**Give three concrete examples of explanation based on the use of analogy in one or more areas of Cognitive Systems**

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Analogy, defined as a cognitive process that creates a relationship based on similarities between two subjects, can be used for clarification. Explanations based on the use of analogy can be useful in aiding reader comprehension of an unfamiliar domain, giving examples of possible application and creating visualizations that enhance retention of the concept.

Analogy aids the comprehension of a new domain. For instance, Pinel explained the set-point model by comparing it to a thermostat-regulated heating unit (123). The components of the set-point model are the set-point, detector, and effector mechanisms which correspond to the thermostat, thermometer and heater respectively. This analogy summons the inference that the effector regulates the environment until reaching a set-point and if there is a drop, the detector restarts the whole process. In this example, the familiar domain is the thermoregulation system which functions as a model for one’s understanding and ability to draw new inferences about set-point theory, the less familiar domain. This analogy is useful because it makes grasping the concept easier (Gentner et al 132).

Analyses can provide visualizations that enhances retention. Consider the leaky barrel model as an analogy for the settling-point model of body-fat regulation (Pinel 124). Water from the hose enters a barrel, increasing the weight of the barrel and the amount of water leaking from it. The pressure at the hose also increases which decreases the amount entering. This system ultimately settles into an equilibrium where the water level remains constant but because this level is not predetermined, it is a settling point rather. This analogy is useful because it forms an association between a concrete visual image (the leaky barrel) and an intangible subject (the settling point theory). This vivid image can be used for easy retrieval of information about the particular concept (Doumas et al 1).

In advocating the extended mind, Clark and Chalmers compare Otto’s notebook to the memory stored in one’s brain. From this, one can correctly infer that Otto’s notebook helps Otto retrieve old information and maneuver the world. Otto’s reliance on the notebook mirrors healthy individuals’ dependence on their memory which supports the extended mind theory where objects in the environment function as part of the mind. This is an example of analogy’s usefulness in strengthening arguments and potentially shifting perceptions with minimal effort.

Analogy can be effective and beneficial in increasing understanding, creating visuals that boost retention and providing applications of unfamiliar subjects. Thus, it is a powerful tool in forming explanations.

**References**

