

Mental Processes -- How the Mind Arises from the Brain

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Abstract

Cognition is best understood by examining a model of a cognitive system. Such a model is presented in the following paper.

Most discussions of the mind or brain focus on the "hardware", the neural structure and its biological / electrochemical functioning. But, it is the "software", how the neural components logically interact, that produces the results that we experience in our own minds.

The objective is intelligence -- how we see, think, remember, know ourselves, learn, plan create. To describe and explain those sophisticated functions it is necessary to start with simple first steps, building blocks, and gradually erect the total structure. The reader is urged to be patient with the review of fundamentals in the earlier portions of this paper, which review lays the basis for the development.

The development begins with universals and mechanisms for recognizing or identifying them. It then proceeds through perception, learning, and the processing of universals to mental concepts, thoughts, thinking and memory. Then purposive behavior and its related goals, motivation and consciousness are developed. Finally the implications for the issue of free will [versus predestination] and the designing of an artificial intelligence are addressed.

Keywords: intelligence universals perception brain concepts thoughts thinking conscious

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