Perceptual Metaphors and Creativity

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Metaphors are not limited to language, but can also be found in other modes of perception, namely vision, hearing, touch, smell and taste. However, there have been relatively few studies of non-linguistic, perceptual metaphors. In this research we focus on visual and pictorial metaphors.

As multimedia systems are becoming pervasive, more and more information is being presented and communicated visually through icons, images and pictures. We are interested in exploring what role metaphors play in the visual medium. For example, it is already recognized that metaphors are quite pervasive in visual arts, but these metaphors are either iconic or conventional, or, as in the case of modern art, their interpretations are quite unconstrained and heavily depend on the background of the viewer. Advertisement, however, is one genre where there is a message that the designers clearly intend to communicate.

Much creativity goes into designing an ad that is appealing and grabs attention, and metaphors play a key role in this process. In this research we will be focusing on pictorial metaphors in advertising and other visual modes of communication to study their cognitive role.

Metaphors based on perceptual similarity are considered to be one of the hallmarks of creativity. Our hypothesis is that perceptual similarity in terms of color, shape, texture, etc. may form the initial bridge between two seemingly unrelated or dissimilar objects or situations for metaphorical transference to take place. If the process is successful, then those two unrelated objects are made to look alike by creating a new conceptual category.

Moreover, the surprise factor of this discovery grabs attention and gives a kind of emotional satisfaction to the viewer. It has also been argued that homo-spatiality plays a crucial role in alerting the viewer to the possibility of a visual metaphor.

In our study, we use an algorithmic image-based retrieval system to generate pairs of perceptually similar images, and then ask the participants to interpret the pairs. Given an image as a query, the image retrieval system uses color, shape and texture-based similarity metric to get other similar images from a given database. Participants are then asked to interpret pairs of perceptually similar pictures, which are intermixed with pairs of perceptually non-similar images. We analyze

1. Number and variations of metaphorical interpretations that a perceptually similar pair of images produce.
2. Conceptual interpretations assigned to these pairs by subjects on the basis of our categorization that we have derived from our analysis of various pictorial metaphors.

We divide interpretations broadly into four categories (Meaning and association, Cause and effect, Whole and part and Functions).

After this study we show
1. How perceptually similar pairs of images help us to interpret pictures metaphorically?
2. We propose a cognitive model to explain how perceptual similarity can serve as an anchor for pictorial metaphors and create new similarities.
3. As an application we also propose a computational system that can help us to create conceptual relations between two dissimilar concepts to come up with creative and impressive metaphorical interpretations. This approach makes use of image-based search, and interpretations generated by the subjects, to come up with an online idea generation tool.

We also discuss the implications of our experiments to the issues directionality and intention in metaphor.
References:


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