Lecture 2 – Social development of a Theory of Mind

All information, assignments, articles and hand-outs will be posted to course website. Visit it regularly!

http://www.lucs.lu.se/education/extf76/

Theory of Mind

- Theory of Mind is the ability to attribute mental states — beliefs, intentions, desires, knowledge — to oneself and others, and to understand that others have such states that are different from one’s own
- From an evolutionary perspective, the main advantages of having a Theory of Mind is the ability to:
  - Understand others
  - Predict others
  - Manipulate others

Developmental stages of acquiring a Theory of Mind

In order to understand what Theory of Mind is, it is important understand where it comes from. As adult human beings, we are experts at understanding other people in terms of their mental states. But this is a skill that is acquired over a long time of development.

Attention

- Gaze contact, from birth
- Joint attention, ~6 months
- Social referencing (to use other people’s reactions as information)

Imitation

- It is a gradual process from imitating the behaviour of others, to imitating the intentions of others.

Difference between accidents and intentional actions

- Beginning to understand the concept of teasing, ~9 months

Emotions

- The understanding of emotions in others takes different amount of time for different emotions – anger much earlier than envy.
- Understanding emotions in others is the basis of empathy, but also cruelty
Beliefs

- Understanding “false beliefs” in others is often considered to be the final stage in the development of a Theory of Mind.
- Happens at around 5 years, but depends on the task

- A deficient theory of mind is often cited as one of the main reasons behind autism, as people suffering from this condition have severe difficulties understanding the mental lives of others.

- Once we have a fully developed Theory of Mind, we see beliefs, desires and intentions everywhere – the will of the gods, forces of nature, computers, etc.

Levels of explanation

From a design perspective, we can think of having a Theory of Mind as one of three basic stances from which we understand the world and other people.

- The physical stance.
  - Why water boil at a certain temperature, why two different objects fall at the same speed towards the ground, etc
- The design stance
  - Understanding objects as having functions, evaluate them in relation to how well they perform this function
- The Intentional Stance
  - Treating an object or a person as a rational agent, and then understand the behaviour in terms of mental states such as beliefs, desires and intentions.