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gustaf.gredeback@psyk.uu.se

Developmental Social Cognition

Gustaf Gredebäck

the Uppsala Babylab

Uppsala University
Sweden



What mechanisms mediate early emerging social cognitive skills?

Sensitivity to social cues

Experience dependent direct matching

Teleological reasoning



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Newborn infants - Prefer direct over averted gaze



Newborn infants – Imitate facial expressions





2 – 4 months – Gaze following

Direct gaze
(interaction)



Gaze shift
(head & eyes)

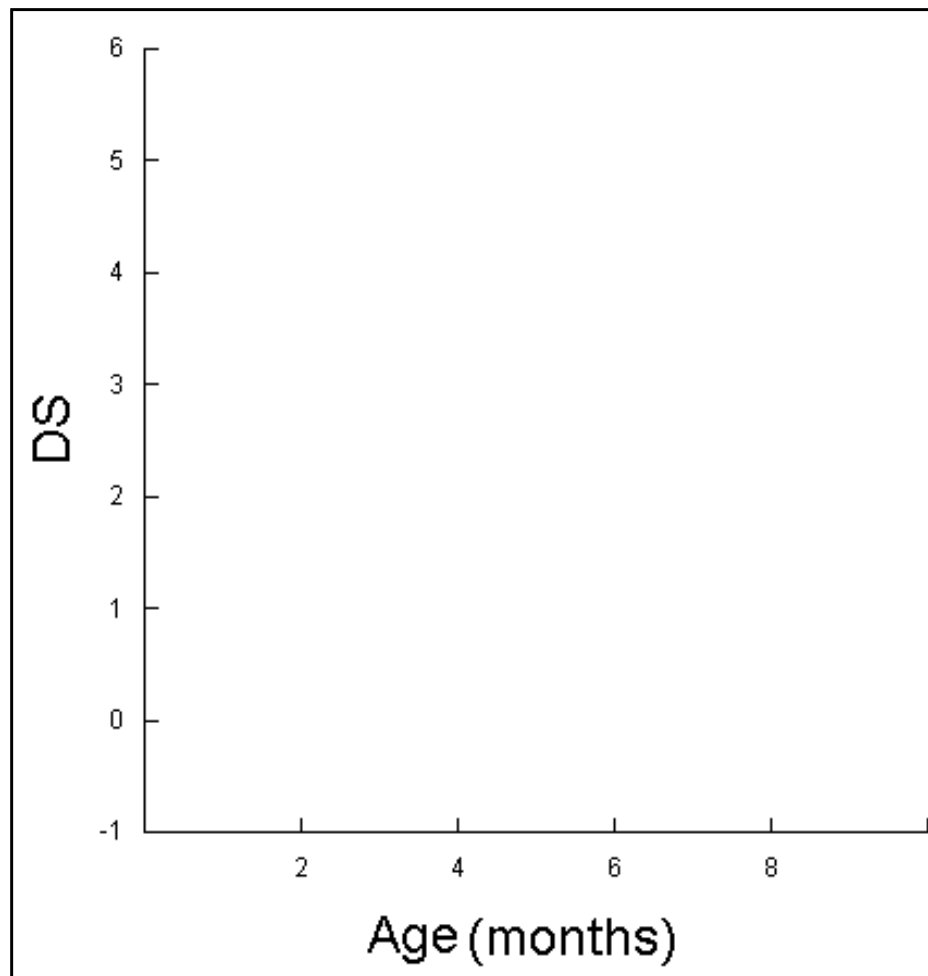


Object fixation
(no interaction)



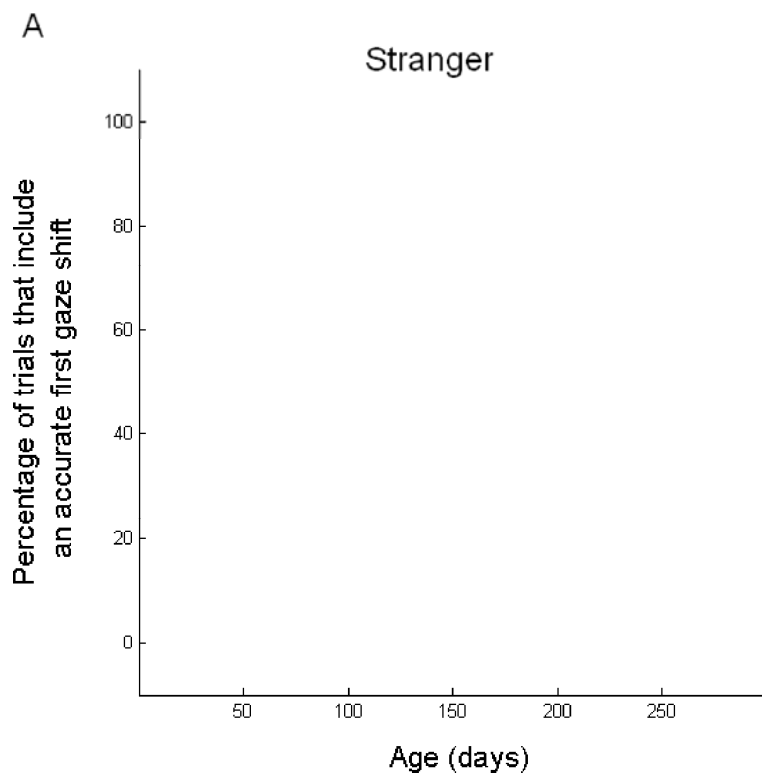


2 – 4 months – Gaze following





2 – 4 months – Gaze following





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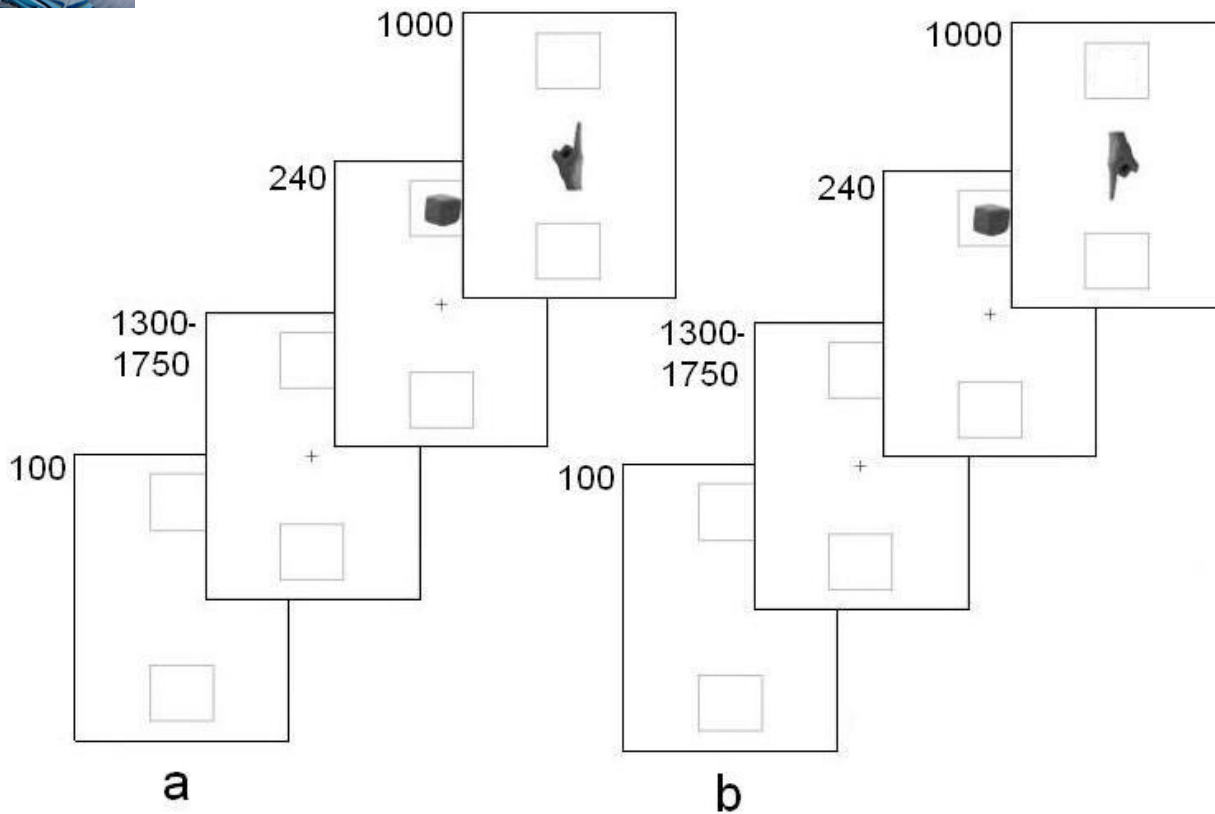
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The presence of communicative signals are
paramount early in development!

For example – direct gaze, present from birth...

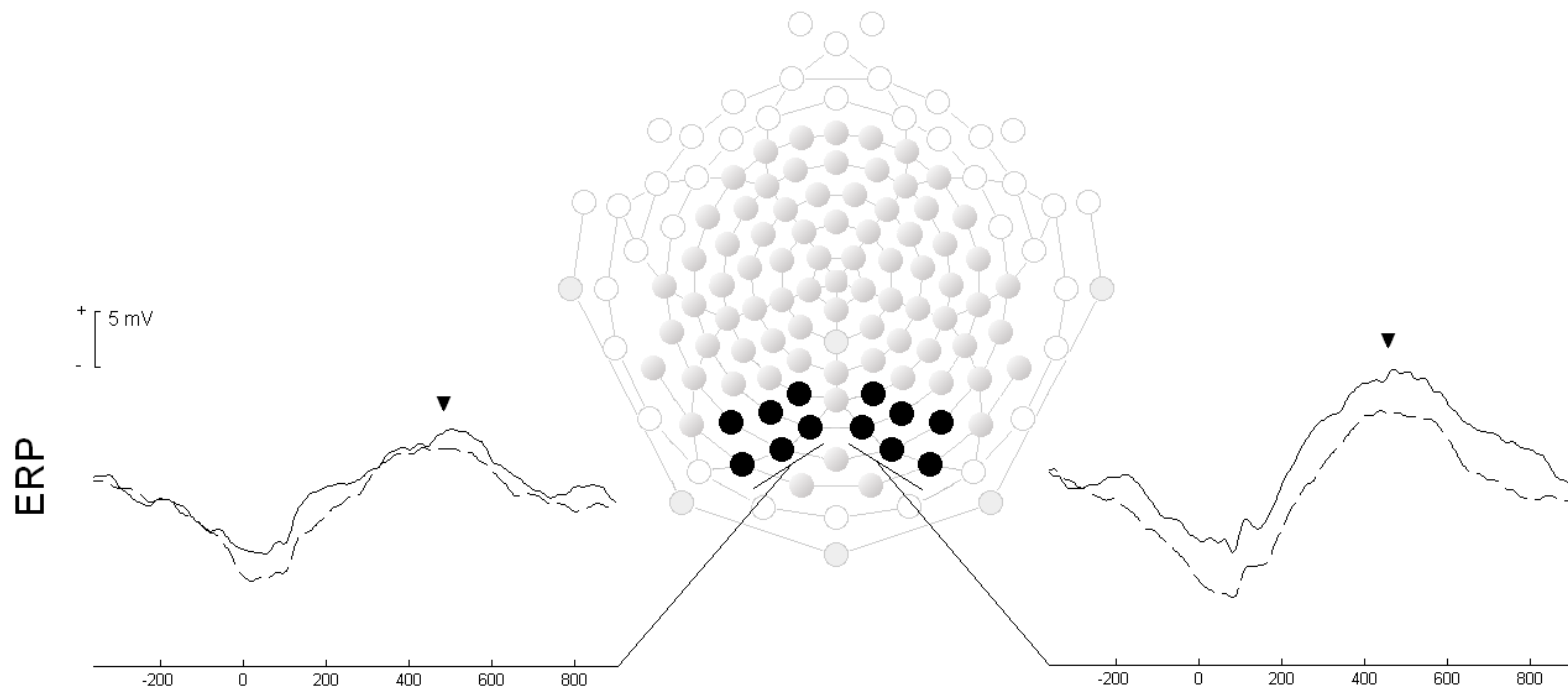


8 months – pointing comprehension





8 months – pointing comprehension





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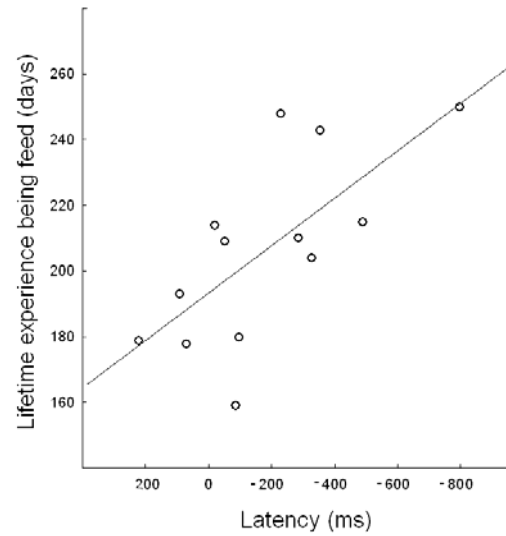
Infants actively interpret social events
by predicting the goal of others ongoing actions.



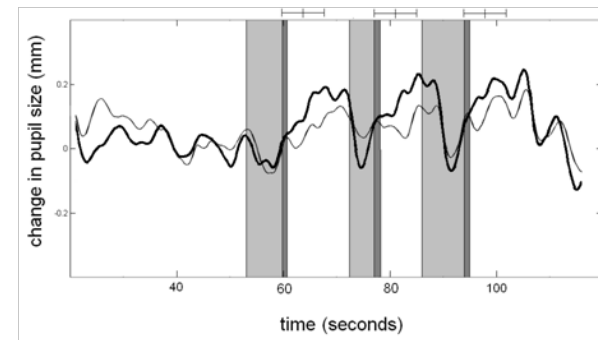
Age (months):	Predict:	Control:	Experience dependency
6	Eating	Self-propelled spoons	Anecdotal



12 months



4, 6, and 12 months





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Multiple processes:

Experience dependent direct matching

Teleological reasoning



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Action Understanding

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Habituation phase



9-month-olds – Surprised when the animated object does not take the rational path.

Suggests that infant apply concept of rationality to movements of non-human agents.



Infants are born with a small repertoire of social preference and abilities

Facilitate social interactions and action understanding

Teleological processes are present early on

Detection of goal directed events

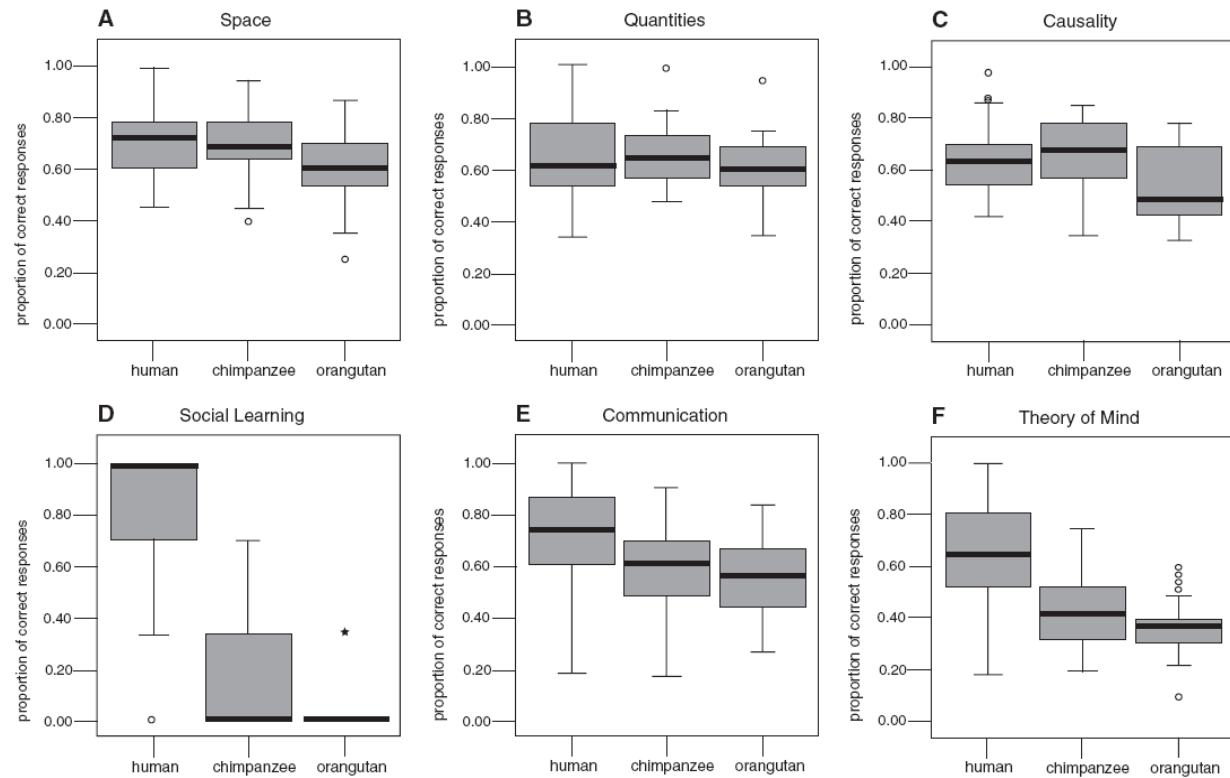
Experience dependent direct matching

On-line goal anticipation



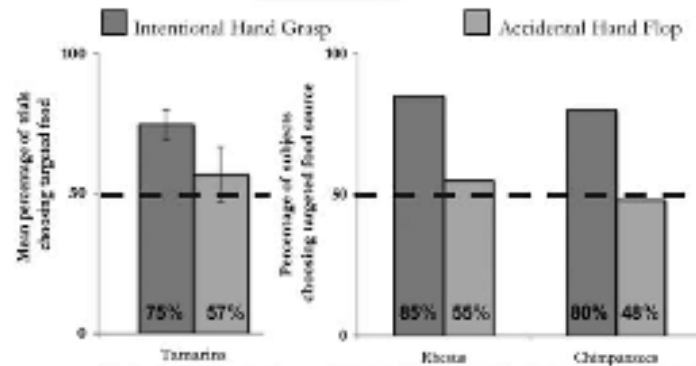
Social Cognition in Primates and Preverbal Infants

10 year old chimpanzees, 6 year old orangutans, & 2.5 year old children





Teleological Processes in Monkeys



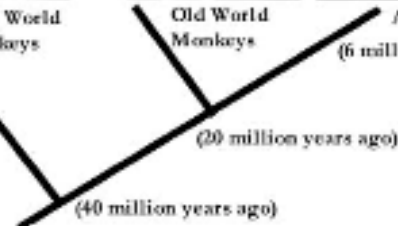
New World
Monkeys



Old World
Monkeys



Apes
(6 million years ago)

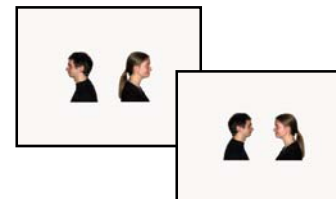




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Future directions:

How do infants understand social interactions.





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Eye tracking



EEG / ERP



NIRS

