

1. . **Beskriv ulike egenskaper ved språk og de prosessene som ligger til grunn for språkforståelse.**

2. **Hva er forskjellen mellom en top-down og en bottom-up tilnærming til persepsjon?**

3. **Forklar hvordan kunnskap er representert i menneskelig hukommelse.**

1. Describe different properties of language and the processes that make the foundation for language comprehension. Beskriv ulike egenskaper ved språk og de prosessene som ligger til grunn for språkforståelse.

The answer could contain a general description that language is communicative, arbitrary symbolic, regularly structured, structured at multiple levels, generative, productive and dynamic. The answer is expected to contain two fundamental aspects, that humans derive meaning from language for understanding and that we also that we transform meaning to express in linguistic output. Some or all of the building blocks may be addressed with linguistic terminology, from the smallest units through phonology, further through morphology, syntax and semantics and also discourse. The process of language comprehension would need to address speech perception, and could contain a description of the syntactic and semantic processes.

2. What is the difference between a top-down and a bottom-up approach to perception? Hva er forskjellen mellom en top-down og en bottom-up tilnærming til persepsjon?

In order to receive information from the environment we are equipped with sense organs e.g. eye, ear, nose. Each sense organ is part of a sensory system which receives sensory inputs and transmits sensory information to the brain. A particular problem for psychologists is to explain the process by which the physical energy received by sense organs forms the basis of perceptual experience. Sensory inputs are somehow converted into perceptions of desks and computers, flowers and buildings, cars and planes; into sights, sounds, smells, taste and touch experiences. A major theoretical issue on which psychologists are divided is the extent to which perception relies directly on the information present in the stimulus. Some argue that perceptual processes are not direct, but depend on the perceiver's expectations and previous knowledge as well as the information available in the stimulus itself. Psychologists distinguish between two types of processes in perception: *bottom-up processing and top-down processing*.

Bottom-up processing is also known as data-driven processing, because perception begins with the stimulus itself. Processing is carried out in one direction from the retina to the visual cortex, with each successive stage in the visual pathway carrying out ever more complex analysis of the input. David Marr can be described here.

Top-down processing refers to the use of contextual information in pattern recognition. For example, understanding difficult handwriting is easier when reading complete sentences than when reading single and isolated words. This is because the meaning of the surrounding words provides a context to aid

understanding. Psychologist **Richard Gregory** argued that perception is a constructive process which relies on **top-down processing**. For Gregory (1970) perception is a hypothesis, for him, perception involves making inferences about what we see and trying to make a best guess. Prior knowledge and past experience, he argued, are crucial in perception. When we look at something, we develop a perceptual hypothesis, which is based on prior knowledge. The hypotheses we develop are nearly always correct. However, on rare occasions, perceptual hypotheses can be disconfirmed by the data we perceive.

3 Explain how knowledge is represented in human memory. Forklar hvordan kunnskap er representert i menneskelig hukommelse. The answer to this question could in essence contain information about all memory processes; like encoding, retrieval, mental representations, propositions, spatial information, declarative knowledge and semantic/neural networks. These concepts are examples, and does not mean all need to be included. A more in-depth discussion of just a few concepts from memory research are also welcome.