

# **Mental models and human reasoning**

**(Philip N. Johnson-Laird)**

This paper is about rationality and deduction of logic of a human being. The author believed that human's ability to reason relates on a tacit mental logic and people with no training in logic are still able to reason but people with high achievements can sense all types of reasoning on a wider scale. Basically, Philip Johnson tries to explain that mental logic requires knowledge, he gives several examples where logical form depends on the general knowledge and this is how a person can deduct the point in a case. For example, logic yields a constraint and from this we can observe that logic can have many inferences and many conclusions. The problem is that theories of mental logic or how people conclude from a case in a right way cannot be explained because of rational reasoning.

Another problem for mental logic is that somebody may not think deductively but instead people take conclusions straight from the evidence that leads to the conception of human reasoning. Another interesting fact in the paper was that images delay reasoning because they show irrelevant visual details. After many studies it showed that more than one possibility in a situation can confuse people and make their conclusion inconsistent.

Also, a complex content of a situation can affect the process of reasoning, maybe because humans have difficulty in constructing model of improbable situations. The author thinks that strength is the key in human reasoning because probabilities can influence human's reasoning but in theory it's not supposed to desert deductive validity. He says that our reasoning in everyday life situations has some different, unique strengths. There are also, counterexamples people that break rationality because it shows that it is false and is consistent with the premises but not with the conclusion.

In conclusion, the author wanted to point that human reasoning is not similar to a proof in logic and it doesn't have much in common with induction or deduction because in fact it shows what we actually know. Reasoning is closer to our knowledge and people build mental models which show clear possibilities. Anyway, intuition is not always enough for rationality because sometimes our emotions may affect our reasoning.

# **Mental Models: An Interdisciplinary Synthesis of Theory and Methods**

**(Natalie A. Jones, Helen Ross, Timothy Lynam, Pascal Perez, Anne Leitch)**

Mental models are unique to every person, they are based on decisions, experiences and perceptions of each person. Mental models are used to reason and to decide in a person's life. In theory mental models are represented as a cognitive structure that creates a decision making but people's ability to represent it is limited. Mental models are some representation of reality which should adapt to changing circumstances.

The authors tried to present the role of natural resource management (NRM), they deducted that mental models are developed through analogical thinking. They deducted also, a cognitive map of how a person stores and recall information to the environment. The discrepancy they found was over where in the mind mental models were allocated, they understood that mental model is generated in working memory rather than in a long-term memory.

They described mental model as a simplified representation of alteration because humans are more likely to filter new information already with their existing beliefs and understanding. After several experiments the authors found out that mental model has a construct that gives an understanding of natural processes and resource management. Usually, mental models are obtained to find out the similarities between person's understanding of an issue and to develop more socially and robust knowledge for multifunctional systems.

In conclusion, we can say that mental model construct is about how people create the world around them and mental model usually goes beyond every goal and value of a person, mental model is a representation of different aspects of someone's life and the person's intuition and perception of its act and behaviour. Also, authors of this paper still think that would be better to improve the methods of eliciting mental models because people instead of psychological deduction they use mental models in an everyday life.

# Truth

(Jon Mills)

In this paper the author is explaining the concept of truth in a psychoanalysis perspective. He compares the idea of truth from Plato who describes truth as something pure and clear with the psychoanalysis which has no proper theory about truth. Jon Mills was interested in indulging with a novel vision on psychoanalysis truth.

Nowadays truth means some facts according to something real, even in Plato we can see truth as something that corresponds to actuality and reality. The author gave an example of "This is truth" statement which in fact is a metaphysical realism because it shows an independent reality. There is a difference between philosophers' way of describing the truth and the pragmatic theory which is focused on beliefs in human affairs.

There is also the clinical part that point the truth in the psychoanalytic literature. In this field truth was deducted as a process of emergence that messed up with interpersonal problems of what's right and what's not. Another question was that "does truth exists in itself" and by ontologists we understand that if there is no explanation to a theory this means it is meaningless.

The author also points to lies and his theory comes along to the unconscious demonstration that is a revelation of a lie. We can also find some hidden truth in the unconscious disclosedness. Truth can also have many dialectics; it comes from talks and it speaks for itself. For example, Freud noticed that truth is the inverse of honesty and conventional discourse pushes us not to be completely honest and this theory comes from the childhood.

In conclusion the author pointed that truth is real but elusive and its concept fits to all concepts from the history because it depends on our perspective and vision and it remains enigmatic. Truth is a logical category and any appearance of it will always be half-hidden.

# **Naïve Realism, Privileged Access, and Epistemic Safety**

**(Matthew Kennedy)**

This paper is about naïve-realist theory of how subjects acquire knowledge of their nature of existence. Working from a naïve-realist perspective, the author examines the way of getting perceptual knowledge viewed from first-person, at the same time, comparing it with third-person experience and analysing the perception of success-state.

The author outlines that the ability to see things represents one way of acquiring knowledge. This is so called perceptual-recognitional ability, which requires rationality and intelligence of the subject in order to make judgements and recognize objects it sees. Moreover, this ability involves recognition of objects that cannot be perceived by asserting relationships between perceived objects and abstract objects, which is described as connecting-belief. There is also the psychological recognition, which is categorized as experiences rather than beliefs by the author.

Typical situations were used to present the difference between acquiring knowledge from a subject's own mind and acquiring knowledge from minds of others. Author points that, typically first-person beliefs are more solid than typically third-person beliefs. Mainly this happens because subjects tend to believe their own beliefs are safer. The reason for that is structural differences between belief-forming methods of both parties. While the structure of first-person epistemic methods are quite simple, the methods of third-person are more complex that include more requirements that have to be satisfied.

In conclusion, naïve-realist theory clearly describes the ways of acquiring self-knowledge, as well as proves the first-person epistemic advantage in front of a typical third-person subject. The first-person status greatly contributes to epistemic role, hence the beliefs of typical first-person subject are much safer than beliefs of typical third-person subject when equal resources are given.