

■ Guest Editorial

Metaphors in Knowledge Management

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This special issue of Systems Research and Behavioural Science is about the systematic use of metaphor and its implications for behaviour, especially in the field of knowledge management. Since Berger and Luckmann's (1966) treatise on the social construction of reality organization scholars have begun to view organizations as linguistically created worlds (Tatchenkery, 2001). The language we use in organizations plays a crucial role in the way organizations function. Language structures what we see in organizations and how we act in them. With the attention for language came the debate about the role of metaphor in organizations and in organizational theory (Morgan, 1986; Oswick and Grant, 1996; Cornelissen, 2005).

More recently the interest into the role of metaphor in organizational theorizing has reached the knowledge management (KM) community. Hey (2004) was one of the first in the KM field to do a metaphor analysis of the three key concepts in KM theory: data, information and knowledge. He concluded that knowledge is metaphorically conceptualized as either a solid or a fluid. In a systematic metaphor analysis of three seminal KM texts Andriessen (2006) identified not two but 22 different metaphors that are used in relation to knowledge. It seems that metaphors are important meaning making devices in the KM domain.

To give an idea of some of the metaphors that are used when we reason about knowledge we

analyse the titles of all publications in Systems Research and Behavioural Science available through the Wiley website. Forty-four titles contain the word 'knowledge'. To identify metaphorical use of words in these titles we apply the Metaphor Identification Procedure developed at the Vrije Universiteit in Amsterdam (MIPVU, see Steen *et al.*, 2010) to all lexical units directly preceding or following the word 'knowledge' in the title. Most of the time this is a verb or a noun. According to MIPVU a word is used metaphorically when the contextual meaning of the word in the title is sufficiently distinct from the basic meaning of the word.

In 13 cases the word 'knowledge' is preceded or followed by a lexical unit that is used metaphorically. In six cases this was a verb (2× to create, 2× to construct, 1× to acquire and 1× to transfer). The basic meaning of these verbs refers to building things ('Construction of knowledge in the mass media' and 'A theory of knowledge construction systems'), to creating something (New knowledge *creation* through leadership based strategic communities), to the process of buying something (knowledge *acquisition*) or to moving something (knowledge *transfer*). In the contextual meaning of these verbs no longer a concrete thing is manipulated but the abstract notion of knowledge. In six cases the word 'knowledge' is followed by a noun. The basic meanings of these nouns relate to buildings (knowledge *warehouse*), areas (knowledge *map*), things such as coal, trees and oil that exist in nature (knowledge *resources*) or a particular quality or feature that is typical of someone or something (knowledge *characteristics*). Again,

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in their contextual meaning these nouns no longer refer to a concrete thing but to something abstract. The thirteenth case contains the phrase 'knowledge-based development'. The word '-based' is used 'with some names to make adjectives describing the main substance in a product' (MacMillan, 2010). In the context of the paper title it does not refer to a product but to knowledge.

We can see that in all 13 cases metaphors makes us see knowledge as a thing that can be manipulated (constructed, created, bought, moved, stored, shown on a map, or used). This process of thingification (Gustavsson, 2001) or reification (Petrovic, 1983) is not uncommon in management thinking. Gustavsson (2001) shows that terms like 'organization', 'globalization' and 'technology' are also examples of phenomena that are thingified. Thingification makes it possible to treat a phenomenon as something objective outside of human beings and to manipulate and control it.

In this special issue we see metaphors as thinking devices that determine how we think and talk about the concept of knowledge. As we have seen above we often think and talk about knowledge as a thing. This is important because metaphors determine what characteristics of knowledge we highlight and what characteristics we hide. To illustrate this, take the example of the metaphor KNOWLEDGE AS A RESOURCE (Andriessen, 2008). In the metaphorical use of the term 'resource' in KM literature many attributes of resources are used to reason about knowledge. For example, knowledge is *used* in production, it is *adding* to the production process, it can be *stored* and *shared* and we even can talk about an *amount* of knowledge. The metaphor of a resource allows knowledge to be placed in a view of organizations as input/output (logistical) systems. However, in the English language, some characteristics of resources are not used, like the *size* or *weight* of knowledge. Some characteristics of knowledge are not covered by the metaphor and remain hidden, like the non-rivalry and non-additiveness of knowledge (Lev, 2001) and the tacitness of knowledge. To highlight these characteristics we need to use other metaphors.

This special issue aims to highlight the use of metaphor in KM theory and practice and is a

small step in a growing field of research. Already in 1980 Lakoff and Johnson (1980) identified several conceptual metaphors that are widely used in relation to knowledge. For example: THEORIES ARE BUILDINGS (Is that the *foundation* of your theory? The theory needs some more *support*. The argument is *shaky*); IDEAS ARE PRODUCTS (We have *generated* a lot of ideas this week. He *produces* new ideas at an astounding rate. His intellectual *productivity* has decreased in recent year); and IDEAS ARE COMMODITIES (It is important that you *package* your idea. That idea just would not *sell*. There is always a *market* for good ideas).

Reddy (1993) showed that much of the language that we use to talk about language is based on the CONDUIT metaphor. We conceptualize ideas, concepts, thoughts, meaning, feelings and sense as objects; words and sentences as containers; and communication as an act of sending and receiving these containers through a conduit (Try to *get* your *thoughts across* better. You still have not *given me* any *idea* of what you mean). Related to this is the MIND AS CONTAINER metaphor (It is *at the back of* my mind. You have a mind like a *sieve*) and UNDERSTANDING IS GRASPING (I *get* what you mean. That *went over* my head) (Lakoff and Johnson, 1999). Bereiter (2002) has shown that these conduit metaphors have a strong impact on how we reason about education, and not always for the good.

In research on metaphor use in KM two strands of research are developing. Hey (2004) and Andriessen (2006) are examples of research within the KM field that is aimed at finding metaphors in existing KM texts. This field of empirical research studies the impact of metaphors on theorizing and practice. This includes research into the various metaphors that are used to conceptualize knowledge in scientific KM publications, in KM practice and in KM education. This research highlights the benefits, limitations and consequences of the use of particular metaphors for KM theory and practice. The aim is to discover how our thinking about KM is limited by metaphors and to reveal their hidden ideology (Goatly, 2007).

More recently a second strand of metaphor research has developed in this field. It tries to find

alternative, novel metaphors for KM theorizing (Andriessen and Van den Boom, 2007; Bratianu and Andriessen, 2008). This research is based on the idea that all metaphors highlight certain characteristics of the topic and hide others. The suggestion is that we need new metaphors to highlight previously ignored characteristics of the complex notion of knowledge. This field of creative research aims to come up with novel metaphors that might expand our thinking about KM. The challenge is to come up with new metaphors that stick. Goatly (2007) warns us that this is a difficult task:

Original metaphors perhaps have the merit of undoing ready-made linguistic and cultural categories and the ontologies and ideologies which they manifest (...). However, because they are original, they are, by definition, one-off attempts to do this. Conventional metaphors, on the other hand, do not unsettle our modes of perception or action at all, since they have achieved currency as an acceptable way of constructing, conceptualising and interacting with reality. (...) there is an ideological or hegemonic struggle to get one's metaphors accepted as the conventional ones (pp. 28–29).

This special issue includes papers from both strands of research. The first paper by McKenzie and Van Winkelen analyses metaphors in KM education and uses the data from 30 visual presentations to analyse knowledge related metaphors in visuals made by students as part of a KM course assessment. The aim was to explore how visual metaphors can convey the social (communication), symbolic (comprehension) and psychological (reconceptualization) dimensions of reality with respect to knowledge. The analysis suggests that the enactment of the students' understanding of KM falls into six categories: natural objects in ecologies, processes designed to synthesize, metaphors associated with friction and power, connecting web metaphors, gaming metaphors and journey metaphors. Each of these is a radial metaphor: a metaphor that extends beyond the simple comparison between two domains. With radial metaphors we move incompatible attributes which grab our attention into the comparison

and create associations that did not exist when the two domains were separate. We also add a measure of background knowledge to fill the gaps and complete the patterns. It turns out that visual radial metaphors are a useful way to assess student comprehension of a paradoxical system like KM in a concise way.

The second paper by Basten analyses dominant metaphors that guide everyday practice in a knowledge intensive organization; an academic business school. The academics in this institution are all experts in the theory of knowledge intensive organizations. Yet, the collective narrative of the organization about itself that Basten constructs has little correspondence with the recommendations the academics write for others. The academic papers of the academics are polite, academic, rational, and focused on co-operation, sharing knowledge, and teamwork. The discourse of the narrative is cynic, rude, focused on pigeon holing and sabotage. To explain why these academics do not walk their talk Basten analyses the dominant metaphors in the narrative. It turns out a battlefield metaphor is dominant in the way the members of the institute make sense of what happened since the start of the organization. This battlefield metaphor helps explain the events in the Institute and the way they are interpreted and reproduced by its members. It summarizes the habitus in the Institute and makes the story of the organization, even though it seems illogic, logic in its own right.

The third paper by Bratianu is an example of research into novel metaphors for KM. Andriessen (2008) indicates that the metaphors we use in relation to knowledge strongly influence what we identify as knowledge problems and KM solutions in organizations. If we conceptualize knowledge as 'stuff' by using metaphors that have their basic meaning in the physical domain, we tend to identify only those problems that have to do with accessibility of knowledge. We then often start looking for solutions that help to store and distribute knowledge. When we use metaphors that have their basic meaning in the non-physical domain, like KNOWLEDGE AS LOVE (Andriessen, 2008) we are steered towards looking for knowledge problems that have to do with the preconditions for knowledge work

and the well being of the knowledge workers in the organization. Associated solutions have to do with reinstalling trust in the organization, improving the quality of the collaboration, and enhancing the working conditions of the knowledge worker.

Bratianu takes up the challenge of finding novel metaphors for KM. He starts of by analysing dominant metaphors in KM thinking. He does so by analysing the well-known SECI model by Nonaka and Takeuchi (1995) and some other knowledge flow models. The conclusion is that these models are based on metaphors that have their source domain in Newtonian dynamics. Bratianu continues by showing the limitations of these Newtonian metaphors. For example, in Newtonian dynamics the total energy of the system remains constant. However, knowledge can be created or it can be destroyed or forgotten so at this point the Newtonian metaphors break down. Then he introduces thermodynamic knowledge metaphors as an alternative. The benefit is that these metaphors make it possible to distinguish between cognitive knowledge and emotional knowledge. This enriches the concept of knowledge that now can be considered as a field of meanings and feelings in continuous dynamics. The latest insights in cognitive science research show the importance of emotions and feelings for the development of our mental models. The suggested metaphors based on thermodynamics can incorporate these new insights and can help create new ways to implement KM that integrate the cognitive and the emotional.

The contribution by Falconer illustrates how experimenting with novel metaphors can enrich the debate about KM tools. Focal point of his argument is the idea of best practice, a very common tool in KM for codifying and sharing knowledge. Falconer surgically tears apart the idea of best practice as a tool to improve decision-making in organizations. In a polemic style he argues that best practice descriptions seem to defy progressive, or even rational management thinking. As such this is already highly relevant for a journal like *SRBS* interested in KM. The relevance for this special issue on metaphor comes with Falconer's search for a novel metaphor that can encapsulate and enrich his critique on best practice reasoning. He suggests

the KNOWLEDGE AS CHEATING metaphor. This metaphor highlights the opportunism and laziness that comes with using best practice examples and hides the need for strategic thinking and serendipitous discovery among other things. It therefore fits Falconers critique on best practice very well and has as additional benefit that it is a compelling communication device. To address the issues that remain hidden by the KNOWLEDGE AS CHEATING metaphor he offers as an alternative the KNOWLEDGE AS EXPLORATION metaphor that can help highlight the need for innovation in organizations.

These four papers illustrate that metaphors have a wide range of possible applications in KM research. Metaphors can be studied in KM texts and visuals, they can be used to analyse the stories in knowledge intensive organizations, they can be used to develop new conceptualizations of knowledge that may lead to new ways to manage knowledge, and they can be powerful rhetoric devices in KM debates.

KM is a multidisciplinary field of study and bringing metaphors in adds the discipline of cognitive linguistics to this multidisciplinary. The final paper in this issue comes from the field of cognitive linguistics and provides a word of caution to those interested in doing metaphor analysis in KM. Steen is professor of Language Use and Cognition, a field that has extensive experience in analysing metaphors in texts, visuals and gestures. He addresses two major problems in metaphor identification in KM. (1) What counts as a metaphor in language, including language about knowledge? (2) What counts as a metaphor in thought, including thought about knowledge? Using quotations containing the word knowledge from various pages of the Philips company website Steen illustrates some of the difficulties of metaphor analysis. He provides general explanations and motivations of why these difficulties are important to anyone analysing metaphor in natural language data, including researchers of KM. His paper is aimed at readers who are not experts on linguistic analysis, yet wish to enrich their KM research with metaphor analysis. He concludes that we do not yet know much about the genuine effect of metaphor in KM and encourages KM researchers

to team up with metaphor researchers to produce useful new insights about when metaphor is used in which ways to think about knowledge and its management.

SRBS is an international journal in the field of systems science, including KM research. We hope that this special issue will help our SRBS readers to become aware of the dominant metaphors in KM research and their impact on KM theorizing. Metaphors are not just a matter of language, they are instruments for thought. As such they have impact on everything we study, including knowledge in organizations. We hope the issue will help KM practitioners worldwide to gain a new perspective on KM and to experiment with novel metaphors to implement and enhance KM policies and approaches.

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