

SOCIAL COGNITION

Primate Cognition

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LAST WEEK: THEORY OF MIND

What do you remember from last week?



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THIS WEEK

Do non-human chimpanzees have theory of mind?

What do non-human primates know about the intentions of others?



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PRIMATE COGNITION

- What do we know about primate cognition so far?

Turn to the person next to you and exchange ideas



HUMANS VS. CHIMPANZEES

- Common ancestor ca. 6 million years ago
- Selective attention
- Larger brain in humans
- Bi-pedalism
- Precise hand movements
- No opposable toe
- Language

How about theory of mind?



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SELECTIVE ATTENTION

Video: <https://www.youtube.com/watch?v=vJG698U2Mvo>



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BONOBOS: OUR CLOSEST RELATIVES



<https://www.youtube.com/watch?v=RkabybLQYPw>



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SIGNS OF TOM IN CHIMPANZEES

- Abstract representations of the behaviour of others (e.g. 'threat display')
 - Understand what the behaviour means
 - Predict future behaviour
 - Change behaviour accordingly
- First-order (we know about wanting/knowing/thinking)
- Second-order mental states (we know others also have mental states) -> do chimps have those?
- Deception – chimps manipulate each other
 - Mental representations or stimulus – behaviour?



ANECDOTAL EVIDENCE VS. EXPERIMENTS

What are the pros and cons?



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FOLLOWING THE GAZE



- Following the gaze of a conspecific to find something interesting?
- Random search?
- Geometrically following the gaze direction
- "Checking back" (when nothing interesting is found)

BUT

- Can't find the hidden food through following the gaze
- Can be trained to do it

In real life chimpanzees compete and not collaborate for food

How about more natural situations?



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THE PAPER HARE ET AL. (1999)

Group 1: Pilot + Experiment 1

Group 2: Experiment 2 + 3

Group 3: Experiment 4 + 5

1. Discuss the methods and the results of the section assigned to you in your group (~10 - 15 minutes)

2. Create new groups, so that each group has at least one representative and present your discussion (~15 minutes in total)

Now you all know the paper very well 😊

3. Summarize the findings and make conclusions (~ 5 minutes)

4. Future studies (if time permits): any study you'd like to design to answer the remaining questions?



MAIN FINDINGS

- Chimpanzees can follow the gaze of others
- Chimpanzees can check back lookers, if they don't find anything interesting
- Helping to find them food with gaze doesn't really work
- Subordinates go for food the dominants can't see (the dominant not necessarily visible)
- Subordinates used strategies (waiting or distracting the dominant)
- Subordinates change behaviour when dominant
- Possibly not stimulus – behaviour but understanding of the social-cognitive mechanics

- Still everything about visual perception



CHIMPANZEES UNDERSTAND

- That others see things they can't see
- Others can see things in a different angle (different perspective)
- Others' visual experience can be similar to their own

Theory of mind?

- Insight to social problems similarly to physical (e.g. tool use)

Quality vs. quantity?



EXAM EXERCISE

- Go to the google doc and read the ideas your classmates have
- Choose one and help her/him/them to get more specific (you can ask questions in a form of a comment, you can help with literature, etc.)

