Using epistemic state in drawing scalar inferences

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Overview

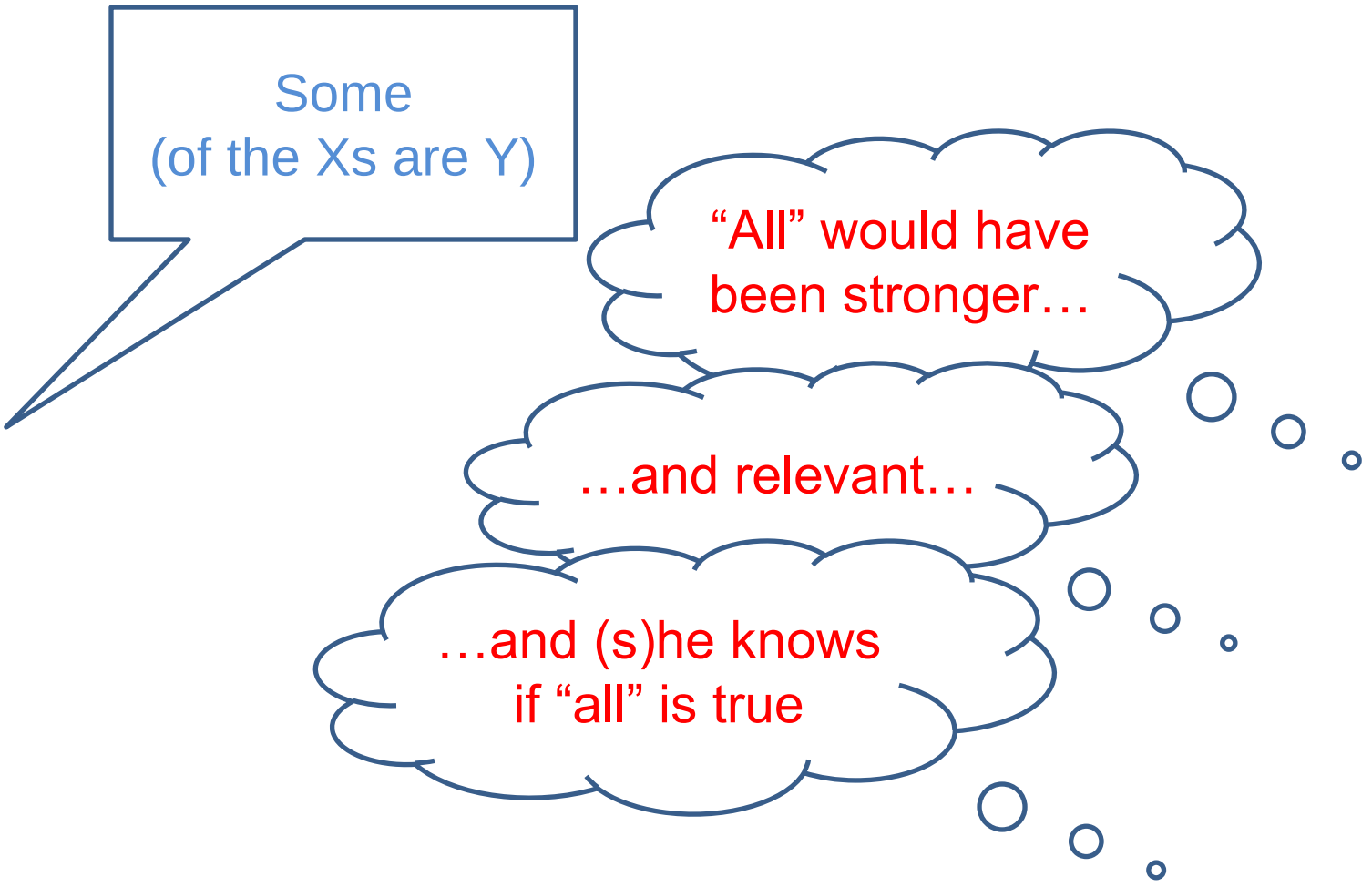
- Epistemic state…
  - …and its role in SIs…
  - …in real time…
  - ...as shown experimentally…
  - …now and in future work

Quantity implicature

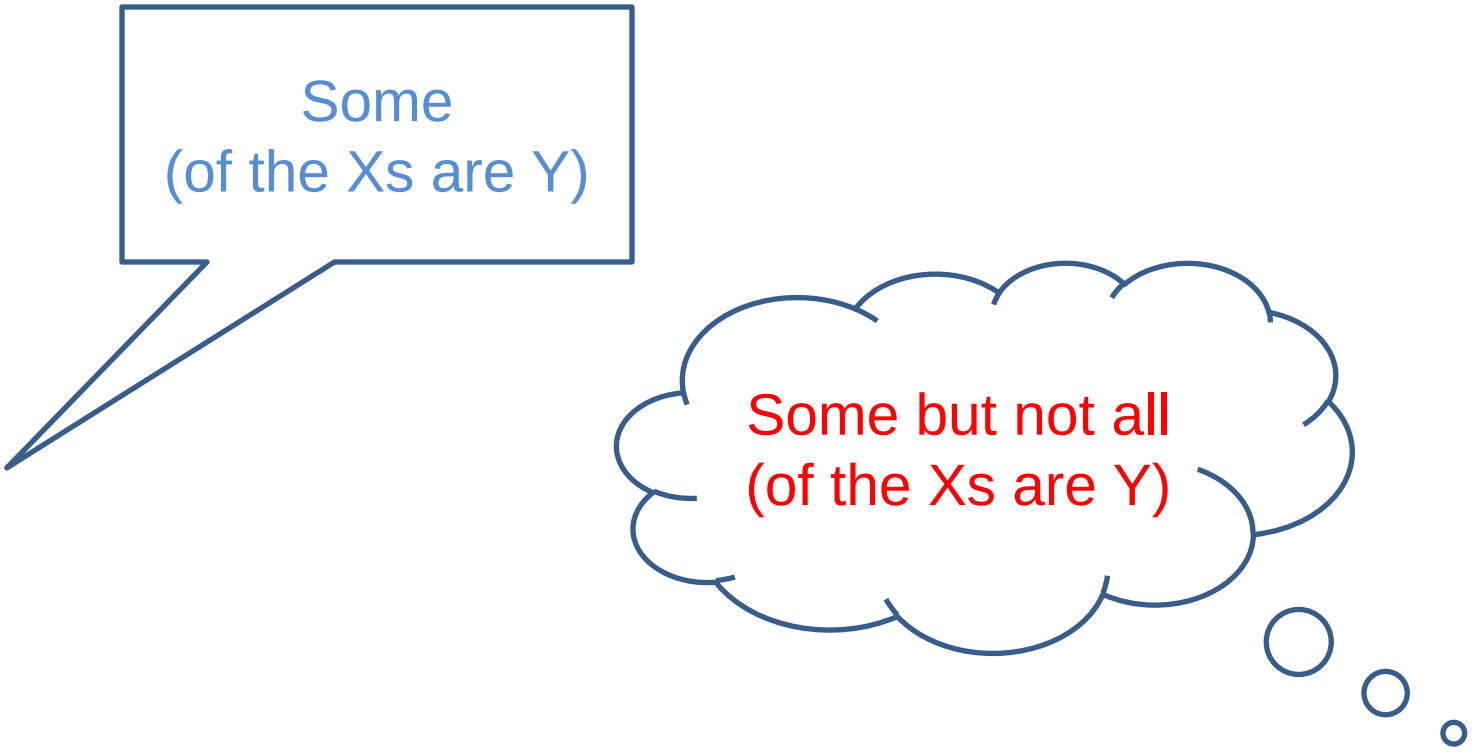
- Speaker says *p*
- Speaker could have said *q*, where *q* entails *p*
- Therefore speaker does not believe *q*

- Requires, among other things, that the speaker knows whether *q* holds

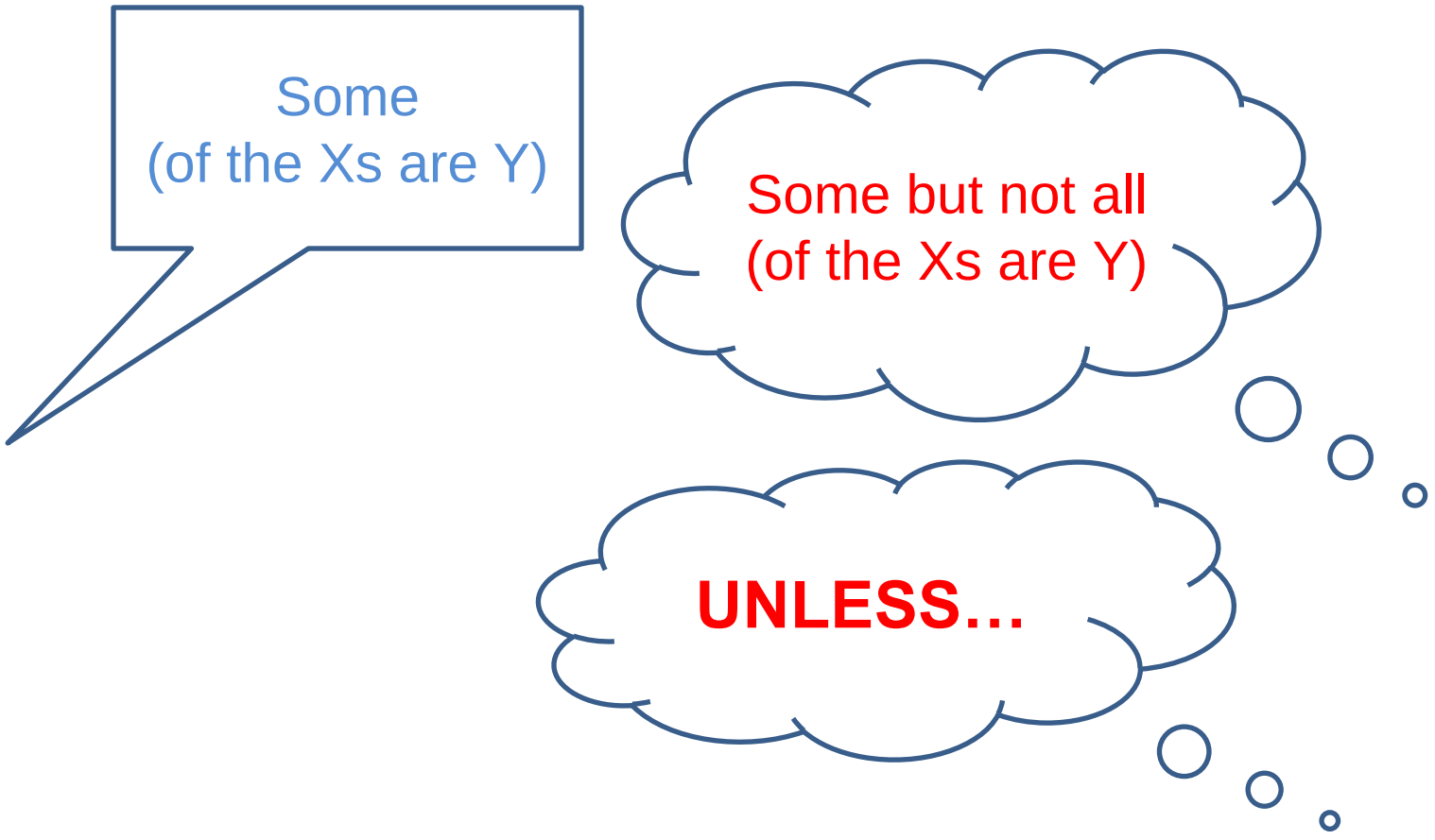
“Some (but not all)”



“Some (but not all)”



Alternatively…



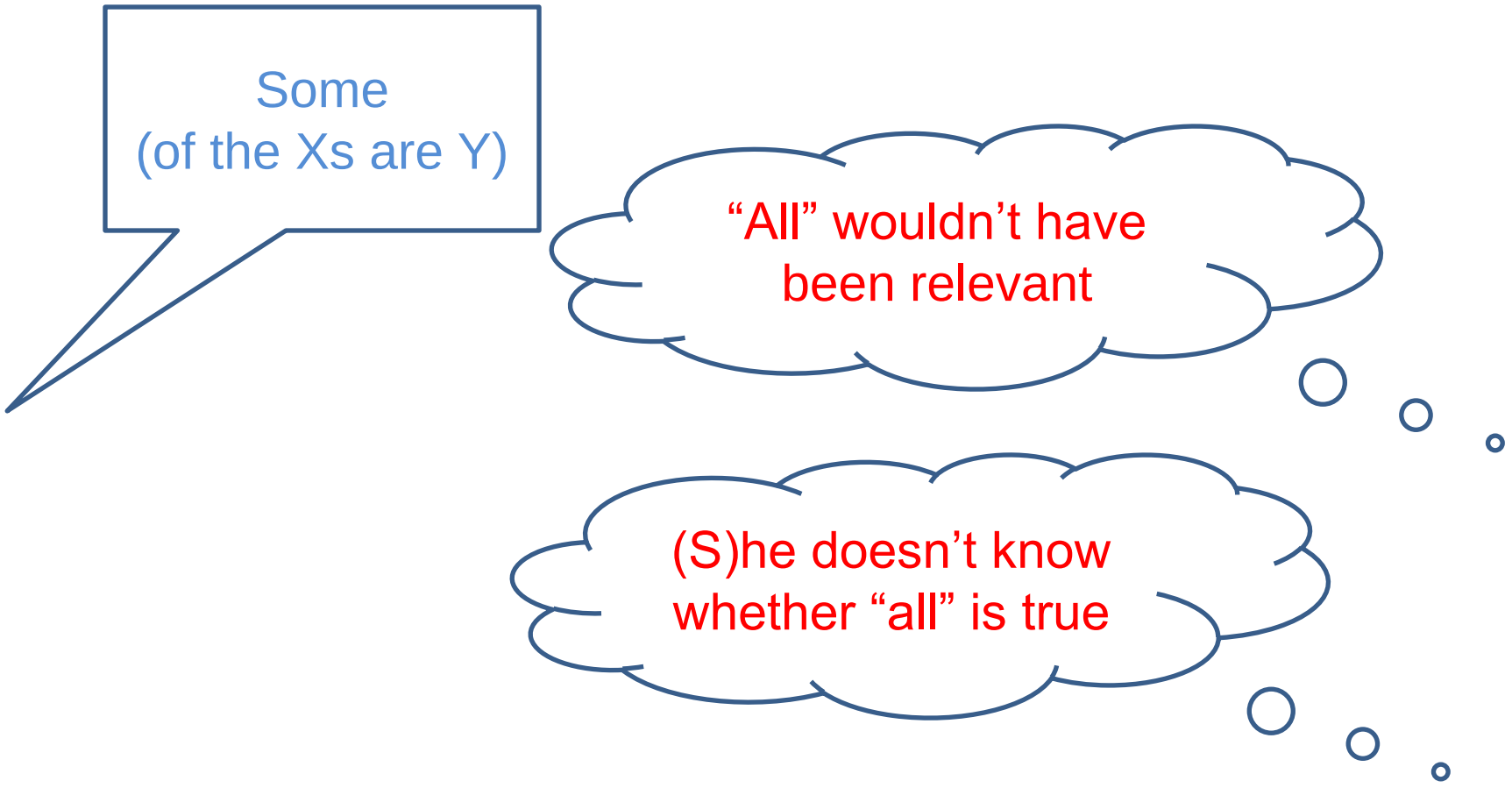
Alternatively…

Breheny, Katsos and Williams (2006), Katsos (2008)

and (for a slightly different aspect of 'relevance')

Bonnefon, Feeney and Villejoubert (2009)

Alternatively…



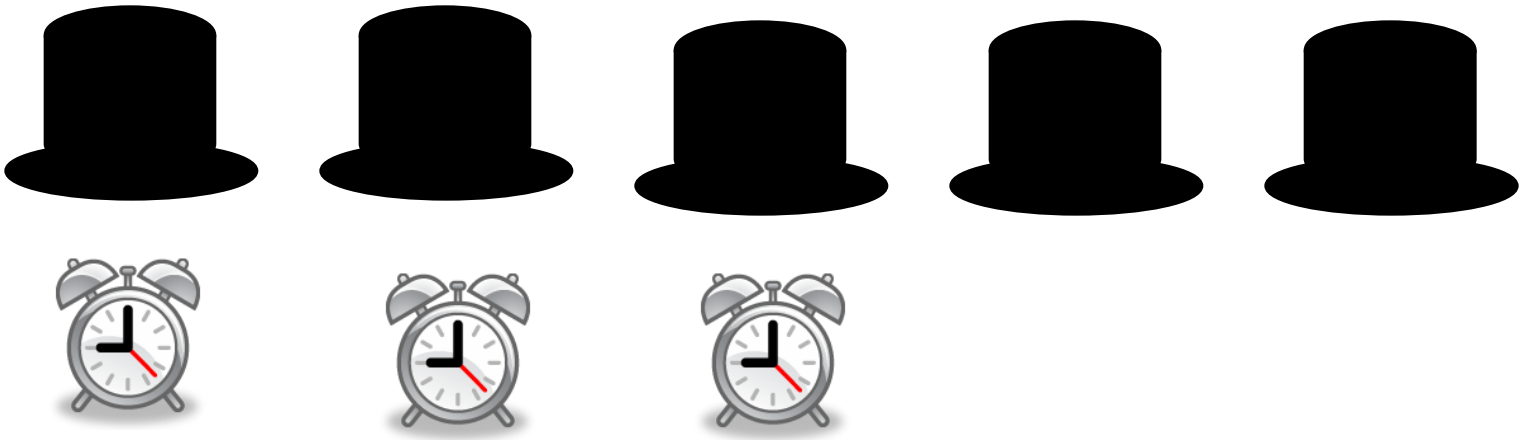
Possible derivations

DEFAULT		**CONTEXTUAL**
“Some”		“Some”
Some but not all		Some (and maybe all)
Cancel if “all” irrelevant		SI if “all” relevant and known
Cancel if “all” not known		

Possible derivations

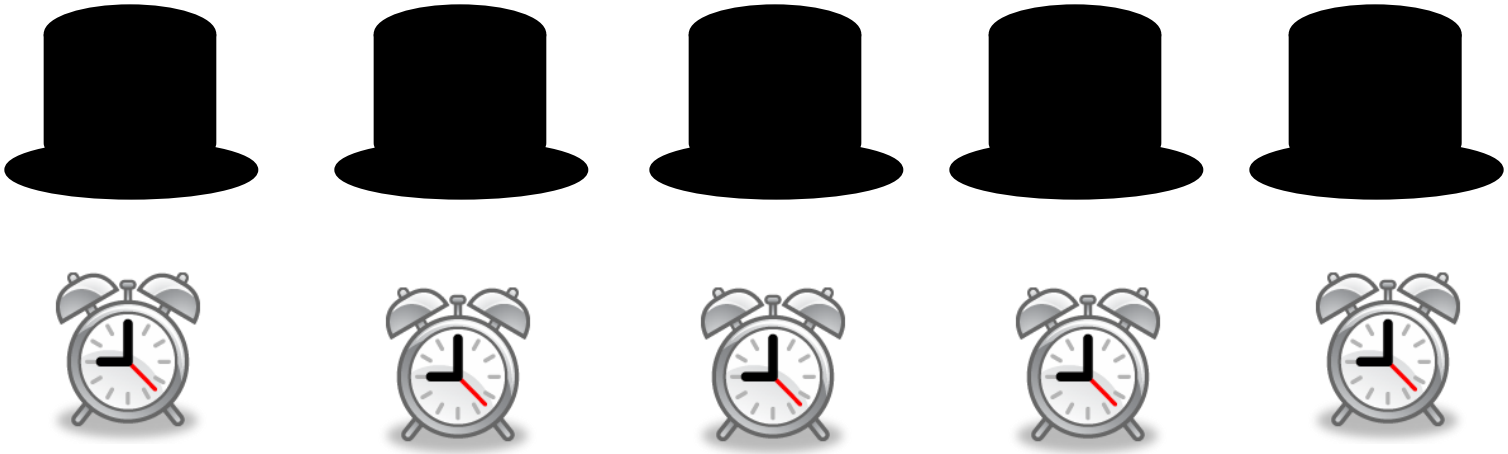
DEFAULT	**INTERMEDIATE**	**CONTEXTUAL**
"Some"	"Some"	"Some"
Some but not all	Some (and maybe all)	Some (and maybe all)
Cancel if "all" irrelevant	SI if "all" relevant	SI if "all" relevant and known
Cancel if "all" not known	Cancel if "all" not known	

Experiment 1: Control for “some”



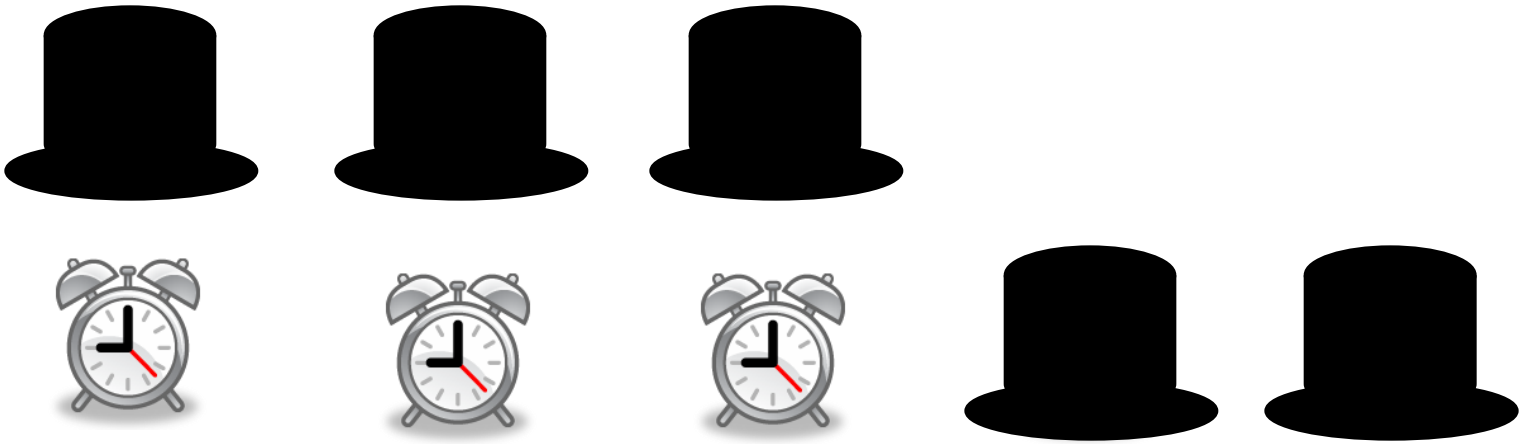
There are clocks under some of the hats

Experiment 1: Underinformative “some”



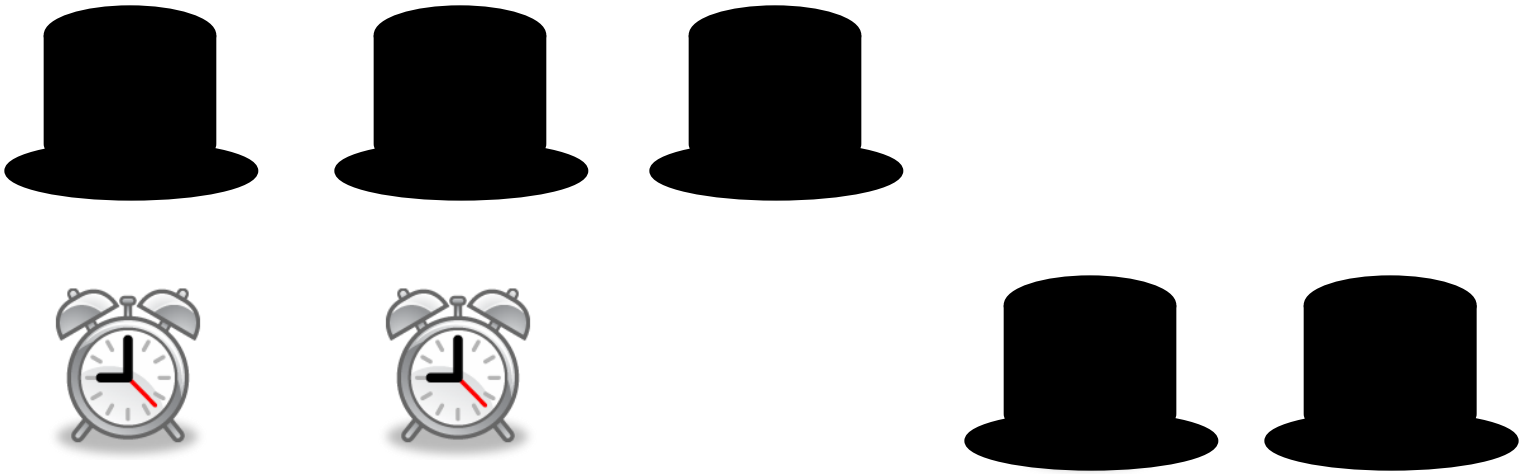
There are clocks under some of the hats

Experiment 1: Epistemic critical case



There are clocks under some of the hats

Experiment 1: Control for critical case



There are clocks under some of the hats

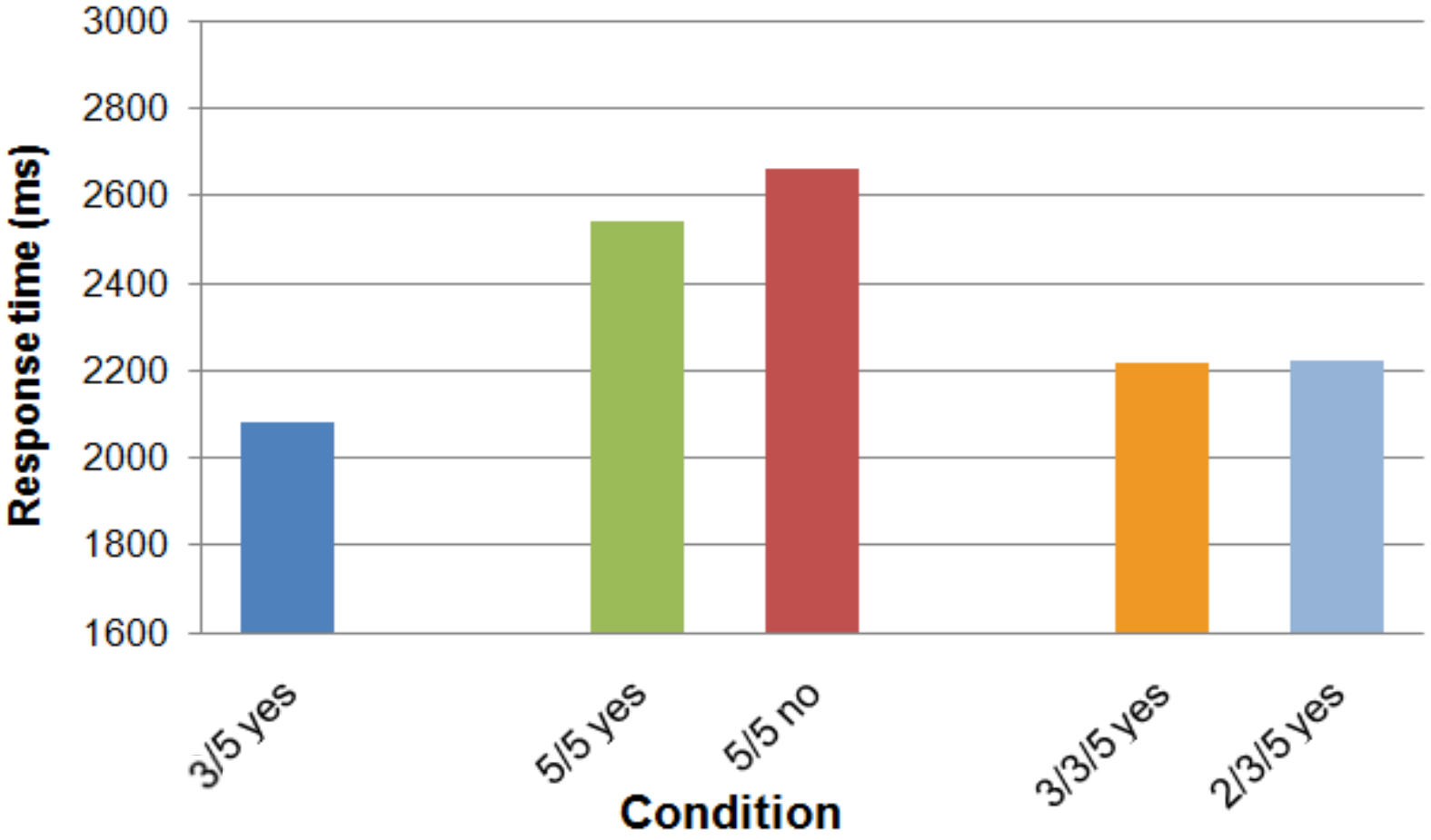
Predictions

- (2/3)/5, 3/5
  - Quick verification (all theories)
- 5/5
  - Default account (assuming cancellation costly)
    - Rejection faster than acceptance
  - Contextual accounts (assuming SI costly)
    - Acceptance faster than rejection

Predictions

- (3/3)/5
  - Insufficient information to reject
  - Default
    - SI reading automatic, cancelled epistemically
    - Acceptance comparable with 5/5 acceptance
  - Contextual + immediate epistemic knowledge
    - SI fails; accept on par with 3/5, 2/3 cases
  - Contextual - immediate epistemic knowledge
    - SI generated, then cancelled; slower than 3/5, 2/3

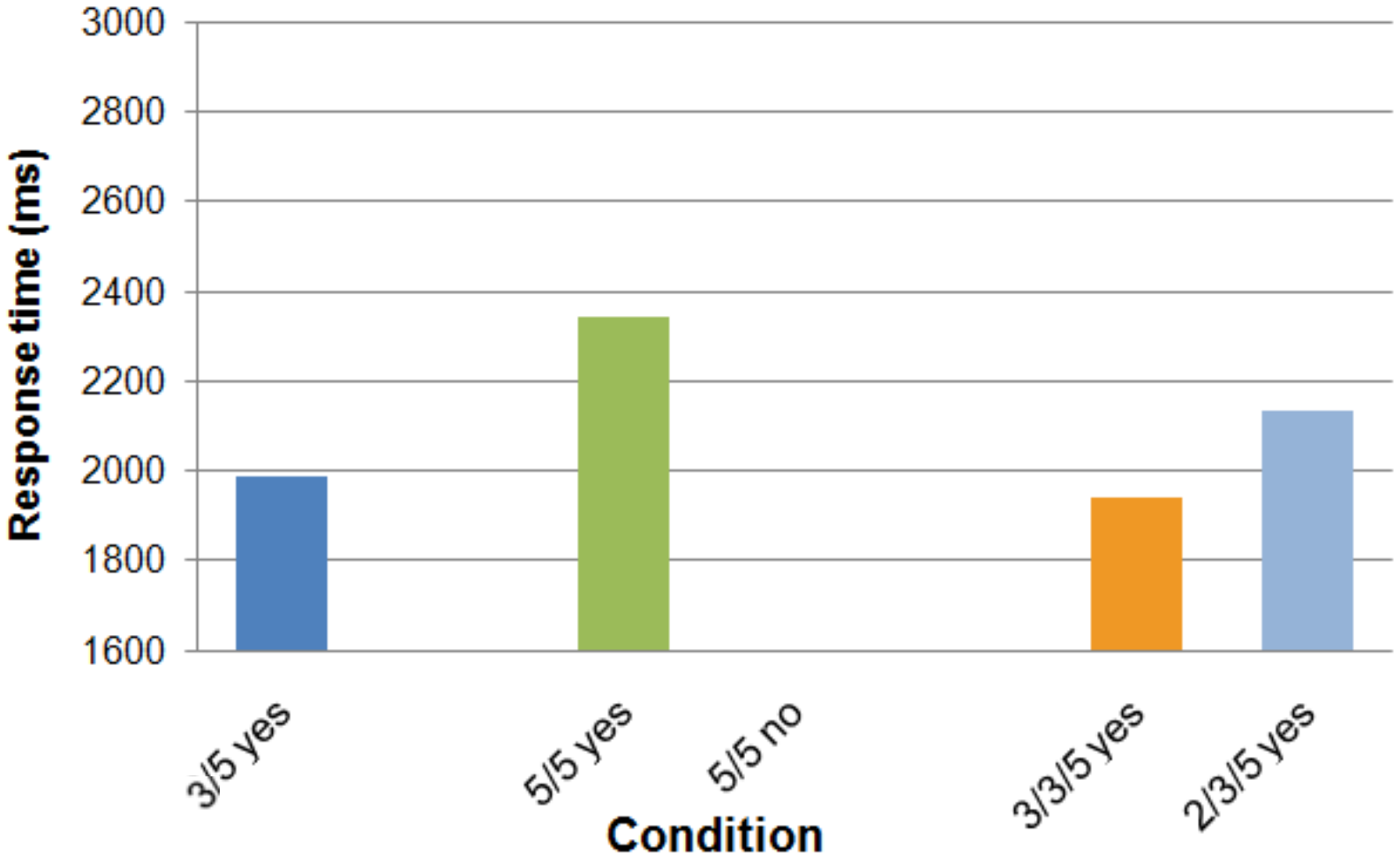
Results


Response time (ms)
3000
2800
2600
2400
2200
2000
1800
1600
3/5 yes
5/5 yes
5/5 no
3/3/5 yes
2/3/5 yes
Condition

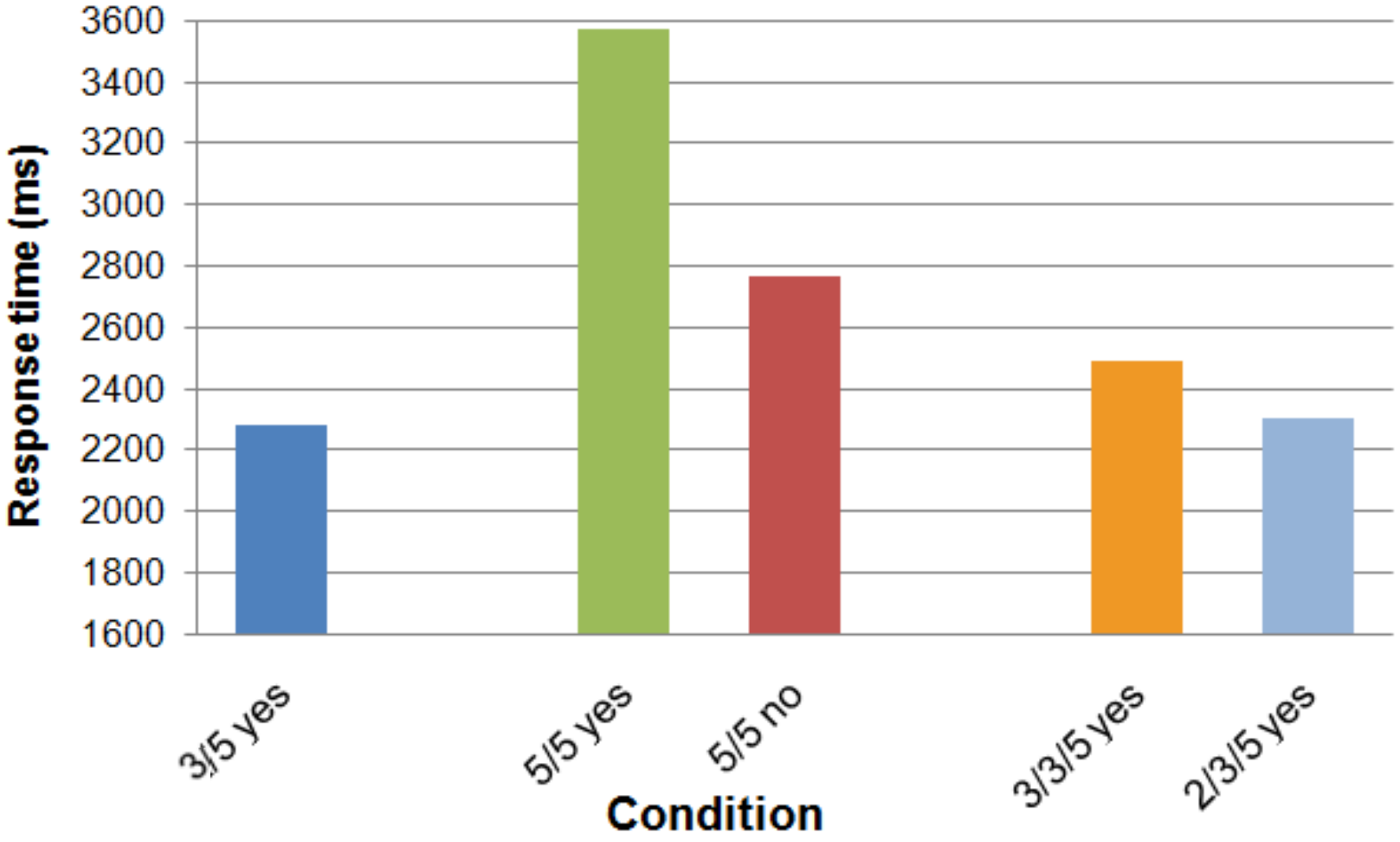
but

Some = existential?

“Existentialist” results



“Non-existentialist” results



Experiment 2 (future)

- Epistemic state of speaker ≠ that of hearer
- Will perspective-taking for this SI be
  - possible?
  - immediate?
  - costly?

- How does it compare to the shared ES case?

Conclusions so far

- Epistemic information rapidly, if not immediately, integrated
- No evidence of default SIs being cancelled in light of epistemic data
- Underinformative utterances can give rise to delays (at least in this type of experiment) even when no SI / SI is not decisive

Thank you!

REFERENCES

Bonnefon, J.-F., Feeney, A. and Villejoubert, G. (2009). When some is actually all: Scalar implicatures in face-threatening contexts. *Cognition*, 112: 249-58.

Breheny, R., Katsos, N. and Williams, J. (2006). Are scalar implicatures generated by default? *Cognition*, 100(3): 434-63.

Katsos, N. (2008). The semantics/pragmatics interface from an experimental perspective: the case of scalar implicature, *Synthese*, 165: 358-401