterances

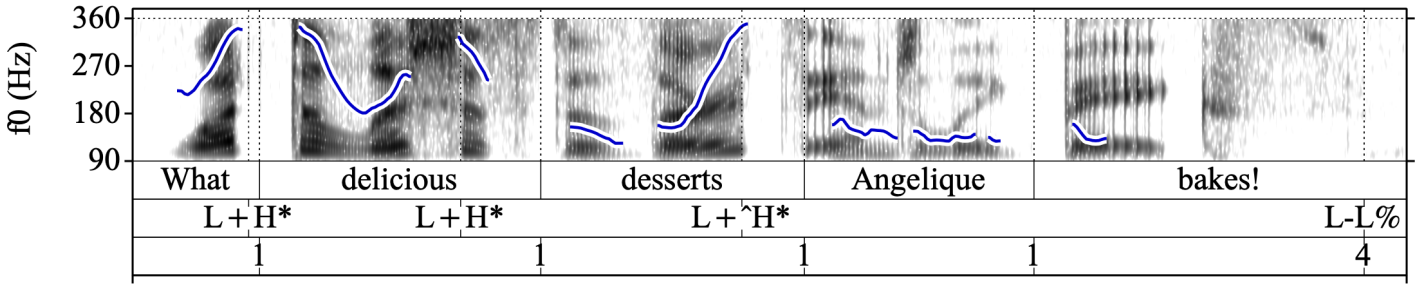
- sentence exclamation (no sentence particle):

(37) Angelique bakes delicious desserts!



- *wh*-exclamative (no sentence particle):

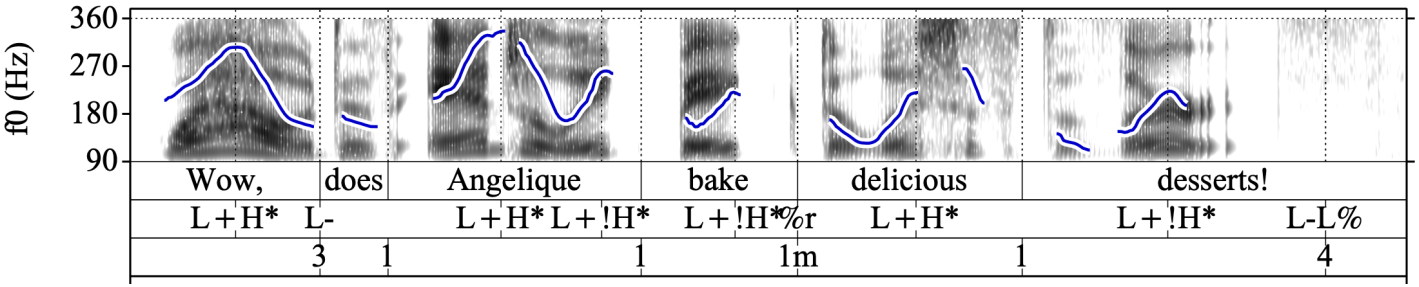
(38) What delicious desserts Angelique bakes!



example utterances

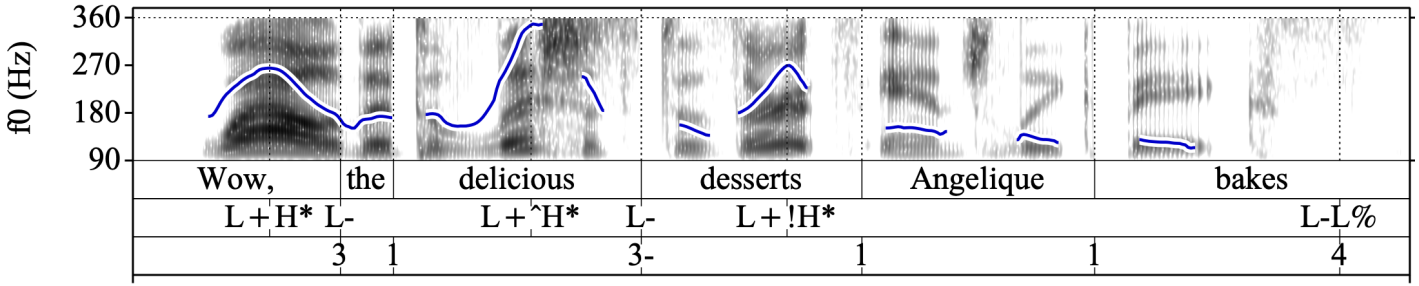
- inversion exclamative (sentence particle):

(39) Wow, does Angelique bake delicious desserts!



- nominal exclamative (sentence particle):

(40) Wow, the delicious desserts Angelique bakes!



overview

mirative marking

defining mirativity

mirative strategies

a unified semantic analysis

illocutionary content

a semantics for illocutionary content

prosodically marked mirativity

prosody: an overview

elicitation

results

discussion

conclusions

nuances across construction type

- these three prosodic properties are necessary but not sufficient for describing the intonational contour of the four constructions we're looking at
  - each construction manifests all three properties differently to form a unique tune
  - they differ in their macrorhythm (peak frequency)...
  - ...and in what types of words get marked as prominent

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

nuances across construction type

- these three prosodic properties are necessary but not sufficient for describing the intonational contour of the four constructions we're looking at
  - each construction manifests all three properties differently to form a unique tune
  - they differ in their macrorhythm (peak frequency)...
  - ...and in what types of words get marked as prominent
- intonation is functioning to maximally differentiate each exclamation type from its non-exclamation counterpart
  - sentence exclamation vs. simple declarative
  - *wh*-exclamative vs. *wh*-question
  - inversion exclamative vs. *yes/no* question
  - nominal exclamative vs. topicalized definite

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

nuances across construction type

- these three prosodic properties are necessary but not sufficient for describing the intonational contour of the four constructions we're looking at
  - each construction manifests all three properties differently to form a unique tune
  - they differ in their macrorhythm (peak frequency)...
  - ...and in what types of words get marked as prominent
- intonation is functioning to maximally differentiate each exclamation type from its non-exclamation counterpart
  - sentence exclamation vs. simple declarative
  - *wh*-exclamative vs. *wh*-question
  - inversion exclamative vs. *yes/no* question
  - nominal exclamative vs. topicalized definite
- the intonational patterns are the complete opposite of one another in terms of:
  - acoustic salience (for polar constructions: most/least salient);
  - what is prominent (for *wh*-constructions);
  - slow vs. fast macrorhythm (for polar constructions)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

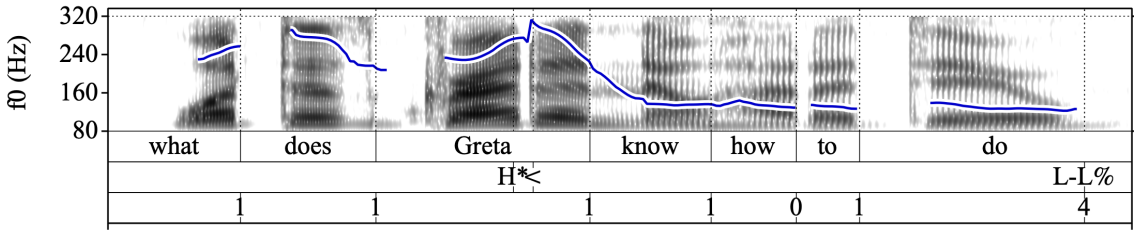
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

nuances across construction type

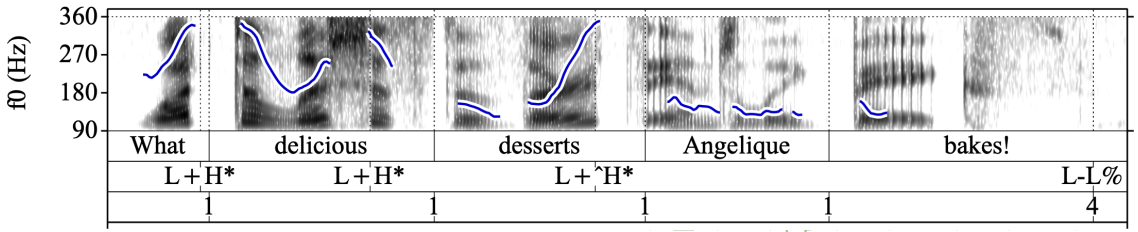
- *wh*-question intonation
  - overall tune same as simple declaratives (H* L-L%)
  - *wh*-word is not prosodically prominent (Pierrehumbert 1980), surprising given its discourse significance

(41) What does Greta know how to do?



- *wh*-exclamative intonation
  - *wh*-word is highly prominent, marked with (L+)H* 87.5%
  - *wh*-word target is extra-high in 62.5% of *wh*-exclamatives

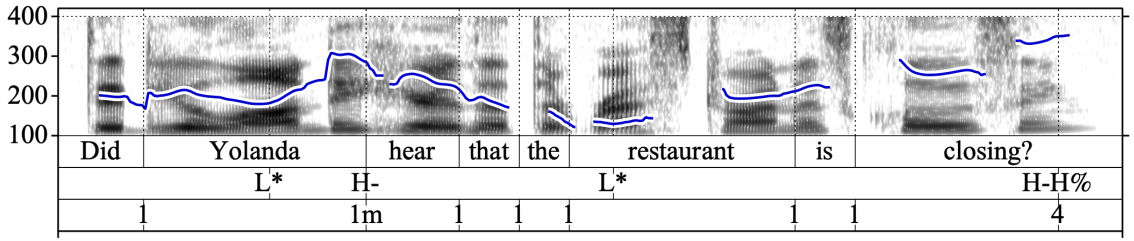
(42) What delicious desserts Angelique bakes!



nuances across construction type

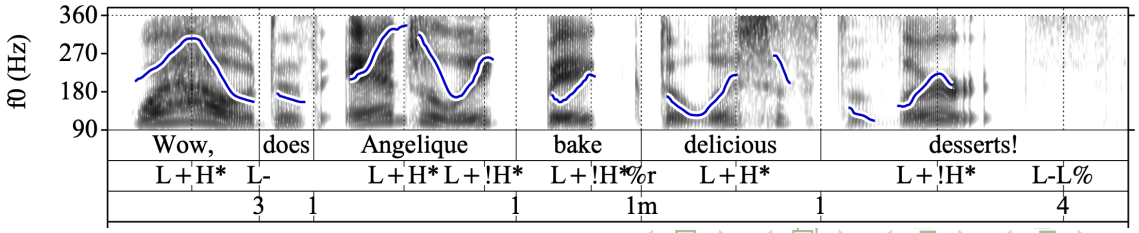
- polar question intonation
  - canonical tune: L* H-H%
  - pitch accents are relatively sparse, resulting in slow macrorhythm frequency (few peaks/valleys)

(43) Did Yolanda hear that the restaurant is closing?



- inversion exclamative intonation
  - most content words are marked with L+H*
  - results in a fast macrorhythm (many peaks/valleys)

(44) Wow, does Angelique bake delicious desserts!



overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

different roles for different prosodic properties

in terms of the prosody:

- exclamation seems to be encoded in a specific pitch accent, L+H*
- but it also seems to require super-tonal properties, namely extra-high targets and additional intermediate phrase boundaries
  - what's the right semantic treatment for this bundle of properties?
  - what's the right semantic treatment for what might prove to be a gradient effect?

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodic iconicity

it seems possible that at least some of these characteristics of mirative prosody are non-arbitrary

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

prosodic iconicity

it seems possible that at least some of these characteristics of mirative prosody are non-arbitrary

1. L+H* pitch accents – likely semantically arbitrary
   - there are other ways of marking mirativity cross-linguistically that don't involve L+H*
   - there are other uses of L+H*, even in English: prosodic focus marking (Pierrehumbert 1980, Selkirk 1995)
2. extra-high targets – likely semantically non-arbitrary
   - unclear whether they occur with other mirativity strategies, e.g. Finnish pä
   - but no other uses of extra-high targets in English
3. additional intermediate phrases – ??
   - unclear whether they occur with other mirativity strategies
   - there are other uses of extra boundary insertion in focus marking in English (Pierrehumbert 1980) and other languages (Royer & Jun 2019)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

conclusions

mirativity is encoded in different types of strategies.
we need a semantic account that:

- can treat a given semantic phenomenon across strategy types (morphologic, syntactic, prosodic)

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

conclusions

mirativity is encoded in different types of strategies.
we need a semantic account that:

- can treat a given semantic phenomenon across strategy types (morphologic, syntactic, prosodic)
- in particular, can treat prosody as one of the 'parts' in the 'parts and whole' notion of compositionality

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

conclusions

mirativity is encoded in different types of strategies.
we need a semantic account that:

- can treat a given semantic phenomenon across strategy types (morphologic, syntactic, prosodic)
- in particular, can treat prosody as one of the 'parts' in the 'parts and whole' notion of compositionality
- in terms of the formalism:
  - intuitively, mirativity is not part of descriptive content
  - diagnostics confirm differences between mirativity (and other emotive markers) on the one hand and descriptive not-at-issue markers (e.g. evidentials) on the other

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

conclusions

mirativity is encoded in different types of strategies.
we need a semantic account that:

- can treat a given semantic phenomenon across strategy types (morphologic, syntactic, prosodic)
- in particular, can treat prosody as one of the 'parts' in the 'parts and whole' notion of compositionality
- in terms of the formalism:
  - intuitively, mirativity is not part of descriptive content
  - diagnostics confirm differences between mirativity (and other emotive markers) on the one hand and descriptive not-at-issue markers (e.g. evidentials) on the other
- I model these differences in a dynamic context-based framework...
  - with descriptive content updating the Common Ground,
  - and with illocutionary content – like mirativity – updating a speaker's Discourse Commitments

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

conclusions

- all exclamations, in English, are pronounced with:
  1. L+H* pitch accents;
  2. extra-high targets;
  3. additional intermediate phrase boundaries

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

conclusions

- all exclamations, in English, are pronounced with:
  1. L+H* pitch accents;
  2. extra-high targets;
  3. additional intermediate phrase boundaries
- there is a clear role for the L+H* pitch accent
  - there's other evidence that pitch accents operate at the illocutionary level (Jeong & Potts 2016)
  - I analyze the pitch accent as the mirativity marker – effectively an illocutionary mood modifier – in English exclamations (Rett 2019)

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

conclusions

- all exclamations, in English, are pronounced with:
  1. L+H* pitch accents;
  2. extra-high targets;
  3. additional intermediate phrase boundaries
- there is a clear role for the L+H* pitch accent
  - there's other evidence that pitch accents operate at the illocutionary level (Jeong & Potts 2016)
  - I analyze the pitch accent as the mirativity marker – effectively an illocutionary mood modifier – in English exclamations (Rett 2019)
- but there's a question of what to do with the other prosodic components of mirativity marking in English
  - it's intuitive to think that there's something non-arbitrary about the use of extra-high and additional targets to signify surprise or unexpectedness
  - and while they aren't necessary components of mirativity marking, they seem to be sufficient
- we're currently running a naturalness rating task to see how important the super-tonal properties are for things like perceived speaker surprise, sincerity, etc.

overview

mirative marking
defining mirativity
mirative strategies

a unified semantic analysis
illocutionary content
a semantics for illocutionary content

prosodically marked mirativity
prosody: an overview
elicitation
results
discussion

conclusions

thanks!

contact me: rett@ucla.edu
contact Beth Sturman: bsturman@ucla.edu

read about exclamations:
Rett (2010), "Exclamatives, degrees, and speech acts"
read about mirativity strategies:
Rett (2012), "Mirativity across constructions and languages"
read about mirative evidentials:
Rett & Murray (2013), "A semantic account of mirative evidentials"
read about illocutionary content:
Rett (2019), "The semantics of emotive markers and other illocutionary content"

overview
mirative marking
defining mirativity
mirative strategies
a unified semantic analysis
illocutionary content
a semantics for illocutionary content
prosodically marked mirativity
prosody: an overview
elicitation
results
discussion
conclusions

appendix A: flavored Discourse Commitments

- I generalize Discourse Commitments to propositional attitudes other than belief (inspired by Portner 2006):

(45) **Flavored Discourse Commitments**
Let DC_a be a set of pairs representing the public commitments of a with respect to a discourse in which a and b are the participants, where:

a. $\langle$believes, $p\rangle$ is a p.c. of a iff 'a believes p' is a mutual belief of a and b;

b. $\langle$is-surprised, $p\rangle$ is a public commitment of a iff 'a is surprised that p' is a mutual belief of a and b.

- I thus reformalize the sincerity condition on assertion

(46) *Declarative operator* (**D**), for sentences S_p with at-issue content p and not-at-issue content q:
$\mathbf{D}(S_p, a, K_i) = K_o$ such that

(i) $DC_{a,o} = DC_{a,i} \cup \langle$believes, $p\rangle$ ...

appendix B: scope-taking

- emotive markers contribute their own restriction to the speaker's DC set, which (in the case of embedded clauses) requires a sub-sentential dynamic update

(47) $[\![\text{it's raining alas}]\!] = \mathbf{A}(S, a, K_i) = (S_1, a, K_{o_1})$ s.t.

(i) $DC_{a,o_1} = DC_{a,i} \cup \{\langle \text{is-disapp., It's raining} \rangle\}$

(ii) $T_{o_1} = \text{push}(\langle S_1; \{\text{It's raining}\} \rangle, T_i)$

(48) $[\![\text{It's possible that it's raining, alas}]\!] = \mathbf{D}(S_2, a, K_{o_1})) = K_{o_2}$ such that

(i) $DC_{a,o_2} = \{DC_{a,i} \cup \{\langle \text{is-disappointed, It's raining} \rangle\}\} \cup \{\langle \text{believes, It's poss. it's raining} \rangle\}$

(ii) $T_{o_2} = \text{push}(\langle S_2; \{\text{It's poss. it's raining}\} \rangle, (\text{push}(\langle S_1; \{\text{It's raining}\} \rangle, T_i)))$

(iii) $ps_o = ps_i \,\overline{\cup}\, \{\text{It's poss. it's raining}\}$

(iv) $CG_o = CG_i$

- while the proposition that it's raining is pushed to the top of the stack in the update for the embedded clause, it is no longer at the top after the utterance of the matrix sentence