

The notional category of evidentiality: Day 5 Evidentiality, the universe and everything

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Agenda for today

- ▶ Wrap-up
- ▶ Directness of subjective expressions

Summary I

- ▶ Evidentiality as a semantic vs. morphosyntactic category
 - ▶ To what extent does morphosyntactic realization plays a role?
 - ▶ Do evidentials in one paradigm always have a unified semantics?
 - ▶ Can evidential elements across morphosyntactic categories be attributed a unified semantics?
 - ▶ To what extent do morphosyntactic paradigms influence pragmatic reasoning about alternatives? (Qs by Lingzi Zhuang, Sophia Malamud)
- ▶ Ways to analyze evidentials
 - ▶ Deictic operators
 - ▶ Modals within Kratzerian system (Day 1, Day 4)
 - ▶ 1-person attitude reports (Day 3)
 - ▶ Hedges in update semantics (Day 2, Day 4)
 - ▶ Commitment modifiers (Day 4)

Summary II

- ▶ Is the evidential signal part of the semantics or can it be derived pragmatically?
 - ▶ Most approaches: semantics
 - ▶ Deictic approaches: evidentiality as an epiphenomenon
 - ▶ Indirectness as a non-cancellable implicature: Mandelkern 2019 on *must*
- ▶ The modal view
 - ▶ Most approaches are modal: evidentials operate on worlds
 - ▶ Strongest argument: modal subordination, should be used more widely
 - ▶ Any interesting *semantic* differences between evidentials and corresponding attitude verbs? (cf. Hacquard 2013 on modals)
 - ▶ Modal ≠ *must*: need to distinguish between the properties of formal systems and natural classes

Summary III

- ▶ Kratzerian semantics: not the only way to analyze modality
 - ▶ Graded modality: better in probabilistic approaches (Lassiter 2017)
 - ▶ *Will*: better in non-quantificational approaches (Cariani and Santorio 2018, Cariani orth forth.)
 - ▶ Special cases of speaker-excluded readings (assessment-sensitivity): better in relativist approaches (MacFarlane 2014)
- ▶ The speech-act view
 - ▶ Evidentials can be viewed as interacting with the structure of speech acts
 - ▶ Central question: assertions with evidentials
 - ▶ What is the relation between those frameworks and independently postulated norms of assertion?
 - ▶ The dichotomy between modal vs. speech-act approaches is flawed, especially in light of research on the illocutionary contributions of modals

Summary IV

- ▶ Evidential not-at-issueness (Day 2)
 - ▶ Different notions of at-issueness
 - ▶ No blanket diagnostics
 - ▶ Anaphoric potential \neq at-issueness
 - ▶ Need to look at answerhood and interaction with focus
- ▶ Evidentials and the self (Day 3)
 - ▶ Strictly autocentric perspective
 - ▶ Similar to other perspective-sensitive expressions
 - ▶ Resistance to denials and interrogative flip:
semantics/pragmatics division of labor
 - ▶ Could we get the mental state component for free, without encoding it in the semantics?
- ▶ Committal/non-committal hearsay (Day 4)
 - ▶ Can be analyzed in a variety of ways
 - ▶ Genuine semantic variation
 - ▶ Need to test commitment with evidentials (rather than belief)

Summary V

- ▶ Things we didn't get to (will put a list of refs on Slack)
 - ▶ The syntax of evidentials
 - ▶ Interaction with other operators, esp. tense and conditionals
 - ▶ Mirativity: (indirect) evidentials used as markers of surprise
- ▶ The rest of today: evidential restrictions without evidentials

Subjective expressions I

Predicates of Personal Taste (PPTs)

describe subjective judgment (in the eye of beholder)

- ▶ tasty
- ▶ delicious
- ▶ fun
- ▶ ...

Other predicates

describe objective properties

- ▶ nuclear
- ▶ gluten-free
- ▶ deciduous
- ▶ ...

Subjective expressions II

- ▶ *Find*-verbs, aka subjective attitudes (Bouchard 2012; Coppock 2018; Frühauf 2015; Kennedy and Willer 2016; Lande 2009; Reis 2013; Sæbø 2009; Stephenson 2007b; Umbach 2016; Vardomskaya 2018)
 - ▶ English *find*
 - ▶ German *finden*
 - ▶ French *trouver*
 - ▶ Norwegian *synes*
 - ▶ Swedish *tycka*
 - ▶ ...

Subjective expressions III

- ▶ Complements of *find*-verbs: matters of opinion
 - ▶ most notably: PPTs
 - ▶ appearance descriptions (e.g. *looks like*)
 - ▶ normative claims (e.g. deontic modals)
 - ▶ anything that can be construed as a value judgment in a given context (Kennedy and Willer 2016; Reis 2013)

- (1) a. I **find** hobbits ✓endearing / #**mortal**.
b. I **think** that hobbits are ✓endearing / ✓**mortal**.
- (2) Italian

Trovo che la sanitá debba essere gratis per tutti.
find COMP DEF healthcare □ be.INF free for all
≈ 'I am of the opinion that healthcare should be free for everyone.'

Subjective expressions IV

- ▶ Difficulties in identifying PPTs (cf. Lasersohn 2005; Egan 2010; Moltmann 2010; Pearson 2013; Liao et al. 2016; Bylinina 2017; McNally and Stojanovic 2017; Muñoz 2018)
- ▶ Classic diagnostic of subjectivity: faultless disagreement (Kölbel 2003 and later work)

(3) REGULAR DISAGREEMENT

- A. Lapsang Souchong is **from the province of Yunnan in China.**
- B. No, it is from the province of Fujian.

(4) FAULTLESS DISAGREEMENT

- A. Lapsang Souchong is **delicious.**
- B. No, it isn't delicious.

Subjective expressions V

- ▶ ESSLLI 2021: subjective expressions, w/ Pranav Anand
- ▶ Today: evidential restrictions (Anand and Korotkova 2018,
Korotkova and Anand forth.)

Subjectivity + directness I



- Cleveland. It's a beautiful city.
- Yes?
- Yeah.
- It's got a big, beautiful lake.
You'll love it there.
- Have you been there?
- No, no.

("Stranger Than Paradise", Jarmush)

Subjectivity + directness II

- ▶ **Acquaintance Inference (AI)** (term from Ninan 2014, also Wollheim 1980)
 - ▶ A firsthand experience requirement with subjective expressions
- (5) a. Baked tofu is **delicious**, # but I haven't tried it.
- b. The piano **sounded** out of tune, #but I've never heard it.
- c. I **find** the San Juans **beautiful**, # but I've never seen them.
- ▶ Larger issues and the epistemology of personal taste: why do these expressions give rise to the AI? (see Bylinina 2017; Muñoz 2017)

Subjectivity + directness III

- ▶ Sample size issues:

- (6) a. INCOMPLETE EXPERIENCE:
✓ I only watched the trailer / the first five minutes. This movie is **boring**.
- b. NO EXPERIENCE:
This new Allen movie is **boring**. I haven't watched it, but all his movies are the same.

- ▶ World knowledge:

- (7) That curry is **tasty**.
- | | |
|---|----|
| <i>reading a recipe</i> | # |
| <i>looking at a picture</i> | # |
| <i>see other patrons ordering/eating it</i> | ?? |
| <i>reading reviews</i> | ? |

Subjectivity + directness IV

- ▶ Claim: *find*-verbs require firsthand experience (a fact mentioned but not argued for in detail before; Stephenson 2007a; Reis 2013; Kennedy and Willer 2016; Umbach 2016)
- ▶ Counter-claim: *find*-verbs simply select for PPTs, which are direct on their own (Bylinina 2017; Muñoz 2018; Vardomskaya 2018)

- (8) a. I **find** baked tofu **delicious**, # but I haven't tried it.
 b. Baked tofu is **delicious**, # but I haven't tried it.

Subjectivity + directness V

- ▶ Support for our claim: *find*-verbs require directness even with those predicates that do not require it otherwise

(9) a. I **found** the 1864 presidential race **competitive**.

⇒ I have somehow observed it.

b. The 1864 presidential race was **competitive**.

↗ I have somehow observed it.

(10) a. I **find** her a **good** lawyer.

⇒ I have seen her in action.

b. She is a **good** lawyer.

↗ I have seen her in action.

(11) a. I **find** food in this restaurant **authentic**.

⇒ I have tried it.

b. Food in this restaurant is **authentic**.

↗ I have tried it.

- ▶ English for simplicity; data replicated in other languages

Subjectivity + directness VI

- ▶ Complication: *find*-verbs easily allow abstract objects

- (12) I **find** this outcome **desirable**.
- (13) I **find** this attitude **outrageous**.

- ▶ Assumption: intellectual acquaintance (cf. Franzén 2018; Vardomskaya 2018)
- ▶ A question largely for cognitive phenomenology; we leave it aside for now

Subjectivity + directness VII

Bottom line: PPTs and find-verbs express directness

- ▶ How is it encoded?
- ▶ How do subjective expressions interact with markers of indirectness?
 - ① The AI obviation
 - ② The *find+must* ban

The AI obviation I

- ▶ The AI cannot be explicitly denied
- ▶ The AI isn't always present: it may disappear in the scope of some *obviators* (cf. Pearson 2013; Klecha 2014; Ninan 2014)

(14) The cake delicious, but I never tasted it.

- a. EPISTEMIC MODAL AUXILIARIES:
✓ **must/might** have been
- b. EPISTEMIC ADVERBS:
✓ **probably/possibly/maybe** was
- c. PREDICATES OF EVIDENCE/CLARITY:
✓ **obviously/certainly/apparently** was
- d. FUTURATE OPERATORS:
✓ **will/is going to** be

The AI obviation II

- ▶ English obviators convey indirectness
- ▶ Grammatical markers of indirect evidentiality follow the pattern

(15) Turkish (Turkic: Turkey)

a. BARE FORM:

#Durian güzel, ama hiç dene-me-di-m.
durian good, but ever try-NEG-PST-1SG
Intended: 'Durian is good, but I've never tried it'.

b. EVIDENTIAL *mış*:

✓Durian güzel-**mış**, ama hiç dene-me-di-m.
durian good-**IND**, but ever try-NEG-PST-1SG
'Durian is good, *I hear/infer*, but I've never tried it'.

The AI obviation III

- ▶ Klecha 2014: obviation = diagnostic of modality (=intensionality)
 - ▶ **Prediction:** All and only intensional operators obviate
- ▶ Anand and Korotkova 2018: obviation = diagnostic of indirectness (lack of directness)
 - ▶ **Prediction 1** Intensional operators w/out indirectness do **not** obviate: *know*, direct evidentials
 - ▶ **Prediction 2** Indirect operators w/out intensionality obviate (logically possible, not tested)

The AI obviation IV

(16) Jo knows that tofu is delicious, #but she hasn't tried it.

(17) Tibetan

#kha lag 'di bro ba chen po **'dug** yin na'i ngas bro ba
food this taste big POS EXS.**DIR** but 1.ERG taste
bltas med
look.PST NEG.EXS.EGO

Intended: 'This food is tasty, but I haven't tasted it.'

(Muñoz 2019)

- ▶ Obviation as indirectness wins
- ▶ Is obviation rooted in pragmatics or semantics?

The AI obviation V

- ▶ Ninan 2014: a special norm of assertion

In order to know the truth of *o is tasty*, the speaker must have prior experience with *o*.

① Assertions of unmarked propositions

- ▶ assume such knowledge
- ▶ trigger the AI
- ▶ cf. parallel to Moore's paradox

② Assertions of marked (modalized, hedged ...) propositions

- ▶ are not subject to this convention
- ▶ allow obviation

The AI obviation VI

- ▶ Non-autocentric readings of PPTs: the taster ≠ the speaker
(Lasersohn 2005; Stephenson 2007a; MacFarlane 2014)
- (18) [The bridge] was made of this Japanese maple wood, which, it turns out, is exactly the kind of wood that attracts beetles. [...] Now we're gonna make it out of less **delicious_{BEETLES}** wood.
- (Anand and Korotkova 2019; American TV series *Gilmore Girls*, Season 7)

The AI obviation VII

- ▶ Ninan's (2014) pragmatic approach: rooted in the **speaker's** knowledge
- ▶ Incorrect prediction: no AI for non-autocentric readings

(19) EXOCENTRIC AI:

Hobbes's new food is tasty, #but no cat has ever tried it yet.

(20) EXOCENTRIC AI OBVIATION:

Hobbes's new food tasty, ✓but no cat has ever tried it yet.

- a. ✓**must/might** be
- b. ✓**probably/possibly/maybe** is
- c. ✓**obviously/certainly/apparently** is
- d. ✓**will/is going to** be

The AI obviation VIII

- ▶ Our take: obviation is semantic
- ▶ PPTs comment on direct evidentiary grounds
 - ▶ Framework for directness: von Fintel and Gillies 2010
 - ▶ **Kernel** of propositions K : direct knowledge
 - ▶ $\cap K$: worlds compatible with direct and indirect knowledge
 - ▶ Kernels not anchored to the speaker
 - ▶ Kernels part of the indices of evaluation

(21) $\llbracket \text{tasty} \rrbracket^{c,\langle w,t,K \rangle}$
condition on *tasty*: K settles its predjacent

- ▶ Obviators update the parameter PPTs depend on
 - ▶ Obviators signal the lack of direct knowledge
 - ▶ Obviators update the index: $K \rightarrow \cap K$
 - ▶ All kernel-sensitive expressions in their scope affected

(22) $\llbracket \text{must } \alpha \rrbracket^{c,\langle w,t,\textcolor{red}{K},j \rangle} = \llbracket \text{must} \rrbracket^{c,\langle w,t,K,j \rangle} (\llbracket \alpha \rrbracket^{c,\langle w,t,\cap \textcolor{red}{K},j \rangle})$
condition on *must*: K doesn't settle its predjacent

The AI obviation IX

- ▶ Overt tasters: *to/for* PPs
- ▶ A common unified view: the existence of experiencer PPs taken as evidence for a diadic treatment (a.o. Bhatt and Pancheva 1998; Stephenson 2007a; Stojanovic 2007; Pearson 2013)
- ▶ Incorrect prediction: overt tasters behave the same wrt obviation

(23) OVERT TASTER PPs:

The cake delicious to me, but I never tasted it.

- a. **#must/✓might** have been EPISTEMIC MODAL AUXILIARIES
- b. **#probably/#possibly/#maybe** was EPISTEMIC ADVERBS
- c. **✓will/✓is going to** be FUTURATE OPERATORS
- d. **#obviously/#certainly** was PREDICATES OF CLARITY

The AI obviation X

- ▶ Overt taster PPTs: other subjective expressions with overt experiencers

(24) SUBJECTIVE ATTITUDE:

Ithe cake delicious, but I never tasted it.

- #must/✓might have found EPISTEMIC MODAL AUXILIARIES
- #probably/#possibly/#maybe found EPISTEMIC ADVERBS
- ✓will/✓is going to find FUTURATE OPERATORS
- #obviously/#certainly found PREDICATES OF CLARITY

The AI obviation XI

- ▶ Obviation facts support a disjoint treatment of bare vs. “overt” uses of PPTs (cf. Lasersohn 2005; MacFarlane 2014)
- ▶ Overt tasters pick out a distinct kernel (that of the DP)
 - ▶ Indirect markers do not update the kernel coordinate of the taster DP
 - ▶ Contradictions ensue with 1-person DPs
- ▶ The AI with overt tasters: a classic presupposition

The AI obviation XII

Bottom line: Obviation is a semantic phenomenon rooted in (in)directness

- ▶ Next: more evidence-based contradictions

The find+must ban I

- ▶ **Find+must ban** Coppock 2018; Lande 2009; Reis 2013; Sæbø 2009;
our novel data from Bulgarian, Dutch, Italian, Norwegian

(25) German

a. VANILLA DOXASTIC

Anna **glaubt**, Peter **muss** mal in Paris gewesen
Anna **believe.3SG.PRES** Peter **□** PCL in Paris be.PRT
sein.
be.INF

DEONTIC: 'Anna thinks that Peter needed to be in Paris.'

PISTEMIC: 'Anna thinks that Peter must have been in Paris.'

b. FIND

Anna **findet**, Peter **muss** mal in Paris gewesen
Anna **find.3SG.PRES** Peter **□** PCL in Paris be.PRT
sein.
be.INF

Only DEONTIC: 'Anna is of the opinion that P. needed to be
in Paris.'

(Lande 2009:16)

The find+must ban II

- ▶ English subjective *find* only takes small clauses (Vardomskaya 2018)

The find+must ban III

- ▶ Previous literature: *must*-modals do not satisfy the definition of subjectivity
- ▶ How to diagnose subjectivity?
 - ▶ E.g. embedding under *find*-verbs
 - ▶ So, *must* is not subjective because it does not appear under *find*, and it does not appear under *find* because it is not subjective

The find+must ban IV

- ▶ Korotkova and Anand forth (watch this and other talks at Sinn und Bedeutung 25 online, September 2020;
<https://sites.google.com/view/sinn-und-bedeutung-25/home>)
 - ▶ Epistemics, as a class, **can** be allowed under *find*-verbs
 - ▶ The *find+must* ban due to an evidential clash: directness of *find* and indirectness of *must*
 - ▶ Correct prediction: other indirect elements also banned under *find*-verbs (cf. a remark in Frühauf 2015:34 on **find+sollen*)

The find+must ban V

(26) German inferential *wohl*

- a. #Ich **finde**, dass der Kuchen **wohl lecker**
I **find.1SG.PRES** COMP DEF cake **INFER delicious**
ist.
be.3SG.PRES
Intended: 'I am of the opinion that the cake is presumably delicious.'
- b. ✓Der Kuchen ist **wohl lecker.**
DEF cake be.3SG.PRES **INFER delicious**
'The cake is presumably delicious.'

The find+must ban VI

(27) Bulgarian evidential perfect

- a. #**Namiram**, če torta-ta e **bi-l-a**
find.1SG.PRES COMP cake-DEF.F be.3SG.PRES **be-IND-F**
vkusn-a.
tasty-F

Intended: 'I am of the opinion that, as I hear/infer, the cake is tasty.'

- b. ✓torta-ta e **bi-l-a** **vkusn-a.**
cake-DEF.F be.3SG.PRES **be-IND-F** **tasty-F**
'As I hear/infer, the cake is tasty.'

The find+must ban VII

(28) Dutch hearsay *schijnen*

- a. #Ik **vind** dat het eten hier **goed schijnt** te zijn.
I find COMP DEF food here **good seems** INF be
Intended: 'I am of the opinion that the food here is said to be good.'
- b. ✓Het eten hier **schijnt goed** te zijn.
DEF food here **seems good** INF be
'The food here is said to be good.'

The find+must ban VIII

- ▶ *Find*-verbs across languages ban a variety of elements independently argued to be indirect
- ▶ Proposal: a semantic contradiction (see handout)
- ▶ Possible alternatives
 - ▶ Pure pragmatics won't work: not all direct+indirect combinations are bad, cf. *must+tasty*
 - ▶ A more refined epistemology of directness: is it possible to have firsthand experience for an indirect claim?
- ▶ What about other modals?

The find+must ban IX

- ▶ *Might*-modals universally banned

(29) German

Ich finde, hier könnten Pilze wachsen.
I find.1SG.PRES here ◊ mushroom.PL grow.INF
Only ROOT: 'I am of the opinion that mushrooms are able to grow here.'
(Frühauf 2015:33)

- ▶ Modal adjectives universally allowed

(30) Italian

Trovo che sia probabile
find.1SG.PRES COMP be.SUBJ likely
'I find it likely.'

The find+must ban X

- ▶ Possible explanation:
 - ▶ Modal adjectives, but not modal auxiliaries, are gradable (Lassiter 2017)
 - ▶ Gradability and subjectivity often linked (Glanzberg 2007; Kennedy 2016)
 - ▶ But gradability alone does not license subjective *find* (German *find* has an additional *consider*-like interpretation; Frühauf 2015)

(31) #I **find** him **tall**. (vs. ✓*I find him too tall*).

- ▶ Our take:
 - ▶ *Might*-modals **semantically encode** indirectness (cf. Matthewson 2015)
 - ▶ Modal adjectives, despite an arguably similar semantics, do not
 - ▶ Embedding under *find*: diagnostic of indirectness

The future

- ▶ Philosophy: rich tradition of studying evidence
 - ▶ Epistemology: formal theories of knowledge and inference (Glymour 1980; Halpern et al. 1995; Kelly 2008)
 - ▶ Logics for knowledge and belief justification (van Benthem 2006; van Benthem and Pacuit 2011; Baltag et al. 2014)
- ▶ Current research on evidentiality in linguistics: disconnected from research on evidence within philosophy (few exceptions, Krawczyk 2012; McCready 2015)

The next step: Which **formal tools** from theories of knowledge and reasoning are useful for describing **evidence in language?**

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