

# Communication and Cooperation

## Challenges to the Cooperative Communication Hypothesis

# Summarising Tomasello's (2008) argument



Humans alone acquire(d) language because we alone are capable of 'Gricean cooperative communication'. This requires:

- Gricean communicative intentions (via Grice 1957)
- Joint action (via Bratman 1999)
- Cooperative reasoning (via Grice 1989)

# Challenges to Tomasello's (2008) argument



The components that Tomasello identifies as necessary for language development may all be too challenging for pre-verbal infants.

- Is Gricean communication too difficult for infants? What about apes?  
(Week 6)
- Is joint action possible for infants? And for apes? (Week 5)
- Are infants capable of cooperative reasoning? (This week)

# Challenges to Tomasello's (2008) argument

Moreover, the empirical foundations of Tomasello's claim seem less robust than he claims.

- Might chimpanzees be Gricean communicators? Some understand pointing – Tomasello's *sine qua non*. (Week 6)
- There is some evidence that chimpanzees engage in joint action (Duguid et al. 2018; Melis & Tomasello 2018). (Week 5)
- There is also evidence that chimpanzees communicate to inform (e.g. Crockford et al. 2012).

## Evaluating Tomasello's Cooperative Communication Hypothesis



Perhaps the empirical stories tell us just that there is more continuity between humans and great apes?

- The precursors of language are present in them
- But the why do only humans evolve to use language?

# Communication and Cooperation

How cooperative is communication?

# The Cooperative Communication Hypothesis

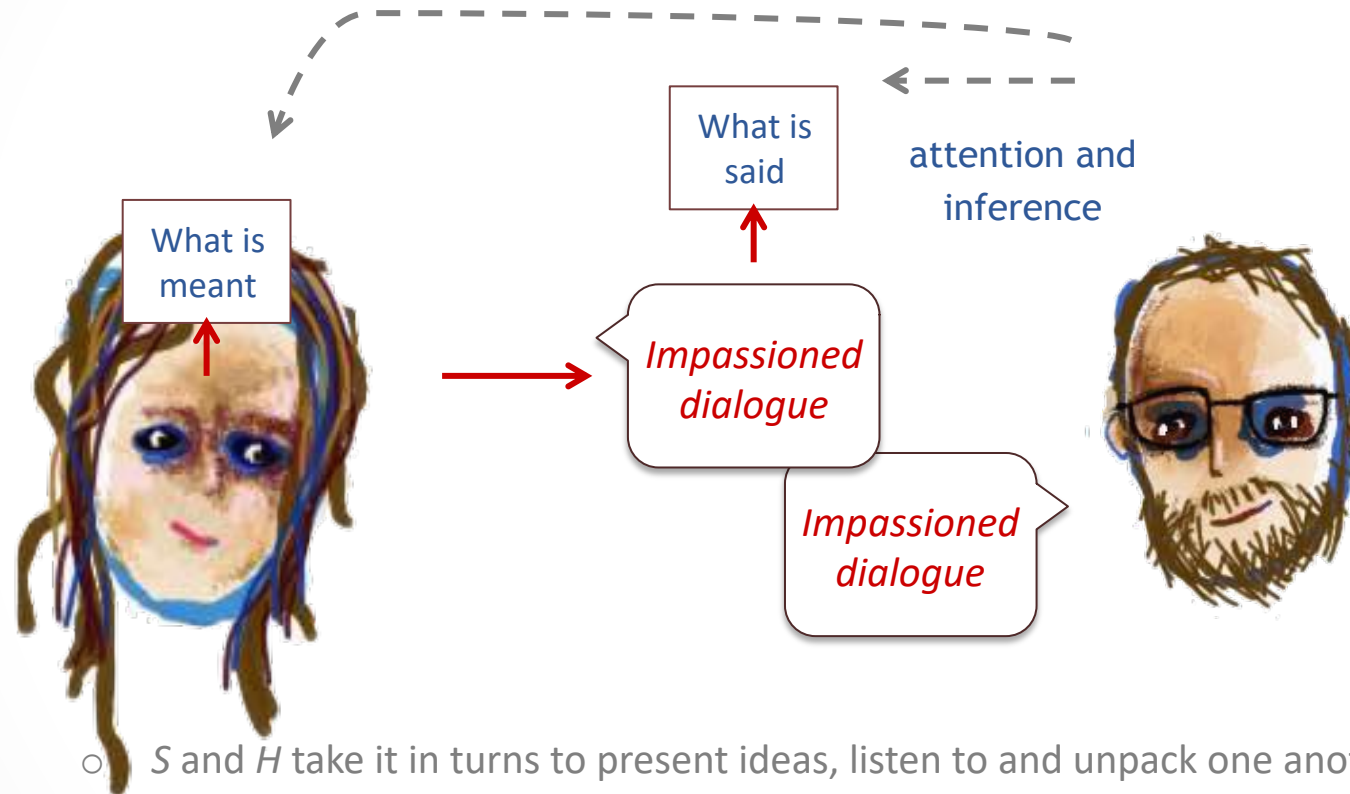
## 1. Structural Claims (Tomasello 2008; Jankovic 2013):

- Is communication **always** a form of joint action?
- Does interpretation **always** require cooperative reasoning?

## 2. Motivational Claim (Tomasello, 2008):

- Do audiences interpret **only** where communicators act with cooperative motives?

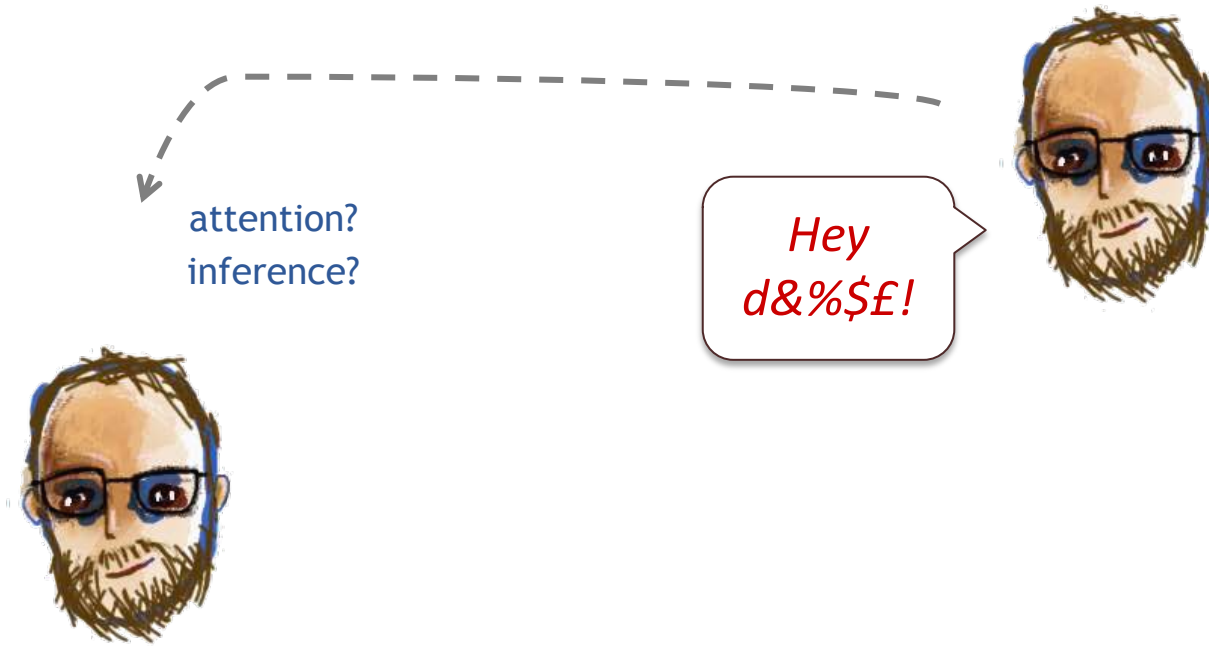
## Conversations are often cooperative (Grice 1989)



- S and H take it in turns to present ideas, listen to and unpack one another's messages, in pursuit of common conversational direction.
- "I'm sorry, I didn't understand. Could you elaborate?"
  - ≈ Bratman's supporting one another to pursue subgoals



## Communication is not always conversational



- S shouts obscene messages at *H* from the top of a bridge. *H* understands them, without paying attention, and chooses to ignore them.
- Less obvious that this involves agents acting together (Moore 2018).

# Are pro-social motives always necessary?

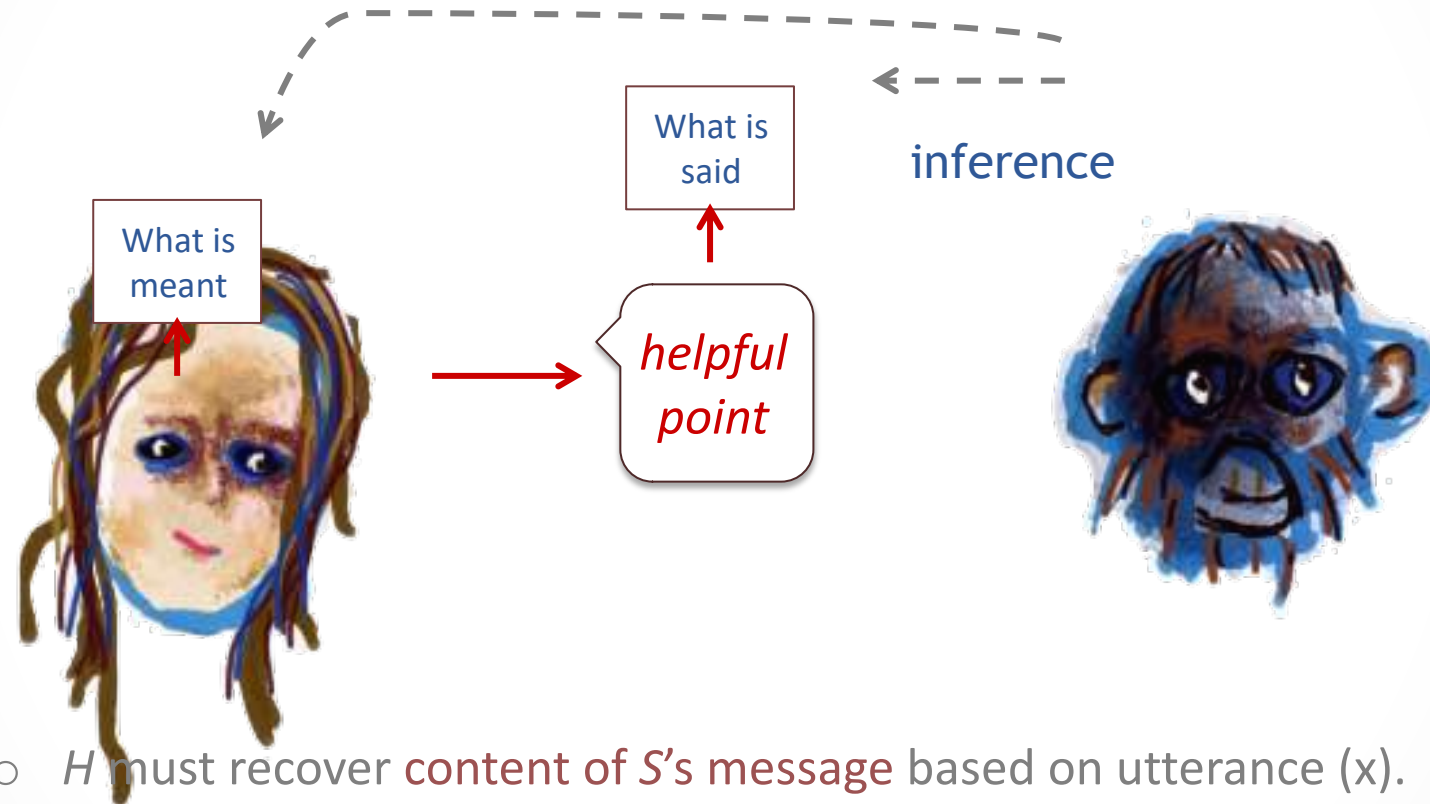
(Moore 2018; see also Sperber & Wilson 1996)

## The inarticulate despot



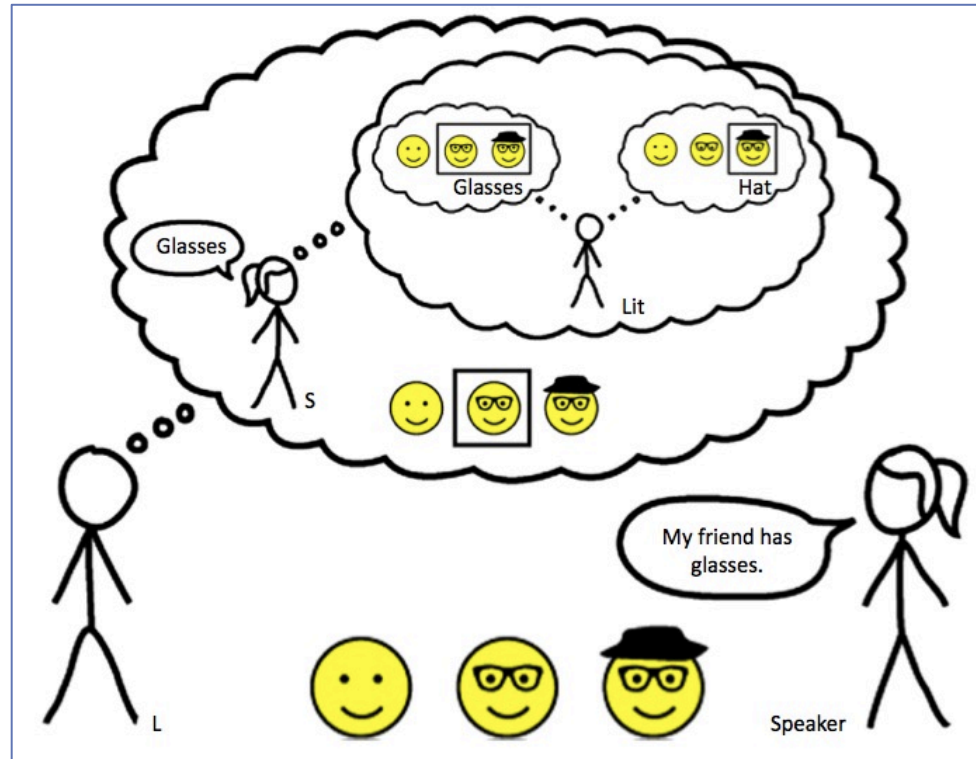
- A despot issues poorly constructed, barely intelligible orders; terrified subjects strive to understand him.
- Such subjects are motivated only by the desire to avoid harm.
  - What matters here is expected payoff (benefit/processing cost).

# Is cooperative reasoning always needed?



- $H$  must recover **content of  $S$ 's message** based on utterance ( $x$ ).
- Cooperative reasoning is valuable tool but **not the only way to succeed** (Moore 2017, 2018).

# Mechanisms of cooperative reasoning



- **Counterfactual reasoning** (Goodman & Frank 2016)
  - Underlying assumption of cooperation (following Grice 1989)

# Modelling inference (loosely via Mercier & Sperber 2016)

- Interpretation
  - Prediction about *S*'s intended outcome (communicative goal)
  - Based on evidence (*x*) addressed to *H* by *S*
- Interpretation could be reached through numerous processes
  - Prediction, modelled probabilistically
  - Best guess
  - Prior experience

# Communication and cooperation

## Some conclusions

Communication can be more or less cooperative

- Where conversational demands are greater, sustained attention and cooperation more important
- Interlocutors can be motivated to interpret for a number of reasons
- **Cooperative reasoning not the only route to successful interpretation**
  - Where interlocutors can make use of cooperative reasoning, communication may work better

# Explaining language evolution and development

- Cooperative reasoning is unnecessary – so infants and great apes may both be capable of Gricean communication
  - albeit to difference degrees
- We need not posit an ‘improbable moral revolution’ (Habermas 2011) after the *Homo-Panini* clade split (6mya)
- Instead, changes may have been more gradualistic, perhaps driven by ecological change
  - potentially still tied to Stag Hunt contexts (Tomasello et al. 2012; Moore 2017)



*Praeanthropus afarensis*, by Mike Keeseey:  
<http://3bmonkeybrain.blogspot.de>.

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