Data → Information → Knowledge?
The Perspective of Media Philosophy on Knowledge and its Management

Boris Wyssusek
Queensland University of Technology
Brisbane, Australia
Email: b.wyssusek@qut.edu.au

Rainer Totzke
University Leipzig
Leipzig, Germany
Email: rainer.totzke@gmx.de

Abstract

Within the last decade the notion of knowledge has gained increasing attention in information systems research. Yet despite this development the understanding of 'knowledge' is still immature. Recognizing this issue, researchers have turned their attention toward fundamental aspects of the notion of knowledge, drawing on disciplines which are most relevant for the study of knowledge, e.g., philosophy or sociology of knowledge. We draw on the discipline of media-philosophy and show how this can help to develop a sound understanding of knowledge and contribute to the 're-discovery' of important forms of knowledge that so far have been neglected in information systems research.

Keywords

Information Systems Research, Knowledge, Media Philosophy, Episteme

INTRODUCTION

"Knowledge" has gained increasing attention during the last decade in the field of information systems research. This development, however, has not led to a unified theory of knowledge; instead, we are confronted with a host of different and mostly incommensurable notions of knowledge in the literature. Subsequently we find notions of knowledge combined with other information systems concepts that—on the basis of the underlying presuppositions—are not compatible and should not be combined. Recognizing these fundamental issues, researchers in information systems have turned their attention toward the fundamental aspects of the notion of knowledge, drawing on disciplines which are most relevant for the study of knowledge, e.g. philosophy and sociology of knowledge.

As a result of this development, forms of knowledge gained attention that were almost forgotten or have been considered as only 'secondary' in the recent past. With the pragmatist turn in the philosophy of the 20th century (e.g., William James, Heidegger, Dewey, Ryle, Austin, and Wittgenstein), the relationship between theoretical (explicit) knowledge and practical capabilities (and the related implicit knowledge) has been reconsidered. The explicit theoretical knowledge is no longer regarded as the sole basis of all knowledge, but as the 'tip of the iceberg' that is grounded in a 'sea' of the implicit knowledge and the practices of social communities.

This methodic rearrangement of the relationship between knowledge and practical capabilities can be found in the now classic writings of, e.g., Nonaka and Takeuchi (1995), and Argyris and Schön (1978), as well as in the contemporary writings of authors dealing with the analysis of organizational knowledge (e.g., Baumard, 1994; Willke, 1998). At the same time different forms of knowledge representation (e.g., narrative, logic-scientific, etc.) and their respective knowledge-practical implications have become issues in the debate on organizational knowledge. Contemporary knowledge management literature quite often refers to Polanyi's (1958) notion of implicit knowledge. But this sole reference overshadows the fact that the relationship between implicit and explicit knowledge has been an issue in philosophy ever since. It can be traced back to, e.g., Plato's "Phaedrus", Heidegger's "Time and Being", or Ryle's (2002) "The Concept of Mind."

With reference to our practical "being-in-the-world" (In-der-Welt-sein) and with the methodic differentiation of "readiness-to-hand" (Zuhandenheit) and "presence-at-hand" (Vorhandenheit), Heidegger re-arranges the relationship between theoretical and practical knowledge (Dreyfus, 1990). Practical-implicit knowledge about our dealings with 'things' that are "ready-to-hand" precedes theoretical-explicit knowledge about 'things' that are "present-at-hand" (Heidegger, 1986). Ryle adopts Heidegger's perspective and gives precedence to the practical-

implicit "knowing how" over the theoretical-explicit "knowing that": the latter is always grounded in the first (Ryle, 2002).

Within the knowledge management literature the tradition of the philosophical debate on the relationship between implicit and explicit knowledge has gained only little attention—it is focused almost entirely on Polanyi. References to, e.g., Heidegger or Ryle are rare and are often characterized by a superficial reading of the respective sources (Willke, 1998).

OBJECTIVE OF THE PAPER

In our paper we are concerned with the notion of knowledge from the perspective of media philosophy, focusing on a distinct area of organizational knowledge referred to as *literal knowledge*. This area has not been chosen arbitrarily, but rather with respect to the overwhelming importance attributed to written text in the context of organizational learning and knowledge management. With reference to the works of Heidegger and Ryle we perform a pragmatist reflection on the notion of knowledge in order to make the fundamental ideas of these authors fruitful for the debate on organizational knowledge and organizational learning.

Written text is still the preferred media for 'storage' and 'transfer' of knowledge. Within the scope of the paper we understand written text as a persistent form of speech acts and recognize—with respect to Goodman—its operational aspects as well (Goodman, 1969). The latter implies the inclusion of the 'contents' of computer-based information systems, data bases, etc.

In our paper we show that the text-oriented notion of knowledge is flawed and that this not only holds for the conceptualization of organizational knowledge but also for the practice of knowledge representation in Western science in general. Based on media-historical and media-philosophical considerations of literacy, our argumentation is grounded in two theses:

1) The reductionist notion of knowledge is not a result of modern information science or the theory and practice of knowledge management. On the contrary, it has a long tradition and is connected to the emergence of the formal science in ancient Greece. 2500 years ago a new form of knowledge representation and knowledge 'transfer' evolved. Knowledge has been conceptualized and institutionalized by Greek philosophers as literal *episteme*, as a logically and terminologically elaborated system of situation-invariant (generally) true propositions (e.g., "the earth revolves around the sun," "Perikles died in the year 429 B.C.," etc.). We refer to this as "*epistematic* knowledge design" as it provides the basis for the whole occidental knowledge culture and is also considered to be the ideal of knowledge representation in contemporary enterprises.
2) Alphabetic writing is the media-technological foundation for the epistematic practice of knowledge representation, and it is the foundation for the Western conceptualization of science as *episteme* as well. But alphabetical writing not only induces science but also a certain misunderstanding of knowledge in general: beginning with the development of the literal-epistematic, situation-invariant, de-contextualized form of knowledge representation, knowledge was already increasingly considered to be an object in ancient Greece—and was no longer embedded in the everyday practice of action and communication among humans. At the same time other, more implicit forms of knowledge like *techne* (the technical know-how, being able to get things done) and *phronesis* (practical wisdom, drawn from social practice), as well as other forms of knowledge representation like narratives, proverbs, etc. lost attention or were considered to be deficient in comparison to the new epistematic form. With this development the idea emerged that generally all forms of implicit knowledge could be 'converted' into the explicit form, meaning into the form of situation-invariant and generally true propositions. The epistematic form became the one and only ideal of knowledge.

By means of the difference between cultural orality and cultural literality and the corresponding capabilities of knowledge 'transfer,' we will in the following sections: a) outline the limits and some fundamental misunderstandings of the literal-epistematic form of knowledge (and knowledge representation), b) illustrate the capabilities of other forms of knowledge and knowledge representation, and c) describe some of the consequences derived from the pragmatist re-formulation of the notion of knowledge for the theory of knowledge management and organizational learning.

LITERACY, FORMAL USAGE OF LANGUAGE, AND FORMAL "KNOWLEDGE DESIGN"

The difference between empractical knowledge (that is implicit and not at all or only hardly verbalizeable—e.g., the capabilities of a craftsman) and explicit knowledge (that is verbalized and 'transferred' by means of language) exists in all human societies, both oral and literal. Oral cultures are cultures that have not developed writing. In our paper we understand writing as a means for the word-by-word representation of speech-acts. Oral societies do not possess an external 'memory' for the storage and retrieval of their cultural knowledge bound to language. All knowledge bound to language has to be re-enacted in such societies through social-ritual

performances of collective remembering. This process is the same that is necessary for the 'externalization' and 'internalization' of implicit knowledge, which can only be retained by continuing practice.

A large part of the 'cultural energy' in oral societies is thus bound by the permanent re-enactment and memorizing of cultural knowledge. These practices are supported by forms of knowledge representation that fit the mnemotechnical requirements of the process: in addition to easy-to-remember proverbs, 'memory-friendly' narrative (re-) presentations of concrete situations dominate (Havelock, 1990, 1992; Günter and Günther, 1983; Assmann, 1992; Kullmann and Althoff, 1993; Goody and Watt, 1981; Ong, 1987; Günther and Ludwig, 1994; Günther and Ludwig, 1996). Rhyme and rhythm of collective performances also contribute to the process of remembering. As a consequence of this practice, the 'transfer' of knowledge does not happen word-by-word, but rather is flexible and adaptable to the cultural situation at hand. This phenomenon has been described by the ethnologists Goody and Watt as "homoeostasis" (Goody and Watt, 1981).

Only with the development of writing did it become possible to store and retrieve language acts in a way that allowed the suspension of the practice of continuous re-enactment of cultural knowledge. With the practice of writing as a means for storing cultural knowledge, discrepancies between different texts of the cultural tradition became obvious. Thus, literacy enables the tradition to be dealt with in an innovative and critical way—an important prerequisite for the development of the Western science (Assmann, 1992).

Additionally, literacy allows new forms of knowledge (re-) presentation: since under the condition of literacy the mnemotechnical need for narration and proverbs is no longer given, formal and more systematic forms of representation as well as the encyclopaedic structuring of knowledge became possible—the project of *episteme* could begin. The essential feature of this new form of (scientific) knowledge representation is to be seen in its formality, its logically and terminologically structured system of situation-invariant true propositions, and in the role that formal logic plays in this 'knowledge design.' The formal character of scientific-epistematic knowledge depends on the special formal character of alphabetical literacy, which we will discuss in the next paragraphs (Stetter, 1997; Totzke, 2002).

The recognition of words as *words*—as formal syntactic entities—evolves only with the practice of phonematic writing. During oral communication we do not listen primarily for syntactic structures rather we listen for content. We listen for what might have been intended to be said and not for what has actually been said (on the syntactic level of the language). What has been said disappears almost immediately and thus oral utterances can hardly be an issue for formal analyses. Only with the fixation of speech acts through writing does the formal analysis of utterances become possible, since only in the written form can utterances be re-enacted for review and control.

To what extent the user of writing becomes aware of syntacticity and formality of writing depends especially on the kind of writing system. In logographic writing like Chinese or ancient Egyptian each sign has a certain meaning—it represents a certain word or a certain idea. In alphabetical writings the characters (letters, syllables) are basically meaningless. They are just formal elements of a language. Thus, in phonematic writing we become aware of the form of the text—the *texture* (Stetter, 1997)—only through the content of the text. Writing divides the continuous flow of human speech into distinctive segments (words). But as formal syntactic signs in the sense of "X represents Y" become words only recognisable and reproducible in a literal culture that evolved through the use of phonematic writing. This relationship can be illustrated by means of a well-known example—children learning the practice of writing: the phonematic analysis of oral utterances must be learned. Children are trained to map certain phonems onto certain signs. If a child is supposed to learn how to write "window," the child will first be asked to speak the word very slowly: "w-i-n-d-o-w." The aim of this exercise is to enable the child to differentiate between various distinct phonems which do not actually exist at the 'natural' acoustic level since the spoken word "window" is an acoustic continuum and not a sequence of acoustic fragments. While reading, the child has to perform the opposite task: to identify the single letters and then to articulate the corresponding memorized phonems, "w-i-n-d-o-w." At the beginning of this exercise the utterance will not have a meaning, but after some repetition the child will recognise it as "window": It means *window*! Only through this phonematic analysis and reading technique can the child realize explicitly that a sound exists which can be written down with the letters "window," which can be read and pronounced as "w-i-n-d-o-w," and which means "window." The conscious recognition of the formal phonematic structure of language does not exist in non-phonematic literal cultures.

Phonematic writing, especially alphabetical writing, induces the consciousness for words and syntax with respect to oral utterances. This again is a prerequisite for the formal usage of language and for the development of formal logic as well as formal knowledge representations.

The phonematic writing systems (e.g., syllabaries, complete alphabets) are different with respect to their capabilities to make the various grammatical forms of language practice evident and to map the syntactic connections between words. But only if the forms of language (e.g., inflection, tense and modus forms) are evident does a reflection on the grammatical connections and logical relations within and between sentences

become possible. The ancient Greek alphabet had a much stronger "grammatical resolution" (Stetter, 1997) than other language systems at the time, and allowed a much more differentiated development of logic and grammar. With its letters the alphabet provides formal 'placeholders' for notions and propositions. This could be used in formal-logical representations, e.g., "A→B," "A↔B." In pure orality meaningless elements of language are not known.

The practice of phonematic literacy not only makes formal usage of language *possible*; for practical reasons it is *necessary*: written communication has to compensate for some of its deficits since it is not bound to situations and does not provide the possibility for immediate feedback. Additionally, the multimediality of oral communication is not available in written (literal) communication. Whereas in oral communication there is a whole repertoire of means available in order to convey our message (e.g., gesture, mimicry, intonation, etc.), in written communication we are bound to the sole graphical-visual medium. The various systems of writing provide different means for the compensation of lack of situation-specificity and lack of multi-mediality. Due to its mapping of the phonematic structure of spoken language, phonematic writing systems are able to transform spoken language in quite different ways than ideographic writing systems.

First, phonematic writing systems force its users to terminological preciseness. The semantic consistency of the use of words must be much stronger in written text than in orality (Stetter, 1997). This requirement subsequently leads to an extended and more formal vocabulary.

Second, the securing of the comprehensibility of written texts requires complete, syntactic accurately formed sentences. This requirement leads to a syntactical standardization.

Third, phonematic writing requires the explicit differentiation between sentences and sentence parts. Conceptually, oral connection between sentences like "and – and – and" (parataxis) become superseded by other, more explicit forms of connections like, e.g., "because," "as," "as a result of," "through" (hypotaxis). The structure of sentences becomes more elaborate and more complex.

Since the alphabet provides a precise notation for inflexions it offers considerable possibilities for the syntactical standardization of written text. On the one hand, alphabetical writing fosters the consciousness of the formal use of language and formal logic. On the other hand, the practice of transferring written texts is connected with the need for a disambiguation of these texts. This, in turn, requires grammatical and logical reflection, and formal logic serves as a means for securing the always fragile comprehensibility of written text.

Logical analysis and the logical structuring of text become necessary especially when knowledge should be transferred in the form of situation-invariant true propositions. The idea and the concept of such an epistematic "knowledge design" depend heavily on the capabilities of the respective writing system. In orality the transfer of knowledge is always bound to specific situations. Story-telling, performing traditional myths, and so on, are always woven into a concrete (ritual) situation, and they are thereby adaptive to the situation at hand. Cultural oral expressions of knowledge are quite often in narrative forms—for reasons of mnemonic practicability. In general, such expressions do not have a right to claim universal situation-invariant truth, but rather they are descriptions of concrete situations. And, it is neither necessary nor possible to categorize knowledge (re-) presented in such forms.

ALPHABET, *EPISTEME*, METAPHYSICS OF KNOWLEDGE

A media-philosophical reading of the works of Parmenides, Plato and Aristotle reveals the following:

3) The introduction and increasingly widespread use of the alphabet in ancient Greece made the formal-logical analysis and use of language possible—formal logic emerges. On the basis of this foundation an entirely new concept of knowledge is being developed: it is conceptualized as a system of written propositions which are considered to be true independently of their context of creation: the project of the scientific *episteme* has been born.

4) Synchronous with the creation of this new (epistematic) form of knowledge representation, its users develop some fundamental misunderstandings of this concept of knowledge: knowledge becomes a "commodity." Knowledge is understood as independent from human practice. The epistematic form of knowledge representation is regarded as the ideal and "the only true form of knowledge."

In the following paragraphs we outline some details of the development of the concept of *episteme* in ancient Greece by analysing fundamental ideas of Parmenides, Plato and Aristotle.

Parmenides' philosophical work evolved in a semi-literal environment. Writing had not yet been utilized in all parts of ancient Greek culture at the turn of the 6th to the 5th century. Early Greek philosophers did not make their work known by distributing the written text but by giving public performances. Correspondingly, Parmenides adopted oral forms of representation with his teaching poems. But at the same time, he entered a new

field with respect to the content of his work: He comments and reflects upon new forms of argumentation that are based on written text: argumentation using formal-logical inferences. And he develops a new text-based concept of knowledge. The ideal of this concept are sentences of assumption, which are true or false independently of their context of creation. The written word becomes the ideal of truth since it has a greater autonomy and persistence than context-dependent oral utterances. Parmenides' considerations about "being" and his famous "rejection of becoming" can be interpreted as consequences of his logical-semantic considerations about the epistematic science which is bound to written text (Stekeler-Weithofer, 2001). When science has the need to fixate propositions which are always true (independent of the situation), and which will remain true forever, then science must ensure that words (names) used in the propositions always refer to the same 'things.' Thus, when science aims at general truths it must assume eternal substances (things) to which words (names) can refer. Many philosophers after Parmenides did not understand that his idea of the eternal substances was just an ideal derived from the practice of *episteme*—from the human practice of writing. Those who do not understand the idealistic character of Parmenides idea fall victim to a metaphysical fallacy: that there are things 'in the world' that do exist independently of any human practice. In philosophy the critique of this misunderstanding is discussed under the label of "ontology of substance" (Heidegger, 1986).

Oral speech acts are generally bound to a situation at hand. Conceptually written propositions are generally not bound to a certain situation. This is true for scientific texts as well as for texts that are used in enterprises for the purpose of documenting knowledge. They are detached from situations and do not provide the context (situation) for their appropriate use. For this reason the false idea evolves that they are true independent of certain situations and certain human practices.

Based on the practice of alphabetic writing the project of the epistematic-scientific (re-) presentation of knowledge develops. It is considered by its users as a form of human practice that stands above all other forms of human practice since it seems to provide a more direct, more adequate access to reality or truth. "Truth" is thereby regarded as a correspondence between propositions and some given 'thing'—a concept known in philosophy as "correspondence theory of truth" (Heidegger, 1986; Rorty, 1997).

The problems of these concepts of knowledge and truth become evident when we follow Plato's further elaboration of the idea of *episteme*. His dialogues are by no means protocols of actual conversations but they are conceptually written texts. Plato makes use of possibilities that are provided by the written form of presentation: the possibility that the reader can at any time trace back the path of the argumentation. In a strictly oral presentation the listener would be likely to lose track of the argumentation. Thus, Plato's texts are an expression of the developing formal usage of language which evolved in response to the need for disambiguation resulting from the use of alphabetical writing. Plato's texts are at the same time a documentation of this fundamental change. Plato continuously questions the meaning of single words (and sometimes gives ironic answers) (Platon, 1994; Ryle, 1994), and looks for criteria for the appropriate use of words. The goal of this exercise can be seen in the creation of more semantically consistent texts (e.g., argumentations, knowledge (re-) presentations). But the need for semantic consistency evolves only with the use of situation-invariant written presentations. Pure oral communication and oral forms of knowledge (re-) presentation require this standardized use of words to a much lesser degree since the situational context always given provides semantic support for mutual understanding.

On the basis of the alphabetical notation, Plato discovers in the dialogue Sophist two distinct forms of words: *onoma* and *rhema* (nouns and verbs) (Platon, 1994). He uses this differentiation for the purpose of logical-semantical analysis and disambiguation. The differentiation between onoma and rhema becomes the differentiation between *subject* and *predicate*. Aristotle makes use of this differentiation (Aristoteles, 1920) and develops in his "Analytica priora" and "Analytica posteriora" his formal logic which subsequently became the foundation for all (re-) presentations of scientific knowledge (Aristoteles, 1992, 1990).

But the differentiation between logical subject and logical predicate leads to certain misconceptions. In correspondence to the structure of propositions one tends to assume that the same structure exists 'in the world.' As Heidegger said, the composition of propositions is misunderstood metaphysically as a composition of 'things' (Heidegger, 1980). Such a (mis-) conception of the world and things, which implicates a misconception of knowledge, has its roots in the texts of Plato and Aristotle.

In contrast, oral speech acts are generally understood in a holistic manner and at the same time in their practical purposefulness (illocutive dimension) (Austin, 1962). It is the epistematic form of knowledge (re-) presentation that is characterized by the appearance of logical subject and logical predicate, and which is quite often metaphysically misunderstood. In pure orality one hardly becomes aware of "subject" and "predicate."

It was already Plato himself who reflected on the problems that are connected to the project of written (literal) *episteme* (Platon, 1994; Stekeler-Weithofer, 1986). Especially his critiques of writing (e.g., "Phaedrus" and "Seventh Letter") are to be interpreted as warnings regarding the inappropriate use of the literal-epistematic knowledge (re-) presentation as well as with regard to a metaphysically exaggerated interpretation of the scientific structuring of the world. It is his insight that the ideal forms of epistematic knowledge (re-) presentation

have to be projected onto the 'real world' by its users. His criticism points out that the propositions of science (and of philosophy) are no eternal truths. The propositions are derived from human practice of communication and acting and as such have to be (re-) integrated into these practices when being used. The conceptually written texts of science have to prove their comprehensibility and usefulness from within human practice.

Our short trip through history of media philosophy illustrates that the media-technology of writing—and not just the recent computing technology—already provides the basis for the (mis-) understanding of knowledge as a commodity and an easily transferable set of characters or data. In his "Phaedrus," Plato refers to the 'ideological' of our manner of dealing with written texts and depicts the 'transfer' of knowledge as an implicit practice that only to a certain extent can be made explicit. Written texts are not knowledge. But they are grounded in a (dialogical) practice and have to be 'converted' to knowledge by means of a process of sense-making supported by the each given context (Kambartel, 1991).

The *academy* founded by Plato and the *lykeion* founded by Aristotle were institutions in which the "holistic-dialogical" practice of the appropriate usage of the texts of the *episteme* was taught. They were a kind of "communities of practice"—in the field of the commonly controlled creation of theoretical knowledge.

THREE MISCONCEPTIONS IN KNOWLEDGE MANAGEMENT: CONSEQUENCES AND "WAYS OUT"

The considerations about literacy and problems of literacy outlined in the preceding sections reveal three fundamental misconceptions of knowledge. These are also relevant to the debates about organizational learning and knowledge management since they lead to severe theoretical and practical problems. In this section we will elaborate these misconceptions with respect to their consequences for the theory of knowledge management, and we will provide sketches of possible "ways out."

The fallacy of objectivism

Knowledge is not a commodity, not some external entity as one might conclude from the written form of its (re-) presentation. It is always bound to human beings living in an always given social community that is based on communicative practice. Knowledge is only knowledge *in* and *for* distinct situations (of its application). Its relatedness to practices and situations is its fundamental characteristic. Knowledge cannot be transferred from person A to person B in a technical manner. Knowledge can only be "induced" (Schneider, 2001). Written (re-) presentations, e.g. in the traditional media of the book or in computers as well as narratives are only enablers of this process of induction—but never knowledge themselves. Talking about "automated knowledge management," is, from our perspective, misleading since it just refers to some special version of "data management."

The still prevailing *technological paradigm* in knowledge management, focusing almost entirely on explicit, documented knowledge (re-) presentations and computerized information systems, stands in the long tradition of literacy and has inherited its (mis-) conceptions.

The illusion of "explication"

Not all implicit knowledge of a person or an organization, respectively, can be made explicit in the sense of its conversion into a situation-invariant written or computerized form. Even the scientific practice of literacy depends on context and has its limits of "explicability" (Polanyi, 1958). Written forms of (re-) presentation of organizational knowledge that are aimed at the logical and terminological preciseness of the language practice in the sciences still require implicit contextual knowledge and adaptability on the side of its users: the users need to have or need to develop the capability of projecting formal knowledge (re-) presentations onto their own situation of understanding, learning and application. Consequently, effective knowledge management requires—besides an optimal flow of texts and data—the chance for direct 'exchange' of contextual knowledge between the members of the organization, the creation of communities of practice as well as the formation of direct interpersonal learning situations within the organization. The latter can be supported by temporary *job-rotation*, *organizational theatre* performances (Schreyögg, 2001) or professionally guided *narrative workshops* (Reinmann-Rothmeier, Erlach & Neugebauer, 2000).

The fallacy of prioritization of *episteme* as form of knowledge (re-) presentation

The sole focus on the formal "knowledge design" of the *episteme* in the Western sciences has lead to an unjustified and systematic prioritization of *episteme* and at the same time to a disparagement and exclusion of alternative forms of knowledge (re-) presentation, e.g., of conceptually narrative forms). In the tradition of the occidental cultural history the epistematic form of knowledge (re-) presentation became in fatal fashion the incarnation of knowledge in general. Before the invention of the written (literal) *episteme*, the ancient Greeks not only considered *techne* and *phronesis* as forms of knowledge, but also the narrative and dramatized presentations

of myths (Baumard, 1994). The oral-narrative presentations of knowledge by the ancient Greek *rhapsodes* ("poem singers") were not only multi-medial but also multi-functional. They conveyed complex social, technical, ethical, and medical knowledge and had an aesthetical and spiritual dimension. The truth of such a knowledge presentation was measured by its practical usefulness and effectiveness in human life.

SOME CONCLUSIONS

The reflection on the practice of conveying knowledge in oral societies reveals: narrative presentations have their own competencies and their functionality. Narrated stories live on the presentation of vivid situations and are able to induce knowledge. They can convey aspects that are implicit in human practices and that are not explicable by the scientific ideal of written (literal) *episteme*. Consequently, it is necessary to apply this insight in the context or organizational learning and knowledge management. The recent narrative approaches towards knowledge management (Reinmann-Rothmeier et al., 2000; Reinmann-Rothmeier and Vohle, 2001; Hermann and Müller, 2001; Schütt, 2000) are to be considered as a useful extension of the thus far rather limited repertoire of tools for the elicitation, explication, and conveyance of knowledge. Especially story-telling and discussions about stories bring the situatedness of knowledge creation to attention. Narrative forms of knowledge (re-) presentation are capable of triggering communicative processes of learning. At the same time they support developmental processes of integration and identity formation in and among social groups. The sole distribution of written (literal) epistematic best-practice reports is generally not sufficient when members of an organization are supposed to put this kind of 'second-hand' knowledge into practice (Schneider, 2001). Also the processes of integration and formation of identification supported by story-telling become evident from the perspective of cultural literacy: poets' competitions and performances of tragedies contributed substantially to the integration of the ancient Greek society. Thus, the didactical application of story-telling or organizational theatre performances are standing in a long cultural tradition. These tools are indispensable for many purposes in organizational learning and knowledge management—even in the presence of the capabilities provided by the digital medium of writing and by information and communication technology. Narrative methods are advantageous especially in situations when members of an organization are supposed to learn directly and effectively from successful and less successful projects, when the destruction of communication or learning barriers is at issue, and, when processes of *double-loop learning* (Argyris and Schön, 1978) are about to be initiated. And, narrative methods can also contribute to the cultivation of *knowledge landscapes* (Willke, 1998).

REFERENCES

Argyris, C., Schön, D. A. (1978). *Organizational Learning: A Theory of Action Perspective*. Addison-Wesley, Reading

Aristoteles (1920). *Peri hermeneias*. Meiner, Leipzig

Aristoteles (1992). *Analytica priora*. Meiner, Hamburg

Aristoteles (1990). *Analytica posteriora*. Meiner, Hamburg

Assmann, J. (1992). *Das kulturelle Gedächtnis*. Verlag, München

Austin, J. L. (1962). *How to do things with words*. Harvard University Press, Cambridge

Baumard, P. (1994). *Oblique Knowledge: The Clandestine Work of Organizations*. Cahier de recherche DMSP, n° 228, Université de Paris-Dauphine <http://www.iae-aix.com/cv/baumard/ [2004-05-04]>

Dreyfus, H. L. (1990). *Being-in-the-world: a commentary on Heidegger's being and time, Division I*. MIT Press, Cambridge et al.

Feyerabend, P. K. (1990). *Irrwege der Vernunft* (engl. Farewell to reason). Suhrkamp, Frankfurt/Main

Goodman, N. (1969). *Languages of art: an approach to a theory of symbols*. Oxford University Press, London

Goody, J., Watt, I. (1981). Konsequenzen der Literalität. In: Goody, J. (ed.). *Literalität in traditionalen Gesellschaften*. Suhrkamp, Frankfurt/Main

Günther, H., Ludwig, O. (eds.) (1994). *Schrift und Schriftlichkeit: ein interdisziplinäres Handbuch internationaler Forschung*. Band 1. de Gruyter, Berlin, New York

Günther, H., Ludwig, O. (eds.) (1996). *Schrift und Schriftlichkeit: ein interdisziplinäres Handbuch internationaler Forschung*. Band 2. de Gruyter, Berlin, New York

Günther, K. B., Günther, H. (eds.) (1983). *Schrift – Schreiben – Schriftlichkeit*. Narr, Tübingen

Havelock, E. A. (1990). *Schriftlichkeit. Das griechische Alphabet als kulturelle Revolution*. VCH, Weinheim

Havelock, E. A. (1992). *Als die Muse schreiben lernte*. Hain, Frankfurt/Main

Heidegger, M. (1980). *Holzwege*. Klostermann, Frankfurt/Main

Heidegger, M. (1986). *Sein und Zeit* (engl. Being and Time). Niemeyer, Tübingen

Hermann, S., Müller, K. (2001). Lernen aus Erfahrungsgeschichten – die Tell-it!-Methode. *Wissensmanagement*, 6/2001, pp.26–28.

Kambartel, F. (1991). Versuchen zu verstehen. In: McGuinness, B. et al. (eds.): Der Löwe spricht ... und wir können ihn nicht verstehen. Suhrkamp, Frankfurt/Main

Kullmann, W., Althoff, J. (eds.) (1993). *Vermittlung und Tradierung von Wissen in der griechischen Kultur*. Narr, Tübingen

Nonaka, I., Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York et al.

Ong, W. (1987). *Oralität und Literalität. Die Technologisierung des Wortes*. Westdeutscher Verlag, Opladen

Platon (1984). *Phaidros*. In: Werke, Zweiter Teil, Zweiter Band. Akademie-Verlag, Berlin

Platon (1994). *Kratylos, Parmenides, Theaitetos, Sophistes, Politikos, Philebos*, Briefe. In: Sämtliche Werke, Bd. 3. Rowohlt, Reinbek

Polanyi, M. (1958). *Personal Knowledge: Toward a Post-Critical Philosophy*. University of Chicago Press, Chicago

Reinmann-Rothmeier, G., Erlbach, C., Neubauer, A. (2000). *Erfahrungsgeschichten durch Story Telling – eine multifunktionale Wissensmanagement-Methode*. Research Report Nr. 127, Ludwig-Maximillian-Universität, München

Reinmann-Rothmeier, G., Vohle, F. (2001). Was Schiedsrichter, Manager und Rotkäppchen gemeinsam haben: Mit Geschichten Wissen managen. *Führung + Organisation*, 5/2001, pp. 293–300

Rorty, R. (1997). *Der Spiegel der Natur* (engl. Philosophy and the mirror of nature). Suhrkamp, Frankfurt/Main

Ryle, G. (1994). *Plato's Progress*. Thoemmes Press, Bristol

Ryle, G. (2002). *Der Begriff des Geistes* (engl. The concept of mind). Reclam, Stuttgart

Schneider, U. (2001). *Die 7 Todsünden im Wissensmanagement*. FAZ-Verlag, Frankfurt/Main

Schreyögg, G. (2001). *Organizational theatre and organizational change*. Paper presented at the 60th Annual Meeting of the Academy of Management. Washington D.C.

Schütt, P. (2000). Die Macht der Geschichten. *Wissensmanagement*, 5/2000, pp. 11–14

Stekeler-Weithofer, P. (1986). *Grundprobleme der Logik: Elemente einer Kritik der formalen Vernunft*. de Gruyter, Berlin, New York

Stekeler-Weithofer, P. (1997). *Zu einer Interpretation von Platons Dialog "Parmenides"*. In: Lenzen, W. (Ed.): Das weite Spektrum der analytischen Philosophie. de Gruyter, Berlin, New York, pp. 346–363

Stekeler-Weithofer, P. (2001). *The way of truth*. In: Fery, C., Sternefeld, W. (Eds.): Audiatur vox sapientiae. Akademie-Verlag, Berlin, pp. 450–472

Stetter, C. (1997). *Schrift und Sprache*. Suhrkamp, Frankfurt/Main

Totzke, R. (2002). Buchstaben-Folgen: Schriftlichkeit, Wissenschaft, Metaphysik. *Dialektik*, 2002/2, pp. 143–164

Willke, H. (1998). *Systemisches Wissensmanagement*. Lucius & Lucius, Stuttgart

COPYRIGHT

Boris Wyssusek, Rainer Totzke © 2004. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.