

A "Vase" or A "Face": is (in Part) an Influence of Image Schemas

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Abstract: *Perceptual organization concerns the way sensory information is organized and formed into a perceptual object. The role of visual schemas is to match visual sensory inputs with object representations in our memory for its recognition. Both bottom-up and top-down attention mechanisms guide visual schemas. Yet, how this object is rendered meaningful? And does abstract knowledge linked to an object plays a role in its visual perception? The answer for these questions is discussed in the few coming paragraphs.*

Keywords: *perceptual organization; visual schema; image schema; figure-ground segregation*

In order to efficiently process visual input, the brain actively uses previous knowledge and expectations about what the world should look like (Jolij & Meurs, 2011). According to Hochberg (1968) any analysis of shape and scene perception must be conducted on the mental representation or image in the mind's eye which he called a schematic map or a *mental schema* rather than on the stimulus itself.

In this consequence we can learn more about *visual schemas* which are defined as active functional units or object representations that cooperate and compete to determine which representation best matches the object (Yuanlong Yu, Mann & Gosine, 2012). According to Logan (1996) *objects* refer to perceptual groups or units. These *perceptual groups* are formed through the application of the well-known gestalt principles of organization. At the level of its constituting parts, a single perceptual group or object may have a hierarchical organization of its parts previously defined by certain perceptual principles. Vecera & Behrmann (2001) refer to this perceptual grouping definition of *object* as a *grouped array* representation which is an array-format that codes features in specific retinal locations into coherent chunks of visual information that correspond to objects or shapes. Significantly, this group array can introduce a more profound description of *visual schemas*.

In coherence with group array is perceptual organization as described by Vyvyan Evan (2010). In his consideration a perceptual organization is integration of neural codes by the brain to form a perceptual object which he called a *percept*. Yet he differentiated in the process of perception between such formation of the *percept* and the formation of a *concept* which he denoted by *image schema*. Then he defined a *concept* or *image schema* as past experiences and conceptual knowledge which is meant to identify and categorize the *percept*. Further he made a comparison between *percepts* and *concepts* or let us say *visual schemas* and *image schemas* in one crucial aspect of our discussion. This aspect is how do *percepts* and *concepts* arise?

Precisely here, lies the point of our interest. *visual schemas* rely on multimodal sensory inputs where computing and processing take place at the same instance of perception with *bottom-up* and *top-down* processing integrating in an interweaving manner applying through their various well known mechanisms. *Figure ground segregation* - with *border ownership* as one of its crucial elements - is one example upon which such mechanisms are applied (Mihalas, Dong, von der Heydt, & Niebur, 2011). On the other hand *concepts* or *image schemas* arise from abstract conceptualization where schematization includes a wide range of information types which is not restricted to instantaneous sensory inputs for resolving a certain *percept*.

Image schema in my speculation is simulated to a magnificent creature with outstanding abilities in our minds. It is very special and unique for each individual as it is the sum of all the experience of his own life. In my opinion, *image schemas* can seriously influence by a mean or another our perception, and that is *why* not *how* some of us pick up the *face* while others tend to observe the *vase*.

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