

more  
Some <sub>^</sub> things going on in  
presupposition experiments

**Chris Cummins**

c.r.cummins@gmail.com

Bielefeld, SFB 673:

Alignment in Communication



# Acknowledgements

**Bielefelder Nachwuchsfonds** project “Conveying and comprehending forms of non-asserted content”

(Following Breheny, Chemla, Cummins, Geurts and Katsos, “Are presuppositions accommodated globally by default?”, supported by the EURO-XPRAG network)

# Projecting presuppositions

- Presuppositions triggered at a lower level are realised at a higher level
- Diagnostic of presuppositions, as a form of content

cf. (1) John knew that Mary was away.

(2) John didn't know that Mary was away.

- Presupposed content *projecting* from under the scope of negation
- Ps. can also be *accommodated* if not common ground

# The projection problem

- Projection of ps. is not entirely consistent
  - (3) John didn't know that Mary was away, because she wasn't away.

cf. implicatures from weak scalars, such as *some*:

- (4) John ate some of the cakes, and in fact all of them.

# The projection problem

- Broad theoretical agreement that the ps. of (3) ultimately does not project
- Need to account for how this is computed by hearers, including for instance
  - what causes the hearer not to allow the ps. to project
  - what kind of processing is undertaken
  - the time-course of the (non-)projection

# The projection problem

- Two major (sets of) candidate theories:
  - Dynamic semantic approaches, following Heim (1983)
  - Pragmatic approaches, following Stalnaker (1976)

# Contrasting the theories

- Dynamic semantic approaches treat projection as arising from (some elaboration of) rules of semantic composition
  - Projection failure is treated as *local accommodation*: the ps. is bound at a local level
  - General preference for *global accommodation* can be posited as a root cause of why projection normally takes place
- Pragmatic approaches treat projection as arising from conversational principles
  - Projection failure is attributed to contextual factors
  - *Default inference* (à la Levinson 2000) can be posited as a root cause of why projection normally takes place

# Inevitable parallel...

- Scalar implicature (much discussed in the experimental literature)
- Questions arise as to whether
  - aspects of the meaning are semantic or pragmatic (or something in between)
  - enriched meanings arise by default or only under contextual licensing conditions
- However, theories agree on the ultimate interpretation (such as is accessible to introspection)
- Experimental work has the potential to distinguish these theories



# Contrasting the theories

- Dynamic semantic approaches treat projection as arising from (some elaboration of) rules of semantic composition
  - Global accommodation should be faster than local accommodation (if we assume that the former is ‘favoured’ in some way)
- Pragmatic approaches treat projection as arising from conversational principles
  - Local accommodation should be faster than global accommodation (the former does not involve any enrichment)

# Chemla and Bott (?in press)

- Examining RTs for embedded ps. triggers with false complements:
  - (5) The Martian geologists did not realise that elephants are reptiles.
- True on *local*, false on *global* reading
- Elicits faster rejections than acceptances (global-first)
- Taken as support for dynamic semantic approach

# Possible issues

(5) The Martian geologists did not realise that elephants are reptiles.

- Presentation of stimulus ‘out of the blue’
  - invites particular inferences about context/QUD
  - particularly given that the sentence will (probably) never have been encountered in real life

# Possible issues

(5) The Martian geologists did not realise that elephants are reptiles.

- Results may be specific to this trigger, “realise”
  - used (often?) to introduce new material by accommodation
  - might be especially infelicitous with a false presupposition
  - might admit atypical default treatment (i.e. projection)

# Possible issues

- (5) The Martian geologists did not realise that elephants are reptiles.
- Unclear how a false presupposition should be treated
    - Forced choice between ‘true’ and ‘false’ responses
    - Could lead to second-guessing of the ‘right’ answer, at a wholly metalinguistic level

# Even more generally...

- Study (like many, many others) looking at interpretation of artificially constructed stimuli
- Necessary for control etc.
- Also legitimate pieces of language, so interpretation is of potential interest
- But question does arise of how much contextual material has to be present for these items ever to be felicitously uttered
  
- What if we turn it around and look at the speaker?

# In defence of focusing on the speaker

- I assume that the goal of the hearer includes deriving enriched meanings **iff they are intended**
- Hearers are very adept at this in the case of implicature
  - e.g. Bonnefon et al. (2009)
- Some constructions systematically presuppose new information that is intended to be accommodated:
  - “I just found out that...”
  - “I never knew that...”
- For these, at least, rapid global projection would be a good idea

# What is S up to?

Q: Why would a cooperative speaker use a ps. trigger when its complement was in fact false?

Why say 'realise' in

(5) The Martian geologists did not realise that elephants are reptiles

instead of

(6) The Martian geologists did not find that elephants are reptiles

or even

(7) Elephants are not reptiles ?



# Demands of cooperativity...

- (7) entails (5), but doesn't say anything about the Martian geologists...
- (6) entails (5), but doesn't say anything about 'realising'...
- Maybe the speaker of (5) wishes, in a single utterance, to give explicit coverage to
  - the Martian geologists
  - the act of 'realising'
  - the claim that elephants are mammals

# Demands of cooperativity...

- (5) appears to surface most naturally as a response to
  - (8) Did the Martian geologists realise that elephants are reptiles?or (9) The Martian geologists realised that elephants are reptiles
- This could be because (among other reasons)
  - the low-level structures of (8) and (9) give rise to priming effects (Pickering and Garrod 2004)
  - the Question Under Discussion specified by (8) or (9) needs to be addressed in the response (Roberts 1996, Gualmini et al. 2008)

# Handling presuppositions

Amaral, Cummins and Katsos (2011)

“Is Jane’s book continuing to sell well?”

“No, it is not selling well” > “No, it didn’t use to sell well”

Better still might be

“No, it stopped selling well”

“No, it never sold well”

- Idea: need to respond to ps. in preceding discourse

# Suppressing an enriched meaning

Cummins, Sauerland and Solt (2012)

“more than 90” +> “not more than 100”

**but** implicature weakened if 90 is a contextually salient concept prior to the first utterance

- General idea: stronger statement has to be relevant for an implicature to go through
- Justification for use of weaker statement => no enrichment

# Positing a context

Cummins, Sauerland and Solt (2012)

“more than 93” +> for some reason, 93 is significant

leading to **less robust quantity implicatures**

- By analogy, “doesn’t realise that...” could convey the sense of ‘realising’ as a discourse-relevant notion per se, rather than as a ps. trigger

# Back to the lab

- Participant's response to (5) might plausibly involve
  - Inferring a prior context
  - Determining on that basis how the presupposition is to be understood
  - Adding it, if appropriate, to their situation model
  - Evaluating that against general knowledge
  - Pressing a button to signal...something
- Experimenter's role is to interpret the response time
  - How exactly?

# Trying to exclude confounds

- Claims about the potential problems are themselves testable
  - Better control of preceding context, if it transpires that the material present there – and its informational status – affects the outcome
    - Could explicitly specify question....
  - Materials may be systematically unnatural without contextual support
    - Could use naturally occurring or spontaneously elicited materials
  - For these, and for other considerations, we should at least check what is likely to make a difference!
  - Ideally, nothing would...

# References

- Amaral, P., Cummins, C. and Katsos, N. (2011). Experimental evidence on the distinction between foregrounded and backgrounded meaning. Proceedings of ESSLI 2011 Workshop on Projective Content.
- Bonnefon, J.-F., Feeney, A. and Villejoubert, G. (2009). When some is actually all: scalar inferences in face-threatening contexts. *Cognition*, 112: 249-258.
- Chemla, E. and Bott, L. (in press). Processing presuppositions: dynamic semantics vs. pragmatic enrichment. *Language and Cognitive Processes*.
- Cummins, C., Sauerland, U. and Solt, S. (2012). Granularity and scalar implicature in numerical expressions. *Linguistics and Philosophy*, 35: 135-169.
- Gualmini, A., Hulsey, S., Hacquard, V. and Fox, D. (2008). The question-answer requirement for scope assignment. *Natural Language Semantics*, 16: 205-237.
- Heim, I. (1983). On the projection problem for presuppositions. *Proceedings of the Second West Coast Conference on Formal Linguistics*, Stanford UP. 114-125.
- Levinson, S. C. (2000). *Presumptive Meanings*. Cambridge MA: MIT Press.
- Pickering, M. J. and Garrod, S. (2004). Towards a mechanistic psychology of dialogue. *Behavioral and Brain Sciences*, 27: 169-226.
- Roberts, C. (1996). Information structure in discourse: towards an integrated formal theory of pragmatics. In *OSUWPL Volume 49*, Ohio State University.
- Stalnaker, R. (1976). Pragmatic presuppositions. In M. Munitz and P. Unger (eds.), *Semantics and Philosophy*. New York University Press. 197-213.