

Solving the 'Paradox' of Language Development

Pointing and language development



- Infants understand pointing at 12 months (Behne et al. 2012)
- They start to use words only around 14-months (Bloom 2000)
- Pointing is a prerequisite of language (Tomasello 2008)

An allegedly fundamental difference

STANDARD VIEW

- Human communication has a ‘Gricean’ intentional structure.
- Explanatorily powerful:
 - communicative intentions
→ language



Communicative intentions (Grice 1957, Neale 1992)

S acts with communicative intent *iff* she

performs an utterance *x* for *H*, intending:

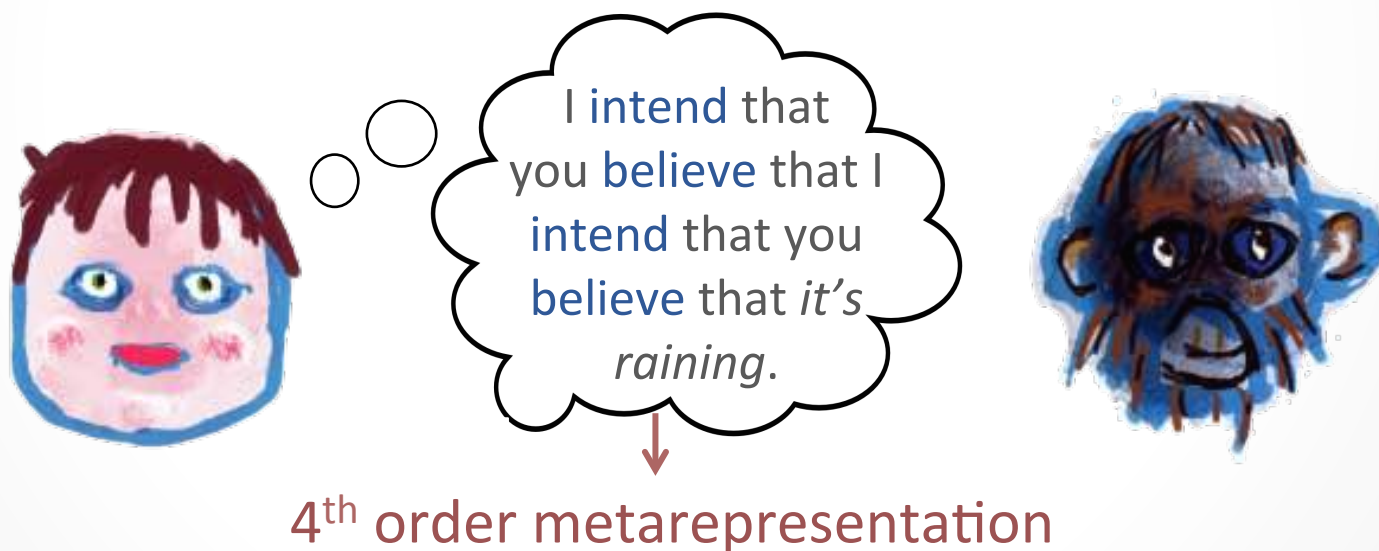
(1) *H* to produce a particular response *r*, and

(2) *H* to recognise that *S* intends (1).

(3) *H*'s recognition of (2) is part of her reason for producing *r*.

Gricean communication requires mindreading

STANDARD VIEW (Sperber 2000; Tomasello 2008; Scott-Phillips 2014):
Gricean communication requires high-orders of ToM.



Uniquely human ToM emerges late in ontogeny



- Implicit/minimal ToM

→ But is it really belief?

(Apperly & Butterfill 2009; Heyes 2017)

- explicit ToM (3-4yrs)

(Wimmer & Perner 1983)

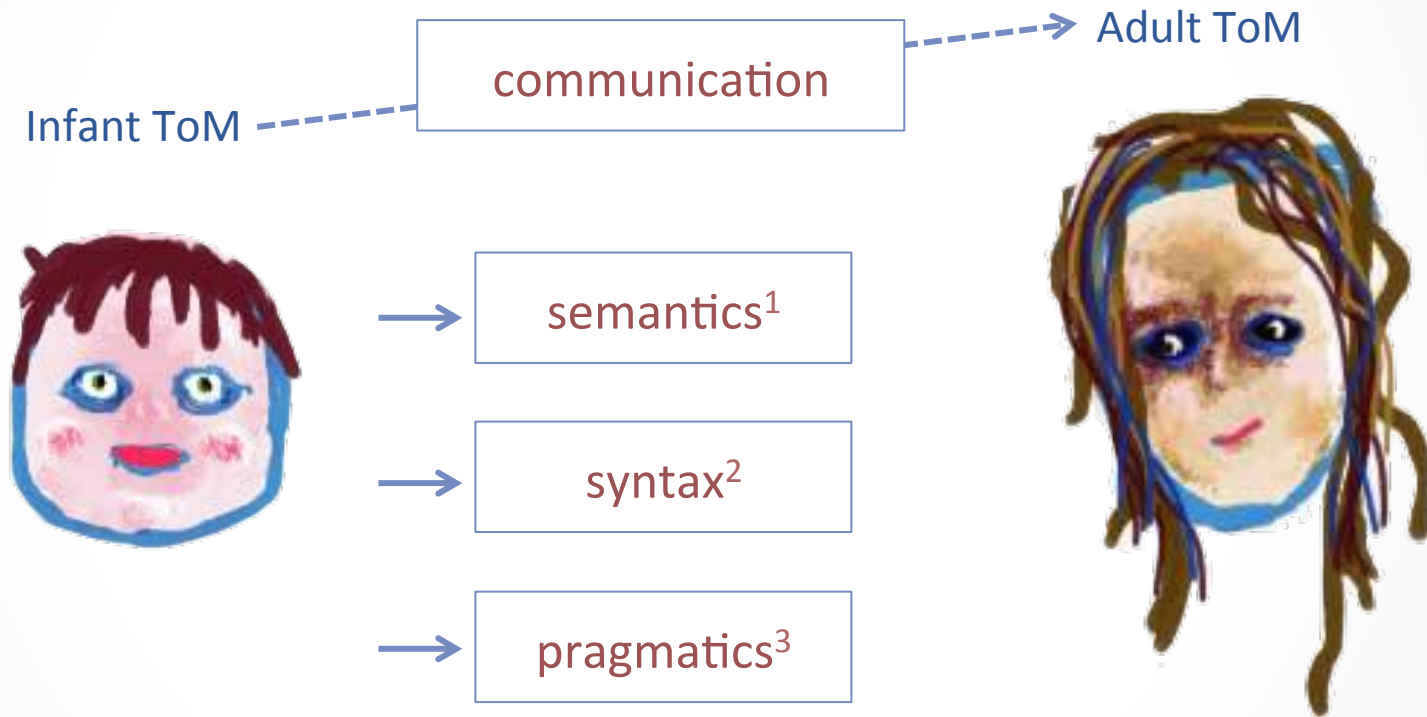
- fourth-order ToM

(11-12yrs)

(Liddle & Nettle 2006)



Explicit ToM is learned through communication



¹(Ruffman, Slade & Crow 2002; Adrian et al. 2005) ²(Lohmann & Tomasello 2003; Low 2010)

³(Harris, de Rosnay & Pons 2005; McAlister & Peterson 2013)

The paradox of language development

STANDARD VIEW

1. Pre-verbal communication requires communicative intentions.
2. Communicative intentions require ToM.
3. ToM requires language.

*ToM = Theory of Mind

Avoiding the paradox: Deny (3)

1. Pre-verbal communication requires communicative intentions.
2. Communicative intentions require ToM.
3. ~~ToM requires language.~~

*ToM = Theory of Mind

ToM is early developing

- Belief concept innate, but children <4 years fail explicit FBTs because
 - Misunderstand questions (Helming, Strickland & Jacob 2016)
 - Don't understand significance of belief talk (Westra 2016)
- Nativism driven in part by **explanatory concerns** re: learning
 - Gricean foundations of language (e.g. Tomasello 2008)

Avoiding the paradox: Deny (1)

1. ~~Pre-verbal communication requires communicative intentions.~~
2. Communicative intentions require ToM.
3. ToM requires language.

*ToM = Theory of Mind

Language without communicative intentions

Bar-On (2013), Sterelny (2017), Millikan (2017), Geurts (2019)

(1) Treats Gricean cognition story as **definitional**

- Potentially a misreading

(2) **Pragmatic power** constraint

- Must explain how we can master language without prior grasp of communicative intentions

Avoiding the paradox: Deny (2)

1. Pre-verbal communication requires communicative intentions.
2. ~~Communicative intentions require ToM.~~
3. ToM requires language.

*ToM = Theory of Mind

'Minimally Gricean' communication

(Moore 2017a Philos Q, 2017b Interface Focus, 2017c Biol & Philos; see also Csibra 2010)



- No rich folk psychological concepts.

A real disagreement between denying (1) and (2)?

- In **principle** much rests on denying communicative intentions to infants
 - ... in **practice**, perhaps not so much.
 - Both sides about the resources infants do possess.
- Potentially uninteresting **semantic dispute** about what deserves to be called 'Gricean intentions'? (Moore 2017b)

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