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The Modularity of Mind

Scientists and philosophers have intensively researched in the areas of the mind and brain, especially in the late-twentieth century. The core of this research concerns the understanding of cognitive tasks. The nature of intelligence contains two philosophical perspectives. The previous standard view claimed that the human mind is a “general-purpose problem solver” and contains a ‘general intelligence’ to answer “an indefinitely large number of different tasks” (Okasha 113). Hence, this view assumes a universal intelligence. The rival view, which is known as the “modularity of mind” perspective holds that there are a “number of specialized subsystems or modules” with specific cognitive abilities to solve specific problems (113). Because of this ideology, modularity of mind does not recognize a universal intelligence. The modularity of the mind, which assumes certain characteristics, is supported by deficit-studies and specific functions like language-acquisition, while the existence of a universal intelligence and skills like logic and reasoning are objections to it.

The arguments for and against the modularity of mind are built on certain characteristics of specific mental modules. These modules are defined to be (1) domain specific, (2) operate mandatorily, and contain (3) encapsulated information. The domain specific characteristic states that the specific modules perform a narrow set of tasks. For example, language acquisition is domain specific since it only contributes to language learning. Furthermore, this module should

be involuntary, i.e. the modules should operate mandatorily. This can be displayed by an individual's involuntary act of listening to someone else speak. Finally, the encapsulated information states that one cognitive capacity does not overlap with another cognitive capacity. The modules are, therefore, a partition of the mind since they are disjoint subsets of the brain. The fear of benign snakes is such an example. Although one part of the brain recognizes that the snake is harmless, the information does not travel to another part of the brain to convey that the reaction should not be fearful. This concept can be demonstrated through the Muller-Byer Illusion that portrays two lines of the same geometrical length to have seemingly different lengths (116). These examples display that the "perceptual mechanisms are informationally encapsulated – they do not have access to all of the information we possess" (117). The characteristics of the mind's modules are the foundation for further arguments to build on.

The modularity of mind contains various supporting and opposing arguments. Deficit-studies are "the most compelling evidence for the modularity hypothesis" that "comes from studies of patients with brain damage" to illustrate that the existence of specific modules are plausible (113). These studies display that even though some individuals have lost certain cognitive capacities, their other functions work properly. For example, patients of amnesia suffer from short-term memory but have all the other functions unimpaired. They display that "modularity" is "against the view of the mind as a general-purpose problem-solver" (115). Therefore, the proponents of the modularity of mind claim that if there was one universal intelligence, then one could not have lost only one capacity while keeping the others. On the other hand, the opposition to the modularity of mind concept argues that even though the mind is partially modular, with regards to language and perception, it is not completely modular. One counterexample is the ability to reason or question. The ability to reason is the same skill that is

applied whether it concerns reasoning that is employed while constructing jury decisions or conducting research. One of the opponents of the modularity of minds was Jerry Fodor. He argued that even though “perception and language are probably modular,” “thought and reasoning are almost certainly not” (118). Therefore, Fodor claimed that “best research strategy for cognitive psychologists is to focus on perception and language, ignoring thinking and reasoning” (119). Fodor considers some sort of universal form of intelligence exists in the human mind while not completely ruling out modularity. Still, his claims are deemed controversial by his contemporaries. All in all, although no compromise between these two perspectives has been consolidated upon, these are some of the arguments for and against the modularity of mind.

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