

Gosh, mirativity in questions?!

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ACL-CLA 2025, McGill University

3-5 June 2025

1 Introduction

- Cross-linguistically, (grammaticalized) markers of **SURPRISE-related emotive attitudes** (typically at the clausal or sentential level) are frequently attested ... **miratives**

- (1) a. It's raining.
b. It's raining ! English
- (2) a. *yağmur yağ-ıyor-Ø*.
rain rain-IMPV-3SG.PRES.NONMIR
'It's raining.'
b. *yağmur yağ-ıyor-muş!* Turkish
rain rain-IMPV-INDIR
'It's raining (I see, and I didn't expect that)!'
- (3) a. *lahlah loh yu*.
辣辣 落 雨
PROG fall rain
'It's raining.'
b. *lahlah loh yu yikaon!* Shanghai Wu
辣辣 落 雨 渠講!
PROG fall rain MIR
'It's raining (I didn't expect that)!'

- To date, descriptive, typological and most semantic work assume that mirative markers predicate an attitude over **single propositions**

– Only single-proposition-denoting (“declarative-form”) prejacentes are described or investigated

*Thanks to Eszter Ótrott-Kovács for data on Turkish, to Jiming Zhu, Wentao Zhang and Ariel Yingqi Tang for Shanghai Wu judgments. Special thanks to Sarah Murray, Scott AnderBois, John Whitman, Mats Rooth, W. Starr and the Cornell Semantics Reading Group for many invaluable discussions & insights. All errors are mine.

Main takeaway

Miratives & potentially other emotive attitudinal elements vary in the **types of content** over which the attitude is predicated.

- Novel case: Shanghai Wu counterexpectational mirative mood marker *yikaon* allows non-declarative-form prejacent, specifically: *wh*-interrogative-form prejacent, and *certain* polar-interrogative-form prejacent.
- Conclusion: *yikaon* predicates a counterexpectational mirative attitude over the **union of a set** of alternative propositions.

Together with a third type of miratives termed “illocutionary miratives” (AnderBois, 2018, 2023): a three-way typology of mirative markers by **content**

- Broader import for semantic typology: content type is likely a parameter for emotive-attitudinal markers in general.

2 Background: Gosh, whatever is mirativity!?

...conceptual & terminological clarifications for semanticists

2.1 Mirativity in the functional-typological literature

- **Mirativity** is proposed as a cross-linguistic *functional-typological* category (DeLancey 1997)
- Debated for a while between proponents (DeLancey 2001, 2012; Hengeveld and Olbertz 2012, a.m.o.) and skeptics (Friedman 2012; Hill 2012; Lazard 1999) over its “distinctness” from the functional-typological category of **evidentiality**

- Most widely-recognized summative characterization: Aikhenvald’s (2012) five *functional* phenotypes:

(4) Aikhenvald’s (2012) 5 functional phenotypes of mirative meaning

- (i) Sudden discovery, sudden revelation or realization
- (ii) Surprise
- (iii) Unprepared mind
- (iv) Counterexpectation
- (v) New Information

Each type can be described with reference to (a) the speaker, (b) the audience (or addressee), or (c) by the main character.

- Observations: “vague,” “not well-defined,” “overlapping”
- Underlying issue: this is a *functional* characterization, and “functions” are by definition overlapping and not conceptually distinct in the way that semantic parameters are.

2.2 A semantic typology for mirativity

- Mirativity is a class of **attitudinal meanings** conveying **the experience of SURPRISE**.
- The natural-class-ness of mirativity consists in the natural-class-ness of SURPRISE—thus extra-linguistic:

- Insofar as SURPRISE is a natural class of *cognitive* experience that is characterized by a particular range of mental **attitudes**, towards some **state-of-affairs** that stimulated them in a particular **cognitive agent**, at a certain **time & place**, if *linguistic* elements across languages conventionally encode the range of attitudinal meanings associated with this cognitive experience, linguistic typologists think of this range of meanings as a natural class (a “type”) of meaning (“mirativity”).
- There is a range of attitudinal flavours associated with SURPRISE. Cross-linguistic lexicalizations bear this out. A few illustrations:
 - * **Strong counterexpectation & incredulity** Turkish *-mİs_{MIR}*, Bulgarian *-l_{MIR}*, etc.
 - * **Mere novelty**: *Turns out* it was raining. English *turns out*
 - * **Novelty with light curiosity**: Cantonese *wə3*
- (5) Cantonese *wə3* 喎 ‘intersubjective noteworthiness’, cf. *wə5* 喎 ‘REP’ < *waa5* 話 ‘say’
gam1jat6 tin1hei3 hou2 hou2 wə3.
 今日 天氣 好 好 喎
 today weather very good **MIR_{NOVELTY}**
 ‘The weather is very good today (**how interesting/worth noting—and I assume you would feel the same way, too**)’ (Leung, 2011:ex. 8, adapted)
- * (... Certainly many more—in general, lexicalized attitudinal meanings are multifarious & complex.)
- Overall, two core SURPRISE-induced attitudes: NOVELTY and COUNTEREXPECTATION (see Zhuang 2023:§3 for review of relevant psychology research & discussion)
- However, there are other dimensions (parameters) along which the semantics of a mirative marker may vary.
 - Miratives should not be presumed to be a *semantic* natural class

Mirativity: a 5-parameter semantic typology

A mirative marker encodes an update U which contributes a mirative attitudinal meaning $\text{MIR}_a^{t,l}(c)$

- One lexical parameter: mirative attitude flavour MIR—constrained by the nature of SURPRISE
 - A two-way distinction: COUNTEREXPECTATION miratives vs. NOVELTY-only miratives
- (At least) five theoretical parameters: content type c , time t , location l , cognitive agent a ; structure of update U

- Today: a **counterexpectation** mirative which:
 - predicates over **union of set of alternative propositions**
 - has rigid SPKR anchoring (even in questions)
 - is past-shiftable mirative time & elsewhere-shiftable mirative location—though apparently only in Free Indirect Discourse-like contexts (not covered today)

3 The mirative in Shanghai Wu

3.1 Quick language profile

- Shanghai Wu (Shanghainese, Shanghai Chinese) = vernacular Sinitic language spoken in urban Shanghai; a variety of the Wú macrogroup > Northern Wú (“Lake Tàì”) subgroup
- Tonal; SVO (with some SOV); morphologically analytic
- Marks a variety of sentential mood/force flavours with sentence-final particles, which are always lexically toneless
- Otherwise, five lexical (monosyllabic-morphemic) tones, which in connected speech undergo tone-sandhi into just three pitch-accents (H, M and L) within prosodic word boundaries (Chen, 2008)
- Occasional folk writing using the Chinese script exists but is unstandardized; community-designed, linguistically well-informed romanization systems have emerged, the most popular of which (the Wu Association system for Shanghai Wu)¹

3.2 *yikaon*: a COUNTEREXPECTATION mirative

- *yikaon* is a mirative marker of a COUNTEREXPECTATION attitude.
- (6) [After a 5am-5pm writing spree, I walk out of my windowless cubicle expecting the weather to still be nice as it was when I went in this morning. Seeing that it is pouring, I say:]
- lahlah loh yu yikaon!* repeated from (3b)
辣辣 落 雨 渠講!
PROG fall rain MIR
'It's raining (I didn't expect that)!'
- Using *yikaon* in EXPECTATION-MET or NEUTRAL-EXPECTATION contexts is infelicitous > thus, not a NOVELTY-only mirative.
- (7) *yikaon* is infelicitous in EXPECTATION-MET contexts:
- a. [After a 5am-5pm writing spree in my windowless cubicle, I finally checked my phone for the first time, and saw the weather widget say that it is pouring outside, which I believe. I walk out and see that it is indeed pouring. I say:]
- lahlah loh yu # yikaon.*
辣辣 落 雨 # 渠講。
PROG fall rain MIR
'It's raining (# I had not expected it to be raining).'

¹Notes on the Wu Association romanization: L pitch accent exclusively and exhaustively occur with voiced onset consonants, and thus is unmarked. H and M pitch accents occur with voiceless (both aspirated and unaspirated) onset consonants. In my adaptation, H pitch accent is distinguished from M with a macron over the vowel letter (e.g. *khāusy* = [ʰkʰə̃sɿ] vs. *khausy* = [ʰkʰə̃sɿ]). In my adaptation, spaces indicate prosodic word (and thus tone sandhi) boundaries. Prosodic words that are toneless are indicated with a ⁰ where necessary (e.g. *yi kaon* = [ʰiʰi⁰kā] vs. ⁰*yikaon* = [ʰiʰi⁰kā]).

- b. [Xiaozhang struggles with math so much that he is notorious for never scoring a passing grade in exams throughout the year. Final grades are posted today, and you and I go to the bulletin board to check. Seeing that Xiaozhang failed, I say to you:]

Shiautsan khau -lah tsah vehjikkah # yikaon.

小張 考 了 隻 弗及格 # 渠講。

Xiaozhang take.exam PFV CL failing.grade MIR

‘Xiaozhang got an F (# I had not expected him to get an F).’

(8) *Yikaon* is infelicitous in **NEUTRAL-EXPECTATION** contexts:

- a. [After a 5am-5pm writing spree in my windowless cubicle, I walk out to take a break (without any expectation about what the weather would be like after 12 hours.) Seeing that it is pouring. I say:]

lahlah loh yu # yikaon.

辣辣 落 雨 # 渠講。

PROG fall rain MIR

‘It’s raining (# I had not expected it to be raining).’

- b. [Xiaozhang is a student in my year, but I don’t know anything about his academic performance. Final grades for math are posted today, and you and I go to the bulletin board to check. Seeing that Xiaozhang failed, I say to you:]

Shiautsan khau -lah tsah vehjikkah # yikaon.

小張 考 了 隻 弗及格 # 渠講。

Xiaozhang take.exam PFV CL failing.grade MIR

‘Xiaozhang got an F (# I had not expected him to get an F).’

3.3 *yikaon* is compatible with interrogatives

3.3.1 *wh*-interrogatives.

- *yikaon* is generally felicitous in *wh*-interrogatives.

- (9) a. [My son typically does very well in math. You are my son’s math teacher this semester, and you call me to tell me that he has accrued enough failed quizzes to get a failing final grade. Shocked, I ask you:]

ahlah nyitsy khau lah ci.thaon vehjikkah l(ah) a yikaon?!

阿拉 兒子 考 了 幾趟 弗及格 了 -啊 (啦) 渠講

1PL son take.test PFV how.many.times failing.grade PF Q MIR

‘How many times has my son gotten F’s (**I didn’t expect him to have gotten any F’s at all**)?!’

- b. [You are severely allergic to {shrimps, shellfish, peanuts}, and are typically super careful with what you eat. You are having lunch with a group of friends, who had ordered the food without knowing about your allergies. Suddenly, you go into anaphylactic shock, and none of your friends has a clue what is happening. I walk in and see you. Shocked, I ask the friends:]

yi chih samehzy l(ah) a yikaon?!

渠 喫 啥物事 了 -啊 (啦) 渠講?!

3SG eat what PF Q MIR

‘What has he eaten (**I didn’t expect him to have eaten any of the foods he is allergic to**)?’

- There is no restriction on the syntactic position of the *wh*-phrase: all argument and adjunct positions are possible with *yikaon*.
- Key observations:
 - *yikaon* marks that the SPKR has a counterexpectational attitude over **any of the contextually-anticipated alternative answers** to the question.
 - Note that these mirative *wh*-questions have **canonical interrogative force**:
 - * The question the SPKR asks in each context obliges the ADDR to answer
 - * The SPKR in each context is equally ignorant about all of the alternatives
 - * Morphosyntactically, the canonical interrogative force marker *a* (individually written 阿) is obligatorily present².

3.3.2 Polar interrogatives.

- *yikaon* is generally infelicitous with polar interrogatives... though there is one crucial exception!

(10) *yikaon* generally incompatible with polar interrogatives

non ve chih lah v(eh) a #*yikaon*?
 儂 飯 喫 了 弗 啊 ((哦)) # 渠講?
 2SG meal eat PFV POLAR Q MIR
 ‘Have you eaten (# I didn’t expect either that you have or that you haven’t)?’

- Not surprising:
 - Mirative attitudes such as COUNTEREXPECTATION must be triggered by some non-trivial information, about some specific state-of-affairs
 - Usually, the two alternatives of a polar interrogative (*p* and $\neg p$) exhaustively divide the **universe** of all possible worlds. It is a psychological impossibility to find “nothing in particular” counterexpectational
 - Question: can some polar interrogatives contain or evoke non-trivially informative content?

(11) Exceptional cases where *yikaon* is compatible with polar interrogatives:

- a. [Your classmate and intimate friend Xiaozhang typically does very well in math. At your school, all final exam grades are publicly posted, and students who fail are required to take a make-up exam the day after grades are posted. If they fail again, then they would have to repeat the year, which would be detrimental to them socially. Today, three days after grades were posted, you meet Xiaozhang at school, and, standing in front of the school bulletin board, you catch sight of his failing score. Shocked and very worried that you two might be separated, you ask:]

(iau.shi.o, kehme) non yieze pukhau thōnku lah v(eh) a ✓*yikaon*?!
 (要死嘅, 睇麼) 儂 現在 補考 通過 了 弗 啊 ((哦)) ✓ 渠講?!
 gosh so 2SG now make.up.exam pass PF POLAR Q MIR
 ‘(Gosh,) so have you now passed the make-up exam (✓ I didn’t expect it either way—I didn’t expect you to have taken a make-up in the first place)?!’

²If *a* is linearly preceded by another toneless element, most commonly the perfect (PF) aspect marker *lah* (individually written 了; parallel with Standard Mandarin *le*), the two contract phonologically into a monosyllable *la*, written 啦. Chinese orthographic convention generally renders the contracted form with one grapheme 啦; however, one must not assume that a monographeme always represents a monomorpheme. Wú linguists generally recognize that many monosyllabic sentence-final particles result from phonological contraction of multiple semantically-distinct morphemes, see e.g. Yóu 尤 (1988)

- b. [You are chatting on the phone with your friend Xiaozhang, who is driving. Suddenly you hear loud crashing and yells. Moments later, Xiaozhang gets back on the line and tells you she just had an accident, has injuries but feels okay. You do not know if she would need to go to the hospital for further treatment, but that is your first concern in that moment. Shocked, you ask:]

(*'iaushi.o, kehmeh*) *non 'iau son 'i'ioe va ✓yikaon?!*

(要死嘞, 睇麼) 儂 要 送 醫院 哦 ✓渠講?!

gosh so 2SG need send hospital PFV POLAR

'Gosh, so do you need to be hospitalized (I didn't it either way—✓I had expected that you would not be in a medical emergency in the first place)?!'

- Key observations:

- In the mirative-compatible examples (11a-11b), the prejacent contains **(soft) presupposition triggers**
 - * In the sense of Abusch (2002, 2010): some presupposed information that is triggered not absolutely, but context-dependently, as information entailed by (or construed by the hearer as entailed by) the discourse-specific Common Ground
 - * Unlike: “hard” or semantic presuppositions, such as the existential proposition of *wh*-phrases
- In (11a-11b) the counterexpectation attitude is predicated over this (softly) presupposed information
- Admittedly a highly constrained and unusual set of contexts:
 - * SURPRISE is necessarily triggered by some novel (and in this case also counterexpectational) state of affairs
 - * In typical discourse, novel information is usually first asserted explicitly(=as at-issue content) & accepted into *CG*, and not often introduced initially as presuppositions
 - * The contexts in (11a-11b) are precisely such that they guarantee that the soft presupposition is indeed already (tacitly) entailed by *CG* by the time the mirative question is uttered—uncommon, but not impossible

3.4 Mirative content for *yikaon*: a unified analysis

- Mirative *yikaon* is compatible with three types of prejacent:
 - Declarative-form prejacent
 - All *wh*-interrogative prejacent, which carry existential presuppositions (plus any context-specific restrictions)
 - Polar interrogative prejacent which contain (contextually-supported) soft presuppositions
- Want: an analysis of the mirative **content** of *yikaon* that accounts for, and compositionally derives, meanings across all three types of prejacent

Analytical proposal

yikaon instantiates a type of mirative markers which predicate a mirative attitude over **the informative content** of its prejacent.

- Analyze prejacent as denoting **sets** of alternative propositions (Hamblin, 1976)
- The *informative content* of a Hamblinian prejacent set is derived via a set-union operation—in the spirit of the Inquisitive Semantics framework (q.v. Ciardelli et al. 2013, 2018)

4 Formal implementation

4.1 Composing the mirative prejacent

- Prejacent consists of a sentence radical + a matrix mood operator (declarative **D**, interrogative **Q**):
 - SHW overtly spells out the interrogative mood operator **Q** as *a*

(12) a. Declarative prejacent = declarative radicals + **D** operator:
 $\llbracket \text{lahlah loh } yu \text{ -D} \rrbracket = \llbracket \mathbf{D} \rrbracket(\llbracket (\text{it's raining}) \rrbracket)$...[\(6\)](#)

b. Interrogative prejacent = interrogative radicals + **Q** operator to be formulated later:
 $\llbracket \text{non chih samehzy } l \text{ -} a_Q \rrbracket = \llbracket \mathbf{Q} \rrbracket(\llbracket (\text{you ate what}) \rrbracket)$...[\(9b\)](#)

$\llbracket \text{non 'iau son 'i'ioe } v \text{ -} a_Q \rrbracket = \llbracket \mathbf{Q} \rrbracket(\llbracket (\text{you need to be hospitalized } v \text{ -}) \rrbracket)$...[\(11b\)](#)

- All sentence radicals denote Hamblinian alternative sets of propositions. In particular:

(13) a. Declarative radicals denote singleton sets:
 $\llbracket \text{lahlah loh } yu \rrbracket \sim \llbracket (\text{it's raining}) \rrbracket = \lambda p. [p = \text{raining}]$
 $= \{\text{raining}\}$

b. Interrogative radicals denote sets of alternatives:
 $\llbracket \text{non chih samehzy } l \rrbracket \sim \llbracket (\text{you ate what}) \rrbracket = \lambda p. \exists x [\text{ate}(\text{ADDR}, x)]$
 $= \{\text{you ate shrimp, you ate shellfish, you ate peanuts...}\}$
 $\llbracket \text{non 'iau son 'i'ioe } v \rrbracket \sim \llbracket (\text{you need to be hospitalized } \mathbf{POLAR}) \rrbracket$
 $= \llbracket \mathbf{POLAR} \rrbracket(\text{need.hospitalized}(\text{ADDR}))$
 $= \lambda q. [q = \text{need.hospitalized}(\text{ADDR}) \vee q = \neg \text{need.hospitalized}(\text{ADDR})]$
 $= \{\text{need.hospitalize}(\text{ADDR}), \neg \text{need.hospitalize}(\text{ADDR})\}$

- Agreeably, SHW also overtly spells out the **POLAR** operator: as *v*-.
- Important to note: interrogative radical alternative sets will be further constrained (set-intersected) with the *CG*—because only the contextually-entailed alternatives are actually available (=soft pre-suppositions).

4.2 Mood operators: a Farkas-Bruce-style analysis

4.2.1 Framework essentials

- (14) A context structure K of a conversation between a SPKR and an ADDR is a quintuple $\{T, CG, DC_{SPKR}, DC_{ADDR}, ps\}$, where
- T (**Table**) is a *stack* of issues under discussion, each of which is an ordered set $\langle S; Q \rangle$ where S is (the syntactic structure representing) the sentence uttered and Q the Hamblin set of propositions denoting the sentence;
 - CG (**Common Ground**) is a set of propositions which all discourse participants are committed to for the purpose of the conversation;
 - DC_{SPKR} and DC_{ADDR} (**Discourse Commitment sets**) are sets of propositions which the SPKR and the ADDR, respectively, have publicly committed to.
 - ps (**Projected set**) is a set of future (projected) CG s (=a set of sets of propositions) that are being considered as the new CG .
- (15) Key operations on FB-R context structures (Farkas and Bruce, 2010:p. 90)
- $push(e, T)$ returns the new stack obtained by adding item e to the top of the stack T .
 - Let $ps = \{CG_1, \dots, CG_n\}$ be a collection of projected common grounds and $P = \{p_1, \dots, p_m\}$ be a set of propositions. Then,
 $ps \sqcup P := \{CG_i \cup \{p_j\} | 1 \leq i \leq n, 1 \leq j \leq m\} - \{CG' | CG' \text{ is inconsistent}\}.$

4.2.2 Sentential mood operators D and Q

- Following Rett (2021): define canonical speech acts as operators, which are functions that map (input) context structures to (output) context structures, with updates to the relevant contextual components that constitute that speech act.

- (16) Declarative and canonical interrogative mood operators:
- For sentence S with radical alternative set P_R , not-at-issue content q , author a , input context K_i and output context K_o ,
- | | |
|--|--|
| <p>a. $D(\langle S, P_R, a, K_i \rangle) = K_o$ s.t.</p> <ol style="list-style-type: none"> $DC_{a,o} = DC_{a,i} \cup \{\text{believes}_a(\bigcup P_R)\}$ $T_o = push(\langle S, P_R \rangle, T_i)$ $ps_o = ps_i \sqcup P_R$ $CG_o = CG_i \cup \{q\}$ | <p>b. $Q(\langle S, P_R, a, K_i \rangle) = K_o$ s.t.</p> <ol style="list-style-type: none"> $DC_{a,o} = DC_{a,i} \cup \{\text{believes}_a(\bigcup P_R)\}$ $T_o = push(\langle S, P_R \rangle, T_i)$ $ps_o = ps_i \sqcup P_R$ $CG_o = CG_i \cup \{q\}$ |
|--|--|

4.3 Mirative *yikaon* encodes a sincerity condition

4.3.1 The analysis

- Analyze *yikaon* as a matrix force modifier which:
 - Takes an input context, and a mirative prejacet (=a sentence radical plus a mood operator) as arguments
 - Adds the following meaning contribution: the intersection of the informative content of the radical alternative set $\bigcup P_R$ (the informative content) and the input Common Ground (CG_i) is counterexpectational to the SPKR...
 - ... as a **sincerity condition**, modeled as a “flavoured” attitudinal Discourse Commitment update on the part of the SPKR (DC_a).

- (17) For input context K_i and output context K_o , mirative prejacent S containing a radical alternative set P_R and the **D** or **Q** mood operator, world-time indices $\langle w_u, t_u \rangle$, author a :

$\llbracket yikaon \rrbracket(K_i) = K_o$ s.t.

- (i) $DC_{a,o} = DC_{a,i} \cup \{ \neg \text{expect}_a^{w_u, t_u}(\bigcup P_R \cap CG_i) \} \wedge \forall t \leq t_u \neg \text{know}_{\text{SPKR}}^{w_u, t}(\bigcup P_R \cap CG)$
defined iff. $\bigcup P_R \subset W$, where W is the domain of all possible worlds

4.3.2 Key theoretical considerations

• **The mirative meaning contribution is illocutionary, viz. not-at-issue.**

- Projects out of operators on truth-conditional content, such as negation (Potts 2005; Simons 2007; corresponding to *P-at-issueness* in Koev 2018)
- Cannot be targeted by follow-ups of direct denial (Amaral et al. 2007; roughly correlated with Koev’s *C-at-issueness*)
- Cannot be used to address a relevant *QUD* directly (Simons et al. 2010; corresponding to Koev’s *Q-at-issueness*).

- (18) *yikaon* encodes not-at-issue meaning

- a. Mirative meaning contribution projects out of negation (both event negation & sentential negation)

A: *mmeh loh yu yikaon / veh.zy lahlah loh yu yikaon.*

A: 嘸沒落雨渠講 / 弗是 辣辣落雨渠講。

NEG_E fall rain MIR / NEG_{S,COP} PROG fall rain MIR

‘Gosh, it’s not raining/ it is not the case that it’s raining (I had not expected it to not be raining).’

(# it is not the case that I had not expected this fact).’

- b. Mirative meaning contribution cannot be targeted by follow-ups of direct denial

A: *lahlah loh yu yikaon.*

A: 辣辣落雨渠講。

PROG fall rain MIR

‘It’s raining (I had not expected it to be raining).’

B: *veh-te / geh.gheh veh-te. # non lautsau zhieu shiauteh lahlah loh yu*

弗對 / 𠵿個 弗對。 # 儂 老早 就 曉得 辣辣落雨

NEG-correct this.one NEG-correct 2SG long.before INCL know PROG fall rain

lah.

了。

PF

Intended: ‘Not true/that’s not true. # You had known since a long while ago that it’s raining.’

- c. Mirative meaning contribution cannot directly answer a directly relevant *QUD* (one about SPKR attitude)

[A is standing in front of a list of grades posted on the school bulletin and sees that he failed the exam. B, who is A's friend and who has heard that A underperformed this time, walks over and tries to talk to him.]

B: ngo shiauteh non geh.thaon khau huahpie lah. non yieze kuhzeh nanen
 我 曉得 儂 癡. 趟 考 豁邊 了。 儂 現在 覺著 哪能?
 I know you this.time score out.of.typical.range PF you now feel how
 a?

Q

'I know you kind of flunked it this time. How do you feel now?'

A: ngo veh-jihkah yikaon.

我 弗及格 渠講。

1SG NEG-pass MIR

'I failed (I didn't expect that).'

(Modeled after Koev, 2018:ex.7)

- **The mirative meaning contribution is a sincerity condition of the utterance.**

"Whenever one performs an illocutionary act with a propositional content one expresses a certain psychological state with that same content. Thus when one makes a statement one expresses a belief, when one makes a promise one expresses an intention, when one issues a command one expresses a desire or want."

Searle and Vanderveken, 1985:p. 18

"[Sincerity conditions are] propositional attitudes of the form $m(P)$, where m is a psychological mode such as, for example, desire, regret, or hope... A performance of an illocutionary act is sincere when the speaker has the mental state that he expresses in the performance of that act, and it is insincere otherwise."

(p. 117, cited in Faller, 2002:p. 17)

- Sincerity conditions constitute just that part of the illocutionary structure that has to do with SPKR-oriented attitudes that constitute the *requisite psychological state* from which the linguistic expression in question can possibly proceed.
 - Sincerity conditions may be purely epistemic (as in believe) or be of **various evaluative or emotive flavours**.
 - Analytical insight (from Rett 2011): in a Farkas-Bruce-style model of discourse, use *DC* to model sincerity conditions in general—whether epistemic-attitudinal commitments, or “flavoured” attitudinal commitments.
- Empirical test: Moore's Paradox *It's raining—# but I don't believe that it is raining.*
 - Extends to flavoured attitudinal sincerity conditions, including mirative attitudes (Rett and Murray 2013)
 - True of SHW *yikaon*: denying the mirative attitudinal meaning results precisely in a Moore's-Paradoxical infelicity of “denying the very state of mind that was requisite for the expression in the first place”

- (19) *lahlah loh yu yikaon. ...*
 辣辣 落 雨 渠講。
 PROG fall rain MIR

‘It’s raining (I had not expected it to be raining). ...’

#... (*pahku*) *ngo lautsau zhieu shiauteh / fahciuih / khoetau geh.tsaon zythi lah.*
 (不過) 我 老早 就 曉得 / 發覺 / 看到 睇. 椿 事體 了。
 but 1SG while.ago INCL know realize see this matter PF

‘... (but) I had known/realized/seen this fact from a while ago.’

#... (*pahku*) *ngo lautsau zhieu shiantau / liautau wetah loh yu lah.*
 (不過) 我 老早 就 想到 / 料到 會得 落 雨 了。
 but 1SG while.ago INCL think.of expect would fall rain PF

‘... (but) I had realized/expected for a while that it would rain.’

- Comment from one native-speaking consultant:

“...Sounds like the person is confused about how she feels... Or perhaps she was only *posing* [=intentionally being insincere (LZ)] as being surprised in the first place when she said the *yikaon* sentence?”

5 Typological implication: three types of mirative contents across languages

- Mirative content can be (single-)propositional

- Recent work by AnderBois (2018, 2023) has identified a type of mirative marker whose content is **(the intention to commit) a speech act** “illocutionary miratives”

- (20) a. [I forgot that I had wanted to tell you that Maruch had gone to the cafeteria, but had not forgotten the fact that he had. Having just realized that I wanted to tell you, I say:]

Jo’oljeak-e’ k’uch bakáan Maruch cafeteria.
 yesterday-TOP arrive.PFV MIR_{ILLOC} M. cafeteria

‘Oh (yeah), yesterday Maruch went to the cafeteria (I presently realize I want to tell you).’
 (ex. 34b)

- b. [You told me something earlier about work, but I got distracted and forgot. Having just realized that I still want to ask, I say:]

Ba’ax t-a wa’alaj bakáan?
 what PFV-A2 say MIR_{ILLOC}

‘Oh (yeah), what did you say (I presently realize I want to ask)?’ (ex. 31)

- c. [A mother is in the kitchen cooking and remembers that there are no beans in the house because she forgot to tell her son to go buy some and says:]

Xeen a maan bakáan bu’ul te’ tiiyeenda-o’!
 go.IMP A2 buy.SUBJ MIR_{ILLOC} beans there store-DISTAL

‘Oh (yeah), go buy some beans (I presently realize I want to ask you).’ (ex. 27)

- Today’s case study reveals: a third type of mirative content: **(contextually-supported) informative content of a set of alternative propositions**, derived via a set-union operation

(21) Updated three-way typology of mirative contents

ontology derivation	+propositional	-propositional (=speech act)
-derived	Turkish <i>-mİş</i> , Bulgarian <i>-l</i> , English <i>!</i> ...	Yucatec Maya <i>bakáan</i>
+derived	SHW <i>yikaon</i>	

- Finally: variation in **content type** may well be a general feature of attitudinal markers—there is no *a priori* reason to think that such variation is only restricted to miratives

A Appendix: Mirative *yikaon* vs. speech report parenthetical *yi kaon* are synchronically distinct elements

- Main conclusion:
 - Mirative *yikaon* 〈渠講〉 and parenthetical *yi kaon* 〈渠講〉 are **synchronically distinct elements** with different phonological, morphosyntactic, and semantic properties, which are not straightforwardly explained by any synchronic mechanism.
 - Chinese orthography does not represent these linguistic differences. In general, one should not assume that homographemic elements in the Chinese writing system are one and the same synchronic linguistic element.

(22) Summary: empirical differences between mirative *yikaon* and parenthetical *yi kaon*

	mirative <i>yikaon</i>	parenthetical <i>yi kaon</i>
Semantic properties:		
Reportative evidence type restriction	×	✓
Discourse commitment to preadjacent	✓	×
Direct-speech preadjacent	×	✓
Obligatory eventive anaphoricity	×	✓
Embedded interrogative force (=reported-question)	×	✓
Matrix interrogative force (=counter-expectation-over-alternatives)	✓	×
Formal features:		
Tonal profile	toneless	phrasal tone <small>can be toneless in fast speech</small>
Morphosyntactic status	single morpheme	phrasal
Prosodic boundary before	×	✓

- On the other hand: Chinese graphemes do generally represent morphemes which are **co-etymological**.
- Overview of conclusions from another study (Zhuang 2023:§6-7):
There is a principled, and cross-linguistically well-attested, pathway of **diachronic** reanalysis of elements with reportative-like meanings to SPKR-oriented attitudinal meaning.

References

- Abusch, Dorit (2002). “Lexical Alternatives as a Source of Pragmatic Presuppositions.” In: *Semantics and Linguistic Theory*. Vol. 12, pp. 1–19. ISBN: 2163-5951.
- (2010). “Presupposition Triggering from Alternatives.” In: *Journal of Semantics* 27.1, pp. 37–80. ISSN: 0167-5133. DOI: [10.1093/jos/ffp009](https://doi.org/10.1093/jos/ffp009). URL: <https://doi.org/10.1093/jos/ffp009> (visited on 08/07/2022).
- Aikhenvald, Alexandra Y (2012). “The Essence of Mirativity.” In: *Linguistic Typology* 16.3, pp. 435–485.
- Amaral, Patricia, Craige Roberts, and E. Smith (2007). “Review of the Logic of Conventional Implicatures by Chris Potts.” In: *Linguistics and Philosophy* 30.6, pp. 707–749.
- AnderBois, Scott (2018). “Illocutionary Revelations: Yucatec Maya Bakáan and the Typology of Miratives.” In: *Journal of Semantics* 35.1, pp. 171–206.
- (2023). “Tagalog Pala: A Case of Unsurprising Mirativity.” In: *Descriptive and Theoretical Studies of Discourse Particles in Asian Languages*. Ed. by Yukinori Takubo, Hiroki Nomoto, and Elin McCready. Routledge.
- Chen, Yiya (2008). “Revisiting the Phonetics and Phonology of Shanghai Tone Sandhi.” In: *Proceedings of the Fourth Conference on Speech Prosody*, pp. 253–256.
- Ciardelli, Ivano, Jeroen Groenendijk, and Floris Roelofsen (2013). “Inquisitive Semantics: A New Notion of Meaning.” In: *Language and Linguistics Compass* 7.9, pp. 459–476. ISSN: 1749-818X. DOI: [10.1111/lnc3.12037](https://doi.org/10.1111/lnc3.12037). URL: <https://doi.org/10.1111/lnc3.12037> (visited on 08/08/2022).
- (2018). *Inquisitive Semantics*. Oxford University Press. ISBN: 0-19-881478-X.
- DeLancey, Scott (1997). “Mirativity: The Grammatical Marking of Unexpected Information.” In: *Linguistic Typology* 1.1, pp. 33–52. DOI: [doi:10.1515/lity.1997.1.1.33](https://doi.org/10.1515/lity.1997.1.1.33).
- (2001). “The Mirative and Evidentiality.” In: *Journal of Pragmatics* 33.3, pp. 369–382. DOI: [10.1016/S0378-2166\(01\)80001-1](https://doi.org/10.1016/S0378-2166(01)80001-1).
- (2012). “Still Mirative after All These Years.” In: *Linguistic Typology* 16.3, pp. 529–564. DOI: [doi:10.1515/lity-2012-0020](https://doi.org/10.1515/lity-2012-0020).
- Faller, Martina (2002). “Semantics and Pragmatics of Evidentials in Cuzco Quechua.” PhD thesis. Stanford University.
- Farkas, Donka F. and Kim B. Bruce (2010). “On Reacting to Assertions and Polar Questions.” In: *Journal of semantics* 27.1, pp. 81–118.
- Friedman, Victor A. (2012). “Perhaps Mirativity Is Phlogiston, but Admirativity Is Perfect: On Balkan Evidential Strategies.” In: *Linguistic Typology* 16.3, pp. 505–527.
- Hamblin, C. L. (1976). “Questions in Montague English.” In: *Montague Grammar*. Ed. by Barbara H. Partee. Academic Press, pp. 247–259. ISBN: 978-0-12-545850-4. DOI: [10.1016/B978-0-12-545850-4.50014-5](https://doi.org/10.1016/B978-0-12-545850-4.50014-5). URL: <https://www.sciencedirect.com/science/article/pii/B9780125458504500145>.
- Hengeveld, Kees and Hella Olbertz (2012). “Didn’t You Know? Mirativity Does Exist!” In: *Linguistic Typology* 16.3, pp. 487–503. DOI: [10.1515/lity-2012-0018](https://doi.org/10.1515/lity-2012-0018).
- Hill, Nathan W (2012). ““Mirativity” Does Not Exist: Ḥdug in “Lhasa” Tibetan and Other Suspects.” In: *Linguistic Typology* 16.3, pp. 389–433.
- Koev, Todor (2018). “Notions of At-Issue-ness.” In: *Language and Linguistics Compass* 12.12, e12306. URL: <https://doi.org/10.1111/lnc3.12306>.
- Lazard, Gilbert (1999). “Mirativity, Evidentiality, Mediativity, or Other?” In: *Linguistic Typology* 3.1, pp. 91–109. URL: <https://doi.org/10.1515/lity.1999.3.1.91>.
- Leung, Wai Mun (2011). “A Study of Evidential Particles in Cantonese: The Case of Wo3 & Wo5.” In: *The Buckingham Journal of Language and Linguistics* 4, pp. 29–52.

- Potts, Christopher (2005). *The Logic of Conventional Implicatures*. Oxford Studies in Theoretical Linguistics 7. Oxford University Press. DOI: [10.1093/acprof:oso/9780199273829.001.0001](https://doi.org/10.1093/acprof:oso/9780199273829.001.0001).
- Rett, Jessica (2011). “Exclamatives, Degrees and Speech Acts.” In: *Linguistics and philosophy* 34.5, pp. 411–442.
- (2021). “The Semantics of Emotive Markers and Other Illocutionary Content.” In: *Journal of Semantics* 38.2, pp. 305–340.
- Rett, Jessica and Sarah Murray (2013). “A Semantic Account of Mirative Evidentials.” In: *Proceedings of Semantics and Linguistic Theory*. Vol. 23, pp. 453–472.
- Searle, John Rogers and Daniel Vanderveken (1985). *Foundations of Illocutionary Logic*. 1. Cambridge University Press.
- Simons, Mandy (2007). “Observations on Embedding Verbs, Evidentiality, and Presupposition.” In: *Lingua* 117.6, pp. 1034–1056. DOI: [10.1016/j.lingua.2006.05.006](https://doi.org/10.1016/j.lingua.2006.05.006).
- Simons, Mandy et al. (2010). “What Projects and Why.” In: *Proceedings of Semantics and Linguistic Theory* 20. Ed. by Nan Li and David Lutz. Vol. 20. Ithaca, NY: Cornell Linguistics Circle, pp. 309–327.
- Yóu 尤 Dūnmíng 敦明 and Gāo 高, Jiāyīng 家莺 (1988). “苏州话的语气助词及其运用 [Mood particles in Suzhou dialect and their usage].” In: 吴语论丛 [*Journal on Wu Languages*]. Ed. by Institute on Chinese Language Research Lab on Wu languages and Fudan University Literature. 上海教育出版社 [Shanghai Education Press].
- Zhuang, Lingzi (2023). “The Surprise Factor: A Semantic Theory of Mirativity.” English. ISBN: 9798379711238. Ph.D. United States – New York: Cornell University. URL: <https://www.proquest.com/pqdtglobal/docview/2825654187/>.