

17 THINGS YOU DIDN'T KNOW ABOUT ROBOTIC GESTURES

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HOT FACTS:

- From San Francisco, CA
- Worked in Social Robotics & Emotional AI
- Now: PhD Student at University of Glasgow
- We're here to have fun.
- Drinking Game.



A Guide to this Presentation

- 17 Items. #11 is the one that will shock you.
- Emojis

- 
- 



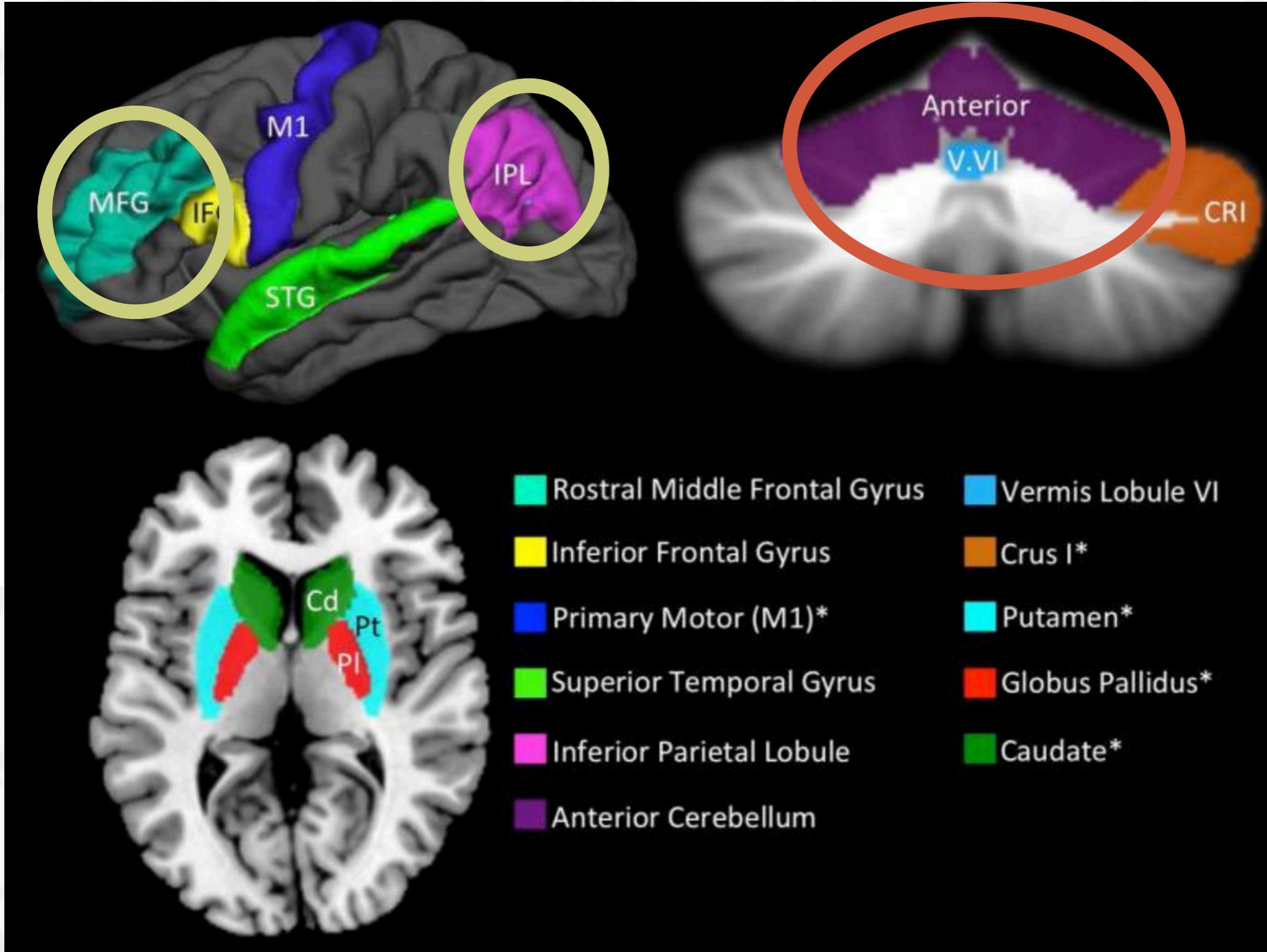
1. THERE ARE MANY TYPES OF GESTURE

- Emblems
 -
- Deictics
 -
- Iconics (It's just miming)
 -
- Beats
 -
- Metaphorics



Co-Speech Gestures

2. GESTURES ORIGINATE IN DIFFERENT PARTS OF THE BRAIN



regional



3. METAPHORIC GESTURE IS WHERE IT'S AT (TURN UP)

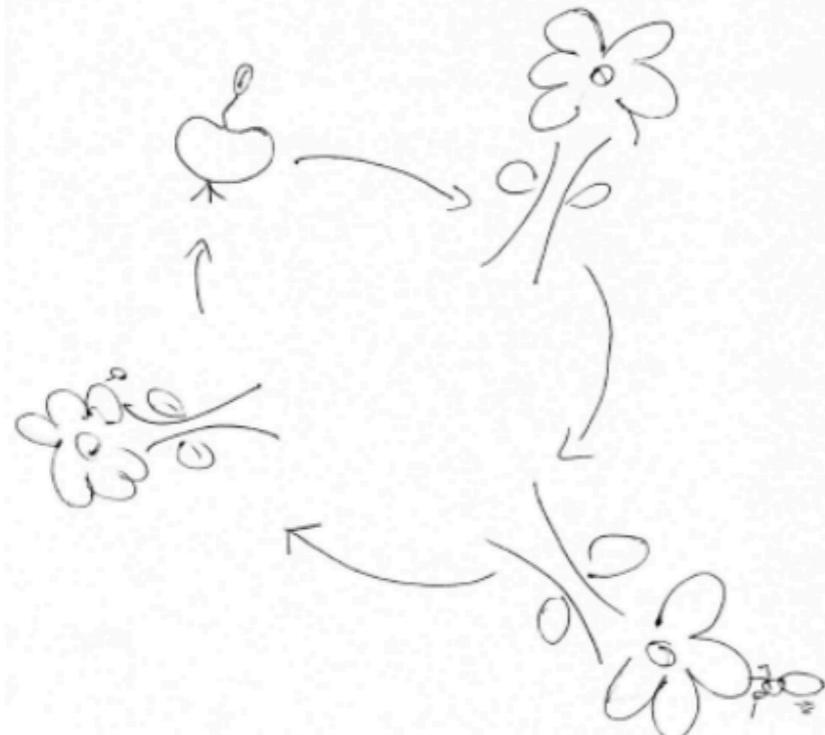
- Abstract ideas are concrete objects
- Sets are Containers 
- Time is a line
- Abstract Properties!
 - Good is up
 - Physical closeness is ideological closeness

4. THEY'RE (SOMETIMES) UNRELATED TO LANGUAGE (😲)

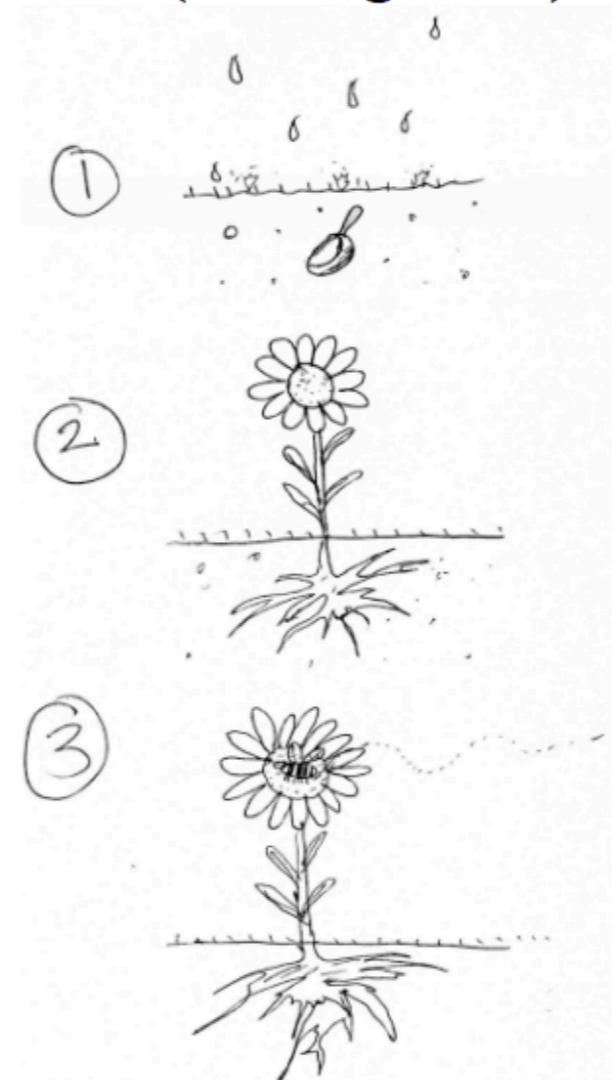
- Linguistic Metaphor:
 1. “Put that idea aside.”

- Gestural Metaphor:
 2. “Things were going well”
 3. “It was completely controlled by him”

5. THEY IMPACT HOW WE THINK



Circular Diagram



Linear Diagram

Jamalian, A., & Tversky, B. (2012).

Kita, S. (2000)

Graziano, M., & Gullberg, M. (2013)

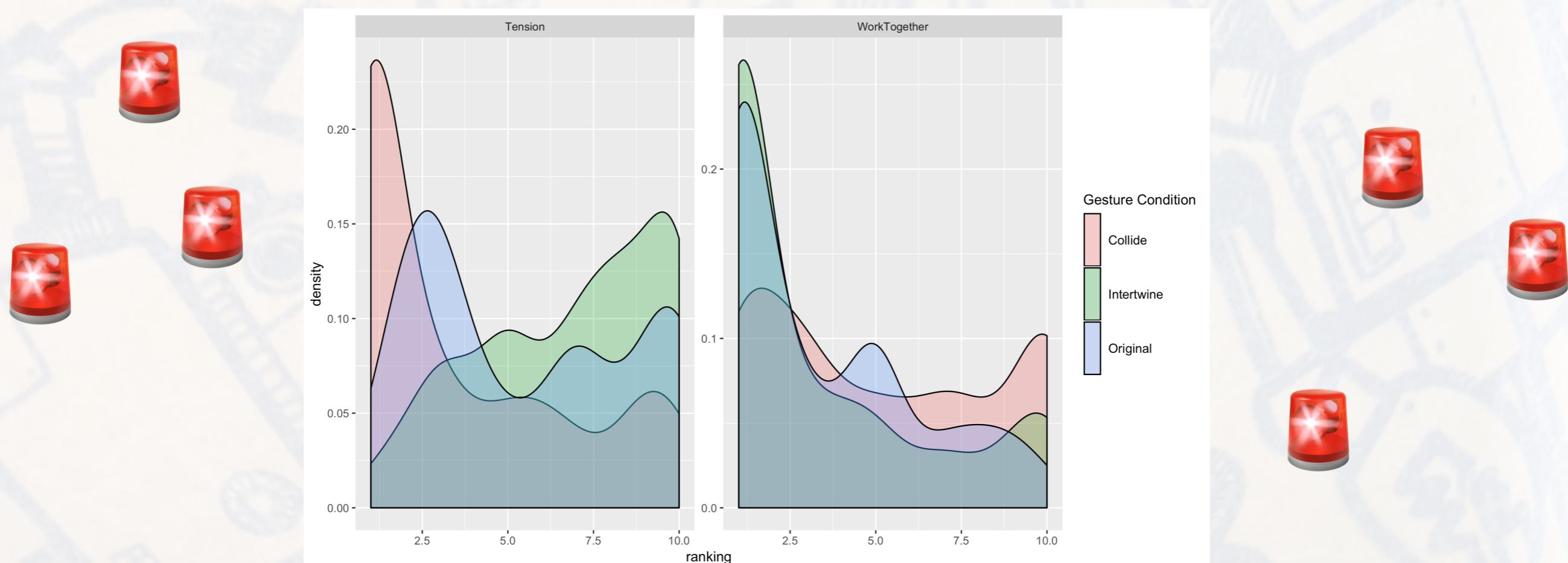
Iverson, J. M., & Goldin-Meadow, S. (1998)

6. SLIGHT VARIATIONS MAKE HUGE DIFFERENCES IN PERCEPTION

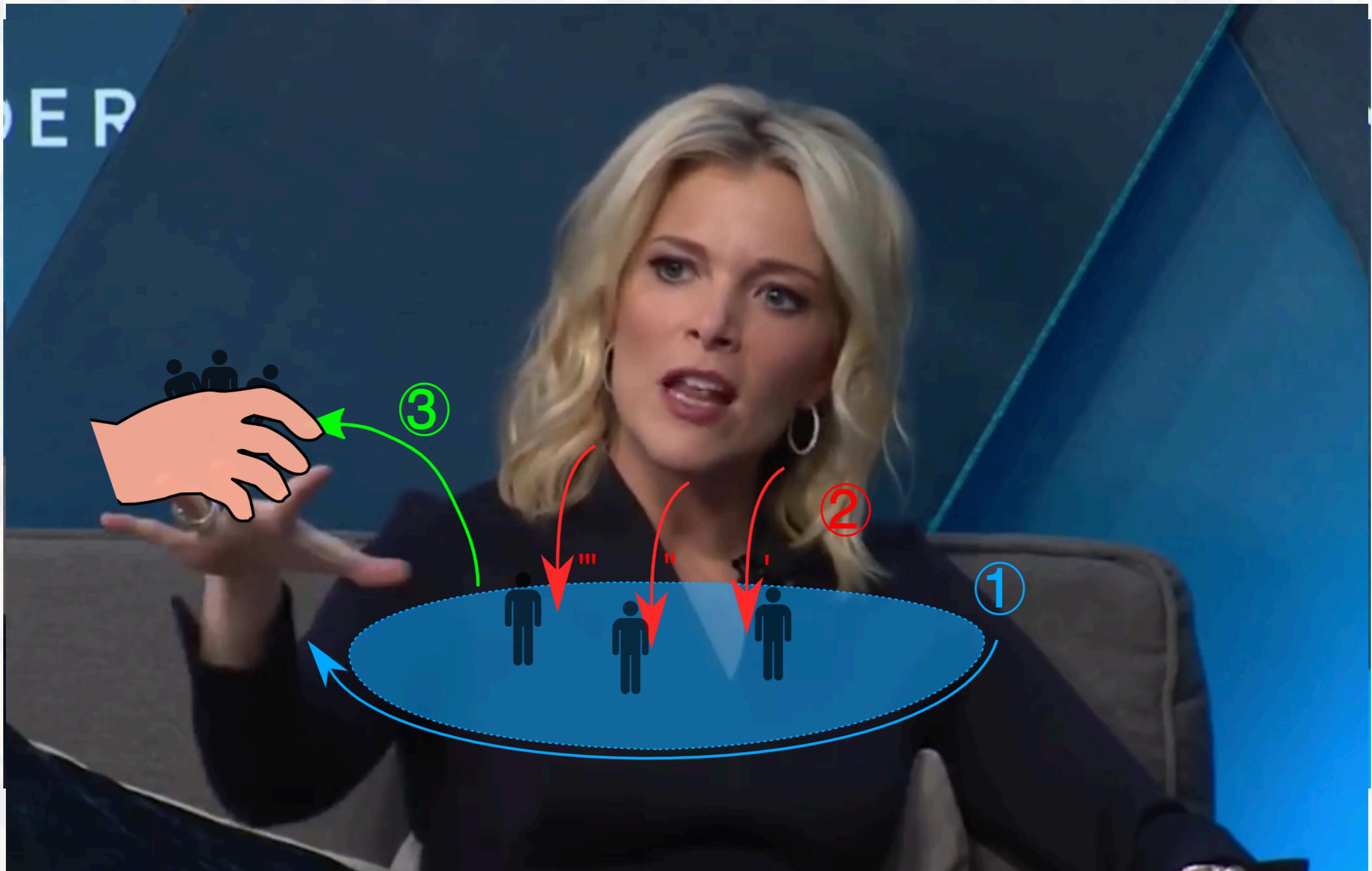


7. YOU CAN COMBINE METAPHORS!

Metaphor	Type1	different ideas are different parts of the body (i.e. finger enum..)	certain is firm	time is a line	sets are containers
	Type2	connecting ideas is physical closeness	sets are containe..	sets are containers	contrasting idea..
	Type3		interaction is coo..	contrasting ideas is ..	
	Type4				
Linguistic	Speech	So your husband wants you to be warm and fuzzy and maybe bette	you and him both feel like you're	compared to maybe ho..	is there anything that, besides what he want..
Motion	Hand1	indicate discrete points in space	frame		bowl
	Hand2				
Comments	comments				
Ideational Unit					



8. METAPHORIC SCENES



9. ROBOT, HUMAN, VIRTUAL AGENT, DON' MATTER

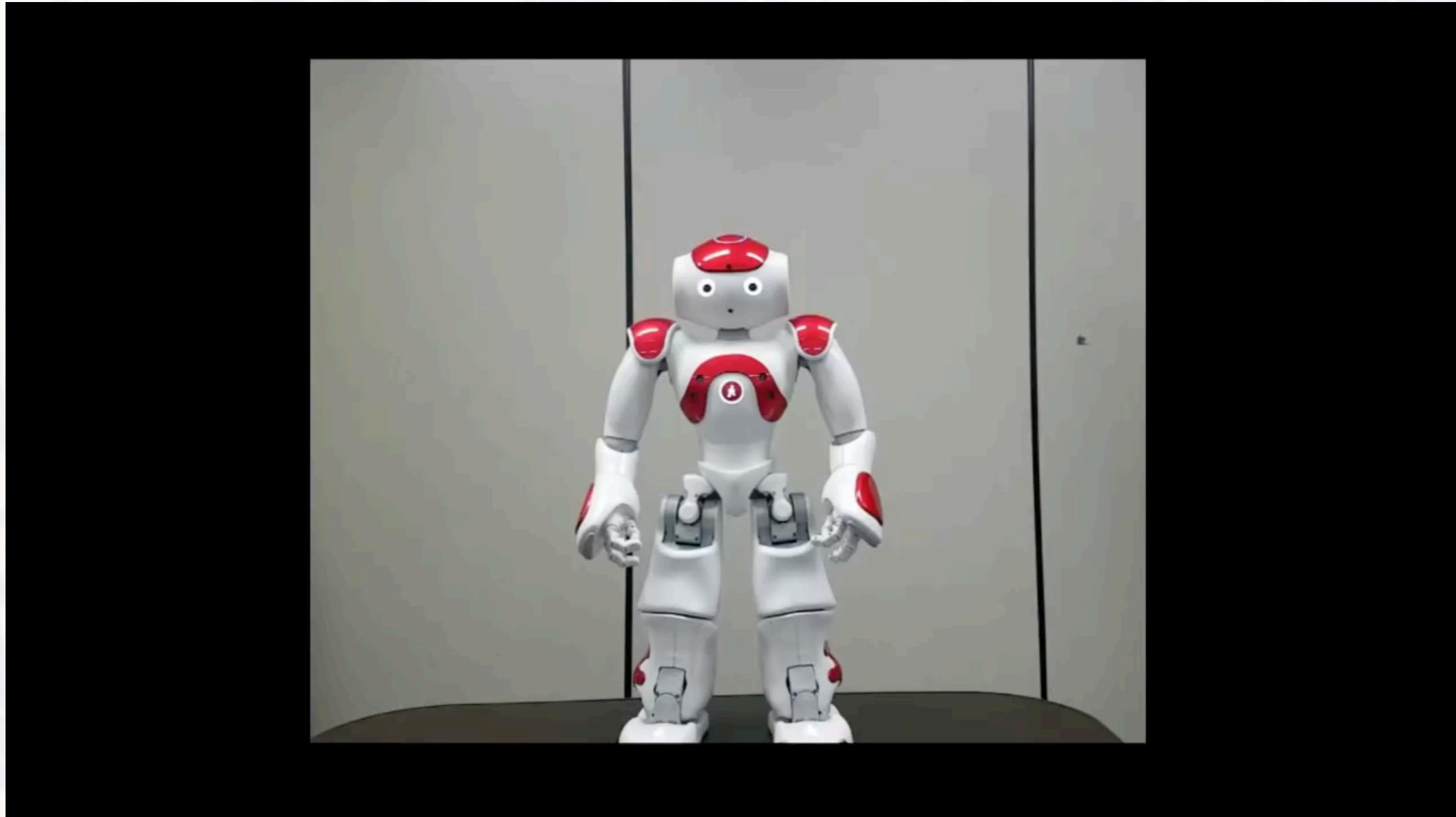
- Whenever these things use metaphoric gesture, ~~we like them they influence us more.~~
- We've known this forever



10. NON-HUMANOID ROBOTS ALSO GESTURE ⭐



11. HOT TAKE: DEEP LEARNING IS DUMB



- Blind mimicry is dumb and makes me sad Yoon, Y., Ko, W. R., Jang, M., Lee, J., Kim, J., & Lee, G. (2018)
- We have no idea how or why it's choosing the gestures it is.

12. COGNITIVE SCIENCE IS SLIGHTLY LESS DUMB [???



- Actually uses metaphoric  gesture through image schemas

Ravenet, B., Pelachaud, C., Clavel, C., & Marsella, S. (2018)

13. I'M MAYBE A LITTLE LESS DUMB

?

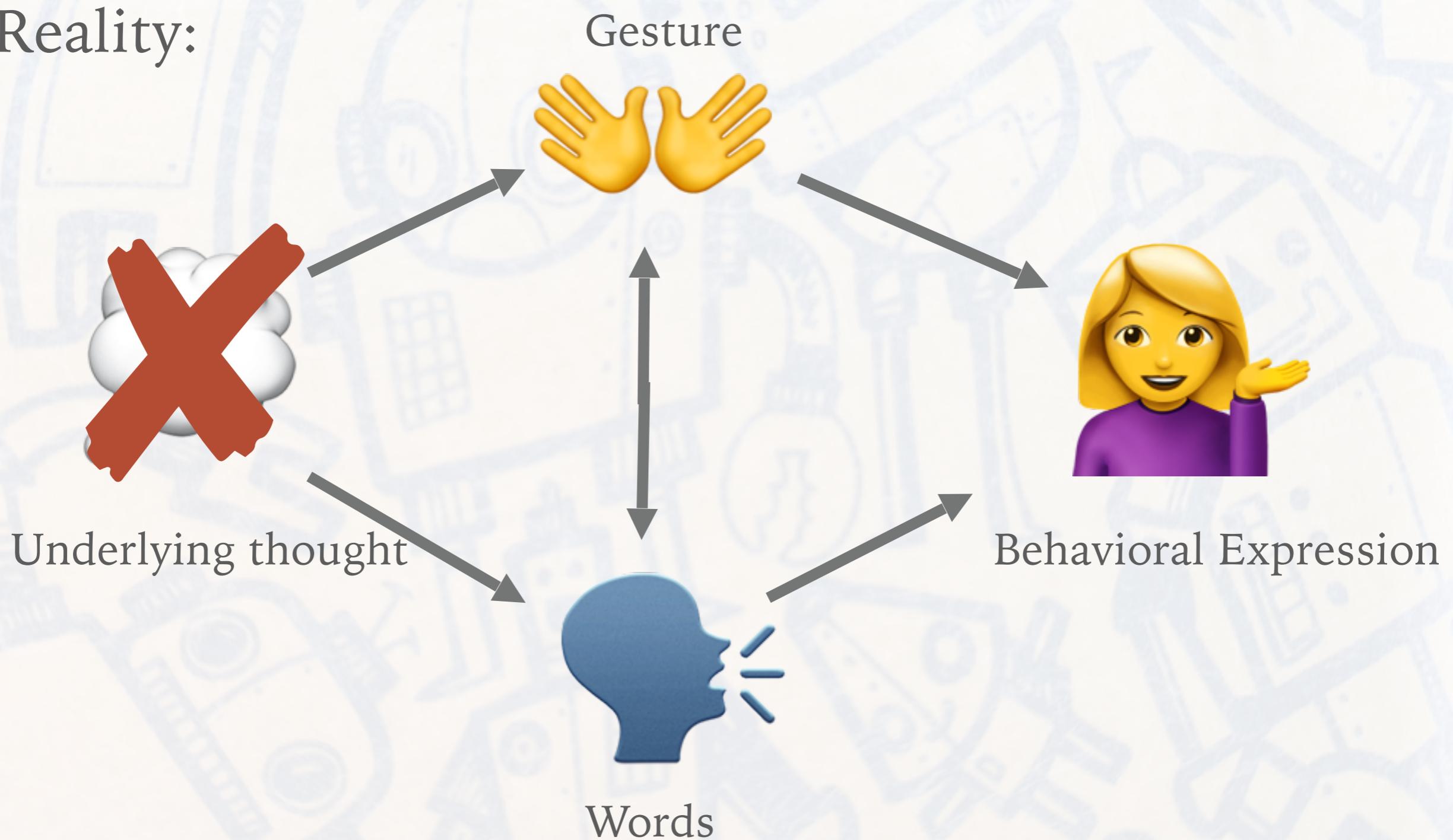
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Reality:



13. I'M MAYBE A LITTLE LESS DUMB

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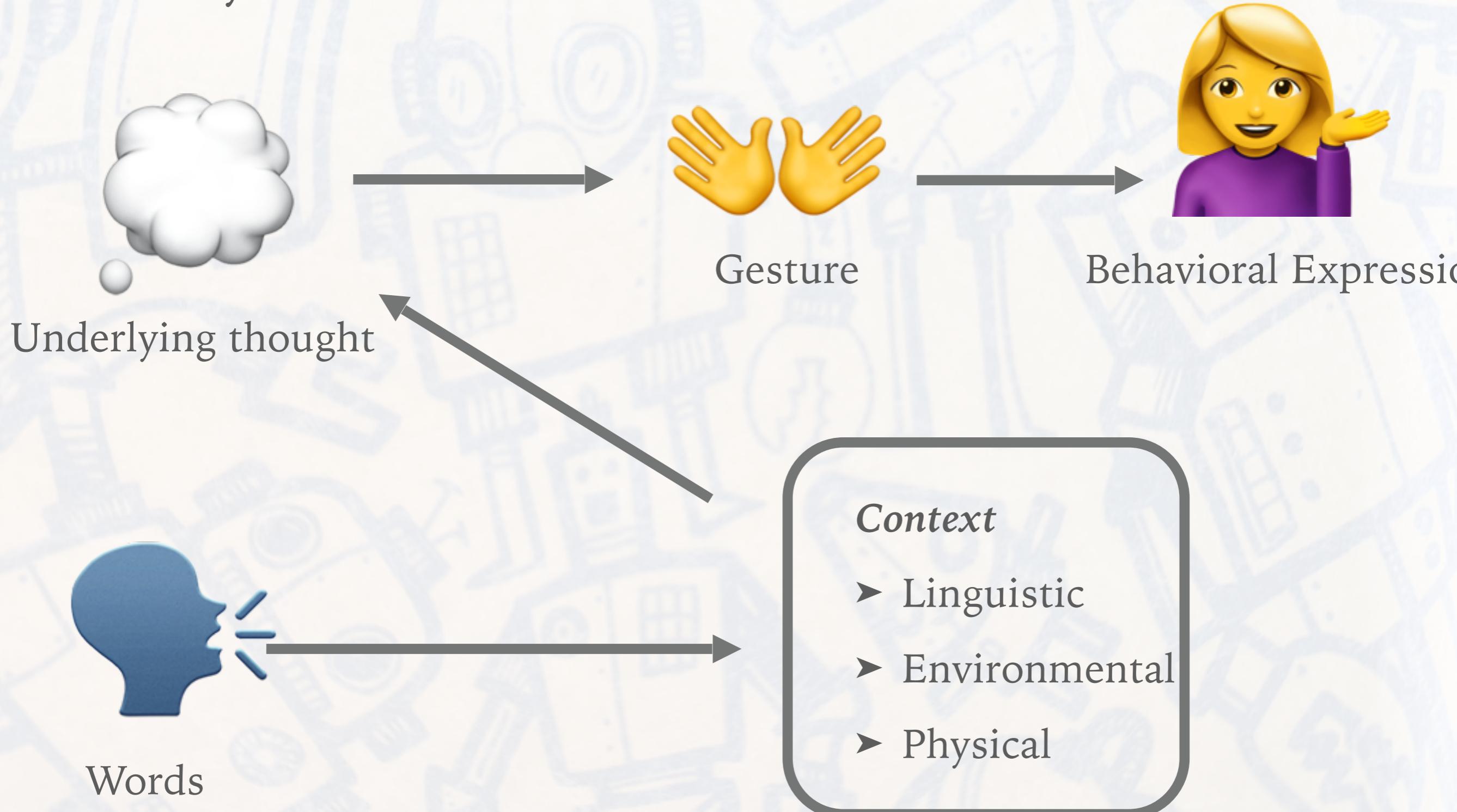
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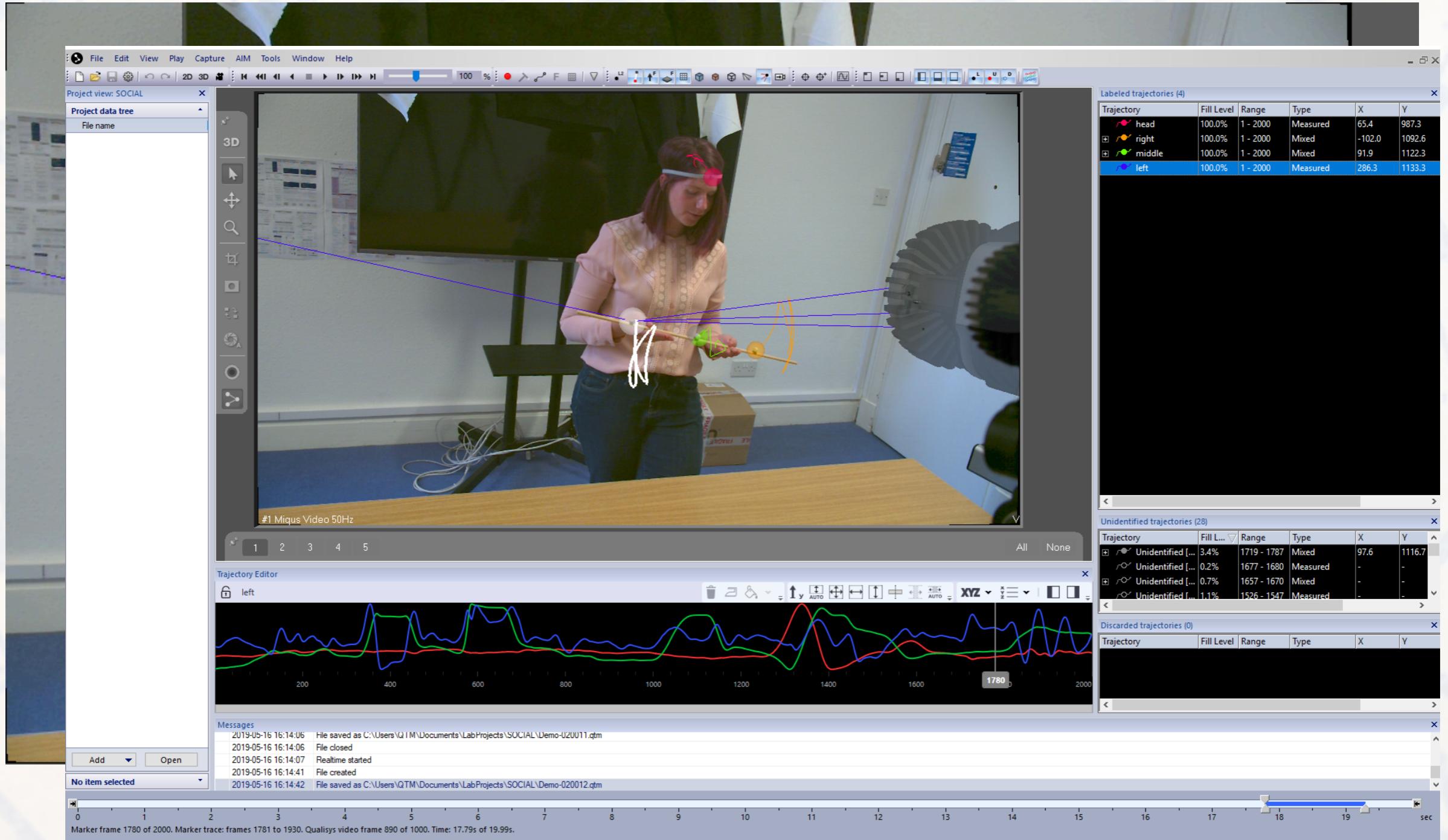
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Reality is hard so we use models



14. MAYBE: MOCAP WILL HELP?

How do gestures communicate information?



15. MAYBE: CULTURAL GESTURES AREN'T SO DIFFERENT?



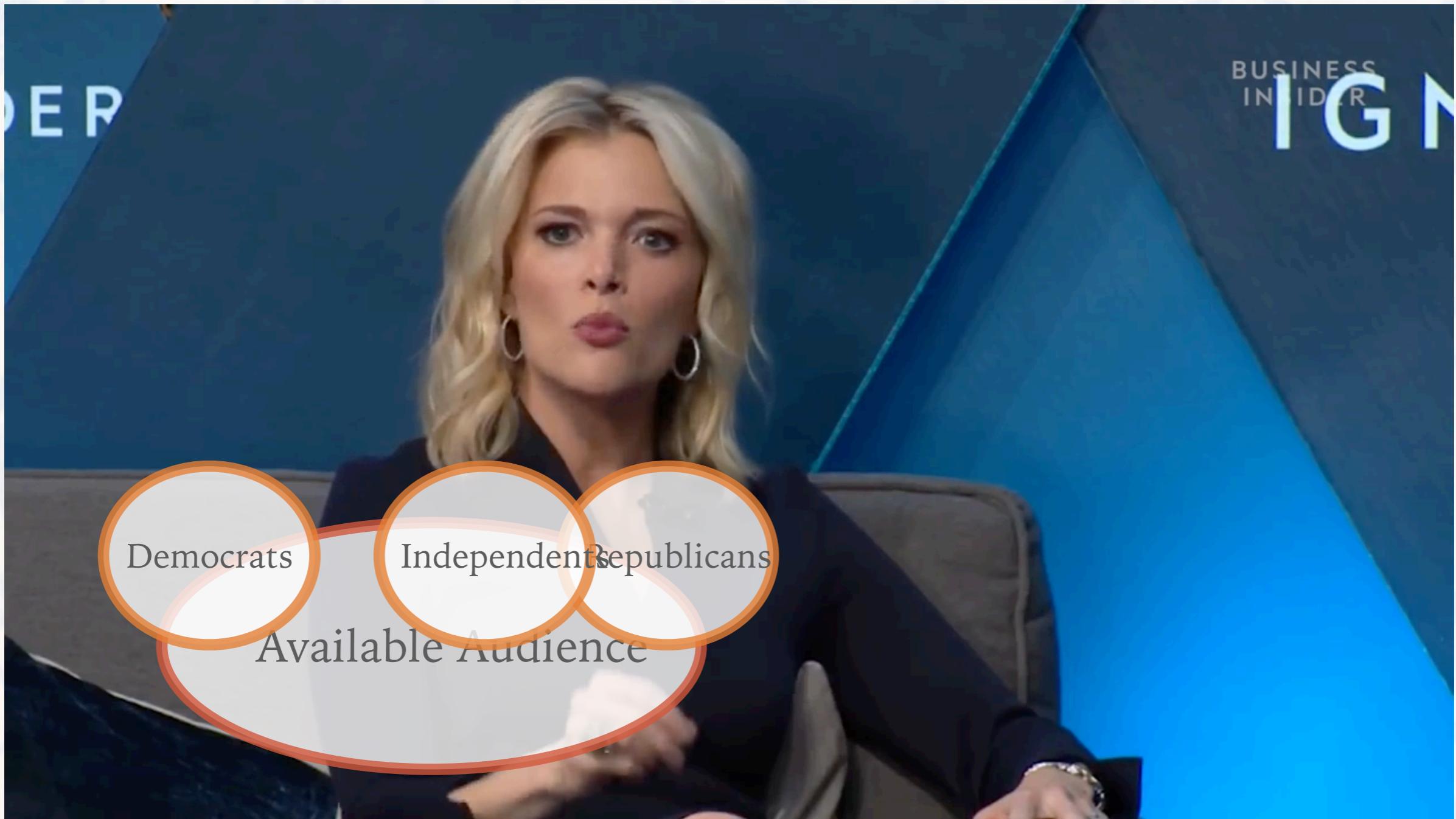
Avec l'apparition de Piccolo,

Do we all understand
that information?



16. MAYBE: METAPHORICAL VS. PHYSICAL OBJECTS ARE THE SAME?

Is this indicative of how we understand *all* information?



**17. MAYBE METAPHORIC 🔺 GESTURE IS WAY
TO ARGUE FOR OR OTHERWISE UNDERSTAND
EMBODIED COGNITION?!**



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THANK YOU

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YOU'RE GOING TO ASK ME ABOUT SIGN LANGUAGE AREN'T YOU.

- Sign language is language, not gesture.
- Signers can use “co-speech” gesture too!
 - Where a sign is placed
 - How it is performed (abruptness, size)
- Signers often(!!?) use facial expressions for co-speech performances (!!!!!)

YOU'RE GOING TO ASK ME ABOUT ITALIANS AREN'T YOU.

- Italians use more beat gestures than average
- Also higher amplitude gestures
 - Not more gestures!
- Maybe this obscures metaphoric gesture interpretation?
 - But they'd still interpret the same metaphoric gestures the same way.
 - I hope