

Creativity in Metaphor

Keywords: Metaphor, (dis)analogy, exceptions to defaults.

We will address some issues concerning the relationship between metaphor and creativity in intelligent systems and people. The issues have risen out of an AI project that has developed a particular theory of metaphor understanding, and a partial implementation of the theory in a working computer program. The theory and system are intended both as a contribution to the engineering of language understanding systems and as an offer of possible principles and mechanisms for consideration by psychologists, philosophers, etc. interested in metaphor.

We cast metaphor intuitively as involving a source subject matter and a target subject matter. For example, in saying “The idea was deeply buried in my mind” the source subject matter is a commonsense one involving physical objects and terrain, whereas the target involves ideas and minds. As is common, we view metaphor as resting on mapping links that put certain aspects of the source in correspondence with certain aspects of the target. The links involved in understanding a given metaphorical utterance are usually already known to the understander although, in the most creative types of metaphor, they may in part or whole be created as part of the act of understanding.

The issues are as follows. (They are focussed on language as opposed to visual art and other types of medium that can be metaphorical. However, they can be generalized to such media.)

(1) Although our approach to metaphor, along with various others within AI and outside, is partly based on analogies between the source subject matter and the target subject matter, we give a much weaker role to analogy (whether pre-existing or freshly created) than other theories tend to. In particular, when a metaphorical utterance goes beyond the source/target mappings already known to the understander by using unmapped aspects of the source, *possibly in a very creative way*, we propose that generally the understander, rather than trying to invent new mapping links to cover these aspects, instead seeks to connect these aspects to aspects that are indeed already related to the target by mappings known to the understander. This within-source connection can involve an indefinite amount of reasoning. We hold not only that this is computationally more acceptable, but also that in many cases it is hard to maintain that the speaker intends *any* aspects of the target to correspond to the unmapped aspects. Rather, the latter are (usually) there to cause a particular use of an array of already-known mapping links, and *not* to take part in an extended analogy. We believe that this approach not only eases the problem of how to understand creative metaphor itself, but also has profound consequences concerning the type of information that creative metaphor conveys about the target subject matter, while allowing utterances to be much more creative than would be possible if analogy to the target were fully involved.

(2) Although in our approach an understander knows a variety of specific metaphorical views (similar to conceptual metaphors of Lakoff etc.), such as a view of IDEAS AS PHYSICAL OBJECTS, and thereby knows specific mapping links, we also hold that much information in metaphor is conveyed from source to target by general transfer principles that apply whatever specific metaphorical views are in play. For example, one principle governs the transfer of affective (emotional, evaluative, etc.) information from source to target. This both greatly restricts the amount of specific mapping needed in specific views and greatly expands the class of creative metaphors that can be handled.

(3) We hold that one important function of metaphor, especially when (even only somewhat) creative, is to convey possibly-creative exceptions to default situations in the target domain. Metaphor theorists tend not to pay explicit attention to default information and reasoning, and therefore tend to fall into the trap of taking all information to be black-or-white. As a result, a myth has arisen that if source-derived information conflicts with known target information, the target information should win. However, there is no reason for this to hold when the target information is merely a default or is otherwise uncertain. Our approach handles this via an integrated approach to default reasoning encompassing source, target and their interactions, and by a simple principle that gives some primacy to source-derived lines of reasoning when conflict-resolution is done.

(4) Our approach involves the use of a type of reasoning space that is closely akin to “blend” spaces in Conceptual Integration (or Blending) theory. However, the partial primacy given to source-derived reasoning lines in point (3) is an important difference from, or addition to, blending theory as so far conceived.

These and possibly other issues will be fleshed out and exemplified in the talk.

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