

The aptness of knowledge related metaphors: a research agenda

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Abstract

Metaphors are common phenomena intellectual capital and knowledge management theories and practice. An important question to ask is: what are the 'best' metaphors we can use in our theorizing on intellectual capital and knowledge management? This paper addresses the question of the aptness of knowledge related metaphors. It concludes that the aptness of metaphorical expressions depends on three factors: the richness of the semantic field of the source domain, the validity of the mapping, and the ideological implications of the mapping. This conclusion results in a research agenda on the aptness of metaphor in knowledge management and intellectual capital theory and practice.

Keywords

Knowledge; metaphor; knowledge management; intellectual capital; aptness

1. Introduction

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

It seems that metaphors are important meaning making devices in our IC and KM domain. If that is the case, then an important question is whether it is possible to distinguish between 'good' and 'bad' metaphors in our theorizing and practice. What are the 'best' metaphors we can use in our sense making about IC and KM? In metaphor theory this question is known as the question about the "aptness" of a metaphor (Chiappe, Kennedy, & Chiappe 2003). In this paper we will explore the question of the aptness of knowledge related metaphors. Not by giving a definite answer but by investigating the question and its facets. This will result in an overview of research questions about the aptness of knowledge related metaphors that we believe should be answered through empirical research. We hope this research agenda will help guide IC and KM scholars in their search for the role of metaphor in theory and practice and their quest for finding better metaphors.

The paper is structured as follows. First, we will briefly summarize the literature on the debate on how metaphor works in language and thought. Next we will explore the dominant definition of aptness which states that aptness is "the extent to which a comparison captures important features of the topic" (Chiappe, Kennedy, & Chiappe 2003, p.52). This leads to a selection of three criteria relevant for the discussion on the aptness of knowledge related metaphors. Based on these three criteria we suggest a research agenda on determining aptness for metaphors in KM and IC theory and practice.

2. Literature review

2.1 Literature on how metaphor works

In this paragraph we will position ourselves within the ongoing debate about how metaphor works. For an extensive overview of the debate see (Steen 2007). Ortony (1993) summarizes the discussion as a debate between the "constructivist" and the "nonconstructivist" position. The nonconstructivist position treats metaphors as rather unimportant, deviant, and parasitic on 'normal usage'. In the constructivist view metaphors play a vital role in both language and thought. In this paper we adopt the constructivist view. We believe that many metaphorical expressions are more than just a specific use of language.

Many of them somehow structure and direct our thinking. We often think about one domain using the characteristics of another domain.

A variety of theories have been developed on how metaphor works. These differ in their view on how the process of transferring meaning from one domain/space/category¹ to another takes place. Tsoukas (1991) suggests the transformational model, Oswick et al. (2002) the comparison model, Black (1993) and Cornelissen (2005) the interaction model. Steen (2007) lists four additional models: the two domain approach as advocated by Lakoff and Johnson (1980; 1999), the many-space approach promoted by Fauconnier, the class-inclusion approach by Glucksberg and the career of metaphor approach from Gentner.

Describing the ins-and-outs of these theories is beyond the scope of this paper. However, the following three questions that rise from this academic debate are important for the purpose of this paper: 1) Do metaphors represent pre-existing similarities between source and target or do they create new ones? 2) To what extent do metaphors influence our thinking before they are expressed in language? And 3) to what extent are metaphors embodied in our brain and body?

2.1.1 To what extent represent metaphors pre-existing similarities?

This debate centers on the question whether metaphor is simply a matter of correspondence, highlighting the analogies in a source and target domain of the metaphor, or whether metaphor does more than that. Oswick and Jones (2006) favor the correspondence theory, which states that individuals pick a source domain that fits the characteristics of the target domain they want to highlight. For example, when we want to express that knowledge needs to be accessible to all members of an organization we may want to compare it to a fluid and say that knowledge needs to flow.

Cornelissen (2005; 2006) presents the domains-interaction model as an alternative. According to this model, the process that makes metaphor work is a two-way process in which the target and the source concepts are aligned, and correspondence is constructed and created, rather than deciphered. In this model the structure of the source helps to structure the target. In the example above, the very expression that knowledge needs to be *accessible* is based on the idea that knowledge is like some sort of physical substance to which members of an organization can have access. Knowledge as an abstract concept has on its own not much characteristics; it gets these through the use of metaphor (Lakoff & Johnson 1999).

In this paper we adopt the view that metaphor is capable of producing new meanings beyond pre-conceived similarities. When used to conceptualize the abstract concept of knowledge, the structure of the source helps to structure the target. For example, from the KNOWLEDGE AS A COMMODITY² metaphor it follows that knowledge can be sold, stored and distributed.

2.1.2 To what extent do metaphors influence our thinking before they are expressed in language?

In the transformational and comparison models as well as the interaction model, the use of metaphor is seen as a deliberate. Scholars decide what metaphor to use to create a certain effect. In this view, authors have the option to use either literal or metaphorical language. For example, Tsoukas portrays metaphorical and scientific languages as the two ends of the same continuum (Tsoukas 1993). So although metaphors help structure reality, in his view authors have the option to use them or not.

In contrast, Lakoff and Johnson (1999) have shown that in many cases individuals unconsciously use metaphor to conceptualise and structure the target domain. Especially abstract concepts like time, knowledge, and relationships get their structure from metaphor. It is impossible to think or talk about any of these concepts without using some type of metaphor. Lakoff and Johnson claim that we do not first decide what characteristic of a phenomenon to highlight and then pick our metaphor, but that the metaphor allows us to bracket (Weick 1995), certain characteristics that would not be possible without metaphor.

In this paper we adopt the view that metaphor plays an important role in unconscious framings and conceptualizations (Marshak 2003). Metaphors go beyond reasoning. Many metaphorical expressions are not used deliberate (Steen 2008). They are used nondeliberate by the speaker and understood by the hearer because they play a role in the unconscious processes of the brain. This position has two

¹ Each metaphor theory adopts a different vocabulary, whether it is source and target domains, vehicle and tenor, vehicle and topic, spaces, or categories. It is interesting to note that each of these in itself is a metaphor. In this paper we will use the vocabulary of source and target domain.

² Following Lakoff and Johnson (1999) we will write metaphors in capital letters.

consequences. First, it indicates that metaphors have considerable influence on our thinking of which we may not be aware. Second, it implies that we do not always have a choice to use metaphorical or literal language. Especially when we use abstract concepts like we do in the field of IC and KM, we don't have a choice but to use metaphorical expressions.

2.1.3 To what extent are metaphors embodied in our brain and body?

Lakoff and Johnson are proponents of the strong conceptual metaphor view (Cameron 2007a) that assumes that conceptual metaphors are embedded in our body and that linguistic expressions are the result of connecting two of those conceptual domains. According to Lakoff and Johnson we use so called conceptual metaphors that are based on the sensor and motor functions of our body and that are 'hardwired' in our brain. A weak conceptual metaphor view excepts the idea that not all metaphorical expressions are reflections of conceptual metaphor. Not all metaphors are hardwired in our brain and we have a choice to use alternative metaphors.

In this paper we adopt the weak conceptual metaphor view. We follow Cameron (2007a; 2007b) in her idea that people's use of metaphor is contingent, shifting and variable. The use of metaphor is as much the result of conceptual metaphorical structures in our brain as it is of the social contexts of our discourses. This view opens the way for research into the way dominant metaphors in cultures, public discourses and scientific domains influence our thinking. And it implies that we are not predetermined to use only a limited number of metaphors that are closely related to the functioning of our body. We have a choice to use a variety of metaphorical imagery.

2.2 Literature on metaphors in intellectual capital and knowledge management theory and practice

From the overview above it follows that in this paper we see metaphors as thinking devices that determine how we think and talk about the concept of knowledge in intellectual capital and knowledge management theory. They determine what characteristics of knowledge we highlight and what characteristics remain hidden. This process of making sense of knowledge to a large extent takes place at an unconscious level of our thinking. However, we do have the option to make the influence of these metaphors explicit and to adopt alternative metaphors. In this paragraph we will briefly explore the literature that deals with knowledge related metaphors.

Already in 1980 Lakoff and Johnson (1980) identified several conceptual metaphors that are used in relation to knowledge and that are widely used in the English language. 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 years.) And IDEAS ARE COMMODITIES (It's important that you *package* your idea. That idea just won't *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 haven't *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 & 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.

Hey (2004) was one of the first in the KM field to do a metaphor analysis of the key concepts in KM theory: data, information and knowledge. He concluded that knowledge is either conceptualized as a solid or a fluid. Andriessen (2006) identified not two but 22 different metaphors that are used in relation with knowledge in a systematic metaphor analysis of three seminal KM texts. Both Hey (2004) and Andriessen (2006) are examples of research within the IC and KM field that is aimed at finding metaphors in existing IC and KM texts. This field of empirical research studies the impact of metaphors on theorizing and practice. The aim is to discover how our thinking about KM and IC is limited by conceptual metaphors and to reveal their 'hidden' ideology.

More recently two further strands of metaphor research have developed in this field. One strand tries to find alternative, novel metaphors for KM theorizing (Andriessen & Van den Boom 2007; Bratianu & Andriessen 2008). This research is based on the idea that all metaphors highlight certain characteristics of the topic and hide others. The idea 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 and IC. The challenge is to come up with novel 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).

Another strand of research is looking for ways to use metaphors in KM interventions in organizations (Andriessen 2008; Moser 2004). Here the idea is that the aim of KM and IC research is to improve organizational reality. Metaphors may be a useful new tool in this endeavor. Introducing specific metaphors into an organizational discourse on KM may help improve the quality of the conversation and thereby the quality of the KM intervention.

In the chapter 4 we will argue that for all three strands of metaphor research in the field of IC and KM the question of the aptness of metaphors is an important question. First we will suggest three criteria that may be used in all three strands to determine the aptness of knowledge related metaphors.

3. The aptness of metaphor

This chapter deals with the aptness of metaphors. Our aim is to identify relevant criteria by which the aptness of metaphors in KM and IC discourse can be judged. A good starting point is the definition for aptness as proposed by Chiappe et al. (2003). They define aptness as “the extent to which a comparison captures important features of the topic” (p.52). To illustrate this they compare two metaphors for life. The first is “life is a valuable gift”.

“This metaphor captures some important features of life, such as the fact that it is precious and that we are lucky to have it. However, perhaps it does not capture as many important features of life as does “life is a journey” (Lakoff and Johnson, 1980). According to the “conventional metaphor” view, the latter reflects a longstanding conceptual mapping between the domains of “life” and “journeys” that can be elaborated in many different ways. As a result, it captures many important features associated with life—that it often has a goal and destination, that it can be long and arduous, that one can lose one's way, that it can be undertaken with fellow travelers, and so on. Understood in this fashion, the comparison between life and journeys may be more apt than that between life and a valuable gift” (p.52).

This definition includes two important criteria for aptness. The first is a quantitative one and relates to the potential of the source domain to transfer characteristics to the target domain. The potential of LIFE IS A JOURNEY is bigger than LIFE IS A VALUABLE GIFT. A journey has more elements related to it than a gift and therefore the mapping from source to target is potentially bigger. This criterion is phrased more precise by Tourangeau and Sternberg (1982) as “within-domains similarity” which they define as “the degree to which we succeed in constructing a system of beliefs within the domain of the tenor parallel to our beliefs about the vehicle” (p.225). Put differently, a source domain that is rich in features has a bigger potential in providing useful mappings than a source domain that is less rich. Each source domain refers to a semantic field. Semantic fields are “a set of lexemes which cover a certain conceptual domain and bear certain specifiable relations to each other” (Kittay & Lehrer 1981, p.32). These specifiable relations are what Tourangeau and Sternberg refer to as a ‘system of beliefs’. For example, the semantic field of “resources” includes lexemes (words) like “use”, “produce”, “run out of”, “waste”, “use up”, “useful”, etc. (Lakoff & Johnson 1980, p.48). The more lexemes a semantic field of the source domain covers, the higher the potential of the metaphor.

In our discussion on the aptness of knowledge related metaphors the quantitative criterion is useful. Metaphors whose source domain refer to a rich semantic field have a bigger potential for being apt than metaphors whose semantic field is poor. For example, the KNOWLEDGE AS COMMODITY metaphor underlies metaphorical expressions like: to *buy* knowledge, to *sell* knowledge, and to *store* knowledge. The source domain of commodity refers to a rich semantic field in which commodities can, among other things, be bought, exported, imported, peddled, promoted, recycled, retailed or traded (Goatly 2007).

The second criteria that is included in the aptness definition is a qualitative one and is related to the importance of the features of the topic that are captured by the comparison. Chiappe et al. (2003) state in their “life” example that journeys not only capture more features but also that these features are important features of life. A good metaphor is capable of capturing important features.

This qualitative criterion is a bit problematic. What does it mean that a feature is important? And important to whom? On what basis can we decide that a feature a comparison captures is important? For the purpose of assessing the aptness of knowledge related metaphors we need to expand this qualitative criterion. In our view two factors need to be taken into consideration: a) the validity of the metaphorical mapping and b) its ideological implications.

a) In many cases not all characteristics of the source domain can be mapped onto the target domain. For example, in our KNOWLEDGE AS COMMODITY example the source domain of commodities has the characteristic that commodities tend to get used up when they are utilized. This is not the case with knowledge. The platitude that “knowledge is the only resource that increases through use” refers to this invalid mapping. When judging the aptness of metaphorical expressions the validity of the mapping needs to be taken into consideration. However, with abstract concepts like knowledge this is not a straightforward thing to do. As knowledge has no physical referent in the real world there are hardly any objective criteria to judge the validity of the mapping. Much depends on one's epistemological point of view. Epistemology is the philosophy of knowledge and over the history of philosophy many different theories have been developed. Each theory will have a view on the validity of metaphorical mapping. For example, if knowledge is seen as something that cannot exist outside a person then the idea of *storing* knowledge, based on a metaphorical mapping of KNOWLEDGE AS A RESEOURCE will not be valid.

b) In assessing aptness the ideological implications of the mapping also needs to be taken into consideration. Following Goatly (2007), we define ideology as the set of beliefs by which a group or society orders reality so as to render it intelligible. The ideological implications of the features captured by a metaphor depends on the effects the highlighted features have on the discourse in which they are used and on the actions that result from this discourse. “Language is not some transparent medium though which we think, but that shapes our thoughts and practices” (Goatly 2007, p.4). Because metaphors shape our practices, their aptness depends on whether they help shape our practices in the right direction. To judge the aptness of metaphor we have to look at the consequences the highlighting of certain features has for action. In doing so, we need to take three elements into consideration: 1) the context in which the discourse takes place, 2) the position of the person using the metaphor, and 3) the overall values with which to judge the rightness of the action.

1) The rightness of the actions that result from the discourse in which the metaphors are used is highly contextual. For example, in some situations it is very effective to conceptualize knowledge as a commodity (think about the \$1 billion in licensing fees IBM receives each year by *selling* knowledge). In other situations the same conceptualization can lead to dehumanization of organizations because the knowledge of the employees is seen as a commodity that can be taken out of their heads, making the people obsolete.

2) The people using the metaphors may hold a specific position within the organization. Certain metaphors may support their interests and position and help to exploit other people (Tinker 1986). Andriessen (2008) reports an experiment in which managers in an organization preferred the KNOWLEDGE AS WATER metaphor above a KNOWLEDGE AS LOVE metaphor because the water metaphor allowed for better control of knowledge. Employees on the other hand preferred the love metaphor because it helped them in expressing their needs for improved working conditions. So in judging the aptness of metaphors, the effect of metaphors on power relations should be included. This is in line with a strand of research called “critical metaphor analysis” (Charteris-Black 2005). Critical metaphor analysis “(...) demonstrates the importance of metaphorical patterns in vocabulary and grammar of English for representing and shaping ideologies and social practices” (Goatly 2007, p.2).

3) Whether our practices go in the right direction depends upon our values. So a discussion on the aptness of metaphors cannot do without values. Yet, this is not always acknowledged. When Cornelissen and Kafouros (2008) discuss the impact of metaphors on organization theory they leave out the question what the impact of metaphors through the theory is on practice. Instead they seem to assume organization theory is value free. However, this is not the case. For example, one of the metaphors that Cornelissen and Kafouros discuss is the ORGANIZATIONAL IMPROVISATION AS JAZZ metaphor. This metaphor promotes certain values. It was proposed by Frank Barret (Barret 1998) with the specific purpose to counter

“the mechanistic, bureaucratic model for organizing – in which people do routine, repetitive tasks, in which rules and procedures are devised to handle contingencies, and in which managers are responsible for planning, monitoring and creating command and control systems to guarantee compliance (...)” (p.620).

To summarize, the aptness of metaphors depends on three factors. The first one is the aptness potential. This is a quantitative factor that can be assessed by looking at the richness of the semantic

field the source domain of the metaphor refers to. However, this is a necessary but not sufficient factor for aptness. The second factor is the validity of the mapping. Not all characteristics of the source domain can be mapped onto the target domain. The third factor is the ideological implications of the mapping. This is a qualitative factor that can be assessed by looking at the discourse in which the metaphor is used and at the consequences the highlighting of certain features has for action. In this qualitative assessment of aptness the context, the power relations within that context, and explicit values need to be taken into account. The importance of this qualitative assessment is expressed by Goatly (2007, p.27): "For the influence of language upon our thought and perception of reality is most powerful when we are unaware of it, when it expresses hidden or, technically speaking, latent ideology".

4. Applying the criteria for aptness to research on knowledge related metaphors

As we have seen, three types of metaphor research are developing in the KM and IC arena: 1) analyzing the role of metaphors in IC and KM theorizing and practice, 2) finding alternative, novel metaphors to be used in KM and IC theorizing, and 3) using metaphors in KM interventions in organizations. In each of these strands of research aptness needs to be considered. For all three strands the question of aptness is important. Because no research has yet been done in this field we will suggest a number of important research questions. This research agenda is summarized in table 1.

When analyzing the role of metaphors in IC and KM theorizing and practice we should look at the aptness of the dominant metaphorical expressions. What are the dominant metaphors and what is the size of their semantic fields? How are the metaphors that authors and practitioners use related to their epistemological point of view? Are these two congruent? And what are the ideological implications of the metaphors used? To what extent highlight and hide the metaphors certain characteristics of knowledge and to whose favor?

When finding alternative, novel metaphors aptness should be our main guiding principle. We should look for novel metaphors that have a big aptness potential because they cover a rich semantic field. We should look for metaphors whose mappings are valid given our epistemological point of view. And we should try to identify new metaphors that can help highlight characteristics of knowledge that are underrepresented, so they can be used as an aid to influence power structures and humanize organizations.

When using metaphors in KM interventions in organizations again aptness should be the leading criterion. Here research can be aimed at finding metaphors with a big aptness potential and a high validity and that can be used in interventions. And we should look for practical ways these metaphors be used in interventions in organizations to help shape company strategies, influence power structures and humanize organizations.

5. Conclusion

Research on knowledge related metaphors is an exciting new field of research within the IC and KM field that has serious practical and societal consequences. In this new field the question of the aptness of knowledge related metaphors is pivotal. The aptness of metaphorical expressions depends on three factors: the richness of the semantic field of the source domain, the validity of the mapping, and the ideological implications. No empirical research has yet been done on the aptness of knowledge related metaphors. Therefore we proposed a research agenda as summarized in table 1. Addressing these nine research questions requires a mixture of disciplines including linguistics, psycholinguistics, psychology, sociolinguistics, sociology, and organizational science (change management, KM and IC theory). The IC and KM field has a rich tradition of multidisciplinary research and the topic of knowledge related metaphors provides the opportunity to expand upon this tradition in a new and exciting way.

Table 1: research agenda on the aptness of knowledge related metaphors

	Aptness potential	Validity of the mapping	Ideological implications
Analyzing the role of metaphors in IC and KM theorizing and practice	What is the size of the semantic fields of the dominant knowledge related metaphors in IC and KM?	What is the relationship between an authors' knowledge related metaphors, his or her formal definition of knowledge and his or her epistemological point of view?	To what extent highlight and hide knowledge related metaphors certain characteristics of knowledge and what are the ideological implications?
Finding alternative, novel metaphors to be used in KM and IC theorizing and practice	What alternative knowledge related metaphors have big semantic fields?	What mappings from alternative, novel knowledge related metaphors are valid?	What novel metaphorical mappings can help to address important underrepresented characteristics of knowledge?
Using metaphors in KM interventions in organizations	What knowledge related metaphors that can be used in interventions have a big aptness potential?	What is the validity of the mapping of knowledge related metaphors that can be used in interventions?	How can these metaphors be used to help shape company strategies, influence power structures and humanize organizations?

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