THEORY OF MIND

01 DEFINING

THEORY OF MIND is the intuitive understanding of one's own and other people's minds or mental states - including thoughts, beliefs, perceptions, knowledge, intentions, desires, and emotions - and of how those mental states influence behaviour.

Having an appreciation for the workings of another person's mind is considered a prerequisite for natural language acquisition, strategic social interaction, reflexive thought, and moral judgment.

02 APPROACHES

DEVELOPMENTAL APPROACH

Developmental approaches to theory of mind stem from **Piaget**, who proposed that children are initially cognitively egocentric - i.e. they do not differentiate between conceptual, perceptual & affective perspectives. Even after children become aware of the possibility of perspectives, they must learn to discriminate their own perspective from other people's. (Many studies have found this ability increases with age)

METACOGNITIVE APPROACHES

The metacogitive approach proposes that understanding others as thinkers is just one of the many cognitive skills people engage in, can reflect on, and develop further. It identifies three things:

1. The nature of people as thinkers (cognisers)
2. The nature of different cognitive tasks
3. Strategies that can be applied to find solutions to different tasks

Metacognition provides skills for monitoring & regulating one's cognitive abilities.

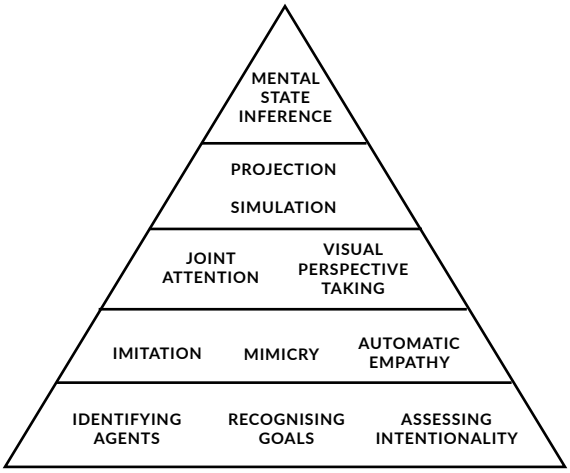
THEORY OF MIND AS MENTAL STATES

Current approaches to theory of mind view the theory as the skill of interpreting the mental states of ourselves & of others. This approach studies the development of theory of mind by examining what children know regarding how mental states are linked to perceptual inputs, behavioural outputs & to other mental states. E.g. Do children know what a false belief is? Do they know about unsatisfied desires?

THEORY THEORY: surmises our knowledge about the mind as an everyday "framework" or "foundational" theory of how people think. (Reflects the idea that humans learn through a process of theory revision resembling the way scientists propose/revise theories on the basis of data & experience)

MODULARITY THEORY: proposes that young children do not acquire a theory about mental states & mental representations at all. Instead they acquire 3 domain-specific modular mechanisms for dealing with agents vs non-agent objects. (Sees certain psychological processes are self contained & not interconnected/freely exchanging information)

SIMULATION THEORY: proposes that empathy is possible because we see another person experiencing an emotion, we "simulate" or represent that same emotion in ourselves so we can firsthand know what it feels like. (Our ability to predict/coordinate/explain other people's actions relies on our ability to represent their mental states in our own mind)



Some of the major tools of theory of mind, with the bottom showing simple, automatic, early developing processes to the top showing complex, deliberate, late developing processes. The organisation also reflects evolution: monkeys have available the tools on the bottom; chimpanzees have available the tools at the second level; but only humans master the remaining tools above.

FALSE - BELIEF TEST

1. A child is shown a picture of Sally, who puts her ball in a basket & leaves the room
2. While Sally is out of the room, Anne takes the ball from the basket and puts it in a box
3. The child is asked where Sally thinks the ball is located when she comes back, will she look in the box or the basket?

This is very difficult for children before the age of 4; we have to infer a **false belief** against our own better judgement.

The False Belief task allows us to see whether the child understands that it is possible to believe something that is not true. As the child develops, they start to realise that there is a difference between a belief (mental state) and the actual state of the world—which is a necessary foundation of theory of mind.

03 CHEATER DETECTION

Humans & other animals practice multiple forms of cooperation or ***reciprocal altruism***. Some of this may be hardwired as part of our evolutionary heritage & there's a relationship between the idea of altruism & cheater detection.

GAME THEORY

Game theory suggests that there must be a trade-off that allows groups of cooperators to recognise cheaters, or cooperators would be subsidising cheaters at a cost to themselves - cheaters would succeed & cooperators would die out. ***Game theory suggests that cooperation first is a good strategy. However, at the first subsequent encounter where reciprocation is appropriate, if reciprocation does not occur, an individual will be labelled as a cheater & be ostracised.***

WATSON SELECTION TASK

1. 4 cards: each with a letter on one side & number on the other.
2. Rule: if there's a R on one side then there's a 2 on the other side
3. The task is to select *only* those cards that need to be turned over to decide whether or not the rule is correct

The correct answer is select R & 7 (not R & 2 as most people choose) as you need to see whether any cards ***fail*** to obey the rule when turned over. (7 would disprove this if it had an R on the other side) **MATCHING BIAS** is the tendency to select cards matching items named in the rule, & this task is easier when numbers are substituted with descriptives like age/sex/status.