

Social coordination as an important
component of mental
representation

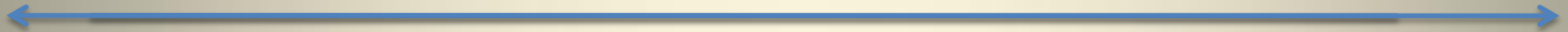
Plan

- -> the role of social coordination in (some) theories of mental representation
- -> its importance
- -> a couple options considered – from “no social coordination” option to “only social coordination” option

Social coordination and language?

- What is a role of social coordination in language?
- How far social coordination should apply to mental representation that is not necessarily linguistic (as e.g. perceptual representation)?

Mental representation and social coordination



Fodor

Putnam

Floridi, Gallantucci

Skinner

Wygotski, Tomasello

anti-social
option

moderate
option

social
option

Mental representation and social coordination

- Fodor – classical cognitivist, individualist (even language is individual)
- - - Putnam – has experts but still is an individualist
- L. Floridi & B. Gallantucci – moderate option (social coordination is important in linguistic representations)
- Skinner – behaviorist, anti-individualist (not only language is social)

Language as a starting point

- Language as a paradigmatic example of social activity:
- (a) thinking (belief and desire reports)
(b) conventional and public (language learning and acquisition are social)

But...

- Linguistic model fits more to the higher level of representation than to the lower level
- Not all representations are actually easily modeled on language (e.g. perceptual level)

Further questions

Is social coordination restricted to linguistic or otherwise public representation?

- Are there any natural dispositions in the human mind that are entirely individual?

Floridi's solution of the symbol grounding problem

- See: Taddeo, Floridi (2005) & Taddeo, Floridi (2007)
- Language as social coordination
- Action-based semantics (AbS)

- Compare: B. Galantucci (experimental semiotics)
L. Wygotski (language learning)

How does representation emerge?

- Galantucci – experimental semiotics
human communication in experimental
situation
- Floridi – metatheoretical analysis
AI –robots communication

Galantucci

- Elaboration of communication medium:
new signs (naming and learning-by-using)
- System must allow for an expansion
- Convergence & cooperative necessary

Florida

- INDIVIDUAL ROBOT
 - > sensors
 - > categories
- -> finite set of symbols
 - > can move, associate & memorize
- Aim-oriented
- Ability to cooperate, coordinate, communicate



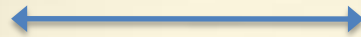
Development of mental representation (individuals)

- > representations defined by individual's future behaviours
- “by saying that the performed actions are the meanings of the symbols, we mean that the AA **relates its symbols to the states in which it is placed by the actions that it performs, and that symbols are considered the names of the actions via the corresponding internal states.**”
- > basic individual intentionality (subject-world)
 - “The **internal states** of the AA are excellent candidates for the role of **non-semantic yet semantic-inducing resources.**”
- > proto-meanings

Communication

- “The evolution of even **rudimentary ways of grounding their symbols** and hence of managing some **basic communication** will then further privilege and reinforce the selection of such AM2s.”

Florida



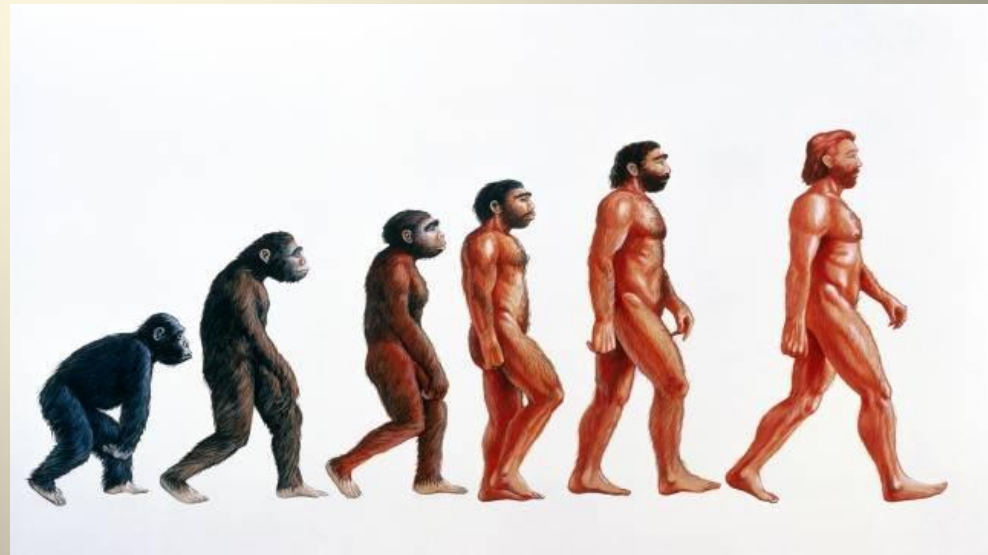
- Higher-level of representation
- Aim/task-orientation: most optimal solution

Goals of representation

- Galantucci - \$



- Floridi – artificial evolution



Emergence of mental representation (social coordination)

- -> symbols (meanings) come from other symbols (through coordination)
- -> intentionality development (through language)
- -> gradual meaning development

Action-based semantics

ACTIONS

- The role of actions are greater than the role of aims

Aims are developed through actions

INTERNAL STATES

- correlated with agent's actions
- teleological
meanings of symbols

A place for social coordination

- **Individual abilities** are **prior** to social coordination
- Social component is a **stabilizer** for individual meanings

A role of social coordination

- Evolve the most optimal solution (higher level)
- Social role: interaction among individuals that all have intentional states

A role for social coordination

- Criterion for linguistic representation
(meaning in use)
- An important condition for misrepresentation

Misrepresentation

- Early individual stage:
- Mechanism for survival and creating some categories
- Why do we need it?

Misrepresentation

- relations on the level without social coordination yet:
- correlation between representations of individual subject and the world
- Some predictions for behaviour?
- But individuals cannot represent, so cannot misrepresent

Misrepresentation

- Social coordination stage:
- projection of the reality (similarity restricted to some interpreted model):
 1. projection of individual representations to the external representations (public/social)
 2. and the opposite way as well- social patterns are used in individual representations

Misrepresentation

- Mutual interaction between social representations and individuals that have already proto-meanings and then meanings
 - What is proto-meaning?
 - How can it differ from meaning itself?
- > Not complete meaning

Summary

- Social coordination gives us a criterion for misrepresentation on the higher level of representation
- Social coordination is **needed** for creating symbols, meaning acquiring and language learning

Bibliography

- Gallantuci Bruno, (*An experimental study of the emergence of human communication systems* , „Cognitive Science“, 2005;29(5):737-767.)
- Taddeo M, Floridi L. (2005), *Solving the Symbol Grounding Problem: a Critical Review of Fifteen Years of Research*
- Taddeo M., Floridi L. (2007), *A Praxical Solution of the Symbol Grounding Problem*

Classical cognitivism (early Fodor)

- Radical individualism, no social component considered
- all mental representations are individual, as well as linguistic
- com

Behaviorism (dynamicists)