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COG 356

Critical Thinking Essay 1 Colored

Modularity of Mind

Jerry Fodor is a very well-known cognitive scientist and American philosopher who dedicated most of his life's work to one of the most controversial topics in cognitive science. This topic is trying to characterize the architecture of the mind and Fodor does so in a very clear way. Jerry Fodor believes in the idea that the mind is modular and has articulated an argument for his belief. To understand Fodor's argument, you first must know and understand Fodor's definition of a mental module, as many authors have their own definitions. A mental module is a small piece of one's mental structure that is independent and can be combined to form a more complex structure or system. With this said Fodor is considered to be a strong advocate for certain human processes being self-contained or modular. Lastly, another basis of Fodor's hypothesis describes how the system of the mind has base cognitive functions and knowledge that everyone is born with as an infant. Fodor characterizes this knowledge as cognitive "furniture" and your base knowledge is designed to evolve over time through your experiences.

Fodor describes the mental architect of the mind as being a three-tiered system. The first tier of the system is the transducer tier, which transforms stimuli from the physical world or environment into a form that can be read by our mental systems. The second tier consists of input systems, which are the systems that receive stimuli from your senses and are considered to conduct lower level cognitive processes. Included in Fodor's argument for the modularity of mind, he describes input systems as having nine specific properties that must always be met. The

third and final tier of the system is central systems, which are systems that deal with high-level cognitive functions.

As I previously stated Fodor describes the input system as having nine different properties, with the first and one of the most important properties being domain specific. This meaning that input systems can only operate based on specific stimuli. The second property says the system must have a mandatory operation or operate without influence from one's personal experiences. The third property states that the system must have limited central accessibility, meaning that one's emotional processes don't interfere with visual stimuli transformation. The fourth property is that an input system must have fast processing, due to the fact that modules are self-contained processes should be relatively fast. The fifth property of input systems is modules must be informationally encapsulated, meaning that they don't need outside information from other systems to perform tasks or processes. The sixth property of an input system is that modules have "shallow" outputs, meaning the result of the input system is basic and not complex or else it would not be considered modular. The seventh property is that input systems must have a fixed neural architecture which is in contrast to central systems. The eight property of an input system is that a system must have characteristics and specific breakdown patterns. Due to this property, Fodor argues that this is where brain damage occurs when there is a failure of certain input systems. The last property of an input system is that it has a characteristic ontogenetic pace and sequencing. This means that your cognitive abilities must mature in a specific way, going along with Fodor's belief that humans are born with a basis of cognitive functions and knowledge. Under Fodor's hypothesis there must be aspects of all nine of these properties for something to be considered an input system and modular.

All of the nine specified properties of an input system that I explained before all attribute to making them modular under Fodor's hypothesis and definitions. Although, a central system, on the other hand includes higher-level cognitive processes requiring knowledge from other systems to complete processes and tasks. Therefore, going against Fodor's hypothesis for it being modular. Everything that an input system needs to perform a process is stored within, allowing every process to be performed within the module, showing that it is modular. An example of processes that would be performed by a central system are reasoning and problem solving, as they are both considered to be higher level cognitive processes. When you are working through a problem or trying to reason an argument you often use outside knowledge or information to help form your argument or solve your issue. This is where Fodor considers the system to be nonmodular because you are not just working in the system anymore because you are pulling knowledge from other systems as well. Fodor concludes that any higher-level cognitive process is considered to be nonmodular and regards every system that conducts lower-level cognitive processing as modular. With all this said, this is Jerry Fodor's argument for his belief in the modularity of mind.

Work Cited:

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