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# NEWS TECHNOLOGY

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5 July 2013 Last updated at 12:24 GMT Share f t e p

## Human gestures perplex Asimo, Honda museum robot guide

Honda's popular robot Asimo faced problems with gesture recognition on its first day as a museum guide at the Miraikan science museum in Tokyo.

The machine struggled to differentiate between museum-goers raising their hands to ask a question and raising their hands to take photos, Associated Press reported.

It is "working" as a tour guide at the museum for the next four weeks as a trial.



Asimo is reported to have had problems identifying arm gestures

AT&T 9:58 PM

"I like fishing at the river bank"


Got it.

"So where can i find a nice bank"  
tap to edit

The best-rated one i found is wells fargo bank on solano ave, which averages 3½ stars.

15 Results  
Nearby

Wells fargo bank 1800 solano ave ★★★★ 14 reviews on yelp	0.8 mi
Wells fargo bank 1095 university ave	1.2 mi



Why is this not an issue for us, humans?

# Fribbles



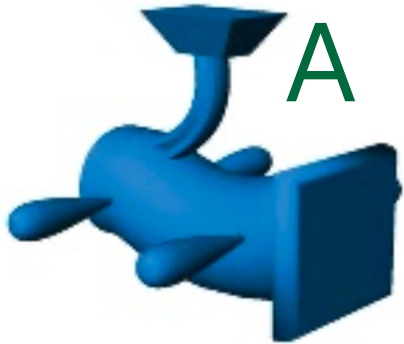
## Preparation

- Create playgroups of 4
- Each person makes a note sheet, 1, 2, .., 8  
(the Fribbles are named A, B, ..., H)

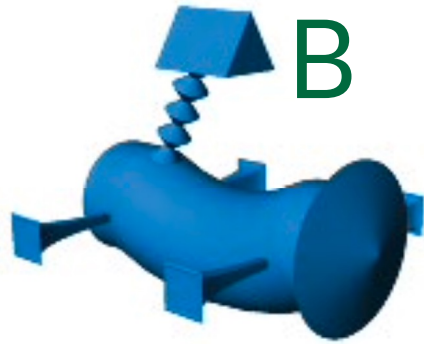


1	
2	
3	
4	
5	
6	
7	
8	

# Fribble names



A



B



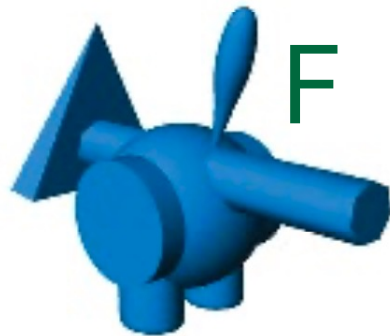
C



D



E



F



G

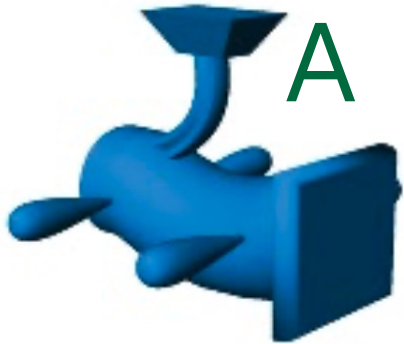


H

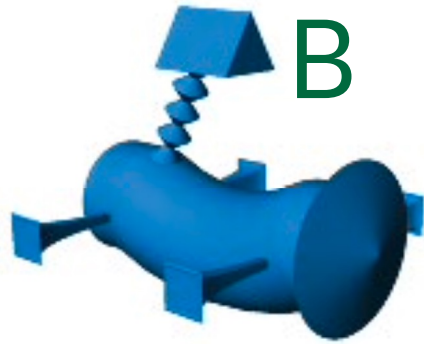
## Round I

- Distribute the 8 same-colored Fribbles (2 per person)
- The first person describes one of their two Fribbles (without showing the Fribble or ever mentioning any of the Fribbles' names)
- Others can ask for clarifications, then write down the presumed Fribble (A, B, .., H)
- Second person goes, and so on, until all 8 have been described (over two rounds)

# Fribble names



A



B



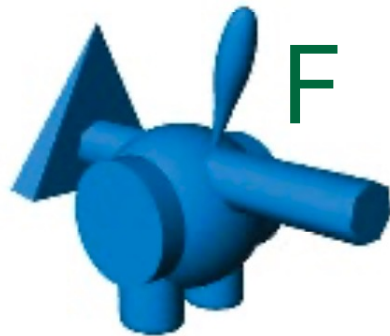
C



D



E



F



G



H

## Observations I

- We humans can rapidly converge on a new reference for an object, flexibly putting even existing words to new use

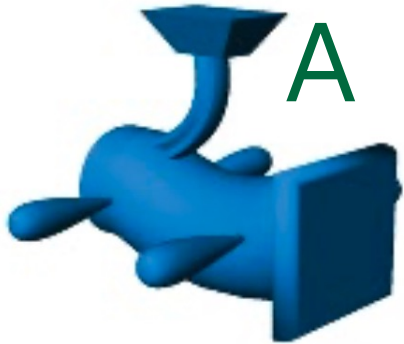
What did you observe?

## Round II

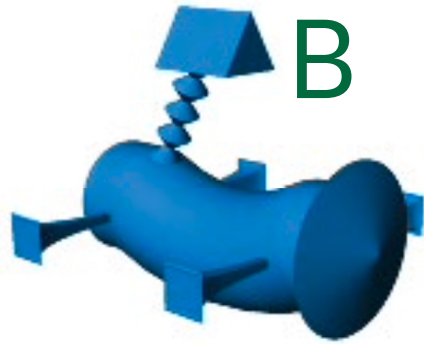
- Same as round I, but shuffle the Fribbles.  
Everyone gets two again



# Fribble names



A



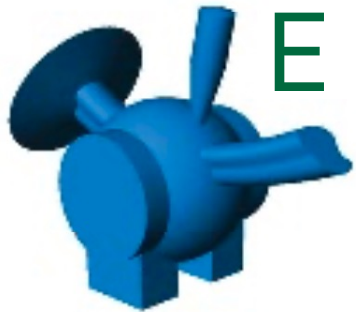
B



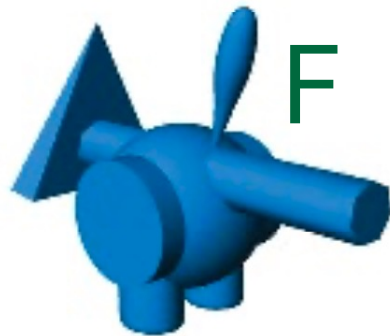
C



D



E



F



G



H

## Observations II

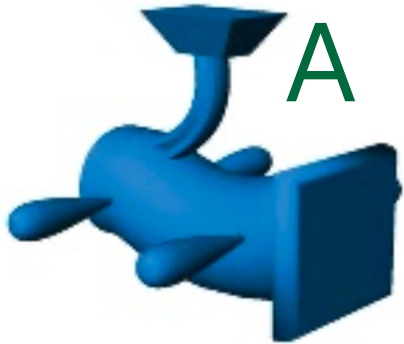
- Communicative history helps in achieving mutual understanding of the references
- Simplification of *conceptual pacts*

What did you observe?

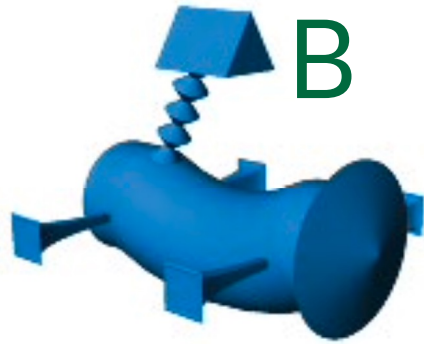
## Round III

- Same as rounds I & II, but shuffle the groups such that 2 players from group A form a new group with 2 players from group B

# Fribble names



A



B



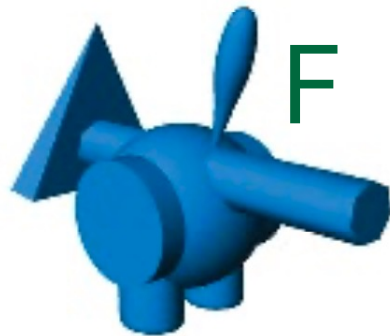
C



D



E



F



G



H

## Observations III

- Again, communicative history helps
- Pair-specificity of the *conceptual pacts*
- Assumptions about background knowledge

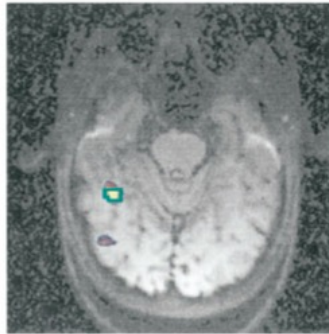
What did you observe?

# 1. Motivation for studying human interaction

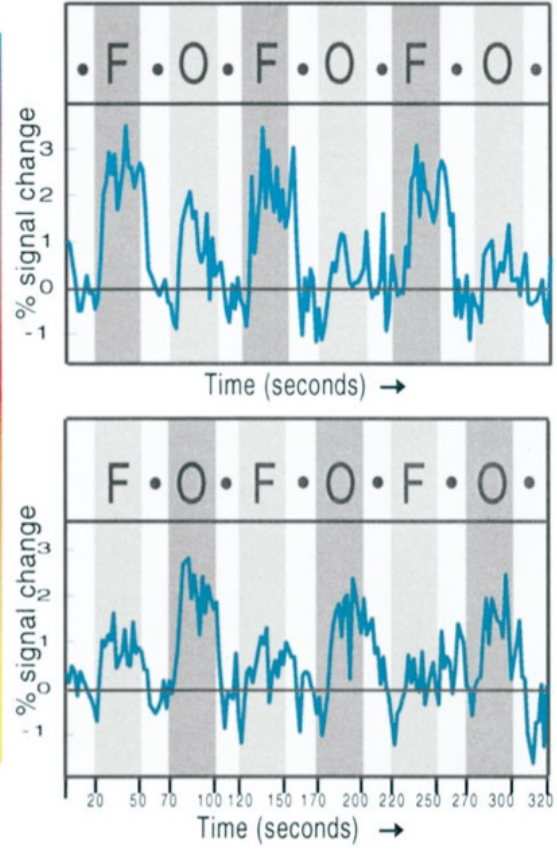
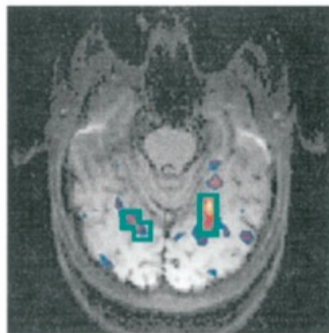
The “dark matter” of social neuroscience

# 2. Course expectations

1a. Faces > Objects



1b. Objects > Faces

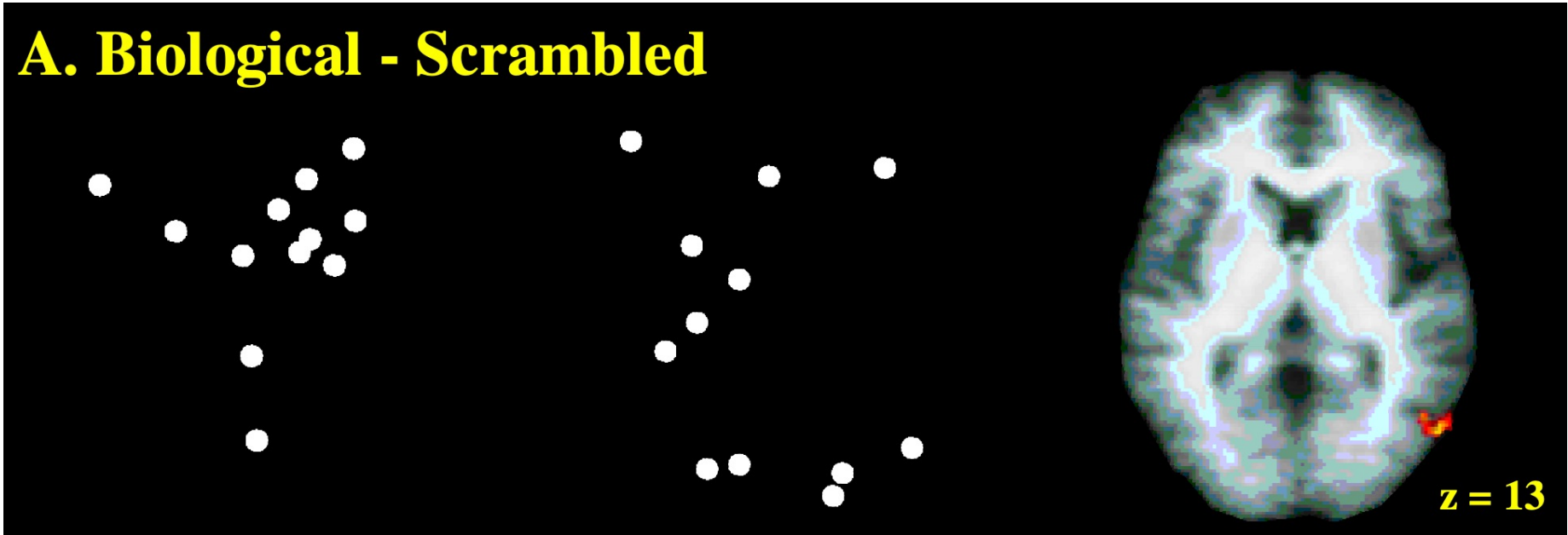


The Journal of Neuroscience, June 1, 1997, 17(11):4302-4311

**The Fusiform Face Area: A Module in Human Extrastriate Cortex Specialized for Face Perception**

Nancy Kanwisher,<sup>1,2</sup> Josh McDermott,<sup>1,2</sup> and Marvin M. Chun<sup>2,3</sup>

## A. Biological - Scrambled



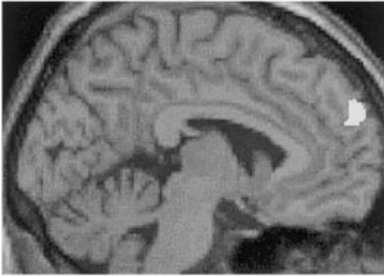
**Brain Areas Involved in Perception of Biological Motion**

E. Grossman, M. Donnelly, R. Price, D. Pickens, V. Morgan, G. Neighbor, and R. Blake

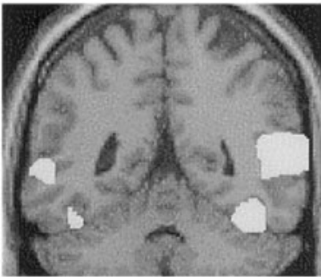
Social cognition as social recognition



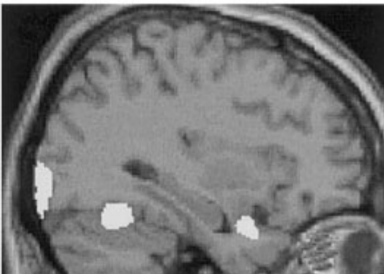
A



B

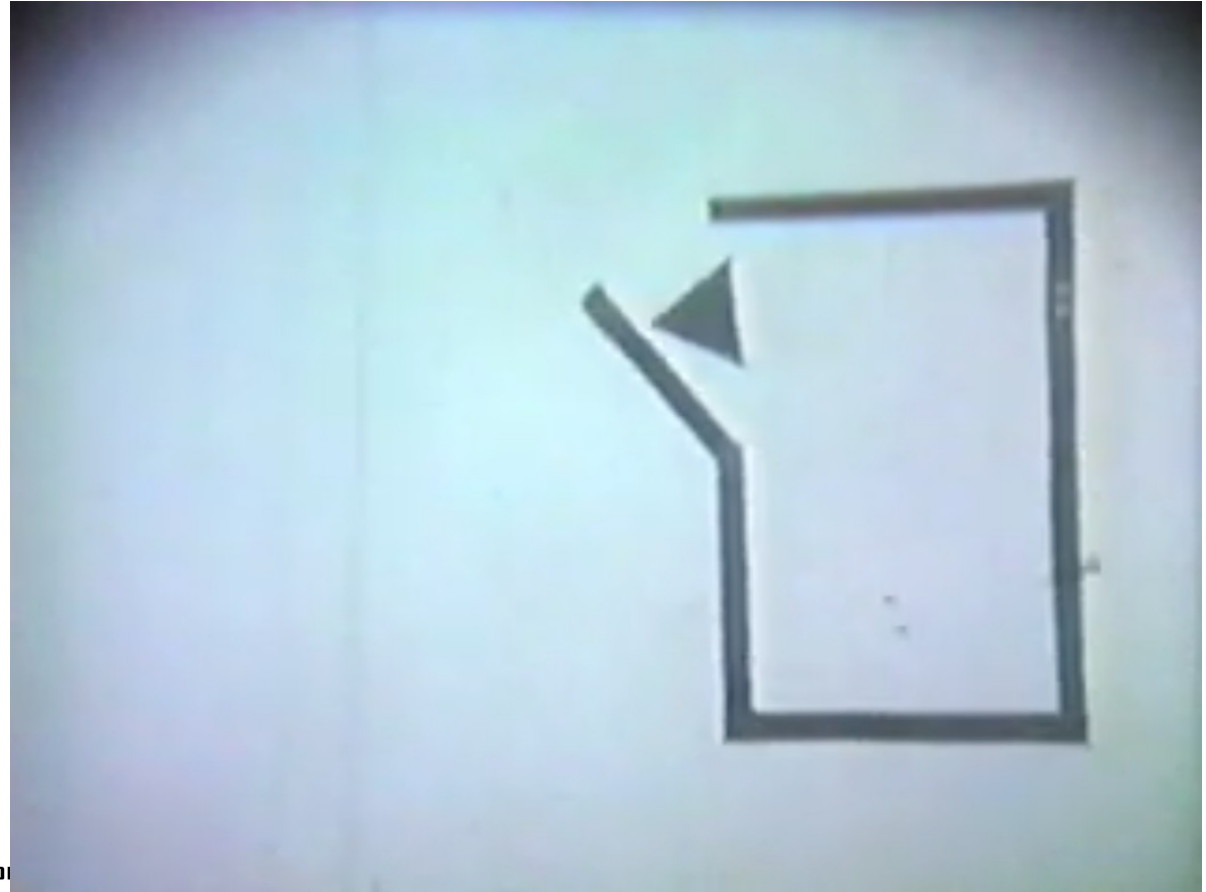


C



NeuroIm  
doi:10.10

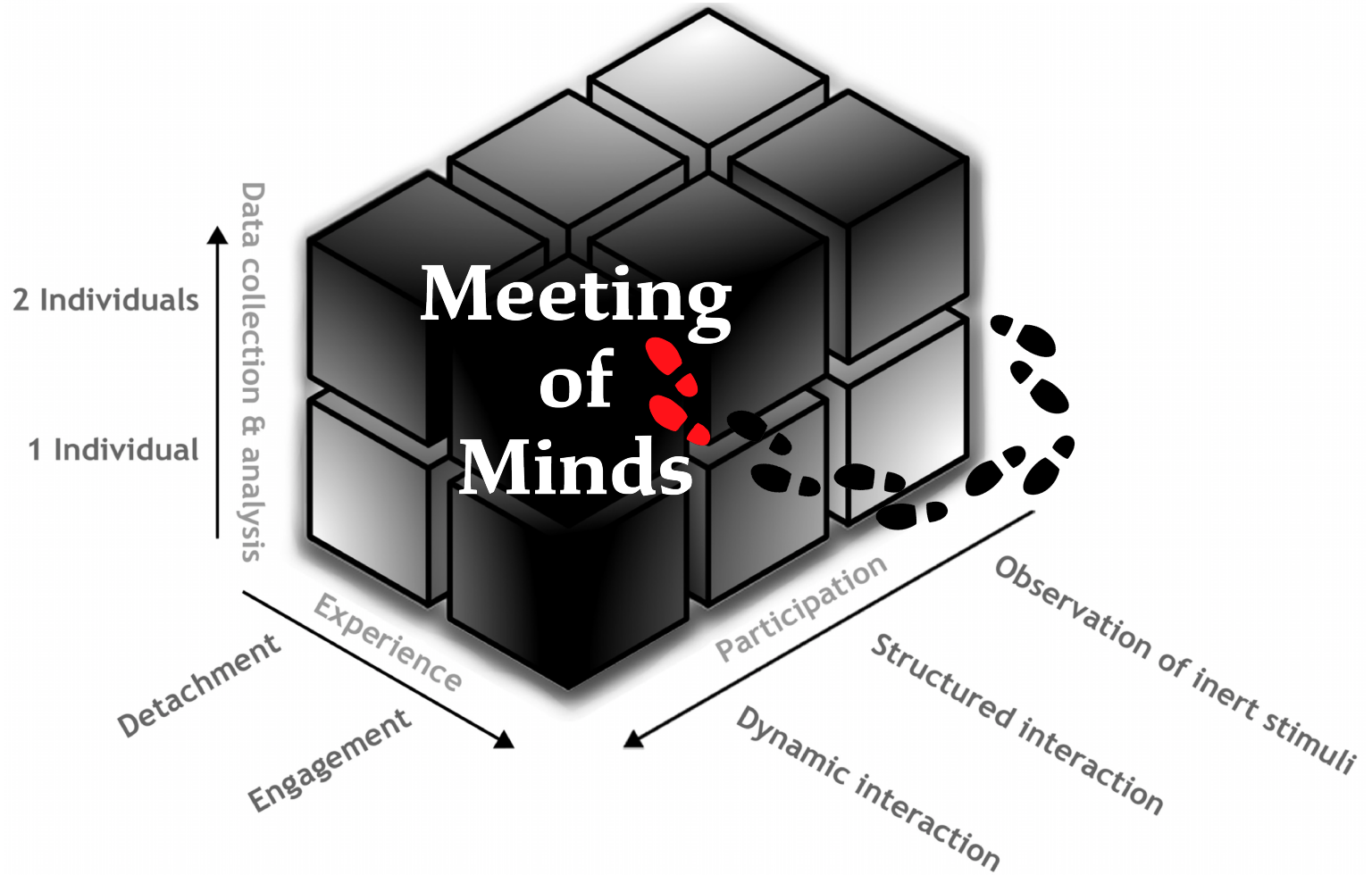
om on 10



Movement and Mind: A Functional Imaging Study of Perception and Interpretation of Complex Intentional Movement Patterns

Fulvia Castelli,\* Francesca Happé,† Uta Frith,\* and Chris Frith‡

**Social cognition as mental state attribution**



Adapted from Schilbach & Timmermans, 2013

The “dark matter” of social neuroscience

# 1. Motivation for studying human interaction

The “dark matter” of social neuroscience

# 2. Course expectations

[stolkarjen.github.io/interacting-minds](https://stolkarjen.github.io/interacting-minds)

Module I: Theory-oriented

Module II: Research-oriented

Main deliverable: Research report

- In the real-world, e.g., conversation analysis
- In the lab, e.g., interpersonal synchrony, online communication, autistic misalignment
- In simulated scenarios, e.g., artificial agents
- On social media, e.g., conceptual pacts on Twitter/Reddit
- More on this later, in Module 2. But ...

... here's another suggestion



Research project

- Humans share a *special capacity* that enables them to use anything, including language and gestures, as a communicative tool
- Social neuroscience has largely focused on how individuals process social stimuli, *isolated from the context of interaction* with others
- Accordingly, how exactly *human minds meet* in interaction, also the *dark matter* of social neuroscience, has remained largely elusive



- Beyond Alexa and Siri