

Why Do Humans Alone Acquire Language?

Enculturation and social attention

Pointing *comprehension* in great apes



○ Object choice tasks

- children 12 months > chance (Behne et al. 2012)
- so are dogs (Hare & Tomasello 1999)
- **chimpanzees** at chance (Tomasello, Call & Gluckman 1997; Hare & Tomasello 2004; Herrmann & Tomasello 2006)

Communicative intent

- Apes do not understand communicative intent

(Tomasello 2008; Scott-Phillips 2014)

- Arguments against this view (lecture 6)

- Apes do not understand cooperative communicative intent

(Tomasello 2006; Herrmann & Tomasello 2006)

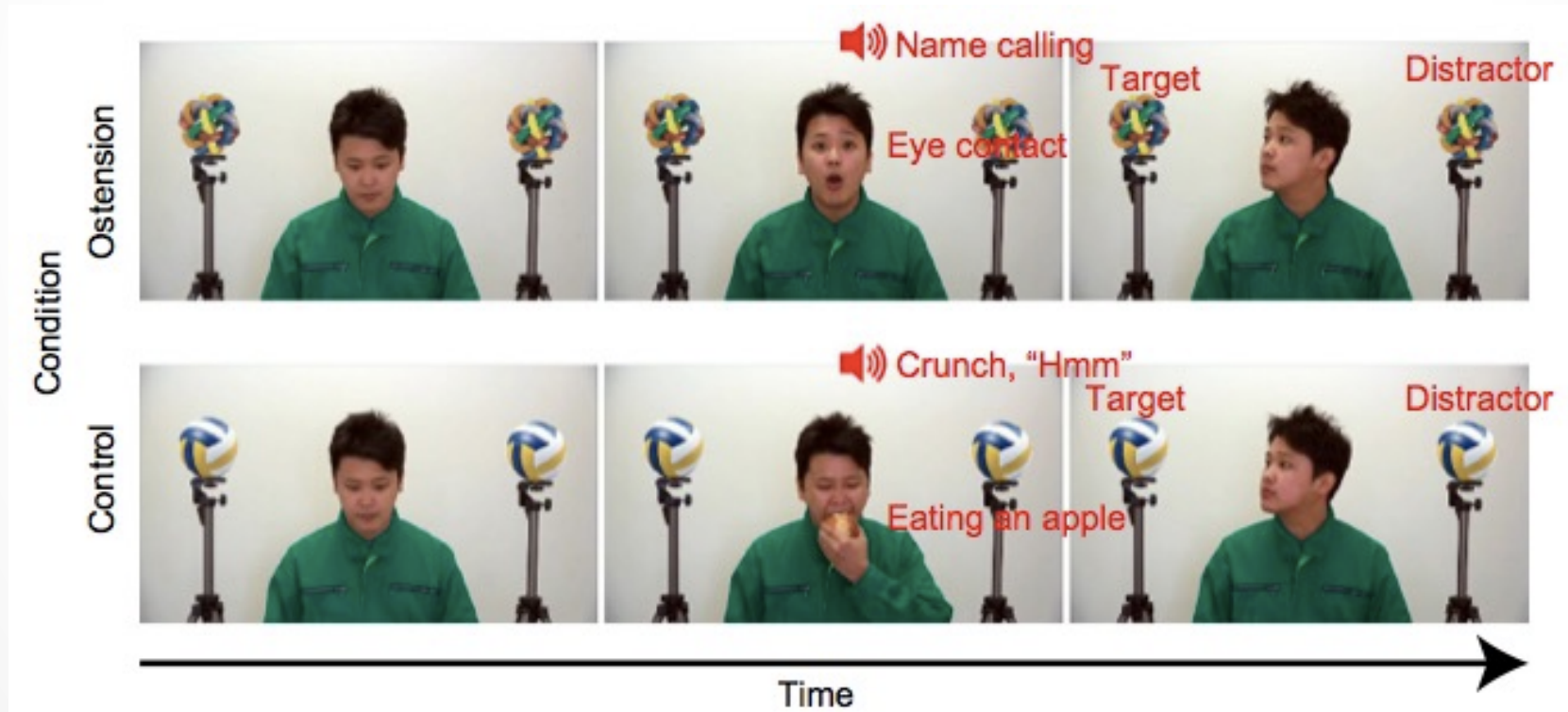
- Arguments against this view (lecture 7)

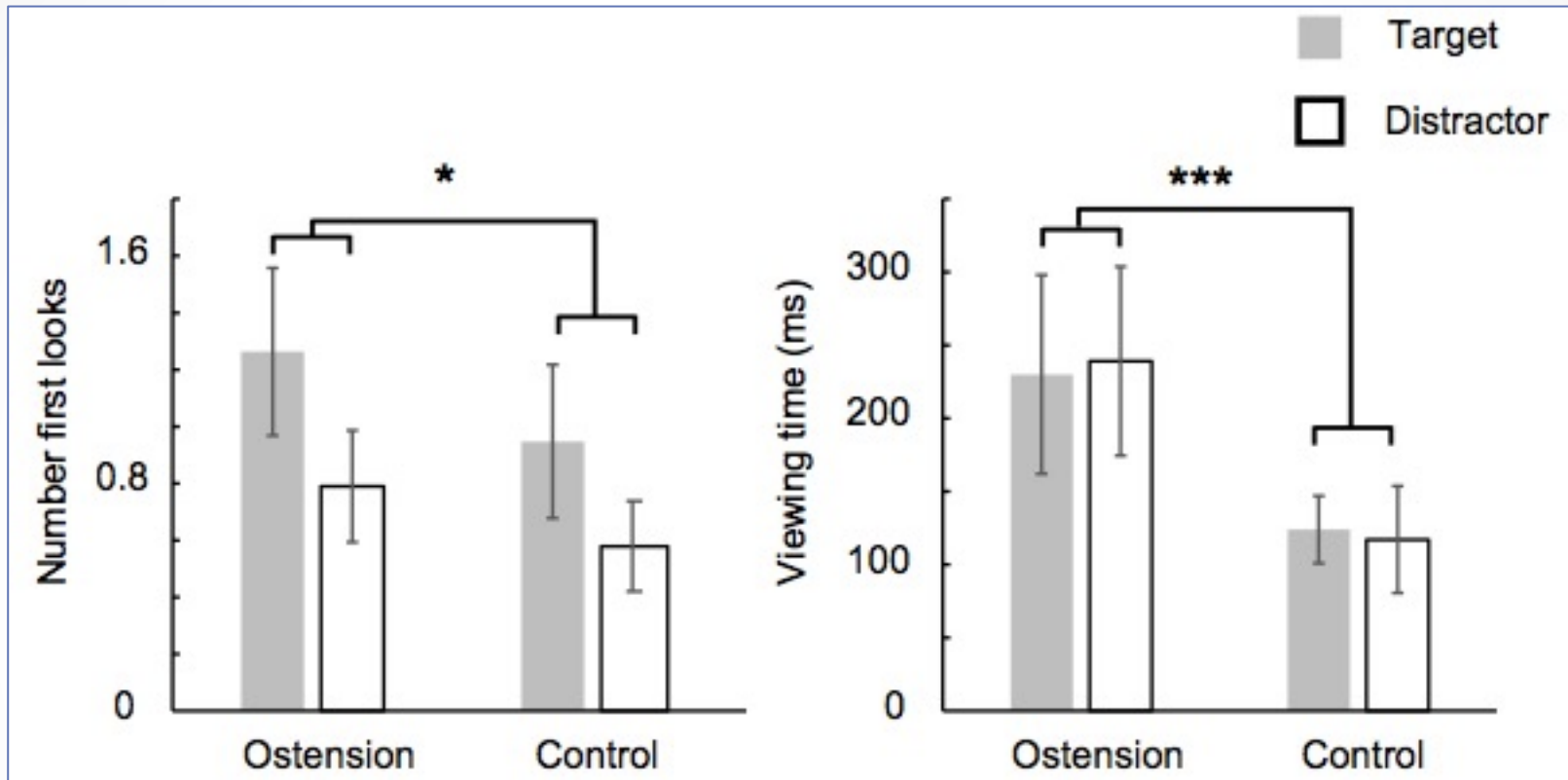
Are apes so bad at pointing comprehension?

- Apes sometimes understand informative intentions
 - Lyn et al. (2010): **enculturated apes** > chance
 - Mulcahy & Call (2009): distal **informative paradigm**
bonobos and chimpanzees (but not orang-utans) > chance
- Meta-analysis
 - Mulcahy & Hedge (2012): chimpanzees **statistically > chance**
→ **aren't paying attention**

Human ostensive signals do not enhance gaze following in chimpanzees, but do enhance object-oriented attention

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- Chimpanzees followed actor's gaze (graph 1)
- Ostensive gaze did not enhance gaze following
- Nonetheless increased general (but not cued) search (graph 2)

An alternative explanation of ape pointing failure

- Great apes understand communicative intent but are often **poor at identifying referent of point**
- Partly **inattentive**
- Do not spontaneously use **referential cues** provided by others
 - **look to environment** for evidence of **intended referent**
 - where this doesn't determine location, guess



From individualistic to social learning strategies



An individualistic ecology

- Ecology supports individualistic foraging
- Look to **environment** for answers
 - poor **social attention**

→ Environmental change

- Obligate **collaborative foraging** (Tomasello et al. 2012)
 - → better **social attention**
 - → **cooperative** motivation



A culture/ecology hypothesis

- Simple mechanism – **attention**
 - redirected under cultural or ecological pressure
- Generates **testable predictions**



Is social information seeking learned?



- Consistent with enculturation hypothesis?
- Pointing production and comprehension is reliably learned by **enculturated apes** (Lyn et al. 2010)
 - learn to use referential gestures
 - learn to expect prosocial motives



Is social information seeking an adaptation?

- Bray et al. (2022):
 - Variation in puppies' sensitivity to (i) human pointing, (ii) attention to human faces (8 weeks)
 - Covaries with pointing comprehension
 - Under genetic control
- Saloman et al. (2022):
 - Dog puppies more likely to follow points than wolves (5-18 weeks)
 - Dogs had less experience of human socialisation
 - Dogs made longer eye contact



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