



POSITION PAPER

Stuff or love? How metaphors direct our efforts to manage knowledge in organisations[†]

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Abstract

This position paper addresses the way knowledge is conceptualised in knowledge management (KM) literature and practice. Using the work of Lakoff and Johnson on metaphors it will show how people use metaphors to think and talk about knowledge. In KM literature at least 22 different metaphors for knowledge are used. Further research shows that these metaphors are primarily Western metaphors while in Eastern philosophy many other metaphors for knowledge are used. The choice of metaphors for knowledge has great influence about the way we think about KM. They determine what we diagnose as KM problems in organisations and what we develop as KM solutions. To illustrate this, this paper presents the results of an exercise set up to determine the effect of metaphors on KM approaches in which two challenging metaphors for knowledge were used: knowledge as water and knowledge as love.

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Introduction

Intellectual capital is a fascinating term full of contradictions, as it does not refer to capital in the literal sense of the word and is not about intellect either. Yet, it has helped to raise the awareness for the importance of knowledge in organisations among scholars and practitioners, including even the accounting profession. If the term is not used in the literal sense, it must be somehow metaphorical and in my search for an explanation of this phenomenon, I stumbled upon a book that has changed my life. This book (Lakoff & Johnson, 1999) proves beyond doubt that not only intellectual capital is a metaphor, but also that all abstract concepts that we use as human beings derive their meaning from metaphor, including terms like organisation, strategy, human capital, intellectual capital, social capital, and..... knowledge.

Knowledge can only be analysed, talked about, and understood by using metaphors. In our work on knowledge management (KM) you and I use metaphors constantly, often without being aware of it. In my contribution, I would like to explain to you how this works, talk about the many metaphors for knowledge that I found in my research, and elaborate on the important consequences of this fact for our work on KM.

We primarily use metaphor to reason about knowledge

The fact that we can only reason about knowledge through metaphors is not a bad thing (or a good thing), it is inescapable; that's how the human mind works. However, the unconscious choice of metaphor has enormous

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impact on how we reason about knowledge, what is highlighted and what is hidden, what is seen in the organisations as problems and what is understood as solutions.

Let me give you a small example as a starter. Many KM approaches advise companies to make an 'inventory' of knowledge, check where knowledge is 'located', 'store' important or vulnerable knowledge in databases, use intranet technology to improve 'access' to knowledge, etc. What is important to see is that knowledge is not literally *located* and *stored*. After all, you cannot see it and you cannot grab it and put it in a container. A knowledge *inventory* is not literally an inventory like the inventory of a warehouse. And *access* to knowledge is not literally access like you have access to the warehouse. These are all metaphors and they make sense to us because we are very familiar with the KNOWLEDGE AS A RESOURCE metaphor. Resource metaphors are very common in human thought. We use the TIME AS A RESOURCE metaphor very often, for example, when we say 'I got plenty of time', 'that took three hours', 'he wasted my time' or 'this will save time'.

How metaphors work: the example of time

So how does this metaphor stuff work? To explain how it works and how common metaphors are, let us start with a more neutral concept that is as abstract as knowledge and that we are all familiar with: the concept of time. What do you do when I would ask you to point me where the future is? You will probably point somewhere in front of you. And where is the past? You will probably point behind you. People see the future as being in front of them and the past behind them. This TIME ORIENTATION metaphor is the same all over the world. In our thinking of time we use space as a metaphor and conceptualise the future in front of us and the past behind us. We see the passage of time as the passage along a path from the past to the future. We also use the MOVING OBSERVER metaphor. In this metaphor, each location on the observer's path is a time. The distance moved by the observer is the amount of time passed. This shows in sayings like 'will you be staying a long time of a short time?' or 'how long is your visit?'

Another metaphor is the MOVING TIME metaphor. In this metaphor the observer stands still and time moves, for example when we say that 'time flies by' or 'the time for action has arrived'. We even use space to *measure* time when we say: 'how long does that take?' The TIME AS SPACE metaphor has served us well and is embedded in our brain. It is the same for almost all people in the world. One exception is known. For the Aymara people of the Andes Mountains in Peru, the future is behind ego and the past is in front of ego (Núñez & Sweetser, 2006). In Aymara language, the word 'nayra' means 'eye/sight/front', while 'nayra mara' means 'last year'. 'Qhipa' means 'back/behind' while qhipuru means 'a future day'. The Aymara do not only use this metaphor in speech but also in their gestures.

However, sometimes the TIME AS SPACE metaphor is flawed. Some characteristics of space in the source domain are not applicable to the target domain of time. Let me give you an example where the TIME AS SPACE metaphor is flawed. We consider passage of time as a path with events as locations on that path. When time goes by we 'move' along the path. However, in space there is always another location before or after every location. This never stops. In the source domain of space, *infinity* is part of the concept of space. In the target domain of time this is not the case. As we know now from science, there was no time before the Big Bang. Time started at the Big Bang. But the idea that time itself started with the Big Bang makes no sense given our common metaphor. That we have difficulty understanding this shows how fundamental the TIME AS SPACE metaphor is for thinking about time.

Another area where the time as space metaphor falls short is when it comes to travelling. In the source domain of space we can travel through space. The TIME AS SPACE metaphor tempts us to think that this attribute of space can be transferred to the target domain of time. This, of course, is not true, but the false idea of travelling in time has produced some great science fiction stories and movies!

So the way metaphor works in our brain is that some characteristics of the source domain (space) are transferred to the target domain (time). These are called metaphorical entailments (Lakoff & Johnson, 1999). Not all characteristics of the source domains are transferred and more metaphors may be useful to further conceptualise the concept of the target domain (see Figure 1).

Intermezzo 1: truth does not exist

- as direct observation does not exist because people always use concepts to describe reality;
- as these concepts derive their meaning from metaphor;
- as half of these metaphors are embodied in our brain and cannot be shut off or altered;
- as the choice of the other half is to a large extent arbitrary;

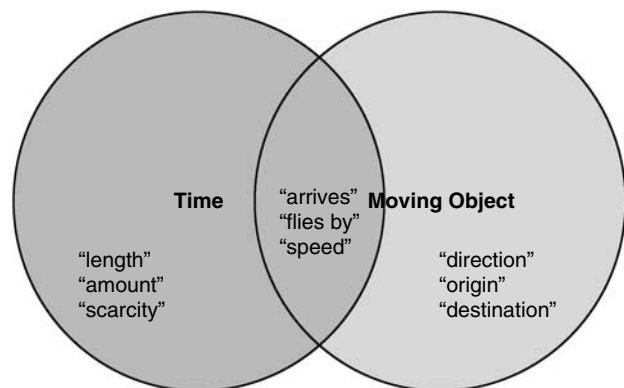


Figure 1 The target and source domains of the TIME AS A MOVING OBJECT metaphor.

we will never be able to perfectly describe and understand reality and ego, truth (defined as correspondence with reality) does not exist.

Metaphors for knowledge

What the time example shows is that metaphors play a crucial role in the conceptualisation of abstract concepts, that they highlight characteristics and hide others, and that they can fool us when we take them as literal. Knowledge is also an abstract concept. The research I did last year shows that in three of the most quoted texts on KM, at least 99% of all references to knowledge are metaphorical (Andriessen, 2006). In total, I discovered 22 different metaphors for knowledge. Three of those are very dominant in Western KM literature. The KNOWLEDGE AS A RESOURCE metaphor (Figure 2) uses the source domain of resources to help us reason about knowledge. Many attributes of resources are used to reason about knowledge. Knowledge is used in production, it is adding to the production process, it can be stored and shared. One can talk about ‘an amount of knowledge’, and the metaphor allows knowledge to be placed in a view that considers organisations as input/output (logistical) systems. In the English language, some characteristics of resources are not used, like the ‘size’ or ‘weight’ of knowledge. At the same time some characteristics of knowledge are not covered by the metaphor, like the non-rivalry and non-additiveness of knowledge (Lev, 2001) and the tacitness of knowledge. Through the KNOWLEDGE AS RESOURCE metaphor, knowledge becomes part of a logistic discourse about organisations.

The KNOWLEDGE AS ASSETS metaphor (Figure 3) uses the source domains of assets to help us reason about knowledge. Several attributes of this accounting term are used including that knowledge can be controlled by the enterprise, generates future economic benefits that flow to enterprise, is identifiable, that its costs can be

measured, that it is used in production, and deserves a place in the reporting system of the enterprise. Through the KNOWLEDGE AS ASSETS metaphor, knowledge becomes part of an accounting discourse about organisations.

The KNOWLEDGE AS PROPERTY metaphor (Figure 4) makes it possible to use knowledge in the legal discourse about organisations. This metaphor makes it possible to reason about the ownership, value and exclusiveness of knowledge. It highlights the legal rights aspects of knowledge, its transferability and its options to commercialise is.

What is interesting is that different writers are using different metaphors for knowledge, which reveals a different conceptualisation of, or view on knowledge (see Figure 2). American writers Davenport and Prusak predominantly use the KNOWLEDGE AS STUFF metaphor. Japanese writers Nonaka and Takeuchi predominantly use the KNOWLEDGE AS THOUGHTS OR FEELINGS metaphor (Andriessen, 2006). This reflects both a cultural difference and a difference in view on KM (Figure 5).

Metaphor analysis can reveal insufficient or false argumentation

Now you may ask ‘so what? What is relevance of this for my work on KM?’ My answer would be that the consequences are enormous. Metaphors highlight and hide in a way that we are not aware of. Let us take another look at the KNOWLEDGE AS CAPITAL metaphor. Here is a list of attributes of capital in the source domain of capital (see Table 1). Many of these attributes are transferred to the target domain of knowledge by many writers in the field of intellectual capital. These transformations seem indisputable, until we start to realise that it is a metaphor we are using, and that we actually need some argumentation to claim that the attribute of the

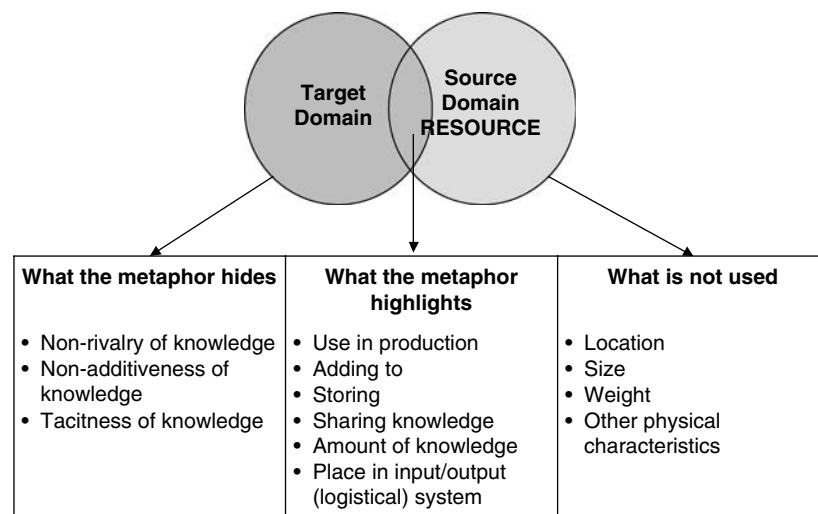


Figure 2 The KNOWLEDGE AS A RESOURCE metaphor.

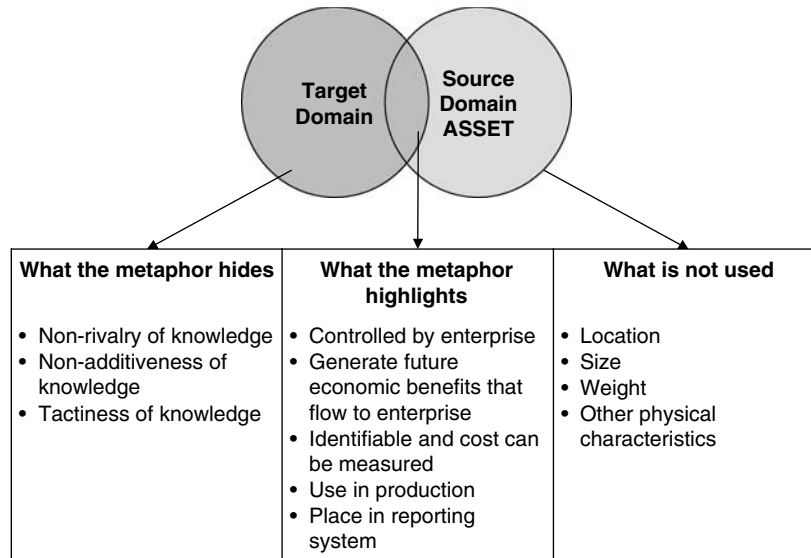


Figure 3 The KNOWLEDGE AS AN ASSET metaphor.

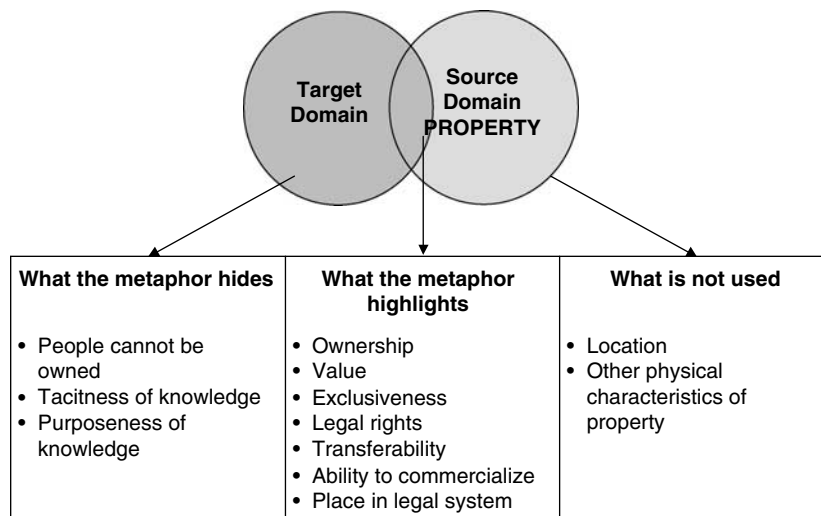


Figure 4 The KNOWLEDGE AS PROPERTY metaphor.

source domain is applicable in the target domain. Is having more knowledge always better? Can knowledge really be owned? Can it be valued? Does it have to be put on the balance sheet? Is it additive? Is it a stock? And why must it be measured to be able to manage it?

The opposite is also true; many authors go at length to explain that a certain characteristic of capital is not applicable in the target domain of knowledge, not being aware of the fact that we are dealing with metaphor. An example is the non-rivalry of knowledge as in the quote: 'knowledge is the only resource that is not used up when it is used'. When we realise we are dealing with the KNOWLEDGE AS RESOURCE metaphor here, this remark becomes a non-statement. The only thing you are saying about knowledge when you say it is not used up is that

the attribute of a resource in the source domain of rivalry is not transferable to the target domain of knowledge. So what? Many attributes of source domains are not transferable to target domains!

The KNOWLEDGE AS STUFF metaphor helps dehumanise organisations

So the metaphorical analysis of KM literature can uncover insufficient or false argumentation. Now let us adopt for a moment a more critical approach. With the widely used KNOWLEDGE AS STUFF metaphor we are committing an act of, what Gustavson has called, 'thingification' (Gustavsson, 2001). We act as if knowledge is a thing. This has many advantages because things can be counted, controlled, and managed. However, things are

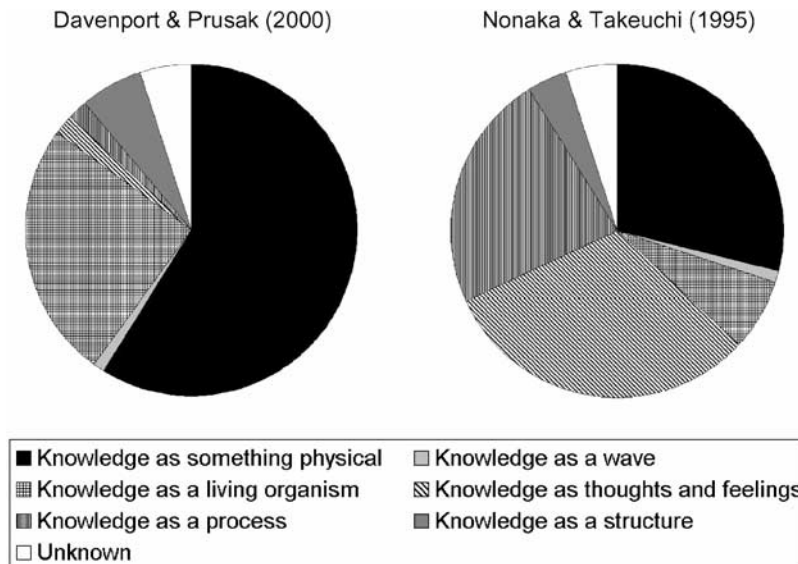


Figure 5 Difference in metaphors between Davenport & Prusak (1998) and Nonaka & Takeuchi (1995) (Andriessen, 2006).

Table 1 Entailments of the CAPITAL metaphor

- Capital is valuable and important
- Capital is an asset for the future and not an expenditure
- Capital can be invested in
- Capital can be capitalised
- Capital itself can be invested
- Capital allows for a return
- Capital resonates with managers and CFOs
- Having more capital is better
- Capital can be owned
- Capital can be valued financially
- Capital often appears on the balance sheet
- Capital is additive (1+1 = 2)
- Capital is a stock
- Capital can and must be measured and managed

also objective and neutral, so the metaphor assumes that knowledge is objective; that it can be stored and retrieved without any distortion; that it can be transferred from one human being to another without interpretation.

Furthermore, things have no feelings, require no moral, can be moulded, malformed, and thrown away. So while the KNOWLEDGE AS A RESOURCE metaphor highlights that knowledge is important in organisations, at the same time it hides that knowledge is about people that need to be empowered and be treated with respect. The language of KM based on KNOWLEDGE AS A RESOURCE is mechanistic, dehumanised, cold. It talks about ‘gathering’ knowledge, ‘storing’ knowledge, ‘distributing’ knowledge as if it has nothing to do with people. It provides management with even more means to control organisations in a mechanistic way, often with IT as the main tool. By the way, many studies have shown that this IT-dominated approach to KM has limited effectiveness,

but that is not the point I try to make here. My argument is that this instrumental approach to KM, that only treats knowledge as a tool, contributes to the further dehumanisation of organisations that is taking place in modern society.

So far we have seen that metaphors are inescapable thinking devices for abstract thinking and that they are often used without us being aware of them. Yet, they determine the way we think about KM by highlighting certain attributes of knowledge and hiding others. The KNOWLEDGE AS STUFF metaphor further strengthens the idea that organisations are machines with input, throughput and output, and put more power into the hands of managers that want to control these machines. This is unhealthy for employees and often ineffective for companies.

Alternative metaphors for knowledge

So what are some of the alternatives? What other metaphors for knowledge can the KM movement adopt to help create more humane and effective organisations? Here we may find some inspiration in the East. In a recent study (Andriessen and Van den Boom, 2007), we highlighted different metaphors for knowledge between West and East. The West was represented by the top-10 KM literature. In the Arab countries and Asia, there is very little English literature on KM so we decided to look at knowledge in four major religions: Islam, Buddhism, Hinduism, and Confucianism. Although these religions are very different, they have in common that they tend to see knowledge as spirit and wisdom, as unfolding truth, as illumination or enlightenment of an underlying, deeper reality and, in Japan, as essence-less and nothingness. Furthermore, these religions highlight the unity of knowledge and action and see knowledge creation as a

continuous, self-transcending process. These metaphors for knowledge are difficult to translate into management actions and that is exactly the point. Maybe for a good role of knowledge in organisations we need less management, not more...

Studying the effects of metaphors on KM

I wanted to know what exactly is the impact of choosing a certain metaphor for knowledge on the ideas about KM in organisations so I did a small exercise (Andriessen, 2007). I organised two workshops on KM in a department of the Dutch central government. In the first workshop, 15 employees were invited, in the second workshop 15 managers. In both workshops I asked the participants to identify a number of problems related to KM in their organisation and think of a number of solutions. However, I asked them to do this using a particular metaphor for knowledge. First I asked them to do this using the KNOWLEDGE AS WATER metaphor. This resulted in a number of problems and solutions (see Table 2). As you can see, most of these are in line with the mechanistic approach to KM as outlined earlier.

Then I asked them to do the same, but this time using a metaphor that is much more in line with an Eastern view of knowledge. I asked them to discuss problems and solutions regarding knowledge while thinking of KNOWLEDGE AS LOVE. What happened was quite remarkable. The topic of conversations changed completely. Suddenly their conversations were about relationships within the organisation, trust, passion in work, the gap between their tasks and their personal aspirations, etc. (see Table 3).

So by introducing a new metaphor, the diagnosis of the current situation changed completely. Moreover, it

shifted from problems related to the accessibility of knowledge, to problems related to the preconditions for knowledge work and the well-being of the knowledge workers in the organisation. A similar thing happened when the groups started to talk about possible solutions. The solutions that were proposed had to do with improving the quality of the collaboration within the organisation and the working conditions of the knowledge worker.

Intermezzo 2: problems do not exist

This small exercise is a good illustration that problems do not exist. Problems are not phenomena waiting out there in reality to be observed. This implies that is nonsense to ask questions like ‘what is the problem in this organisation?’ A problem is a gap between an existing and a preferred situation (Ist and Soll). And as both the perception of the existing as the perception of the preferred situation depends on how you prefer to look at it, a problem is by definition subjective. The concepts you choose to diagnose an organisation, and the underlying metaphors that they are based on, determine the way you perceive the situation as well as how it should be. Or, as Professor Joseph Kessels once phrased it: ‘a problem is an interpretation of a feeling of discomfort’ (Kessels, 2005).

KM is an instrument of power

This small exercise shows that the metaphor for knowledge chosen has an enormous impact on the perceived KM problems and proposed solutions. In addition, when asked what metaphor they preferred it turned out that management in general preferred the KNOWLEDGE AS WATER metaphor and employees the KNOWLEDGE AS LOVE metaphor. In fact, most employees expressed a particular dislike of the KNOWLEDGE AS WATER metaphor. As we have seen, KNOWLEDGE AS WATER stresses the possibilities to control and manage knowledge, while

Table 2 Results of the KNOWLEDGE AS WATER metaphor

Diagnosis	Solutions
<ul style="list-style-type: none"> • Knowledge does not flow • Separate source of knowledge • Knowledge is not channelled • No dispersion of knowledge • Hydrocephalus: people keeping knowledge to themselves 	<ul style="list-style-type: none"> • Build canals • Flush out and freshen knowledge • Tap knowledge from people leaving • Create knowledge map • Managers as knowledge channels • Knowledge management

Table 3 Results of the KNOWLEDGE AS LOVE metaphor

Diagnosis	Solutions
<ul style="list-style-type: none"> • Knowledge is not cherished • Lack of trust • Unrequited love • Rivalry and forced marriages • Attractive but lonely singles • In-breeding • We only talk about our wedding certificate but not about our relationship 	<ul style="list-style-type: none"> • Provide time and space for sharing knowledge • Match people’s passions and tasks • Go out and date more • Hire marriage counsellor • Partner-swapping • Don’t manage and systemise knowledge

KNOWLEDGE AS LOVE emphasises the working conditions of knowledge workers. So each of the two groups, managers and employees, preferred the metaphor that was in alignment with their own interests: management and control vs improved working conditions. This is an important point, ladies and gentlemen, as it shows that KM is not a neutral concept. Depending on the metaphors for knowledge it is based on, a KM approach serves the interests of particular groups within an organisation. When a KM approach is based on the KNOWLEDGE AS STUFF metaphor (and most KM approaches are) it will probably be in the interest of management and not in the interest of employees. KM is an instrument of power.

Conclusions

What I have been trying to show you is that in our theorising and thinking about knowledge and KM, metaphors play a crucial role. The problem is that these

metaphors often stay hidden in the realm of our unconscious thought. Yet, they decide what we identify as knowledge problems and KM solutions. If we want to advance the field of KM, we must bring our metaphors for knowledge to the surface. Therefore, I would like to encourage you to do a small exercise when reading this copy of *KMRP*. When you read an article, write down some of the verbs the author uses related to knowledge. What is even more fun is when you also start to count them. This way you will discover the dominant metaphors for knowledge the author is using. There is a big chance that this will be the KNOWLEDGE AS STUFF metaphor. To facilitate this process I have developed a simple scoring form (see Appendix). Then, when you have finished the article, reflect on it using one simple question: What would have been the outcome of the research if we see knowledge not at stuff but as love?

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Appendix

Knowledge Management Metaphor Analysis Scoring Form

This list of metaphors for knowledge is taken from the data used for Andriessen (2006). You can apply it to identify the metaphors for knowledge used in papers and presentations. The list contains verbs related to knowledge and the underlying metaphor they derive their meaning from. The metaphors are grouped into categories. Some categories are divided into sub categories indicated behind each verb.

Verb	Metaphor	#
<i>Knowledge as stuff metaphors</i>		
Accumulate knowledge	Knowledge as a resource	
Acquire knowledge	Knowledge as a resource	
Anchor knowledge	Knowledge as a ship	
Apply knowledge	Knowledge as a resource	
Capitalize knowledge	Knowledge as capital	
Categorize knowledge	Knowledge as an object	

Appendix Continued

Verb	Metaphor	#
Combine knowledge	Knowledge as an object	
Create knowledge	Knowledge as an object	
Crystallize knowledge	Knowledge as a substance	
Deliver knowledge	Knowledge as a product	
Develop knowledge	Knowledge as a product	
Disseminate knowledge	Knowledge as seed	
Embody knowledge	Knowledge as an object	
Exchange knowledge	Knowledge as an object	
Exploit knowledge	Knowledge as a resource	
Externalise knowledge	Knowledge as an object	
Find knowledge	Knowledge as an object	
Get knowledge	Knowledge as an object	
Have knowledge	Knowledge as an object	
Hold knowledge	Knowledge as an object	
Identify knowledge	Knowledge as an object	
Integrate knowledge	Knowledge as an object	
Internalise knowledge	Knowledge as an object	
Invest in knowledge	Knowledge as a resource	
Invest knowledge	Knowledge as capital	

Appendix Continued

Verb	Metaphor	#
Leverage knowledge	Knowledge as an object	
Link knowledge	Knowledge as an object	
Locate knowledge	Knowledge as an object	
Manage knowledge	Knowledge as a resource	
Measure knowledge	Knowledge as capital	
Move knowledge	Knowledge as an object	
Navigate knowledge	Knowledge as a ship	
Need knowledge	Knowledge as a resource	
Obtain knowledge	Knowledge as a product	
Package knowledge	Knowledge as a product	
Pass on knowledge	Knowledge as an object	
Recognize knowledge	Knowledge as an object	
Seek knowledge	Knowledge as an object	
Sell knowledge	Knowledge as a product	
Share knowledge	Knowledge as a resource	
Sort knowledge	Knowledge as an object	
Store knowledge	Knowledge as a resource	
Synthesize knowledge	Knowledge as a substance	
Transfer knowledge	Knowledge as an object	
Use knowledge	Knowledge as a resource	
Value knowledge	Knowledge as capital	
<i>Knowledge as thoughts and feelings metaphors</i>		
Articulate knowledge	Thoughts and feelings	
Communicate knowledge	Thoughts and feelings	
Elicit knowledge	Thoughts and feelings	
Express knowledge	Thoughts and feelings	
Verbalize knowledge	Thoughts and feelings	
<i>Knowledge as organism metaphors</i>		
Capture knowledge	Knowledge as organism	
Grow knowledge	Knowledge as organism	
Harness IC	Knowledge as organism	
Interacting knowledge	Knowledge as organism	

Appendix Continued

Verb	Metaphor	#	
<i>Knowledge as form metaphors</i>			
Codify knowledge	Knowledge as a structure		
Convert knowledge	Knowledge as a form		
Organize knowledge	Knowledge as a structure		
Reconfigure knowledge	Knowledge as a structure		
Restruct knowledge	Knowledge as a structure		
Transform knowledge	Knowledge as a form		
<i>Miscellaneous metaphors</i>			
Amplify knowledge	Knowledge as a wave		
Automate knowledge	Knowledge as a process		
Deploy knowledge	Knowledge as military troops		
Diffuse knowledge	Knowledge as light		
Evaluate knowledge	Knowledge as action		
Formalize knowledge	Knowledge as a process		
Generate knowledge	Knowledge as electricity		
Justify knowledge	Knowledge as action		
Mobilize knowledge	Knowledge as military troops		
Transmit knowledge	Knowledge as a wave		
<i>Metaphors you found</i>			
Verb	Metaphor	Source	#

About the author

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