Similes and Metaphors for Creativity

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1 Conceptual structures

The importance of metaphorical thinking in promoting creative ideas has been widely discussed for many years and this aspect is here considered, focusing on innovations in products and processes in the manufacturing industry.

- A Metaphor is represented by the insertion of a concept (often a single word) belonging to a specific semantic context, without any additional comment, into a sentence that presents concepts belonging to a different context
- A Simile is an explicit comparison between a concept, or more often a process, an activity, belonging to a context and a correspondent concept/process coming from a different one.

The two conceptual domains that a metaphor connects are termed "source" and "target", and the conceptual transfer, in order to be effective, has to comply to the so-called "Invariance Hypothesis": the mapping can exercise its suggestion if it is applied to similar "image-schemas" on both sides of the connection. Image-schemas can be equated to sub-processes (examples proposed by the literature are Merging, Matching, Iterating, Splitting, and the like).

Living systems adapt to their environment operating on the base of models that keep being reinforced, if successful, through time. Modeling , besides being a tool of operational behavior, is the mechanism we use to build our own main internal knowledge structure, during our lifetime. At birth our mind is endowed of genetically transmitted models, or instincts, and right after birth we start building new ones, experimenting, consolidating, correcting.

As a person specializes in a professional job, his or her knowledge structure tends to crystallize to specific models, thus building that unique set of skills and experiences, that integrates explicit and implicit knowledge, unique and practically impossible to emulate.

Educated rational thinking consists, in this light, in exploring (every time an issue needs to be addressed) one's knowledge structure, possibly modifying it along the way while applying and testing models to the problems afforded in one's professional life.

A typical issue connected to this exercise is the risk of losing, as one's experience grows, the flexibility to criticize the existing models.

2 Models flexibility

The activity of problem solving, seen from the perspective of model exercising, consists mainly in searching for the models that more closely seem to reflect the current situation, simulating the outcomes of a number of different actions, evaluating the forecasted impacts, and finally selecting what looks like the optimal action according to the best fitting model.

Knowledge structures, like all complex systems, prosper at the edge of chaos (which is at the same time the edge of stability), in the sense that in order to evolve have to maintain a dynamic equilibrium between an excessive stability (where new and un-processable situations are simply ignored by the available models) and an excessive liquidity (where each new event tends to modify the structure, creating too many ad-hoc models). Creativity in affording new issues needs the right level of flexibility.

Metaphors and similes have the capability of shaking consolidated structures and promoting new conceptual sprouting.

One Author that has devoted his professional life to creativity is Edward de Bono, that introduced the expression "lateral thinking" while presenting ways to promote innovation in problem solving [1]. In light of the conceptual structure defined above, lateral thinking equates to the creation of a bridge between a "mainstream" set of links connecting concepts and models relevant to the domain in which a specific problem manifests, and models belonging to a different domain.

This technique has the capability of shifting the perspective that a domain expert generally uses (often unconsciously) to analyze situations and solve problems, because of the "exotic" other end of the bridge: a pictorial view of this bridge between conceptual structures is in figure.

Because of the self-organizing capability of a conceptual structure, the insertion of a new and unexpected link triggers new perspectives, new views of old and well known issues and possible solutions.

An interesting experiment, soon to become a product, is the "metaphorical search engine" realized by experts working at "YossarianLives!", based on the idea of retrieving words that are "metaphorically relatable" to a queried word.

Another method for supporting this search for metaphors an similes could be the use of a "traditional" search algorithm with queries based on two sets of words, the first relevant to the industrial domain where an organization is operating, and the second belonging to a different domain.

The search is set to retrieve sources where both sets are conspicuously present: the results should provide texts having a high probability of containing comparisons of situations, actions, strategies, belonging to the two conceptual domains.

References

1. De Bono, Edward: *Lateral thinking: creativity step by step*. Harper & Row, ISBN 0-14-021978-1, 1970.