Three Assumptions Found in Cognitive Systems

A “cognitive system” is a system either natural or artificial with the ability to perform functions that it was created to achieve. To perform these functions, it is necessary for these systems to make certain assumptions during its operation. To support this idea, this essay will introduce three distinct examples of assumptions made by cognitive systems to perform its operations. These examples include: the assumption that the system will be provided with an input, the assumption that the output produced needs to be the same type as the input and the assumption that the receiver’s interpretation of sound is correct.

First, a data processing system assumes that it will be given an input of information from the external environment. This assumption is important because a processing system performs internal operations on the given inputs to produce an output. An example of this type of system is an calculator. A calculator is tasked to find the sum of two numbers: 89 and 45. To perform the necessary functions to find the sum, it needs to be given the inputs (89 and 45) first before the system can operate to yield the output.

Second, a data processing system can also follow the assumption that the output it provides needs to be the same type as the input given. When a system is given an input of a certain kind, it will assume that the output needed will be of the same kind. For instance, when a calculator needs to find the sum of two integers, it will be most logical for it to assume that the output should be an integer as well.

Third, a human’s auditory system assumes that the sounds that they hear are correct. This is a reasonable assumption as the auditory system relies both on the sound coming in and the receiver’s subjective interpretation. When a sound enters the ear and into the brain, the brain processes and compares it to sounds they have stored into the brain. By doing so, the receiver can determine what the sound is. Because of this subjective factor, the receiver’s interpreted sound is correct even if it does not match the actual external sound. The receiver will continue to assume that their identified sound is correct unless specified otherwise.

In conclusion, based on the examples listed above, it provides good evidence that cognitive systems require the necessary assumptions to carry out its operations.

References