

WHAT DOES *really* REALLY MEAN?: EVIDENCE, STANDARDS AND PROBABILITY IN DIALOGUE

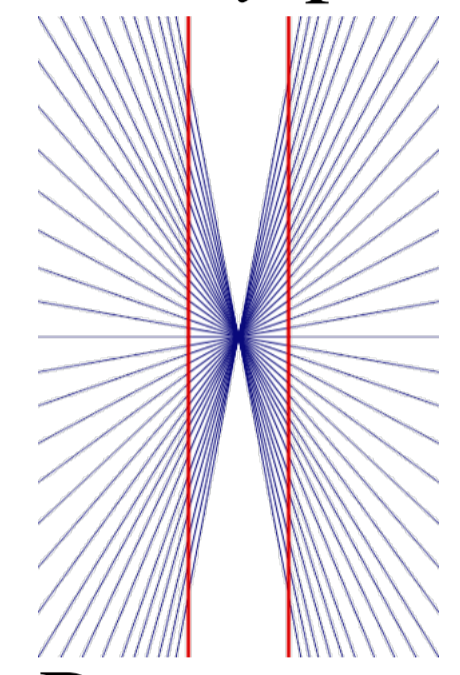
Catherine Lai, Department of Linguistics, University of Pennsylvania, laic@ling.upenn.edu

Questions

- How do we model gradable beliefs in dialogue?
- How does this relate to other uses of degrees and standards?

Really and VERUM

- *Really* provides a test case for modelling gradability in dialogue.



- (1) a. The lines *really* ARE straight. (epistemic)
b. The lines ARE *really* straight. (actuality)
- (2) The lines are *really* long. (intensifier)
- (3) The lines ARE straight (VERUM focus)

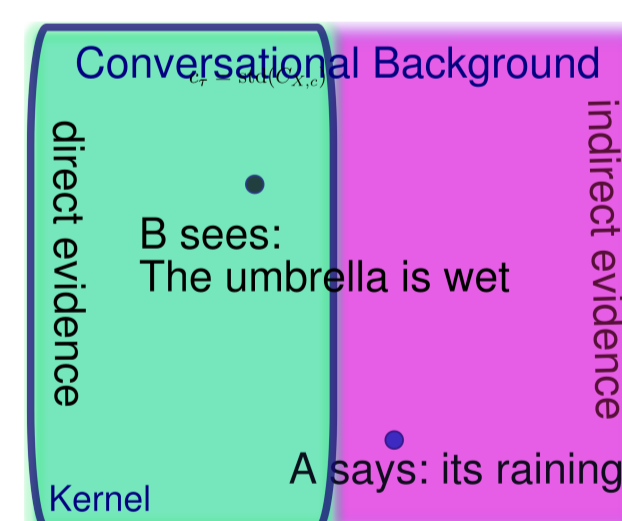
- Romero and Han (2004): epistemic *really* = VERUM
 $VERUM(p) \approx$ asserts the speaker is certain p should be added to the common ground.

- The actuality reading occurs with *really* after the finite verb:
- (4) a. Mary isn't *really* human. (actuality)
 \neq The speaker isn't certain that Mary is human
 \approx Although Mary appears as such, the speaker knows that Mary is not human.

\rightsquigarrow Are these *really*s really different? Are any the same as VERUM?

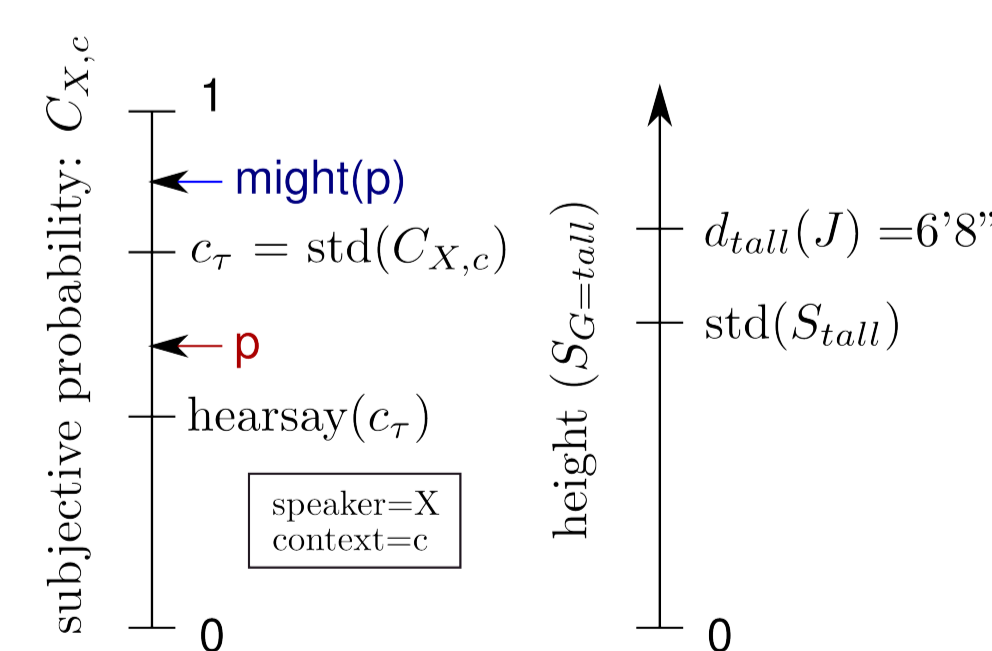
\Rightarrow We need a notion of evidential privilege and evaluation.

Evidence, evaluation & the kernel



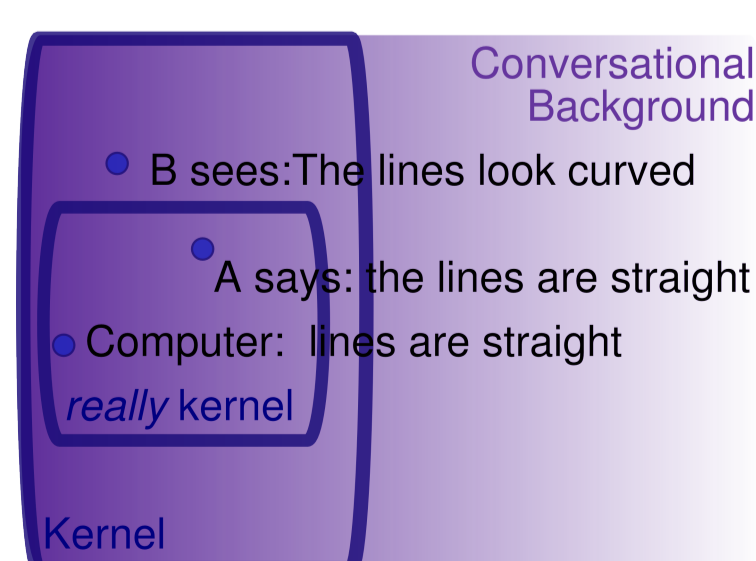
- von Fintel and Gillies (2009): epistemic modals signal inference from direct evidence, i.e. "the kernel".

- Davis et al. (2007): Asserting p :
 $C_{X,c}(p) > c_\tau \rightsquigarrow$ *quality threshold*.
 \rightsquigarrow Evidentials change threshold c_τ .
 \rightsquigarrow This looks like a gradable adjective (Kennedy and McNally, 2005)



- *Proposal*:

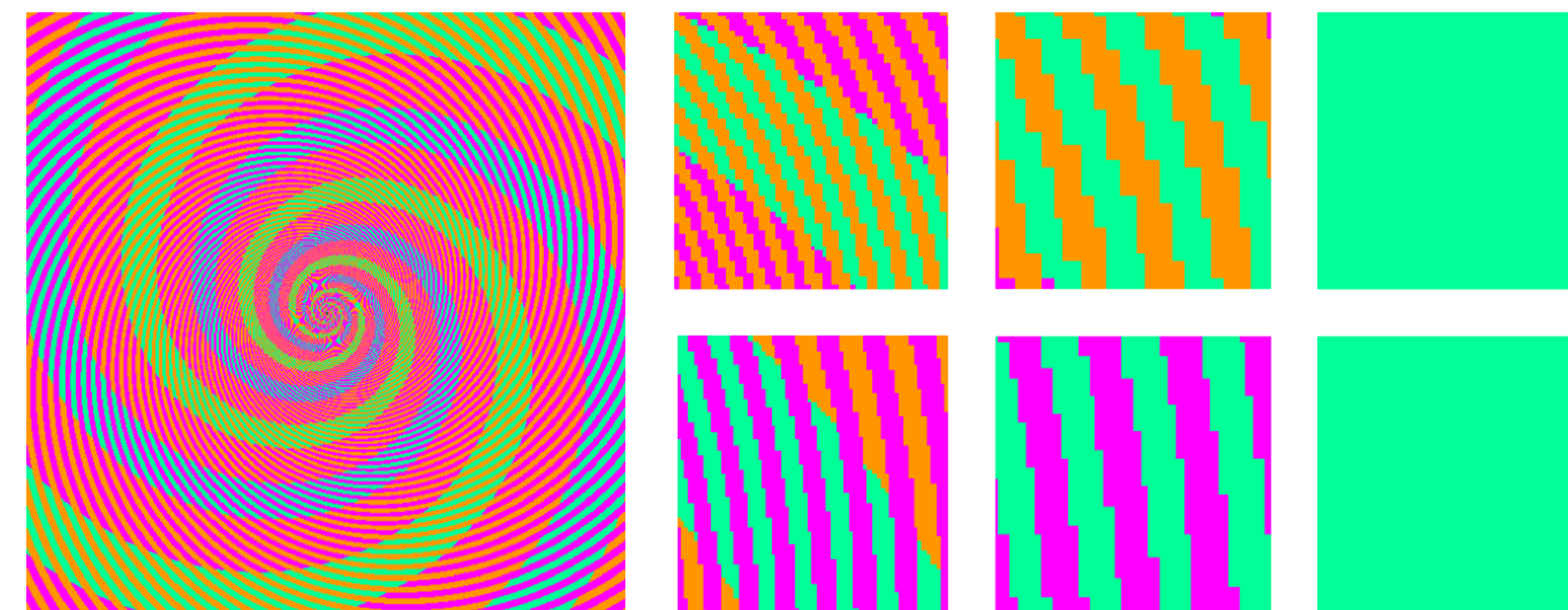
- \Rightarrow Generalized kernel K : propositions in the CB that are highly ranked
 \rightsquigarrow i.e. important/relevant to the QUD.
- \Rightarrow Evidence is weighted by probabilities.
 \rightsquigarrow This dynamically determines K .
- \Rightarrow Utterances are evaluated w.r.t. K .



\Rightarrow *Really* manages the kernel. VERUM signals updates of propositions in the conversational background.

\Rightarrow What counts as evidence depends on the contextual standard.

Really Raising Standards

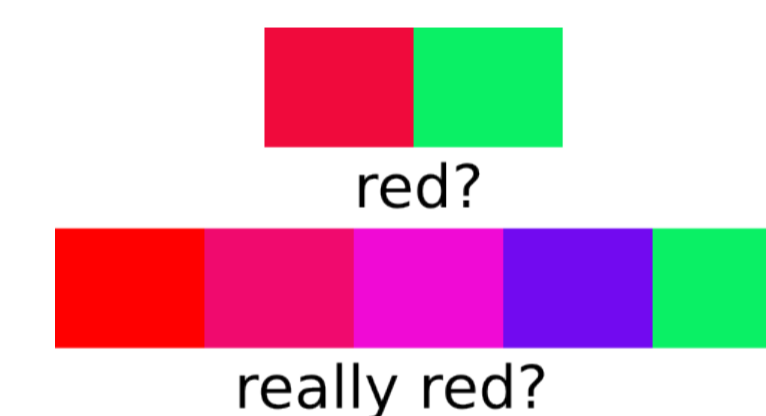


The blue and green spirals are *really* the same color.
 \rightsquigarrow To get to 'reality' you might need to discount direct evidence!

\Rightarrow *Really* raises the standard of evidence: propositions that don't meet this standard are dropped from the kernel.
 \Rightarrow Expanding the evaluation domain reduces likelihood of 'accidentally' exceeding the standard.
 \Rightarrow Less assumptions \rightsquigarrow more general results!

- (5) $K_r \subset K$, a higher standard of evidence,
a. $[[\text{really}]](G)(x) = \exists d[d > \text{std}(S_G) \wedge G(d)(x)]$
b. $[[\text{really}]](C_{X,K_r})(p) = \exists d[d > c_\tau \wedge C_{X,K_r}(p) = d]$,
i.e. $C_{X,K_r}(p) > c_\tau$

$\cap K \subset \cap K_r$
 \Rightarrow more possible worlds.



Modals and Actuality

Really + modals raise likelihoods.

- (6) Those colors *really* might/must be the same.
 \rightsquigarrow discount 'eye' evidence.

Considering N draws from BEST evidence worlds:

- (7) a. $C_{X,K}(\text{MIGHT}(p)) = \text{Pr. of drawing at least one } p \text{ world}$
b. $C_{X,K}(\text{MUST}(p)) = \text{Pr. of drawing all } p \text{ worlds.}$

The position of *really* determines whether the probability calculation is done with K_r fixed in the discourse.

- (8) Mary *really* might be an alien. (epistemic)
 \rightsquigarrow Given $K_r \subset K$, calculate the probability w.r.t K_r that Mary is an alien.
- (9) Mary might *really* be an alien. (actuality)
 \rightsquigarrow Calculate the probability w.r.t K , that given a $K_r \subset K$, Mary would be an alien. K_r is salient alternative to K which may or may not be adopted as the standard afterwards.
 \Rightarrow Possible divergence from 'normal' standards.

Foregrounding with VERUM

VERUM signals status updates of propositions which are already in the conversational background. VERUM doesn't change standards.

- **Quality updates:** Signalling polarity update:
(10) Mary has green blood. See, she IS an alien!
 \rightsquigarrow *emphatic prosody + L% \rightsquigarrow QUD resolution*
- **Relevance updates:** VERUM marks (11b) as important for the evaluation of (11a).
(11) a. A: I think Mary's an alien.
b. B: She DOES seem to have blueish skin,
c. B: but I think that's just a trick of the light.
(12) a. A: What has Mary ever done to deserve this?
b. B: Well, she DID hack the space shuttle computer...
 \rightsquigarrow *AB-contour, i.e. H% \rightsquigarrow substrategies (Büring, 2003)*

We can foreground the polarity of someone else's public beliefs, if they are relevant to resolving the QUD:

- (13) A: What's the consensus on Mary?
B: Jane thinks she IS an alien,
a. but I don't believe it.
b. and I trust her completely.

\rightsquigarrow not speaker oriented \rightsquigarrow not CI (Potts, 2005)

\Rightarrow VERUM does not appear to introduce extra expressive/CI meaning on its own. It seems VERUM focus is just focus.

\Rightarrow More general analyses of intonation can tell us what sort of update is going on.

Implications

- We can treat gradability of beliefs in the same way as other types of semantic gradability.
 \rightsquigarrow This allows a unified analysis of the different 'types' of *really*.
 \Rightarrow *Propositions* in the CB are ordered for purposes of utterance evaluation general. (Probabilities!)
- *Really* and VERUM are different linguistic tools for managing discourse level structures.
 \rightsquigarrow Certain intonational features seem to work at the same level.
 \Rightarrow Probably not the CI dimension!

