

SOCIAL COGNITION

Theory of Mind

Byurakn Ishkhanyan

Email: byurakn@cc.au.dk



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SO FAR...

- What social cognition is all about and why we study it
- How human cognition and human language have evolved: cultural transmission and ratchet effect
- How language evolution can be studied in a lab



THIS WEEK: THEORY OF MIND

1. What is theory of mind?
2. Modularity and connectionism
3. Is theory of mind modular?
4. Reference management: Zotero



1. WHAT IS THEORY OF MIND?

Imagine you meet a friend who asks you about your studies and you tell them that your this week's topic at the social cognition class is theory of mind. They ask you "What is theory of mind"? What do you reply? Try to come up with a response that your friend who has never studied social cognition will understand.

Go to [menti.com](https://www.menti.com) and submit your answer

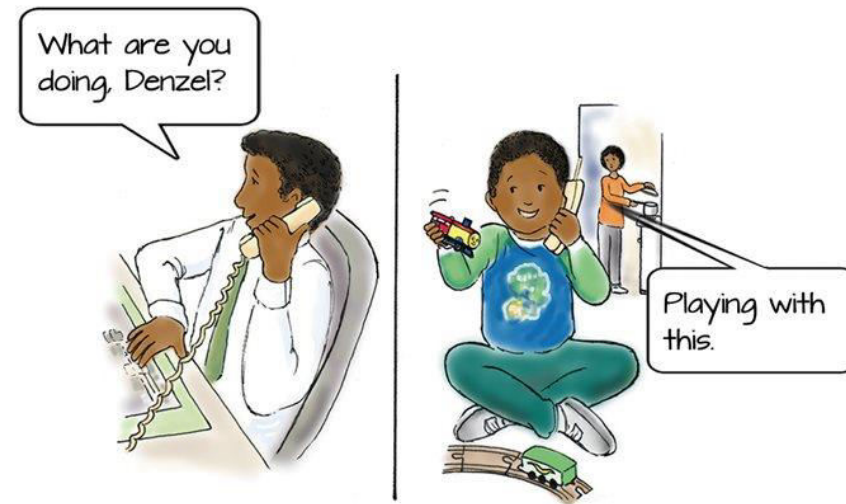


THEORY OF MIND

Theory of mind is the ability to attribute mental states such as beliefs, intents, desires, emotions and knowledge, among others, **to oneself and to others**. Theory of mind is necessary to understanding that others have beliefs, desires, intentions, and perspectives that **are different from one's own**.

Wikipedia

Reading minds?



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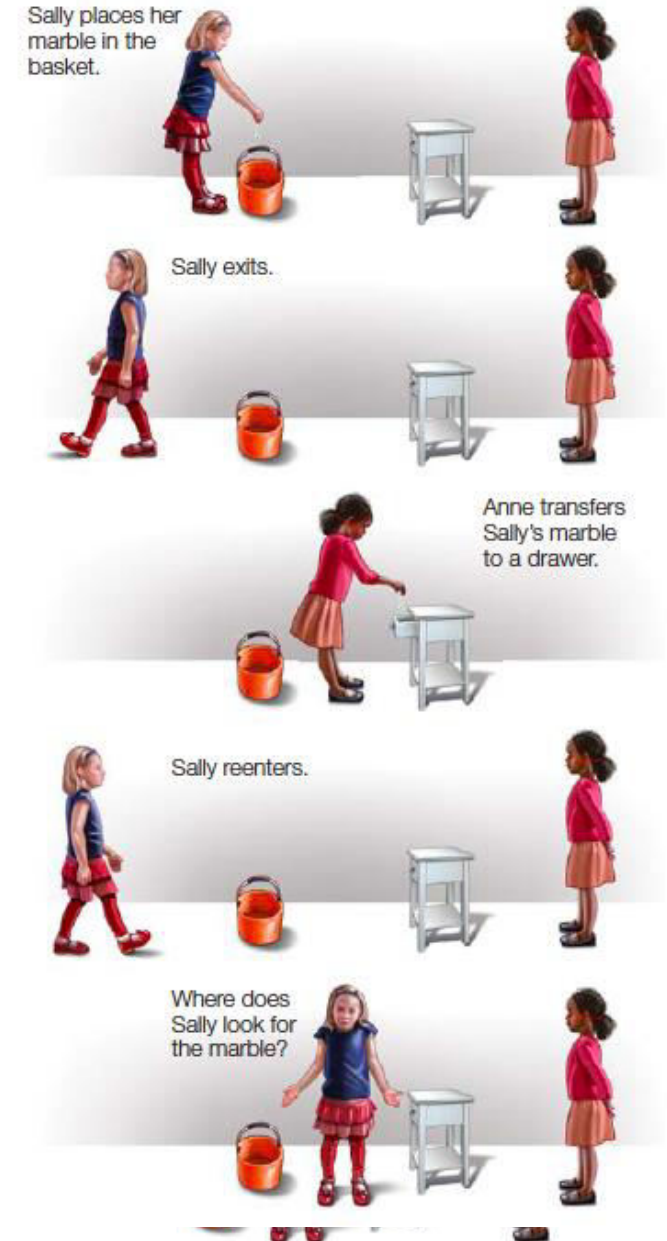
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FALSE BELIEF TESTS

Sally-Anne test

- “The gold standard” for measuring ToM
- Misleading container test



HAPPÉ'S STRANGE STORIES TEST

Story Type: Irony

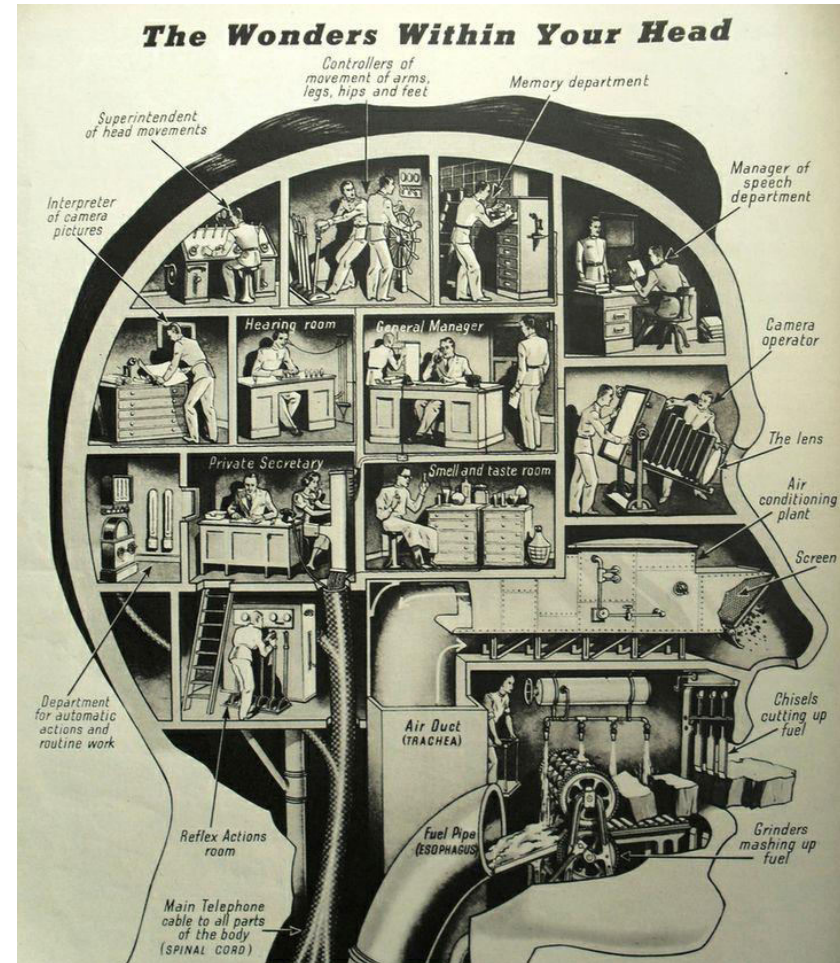
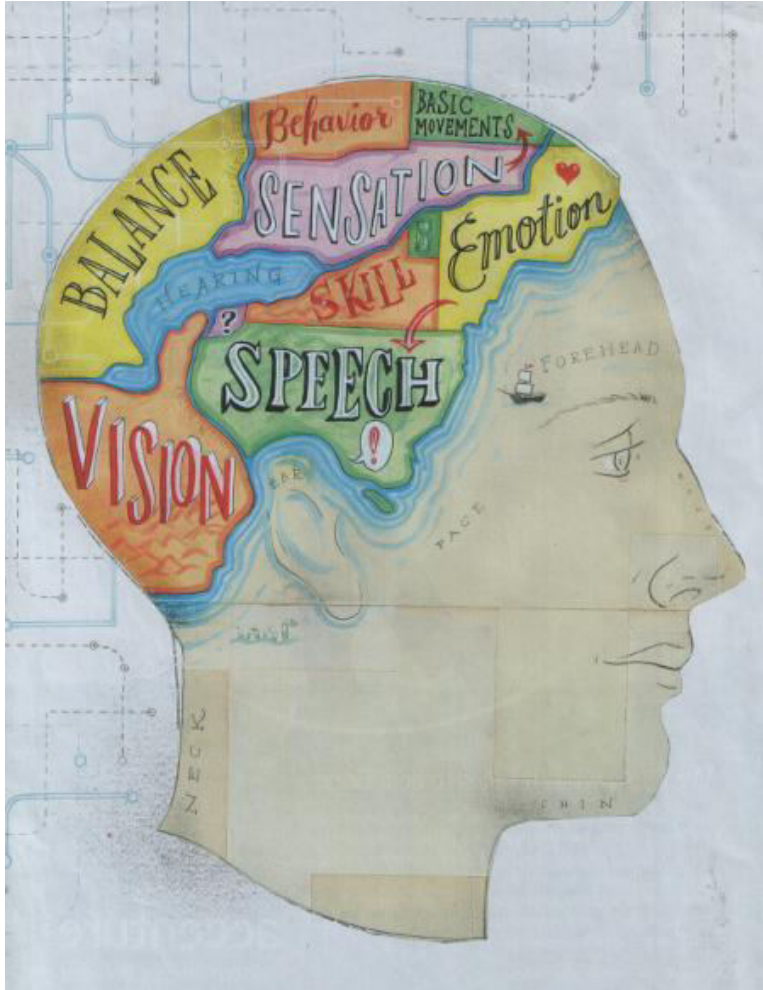
Ann's mother has spent a long time cooking Ann's favorite meal; fish and chips. But when she brings it to Ann, she is watching TV, and she doesn't even look up, or say thank you.

Used for detecting more subtle ToM deficits

Ann's mother is cross and says, "Well, that's very nice, isn't it! That is what I call politeness!"

- Is it true what Ann's mother says?
 - Yes/No/Don't know
- Why does Ann's mother say this?

2. MODULARITY VS. CONNECTIONISM



THE COGNITIVE SYSTEM

Modularity

- Innate
- Domain-specific
- Autonomous
- Non-interactive
- Anatomically localized

Fodor, 1983

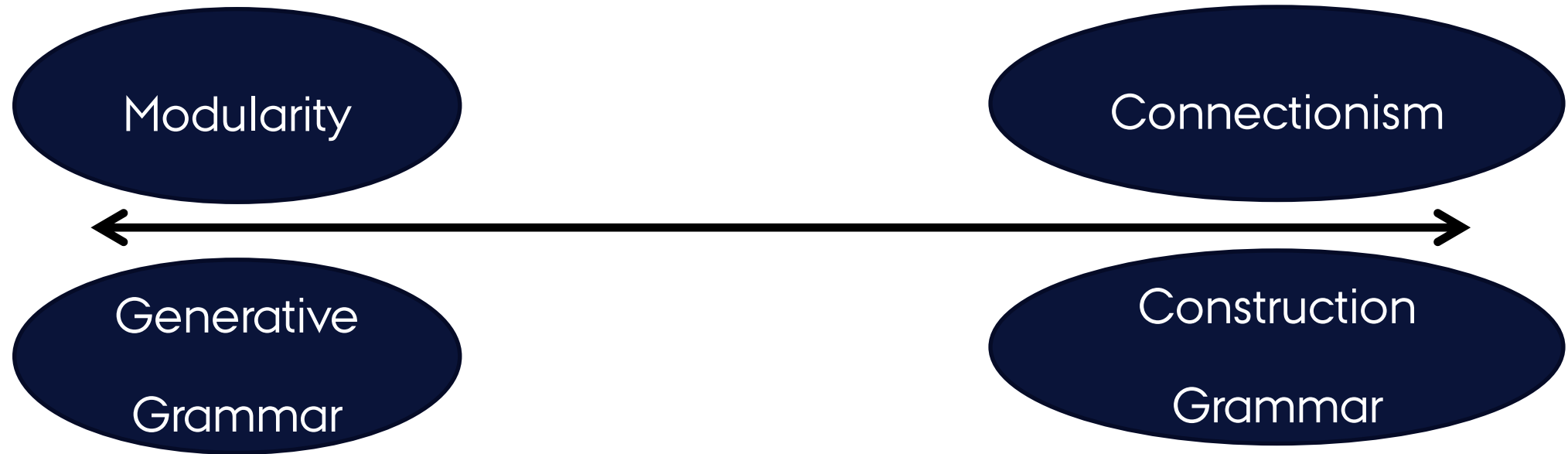
Connectionism

- Develops through experience
- Domain-general
- Interactive
- Anatomically interconnected

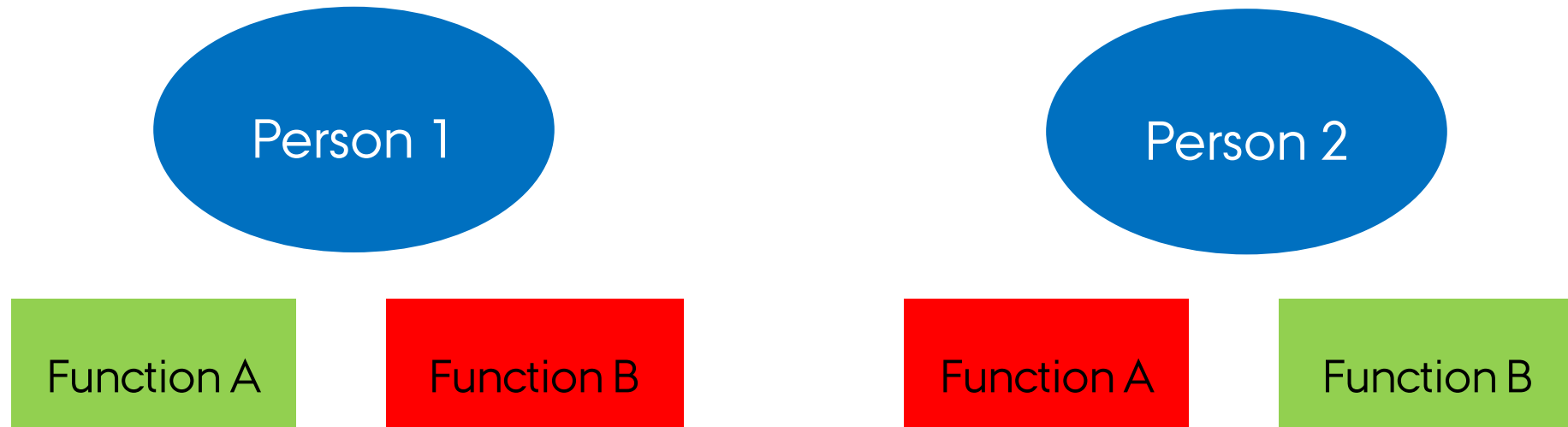
Bechtel & Abramsen, 1991



THE TWO EXTREMES



DOUBLE DISSOCIATION



Conclusion: function A and function B are independent modules



3. IS THEORY OF MIND MODULAR?



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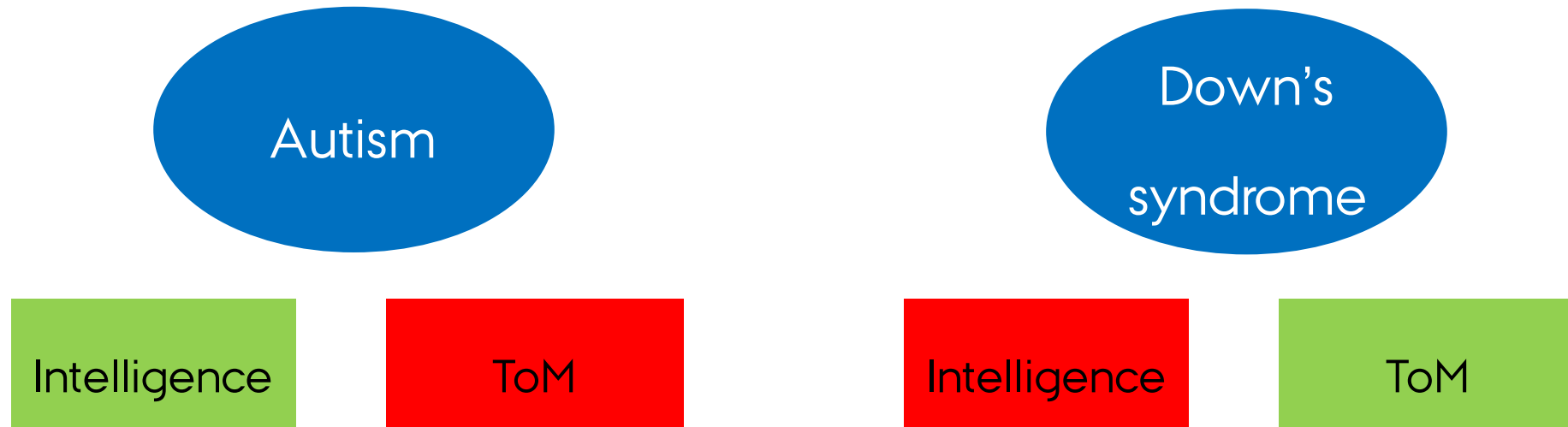
DEVELOPMENTAL MILESTONES FOR TOM

- 12 months: joint attention
- 2 years: report their desires
- 3 years: propositional attitudes
Sally believed that...
- 4 years: passing false-belief tests

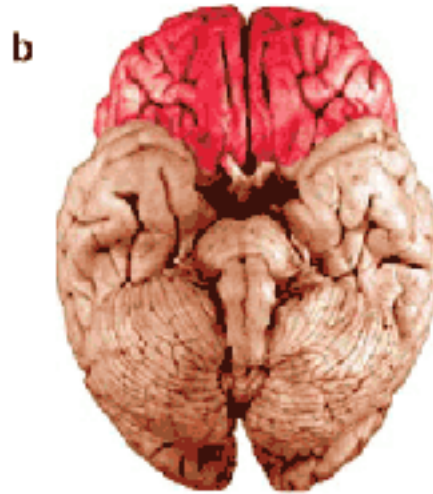
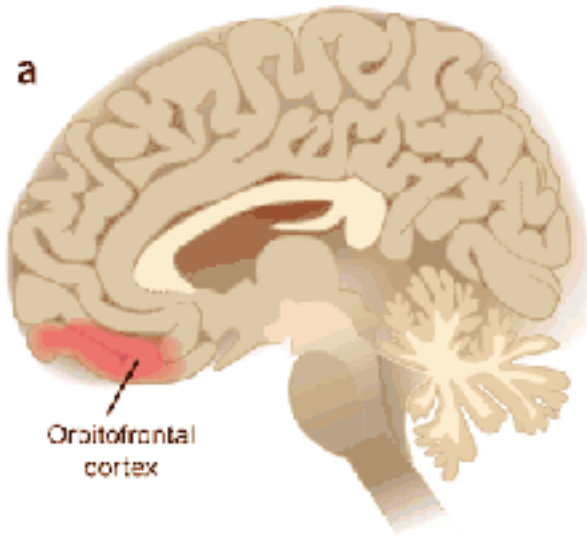
Cultural differences!!!



DOUBLE DISSOCIATION



THE ANATOMICAL LOCATION OF THE TOM “MODULE”



- Orbito-frontal cortex – when lesioned, impaired social behaviour

IS THEORY OF MIND MODULAR?

Discuss in groups: evidence for modularity or not?

- Group 1: Autism (section 3.1)
- Group 2: Deafness (section 3.2)
- Group 3: Blindness (section 3.3)
- Group 4: Individual differences (section 3.4)



AUTISM

- Biological basis for ToM impairment
- Correlation between language skills and ToM performance



DEAFNESS

- Delayed ToM in deaf kids living in hearing families
- No ToM delay in native signer deaf kids



BLINDNESS

- ToM delay in severely blind children



INDIVIDUAL DIFFERENCES IN TYPICALLY DEVELOPING CHILDREN

- Faster development of ToM in children, whose family members have frequent conversations about state of the mind
- Faster development of ToM in children with siblings

Talking about ToM enhances the development of ToM

- Linguistic and social prerequisites for the development of ToM

Is ToM modular?



4. REFERENCE MANAGEMENT: ZOTERO



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WHY ZOTERO?

- It's free (i.e. you can take it anywhere with you)
- It's usable for groups
- It's easy to use (at least for me 😊)



EXERCISE

Remember the additional article you had read for last week's assignment? Add it to the group "Social Cognition AU"



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