Narratives of knowledge and intelligence . . . beyond the tacit and explicit

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Abstract

Purpose – The purpose of this article is to revisit the key terms in knowledge management (KM), particularly tacit and explicit, to develop a better framework for a theoretical and practical understanding of KM.

Design/methodology/approach – With the help of concepts like articulation and discourse, borrowed from applied linguistics, the relationships between data, information, the components of information in its various forms, knowledge and narrative are explored, to develop an integrated framework for the understanding of the complexities of the domain of knowledge management.

Findings – This study provides a detailed assessment of the contribution of the tacit/explicit distinction to the KM debate. Develops new distinctions between formal and ante-formal information, procedural information and contextual analysis, a model of the process of developing objective information, and a model of knowledge as an articulation of procedural information and contextual analysis.

Research limitations/implications – The usefulness of the framework will only be tested when it is applied in research and in management practice. This will depend on whether the concepts and terms introduced here find their way into more common usage.

Practical implications – The study provides a useful framework and set of tools for understanding and managing the various different aspects of information, knowledge, intellectual capital, and competitive intelligence.

Originality/value – The paper brings together concepts and analytical tools from different disciplines (KM, applied linguistics, semiotics) to develop a new framework for analyzing how the component elements of KM articulate with each other. In more detail, the paper unpacks the relationships between ante-formal and formal information, procedural information and contextual analysis, the processes of objectification of information and the formation of knowledge, and the notion of knowledge as inherently narrative.

Keywords Intellectual capital, Knowledge management, Narratives

Paper type Conceptual paper

1. Introduction

This paper will review the role of the tacit/explicit distinction, and develop a framework for analyzing and managing intellectual capital, knowledge and competitive intelligence. The purpose of deconstructing the tacit/explicit distinction is not to deny that that tacit/explicit distinction is useful, but to find better tools to do the work it has done up till now. During the development of the intellectual discipline of knowledge management (KM), the tacit/explicit distinction raised useful issues about the nature and the production of knowledge. This paper will argue that it has now largely served its purpose, and that we need to move on, to establish better analytical and strategic tools, which incorporate an analysis of the nature and production of all aspects of knowledge, including information, data, narrative, and various forms of intellectual capital.

The paper will outline the way the concepts of tacit and explicit knowledge have been used in KM, and introduce the concept of articulation, which has its roots in linguistics. The author then re-examines the relationships between data, information and knowledge, using the
concept of articulation, and indicates how we can unpack and explore the epistemological
and social facets of this whole domain in more detail.

This analysis will provide the basis for what is hopefully a more nuanced framework to
describe and analyze the way knowledge and intellectual capital are formed, how they
operate, and how they articulate with each other. This will focus on how we generate formal
information and knowledge; the relationship between formal and ante-formal information; the
separation of procedural information and contextual information; and on the inherently
dynamic and complex nature of knowledge, which has specific implications for KM. Finally,
the concept of narrative will be used to build on this notion of knowledge, and to relate it to
the notion of intelligence.

2. Revisiting conventional concepts

First, we need to revisit the notion of tacit and explicit knowledge, and the standard triad of
data/information/knowledge, which is most often taken to refer to three discrete, hierarchical
domains, to which the further distinction is added of “tacit” knowledge as opposed to
“explicit” knowledge. This paper will unpack the relationship between the three key
categories to show that the categories are far more complex, interactive, and multi-faceted,
and try to develop a better framework for understanding the dynamic relationships between
the many different aspects of KM.

2.1 Tacit and explicit knowledge

Polanyi (1983) first came up with this distinction, based on the idea that “we can know more
that we can tell”. He then went on to draw a more formal distinction between tacit and explicit
knowledge:

- Tacit knowledge is highly personal and hard to formalize, making it difficult to
  communicate and share with others, and it consists of subjective insights, intuitions and
  hunches; it is deeply rooted in an individuals’ actions and experience as well as in the
  ideals, values, or emotions he or she embraces.
- Explicit knowledge is codified knowledge that can be transmitted in formal, systematic
  language.

Nonaka and Konno (1998) developed this further, in particular in the socialization,
externalization, combination and internalization (SECI) model, which outlines different Ba
(interactive spaces) in which tacit knowledge can be made more explicit. The tacit/explicit
distinction reminds us that knowledge and skills do not have to be formalized for them to be
shared, which confirms the view that observation and apprenticeships have been useful
ways of learning for millennia; that speech is only one mode of semiotics (Barthes, 1993);
that sharing and exchange require the establishment of social relationships, within a
common set of values, and that trust is a useful and often necessary element in this.

Polanyi and Nonaka et al. have raised interesting and useful questions, and what they have
said foregrounds and highlights the issues more clearly and sharply, and this has
contributed to the establishment of the field of knowledge management. What we intend to
do is to analyze and unpack the different articulations and kinds of articulations that come
into play when we share and/or formalize what we know. We need to go further than to “make
tacit knowledge explicit”. That could, erroneously, be taken to mean no more than that we
have to “formalize what has not yet been formalized”. It might be useful to take a more
detailed, empirical approach to the matter, and look at how and what people are articulating,
formalizing, objectifying, sharing and exchanging (or not) and why.
2.2 Articulation

The notion of articulation in this paper is borrowed from linguistics and semiotics, (Eco, 1978; Rossi-Landi, 1979), specifically the notion of the double articulation of speech: phonemes and monemes. Phonemes are the distinctive sounds that are the building blocks of human speech, and the digital basis of language – digital in the sense that they are discrete, and that they have no meaning in themselves, but only in combination with other phonemes, which form the next articulation, i.e. monemes, which are the smallest combinations of phonemes to which social groups ascribe meaning: for example “it” or “go”, which are arbitrary combinations of phonemes, as different languages ascribe meaning to them in quite different ways.

Articulation takes many forms: in everyday speech, in formal discourse, as well as in algorithms, procedures and information systems, and in creating and maintaining communities of practice and discourse communities. Rather than referring to a domain called “tacit knowledge” it might be more useful to see if we can analyze in more detail the processes by which we articulate what we know, and then see what role the tacit/explicit distinction might still be able to play. The semiotic and socio-semiotic processes of speech (Barthes, 1993), commodification (Marx, 1992), story telling (Prusak et al., 2005), narrative (Boje, 2001), communities of practice (Wenger et al., 2002) and discourse communities (Foucault, 1980) are by now reasonably well understood, and could provide all we need, without relying on tacit domains of knowledge.

This paper will show how the notion of articulation can provide us with a useful tool for analyzing knowledge and its components, and examples of how different elements relate to each other which, although they are discrete and disjunct, are also clearly derivative. The notion of articulation is also an example from language itself, which is the basis of knowledge.

2.3 Data, information and knowledge

So the issues of data, information and knowledge can be viewed very differently. To start with, each of the three domains (data, information and knowledge) can be shown to contain within them the “implicit” parameters of the next level, i.e. data implicitly contains parameters from the domain of information; and information implicitly contains parameters from the domain of knowledge and theoretical knowledge.

The converse is also true: the articulations of knowledge are to be found in information, the articulations of information are to be found in data, and the articulations of data inform and shape our experience. It must also be remembered that these articulations are inherently leaky, i.e. although they can usefully be considered to be discrete for some analytical purposes, they overlap quite a bit, and can also be powerfully recursive. For instance, some of the results of theoretical research can overturn the assumptions of some of our most basic ontologies.

The basic articulations of data, information and knowledge are set out in Figure 1. Data are generated by the basic semiotic process of constructing taxonomies from experience, i.e. distinguishing recognizable objects from each other.

2.3.1 Ante-formal Information. Information, in distinction to data, is generated when data is used in the identification and classification of events, rather than just facts – a higher level taxonomy, if you like, which also includes basic algorithms: notions of sequence, “con-sequence”, interaction and relationships.

At its simplest, information is entirely anecdotal, personal, and subjective, and varies from one linguistic (or discourse) community to another. Information can usefully be called ante-formal information at this level, i.e. information that has not yet been formalized. It is flexible, unstable, and adaptable, although it might later settle down into routine customary practices, at a micro level: for instance in stories that become narratives, that eventually become cultures at a macro level[1].

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2.3.2 Intuition. Intuition is an element of ante-formal information, and a component of "tacit knowledge". So it would be useful to explore the relationship between "tacit" and "intuition" before we proceed.

Ante-formal information can be very explicit but, rather paradoxically, it can also include intuition, and it is certainly an element of what many writers mean by the term tacit. It might be more useful to confine ourselves to intuition, because it quite accurately describes what might otherwise be called knowledge (see below), except that intuition is highly personalized, unformalized, unarticulated – in short, has never gone through the transformation into formalized information, and from there to knowledge (see below). Consequently, intuition may or may not be right – it may or may not be the best fit for a particular purpose, but it is impossible to tell beforehand. The best we can do is to trust intuition, and observe what happens, which can be a valid, but risky, strategy.

The distinction between ante-formal and formal information is quite different from the distinction between tacit and explicit knowledge. The nature of everyday conversation as ante-formal information is perfectly accessible (if complex), and has its own value: language is used flexibly, creatively; people enjoy the slippage, double entendres, ironies, metaphors and humor, and there is, if you like, lots of social and intellectual capital in the play between the forms of language and the more chaotic performance of speech (see the well established langue/parole distinction in linguistics (Barthes, 1993; Lecercle, 1990). Ante-formal information is the semiotic infrastructure of creativity and innovation and community. Its what makes H. Sapiens so distinct: we are for the most part not as hard-wired as our animal cousins – it would be more appropriate to say we are soft-wired or even wet-wired[2].
2.3.3 Formal information. The next articulation is the social and intellectual capital of formal information, which is the outcome of the strategic choice to forgo some of the play and slippage of everyday language, in order to transcribe and transform particular aspects of everyday conversation into formal information. This is a strategic and operational decision; it is not primarily about externalizing something you supposedly do not know that you really do know – that is a separate issue. People decide whether they are willing to formalize their knowledge into a format that allows it to be shared and exchanged on the basis of an assessment of the value of the particular strategy that is being proposed. For example, people who are asked to share their teaching materials for online courses will only make their notes available if the strategy for online teaching makes sense, and has value for them. If not, they are unlikely to share, exchange or be willing to commodify their teaching, for others to use in their place: an acceptable intellectual property rights agreement is a pre-requisite for this.

2.4 Processes and contexts

We can distinguish between two quite different domains of information: on the one hand, processes and procedures for doing things and for making things – tool using and tool making, and on the other hand descriptions of the contexts in which these tools might be applied and used. This division of information into two domains occurs at the point at which tool using transforms into tool making – and where work begins – work defined as appetite held in check – the point at which cognition becomes reflective cognition, or thinking, as it were (Rossi-Landi, 1979). We work to make tools because we have an idea of a process that requires the production of an artifact that we will apply in a particular type of context. These artifacts are, at the most obvious level, physical artifacts, but they can range from simple physical artifacts through the range of natural language, right up to complex computer programs for running, supporting and managing all sorts of processes – both physical and social.

At a slightly more complex level, information is formalized via processes of objectification, both in the domain of designing processes (and producing artifacts for those processes), and in the domain of contextual analyses (see Figures 1 and 2). This yields two types of formalized information: procedural information on the one hand, and contextual analyses (rather than just descriptions, accounts or narratives of contexts) on the other hand.

So information consists of three parts: ante-formal information, procedural information, and contextual information. The formal aspects of information, i.e. procedural information and formally articulated contextual information, constitute the basic building blocks of the next level of intellectual capital.

Knowledge is the next articulation, and we define it as the fit or articulation between these two basic building blocks: procedural information and context. Knowledge is the fit – not of what works, *per se* – that is procedural information, but what works in particular contexts. This fit includes many different layers and types of fit: social, personal, technical, institutional, financial, etc. Knowledge defined in this way is essentially about strategy, design, management and capability. Saint-Onge and Armstrong (2004, p. 8) defines it more concisely. He says “knowledge is the capability to take effective action” – to which this author would add: “in the appropriate context”.

By this stage we have dealt with a number of distinctions that are traditionally described in the literature as tacit/explicit issues. Each one of them can be dealt with in terms of specific forms and processes of articulation, rather than the general idea of inner “tacit” processes that become externalized in “explicit” forms.

The specific articulations are:

- data into information, in terms of classification, distinction and basic taxonomies;
- ante-formal processes into formalized procedural information;
- descriptions, accounts and narratives into contextual analyses; and
- knowledge as the articulation of algorithms with context.
2.5 Objectification

The articulation of ante-formal into formal information takes place by a process of objectification in which specific transformations take place, from semiotics to meta-semiotics (Williams, 2005).

These processes are:

- Subject-stripping: in which the processes are described and articulated in such a way that they can be understood and used by anyone: the particular subject, person or agency is no longer relevant.

- Context-stripping: in which the processes are described and articulated in such a way that anyone can carry them out, at any time, with the same results, and anyone can use them in a similar context elsewhere.

The particular subject or person, as well as the time and place, is irrelevant, paradoxically, to contextual analysis as well as to procedural information. This is because formalized contextual analysis can be applied by anyone in a similar context – in other words, formalized contextual analysis is specific to types of context, not to particular contexts.

The outcome of these processes of objectification, i.e. the transformation from semiotics into meta-semiotics, is objective information.

Objective information is no more and no less than a set of better operational approximations for going about your business. It is also in a very literal sense capital, because objective information is also produced for exchange, and in an inherently exchangeable form. It is a commodity, i.e. it can be transferred to any other context to be used by any other person, and it can be accumulated, stored, and used anywhere, anytime – it is thus liquid capital rather than...
fixed capital, and as it yields better operational approximations, it can also usefully be termed practical epistemology: a cumulative and iterative (although not necessarily linear) process to improve our knowledge – our capability to take effective action. It is not to be confused with more ambitious philosophical notions like “truth” or “objectivity”.

The process of objectification and transcription is also reversible – use value into exchange value, exchange value into use value – just the same as financial capital, whose meta/semiotic transcriptions were so ably described and analyzed by the premier semiotician of economics, Marx. There is no mysterious “tacit” element present here. There is, rather, a strategically specific process of transformation and articulation.

It is no more useful to say that that formalized information is “an explicit version of tacit knowledge” than to say that “exchange value is an explicit version of use value”. The nature of intellectual and financial capital changes, and these differ from anecdotal information and from use value, respectively, in fundamental, deliberate ways. To put it another way, meta-semiotics is a process of the transformation of the relationship between the human subject and the artifact, not a process of “externalisation”. See Marx (1992) for a somewhat more nuanced account of this, albeit confined to the economic. In the case of both financial and intellectual capital, the process is inherently a process of transforming the semiotic infrastructure of social relationships.

It is true that the outcome of the process of meta-semiotic transformation includes a strong element of abstraction in it – removing it from the merely personal – but this is much more than the externalization of the tacit into the explicit. One can make explicit what you implicitly know, and that is a useful process, but it is only the first stage on the way to formalized, objective information: it is a necessary but not sufficient step in the process. For it surely goes without saying that one cannot transform what you tacitly know into objective information without first making it explicit. But conversely, what you make explicit does not necessarily satisfy the conditions for objective information, and exchange. The process of objectification is best seen as a paradox, which can be illustrated by the following:

Formal information or, in its more particular form, meta-semiotic information presents us with an ontology which is derivative but yet disjunct from ante-formal information, but this is not an either/or affair. For example, to say that Monet’s painting of the blue irises is a “beautiful painting” is a completely different thing from saying that it is “a painting worth $40 million”. But it is also perfectly acceptable to say that it is “a beautiful painting worth $40 million”. In other words, this is to some extent a quantum theory of knowledge, but if so, it is one which follows the Schrödinger’s cat model, which says that although we know that the two states (of the cat, or the painting) in question are disjunct, we need to think of the object as existing in both states at one and the same time (Williams and Walters, 2004, p. 5).

2.6 Knowledge

The next stage we need to consider is the articulation of knowledge, or the fit between procedural information and contextual analysis. Again, there are limits to describing it as “tacit”. Rather, it needs to be seen as a complex process, as it inevitably involves not just a single fit but rather a whole array of fits (social, personal, technical, institutional, financial, etc.). These fits, too, can be formalized and prescribed, but they are arrived at by a series of operational and strategic judgments, by persons or institutions, each of which is also complex – both in terms of the arrays of fits that they take into account, as well as their (dynamic) identities. And many times these fits are best left as flexible as possible, as contexts change. So, complex, yes, often very complex, but something quite different from just “tacit”.

Of course that does not make it any easier to get it “out” of the person or institution, but not because of a tacit/explicit barrier, rather that people and institutions need to have good cause to share knowledge about these things, with people they need to have good cause to trust. Otherwise they will refuse to share it – and that is quite straightforward.

More to the point, in a very important sense it is actually impossible to get such knowledge “out” of the person at all. For if knowledge is about the fit between procedural information and context, then it is also about the position and identity of the person or institution that decides on that fit. In this sense knowledge is not merely embedded in contexts and social
relations, it is also constituted by, and in, social relations and cannot, by definition, be ‘extracted’ (see communities of practice, below[4]).

In other words, knowledge as it is defined here is not in any way amenable to the processes of subject- and context-stripping that are the hallmarks of objective information, and it is a fundamental epistemological mistake to think that it is. The reason why it is difficult to share knowledge (as defined here) is because it is inherently complex and dynamic across contexts, strategies and identities.

2.7 Models

The next articulation is the articulation of models: of the strategies, designs, and the management of knowledge, followed by the articulation of theory, or models of models, i.e. more abstract and fundamental, generative, models (see Figure 3). These models concern both macro and micro phenomena, and at both extremes feed back fundamentally into the articulation of ontologies (for instance dark matter at the macro level, and entanglement at the micro level). The production of models too is not a matter of “tacitness” but of complexity, and of deliberate and strategic abstraction and generalization.

To complete the picture, there are further articulations of models and theories (see Figure 3):

- Models of what is generic within sets of procedural information on the one hand, and models of what is generic within sets of contextual analyses on the other hand.
- Theories derived from (or created to generate and inform) these models of what is generic within sets of procedural information, and within sets of contextual analyses.

Figure 3 Further articulations of knowledge
The collective set of strategies, design and management procedures, as well as of models and theories is the complete domain of knowledge (the whole area within the dotted line in Figure 3, which extends the domain of knowledge from that of Figure 1).

2.8 Nodes of innovation

This framework (supplemented by communities and ecologies of practice, and narrative and intelligence – see Figure 4) gives us a comprehensive picture of the articulation of the components of the whole domain. The nature of innovation, and how it is managed is best left to the specialists in that field (e.g. Leonard, 2004). However, it might be useful to point out that this framework does point to a wide variety of sites at which innovation might occur, each of which might be useful in its own way, and which might in turn inform further discussions on the management and stimulation of innovation. Innovation can, then, occur at many sites:

- at the level of data (and taxonomy, ontology);
- information (ante-formal, procedural, and contextual analysis);
- knowledge in its various different fits (social, technical, personal, financial, organizational, etc.);
- models of contextual analysis and procedural information;
- intelligence and narrative;

![Figure 4: Knowledge is structured as a narrative](image-url)
- theoretical knowledge; and
- communities and ecologies of practice.

This might also be useful to broader management practice, as data management, information management, knowledge management and the management of competitive intelligence might all benefit from a more nuanced and complex framework to understand the components of the whole domain, and how the components articulate with one another.

### 3. Communities of practice

We have already unpacked the articulations of data and information, and separated out the components of information on two parameters: ante-formal and formal information on the one hand, and procedural information and contextual analysis on the other hand, using the distinction between semiotics and meta-semiotics, which attempts to more formally analyze the process of objectification and the formation of information capital.

We have then used these distinctions to unpack knowledge as an operational and strategic process of determining several best fits between procedural information and contextual analysis, and integrating them in a management process. Seen in this way, knowledge is inherently a management issue. It is the foundation of management (as opposed to administration), and it means that KM is an essential and core management function, not just a passing intellectual fashion.

We have also said that although the fit that comprises knowledge can be formalized and prescribed, it is arrived at by a series of judgments, by a person or persons, or institutions, each of which is also complex – both in terms of the arrays of fits that they take into account, as well as their (dynamic) identities. And many times this fit is best left as flexible as possible, as contexts change. What this means is that knowledge is in principle situated within relationships.

In other words, the capability to take effective action is not exercised in a vacuum; it happens within a context, a social/institutional context. Knowledge is invariably created, developed and maintained in communities of practice, some of which are highly formalized, for instance in the codes of conduct and competency requirements of professional associations, and some of which are highly informal, or ante-formal, and come and go as particular needs arise. As such knowledge is dynamic, strategic, political, and subject to change (see Figure 4).

Knowledge can also be regularized, if not institutionalized. This happens to some extent within the institutional cultures of executive decision making in particular companies or industry sectors, and it happens to a greater extent within the creation and interpretation of law. Bureaucracy and bureaucratic regulations are best seen as part of procedural information, rather than knowledge, as bureaucracy requires administrative compliance rather than executive management (see Figure 4). So within the domain of knowledge, we should add a further articulation, that of social and relational capital, which is the basis for communities of practice – and sets of them, i.e. ecologies of practice (see Figure 4). Once again, this is complex, and the tacit/explicit distinction does not help us. It is at this point that the subjects (who were earlier stripped out, in the process of objectification) come back into the picture: not in the form of “individual subjectivities”, but rather as active subjects, as members of discourse communities.

Communities of practice are sometimes highly structured and task focused (Wenger et al., 2002), but they can also be gloriously ante-formal practices (Boje, 2001), out of which more formalized practices may or may not emerge. The more formalized practices are discourses, which are developed and maintained within discourse communities, which are based on a definition of discourse (Williams, 1993) as:

> A practice of inscriptions and alliances, which orders texts and bodies, animate and inanimate, within discourse communities.

In other words, discourse communities are defined as practices and alliances within which knowledge may usefully be shared, but they are also the sets of practices and alliances in which intellectual capital and knowledge may be kept exclusive. They are, in different ways,
both open for sharing and closed to the world “outside” their discourse and, more importantly, outside their discourse community. If we define the domain within which intellectual capital has to be protected in this way, we can use it to analyze proprietary domains (or discourses) within organizations and, where appropriate, to analyze the protocols for using it beyond the proprietary discourse community. For discourse communities can be either organization or discipline specific, trade or profession specific. Increasingly these days discourse communities encompass several of these.

The notion of exclusive discourse communities relates directly to the notion of competitive intelligence, which has been extensively analyzed in Rothberg and Scott-Erickson (2005). We also need to be aware of what may be called internal competitive intelligence, which is the organizational intelligence that is often deliberately withheld, and is only shared with newcomers as and when these newcomers are accepted as members of the various establishments within the organization.

4. Knowledge as narrative

The analysis of subjects, subjectivity, objectivity and objectification (see Williams, 2005, for a fuller theoretical analysis) enables us to explore and analyze the transformations and transcriptions of the articulations of information and knowledge. The tacit/explicit distinction is useful only in as far as it leads into this more complex analysis.

What is more useful is to go back to the thrust of some of the key work on narrative: Prusak et al. (2005), Boje (2001), Snowden (2002), who say that narrative is contextual and complex, and intersects with identity at all levels: social, cultural, individual and corporate. These key works on narrative also say that in many cases knowledge can only be elicited, stored, and communicated in the form of narrative.

However, we need to go a bit further than that, to get to the ontological and epistemological roots of the matter. We can do this by moving beyond narrative as a form/format/tool/display mode of knowledge, to the bolder statement that knowledge is structured as a narrative, i.e. that the nature of knowledge is inherently narrative[5] (see Figure 4).

The metaphor of computer game quests like Myst come to mind, where the knowledge of how to succeed includes the ability to travel through a number of spaces and scenarios, pick up useful ideas and tools to use later, anticipate and avoid certain spaces and encounters at particular times and places, and put together a multi-tasking set of related strategies within a dynamic context, which changes as you interact with it. With this in mind, we can usefully extrapolate Saint-Onge’s definition of knowledge (as the “capacity to take effective action”) to a new definition of knowledge as the ability to construct effective narratives, or to put it a little stronger, the capacity to prosecute effective narratives.

To continue in the style of meta-semiotic analysis, one can say that there are two articulations of knowledge: first, the fit between procedural information and contextual analysis and secondly, knowledge as a narrative – a narrative of fits and miss-fits[6], of creating and constructing a track of activities: a narrative which moves between, beyond, above, and around various bytes of knowledge as fit, through to knowledge as fit within a narrative, i.e. within dynamically emerging contexts and discourses. Such a complex, dynamic and emerging fit is achieved by constructing a sequential mapping of events into a particular narrative.

Narratives in this sense are not primarily complex stories, they are a series of material events and achievements within particular discourse communities, which shape the environment as

“The capability to take effective action is not exercised in a vacuum, it happens within a context, a social/institutional context”
they proceed, and which in a sense are only incidentally able to be recorded and told as narrative texts.

These narratives of knowledge have to be situated within (or against) historical contexts and narratives – genealogical narratives. A better way of putting it might be to call the articulation of knowledge at this level “intelligence”. In other words, we might say that it is intelligence that is structured as a narrative.

That would allow our analysis to move between the articulations of:

1. Ante-formal information.
2. Formal information, including:
   - procedural information; and
   - contextual analysis.
3. Knowledge as the fit between procedural information and contextual analysis.
4. Intelligence as the capacity to prosecute effective narratives, or the narratives of the deployment of knowledge[7].

This also allows us to bring the subjects – people with identity – which has elsewhere been called “variables with attitude”, back into the picture (Williams, 2003). For when intelligence and knowledge are defined as inherently narrative, we have to ask who the drivers are of these narratives. There are two main categories of drivers – people and institutions. Both operate within communities of practice, or in the stronger sense, within discourse communities. That requires people, subjects, acting for the most part not “subjectively”, nor “objectively” but as active subjects within particular discourses and discourse communities, which are constructed within social and institutional relationships, i.e. within the limits and affordances of social and relational capital, and which have, and maintain, specific identities.

The core of these discourse communities or communities of practice is similar to what Saint-Onge, for instance, defines as tacit, i.e. the “intuitions, perspectives, beliefs, values, and know-how that result from . . . experience . . . but that are not documented anywhere” (Saint-Onge and Armstrong, 2004, p. 41). Where discourse communities and communities of practice differ from Saint-Onge’s notion of the tacit is that we can use the notion of discourse communities to document and analyze the collective frameworks, and the nature of the practices, of discourse communities and communities of practice, within which this tacit knowledge is articulated (Wenger et al., 2002; Williams, 2003).

Narrative at this level (the level of intelligence) is indeed in the domain of the intangible, and intangible assets. But these too are not tacit, they are intangible, because they are configured and embedded in complex, emergent, adaptive, discourses – they exist between people, not in them. They are deeply embedded in relationships, and are proprietary to the people and institutions concerned – and for good reason: they are assets, and (competitive) intellectual capital, that needs to be husbanded and protected. They are also culturally embedded – in discourse communities, institutions, cultures, nations, etc.[8]. It is within (and sometimes against) these discourses that the narratives of knowledge are created and acted out, and new narratives and new knowledge is formed[9].

If knowledge is narrative, or at least in part narrative, then the question about how one can share knowledge also becomes a question of how one shares stories. If a story in this sense consists of an account of how someone constructed a series of good fits between procedural information and a specific types of context, then the person who listens to that story needs to decide whether it would be useful to create similar narratives, or whether they need to create a new narrative, based perhaps on the story they have just been told. Prusak et al. (2005) go so far as to say that story telling is most useful when it elicits a new story in the mind of the listener, i.e. the listener either thinks of a similar or related story of their own, or starts to create afresh a story of their own.

Creating a narrative in this sense is quite different from just learning how to use an algorithm, i.e. aspects of procedural information that you apply in a similar context. It involves
positioning yourself within an emerging narrative, deviating and creatively exploring new paths where necessary, and maintaining your position within a community of practice, and/or discourse communities at the same time (see the fourth heuristic that this author added to Snowden’s heuristics on knowledge – in section 3 above). You have to negotiate your position in a multitude of ways to create such a narrative, whether it is hypothetically in your mind while listening to a story, or actually in practice.

The implications of this approach to narrative is that narrative is defined similarly to the way in which discourse is defined (see above), i.e. as a set of signs and alliances, which constitutes a set of practices in the three dimensional world. And the ability to create narratives is constrained by the discourse communities within which you act, or which you may attempt to revise and change in order to provide you with opportunities to act in new ways.

This has particular implications for learning. We learn (and teach) so that people can act more knowledgeably, and more intelligently. If knowledge is indeed narrative, as we have defined it here, it follows that to acquire knowledge you must also acquire membership of a community of practice and/or discourse community. That in turn means that learning needs to include substantive collaborative, group- and problem-based skills, rather than just being restricted to individual skills.

4.1 Knowledge and culture

Much has been written about the knowledge that is embedded within cultures, which are the next articulation beyond discourse communities. In the last decade or so, substantial initiatives have been developed (both theoretically and physically) to configure and situate cultures of innovation and intellectual capital development, accumulation, and management. Many of these have been situated within particular regional, social, and economic and scientific cultures (with strong geographical roots and links) what might be called “designing innovative culture parks”.

Knowledge and intelligence in these innovation park initiatives builds on the traditional notions and practices of “culture” as embedded in particular spaces and times – geographically and historically situated in what we have come to know as cultures[10].

4.1.1 Virtual communities. New forms of cultures are emerging, which explore and develop new ways of interacting, of developing and managing information and intellectual capital, which both inform and transform the modes and horizons of how cultures (and cultures of innovation and intellectual capital development) develop and emerge into the twenty-first century.

It is true that these new forms of cultures are derivative of older élite cultures, but they are new in range, domain, adaptability and flexibility. These cultures are the virtually configured cultures that Lash (2002) analyses in his work on the new disembedded global élites. Global élites have been with us as long as poverty and taxes, and have always been largely disembedded – by definition. What has changed is that what was restricted to a tiny minority of disembedded élites is now emerging as a culture – no longer an isolated élite. These virtual cultures of globally disembedded players are only contingently and conveniently situated in specific spaces and historical narratives (see also, Baumann, 2003, on “liquid cultures”)[11].

This presents us with an emergent, adaptive, disjunct cultural ecology, even though it still contains spatially and historically configured cultures. Disembedded from these cultures, and articulating with them on different, and highly variable terms, is the whole domain of virtual cultures – no longer virtual élites. It is, for instance no longer unusual for people to

“Knowledge is invariably created, developed and maintained in communities of practice.”
have more than two passports, or to have changed citizenship as “economic migrants”, or to have frequent contact with family, and/or a circle of friends/work associates that is dispersed across the globe.

At the micro level of the capillaries of culture, similar things are happening. It is now a commonplace that the internet makes geographical distance ever less relevant. But what emerges at a micro level is, following Foucault (1980) even more important: highly elastic space and elastic presence. The space (in the sense of a common domain within which people can be present, and can interact) the spaces of email, websites, e-business, e-bay, texting, blogs, wikis and mobile videophones, has already been transformed way beyond mere connectivity, and it now provides a mode of elastic, virtually configured, space and presence.

Geography is now literally carved up into interchangeable telecommunication cells, (and GPS coordinates) which are in many ways just a grid, a template within which elastic space and elastic presence is configured. The private/public dimensions of conventional space are also transformed into elastic social space, in which distance as well as private/public presence is elasticized and transformed. Multi-tasking, now common, is based on the technologies of multi-presence, or multi-elastic-presence. People have always indulged in multi-presence, in day-dreaming, for instance, but this multi-elastic-presence can now be configured and operationalized to quite new levels with the new technologies. Configuring overlaying elastic spaces and elastic presences is now the domain of expertise of children above all. Adult capacity for determining space and presence, and demarcating public and private social space has been gloriously compromised. The global virtual world is full of asymmetric relationships of power (defined in traditional terms), or distributed power (defined across cultures and generations). Ironically, the “problem” of the 2000s is that the “generation gap”, so lamented in the 1960s, is fast disappearing.

The result is not so much a disembeddedness, but rather a new mode of elastic, virtual, dynamic, multi-embeddedness. Children texting one person while talking to another, and possibly photographing a third, while listening to their favorite music on an iPod shared with a friend standing next to them, do not think of themselves as less embedded, or disembedded, but rather as multi-embedded – richer and more engaged, not distanced or more alienated, in contrast to the rather negative shadow of Baumann’s (2003) “liquid cultures”. And although there is a useful political point that the term “disembeddedness” makes, once it has done its political work it needs to make way for a more appropriate notion of complex adaptive multi-embeddedness, or “dynamic-embeddedness”.

This gives us some idea of how the relationships and narratives of virtual communities are configured. The next question is: how and where are the cultures of those communities situated? The logic of the narratives of knowledge and intelligence is that ecologies of these narratives form and reform into cultures, with established routines. Clearly the logic of virtual cultures will be more dynamic and variable (more “liquid”) than those of pre-internet cultures. We can for instance broadly identify emerging cultures such as “open source” cultures, the earlier “free software” culture (mainly around Stallman), creative commons and copy-left cultures, etc.

There are also far more proprietary corporate, virtual cultures, as well as attempts by various institutions to develop hybrids, e.g. the World Bank’s “knowledge bank” initiative, MIT’s free educational resource initiative, and many variations of public domain repositories, wikipedias and so on.

The implication of these arguments is that Huntington’s (1997) taxonomy of world civilizations is in need of an urgent upgrade. For his civilizations interact, intersect, overlay/underlay and interrupt with all these various modes of virtual cultures, as well as operating within them. Al Qaeda too is a virtual culture, and is a key example of the new asymmetric virtual cultures. Blogs and their interaction with establishment journalism are another key node of emergent cultures.

All of this has implications for our notion of “knowledge as narrative” within discourse communities or communities of practice. Virtual cultures change some of the basic
parameters of knowledge narratives, making them far more dynamic and flexible, and greatly increasing the need for rapid responses to changes within the global economy.

5. Intangibles

There is a role for the term intangible knowledge and information. One problem with equating this with the tacit is that underpinning the notion of the tacit and the explicit is that it is tacitly assumed to be a one-way street, so to speak. In other words, it is assumed that the tacit graduates as it were into the explicit, never to return.

Within the framework of the articulations of information and knowledge that has been developed in this paper, what actually happens is far more complex and recursive than that, as there are domains of intangible information and knowledge on both sides of formalized, objective information. On the one hand there is ante-formal information and knowledge that precedes the articulations of objective information, and on the other hand there is knowledge and intelligence, which follow on from, and are built upon, the prior establishment of formal, objective information. These two very different elements of the domain of intangible knowledge have what Wittgenstein (2002) might call a family resemblance, but they are articulated at quite different levels in the network of information and knowledge. Ante-formal knowledge is a world apart from intelligence, and it is unhelpful to call them both tacit. We have to clearly distinguish the very different ways in which the two entirely different elements of the intangible are articulated with objective information, beyond the tacit/explicit distinction.

5.1 A return to the tacit?

It might be possible to find a new role for the tacit within the framework that we have developed here. It might be useful to speak of tacit knowledge not as knowledge that has not yet been made explicit but, contrarily, knowledge which was explicit, and which through practice, fine-tuning and personal mastery has become internalized.

This process of utilizing and consolidating knowledge takes place through the articulation of knowledge into the subconscious – old-fashioned mastery. Mastery can be sited in many places and forms, such as muscular and bodily memory, or feel, or social and emotional feel. In all these cases, what is happening is simply that as a particular capability is mastered, it is also shifted across from the explicit, conscious domain to the subconscious domain; leaving the conscious mind free to consider the next series of explicit issues and decisions it has to deal with.

In this sense tacit knowledge increases, rather than decreases, with mastery, learning and the spread of knowledge. If we keep the notion of tacit, it would need to be used in this sense, i.e. in which the transfer of knowledge includes the transfer of explicit knowledge (including both formal and ante-formal knowledge/information), and the process of making it more tacit (not less!) within the process of mastery. Knowledge, contrary to information, is of little use if it is merely exchanged and not mastered.

However, this might confuse more than clarify the debate on the tacit/explicit distinction, and it might be advisable to just talk of old-fashioned mastery instead. Mastery usefully includes both the knowledge and the practice of a particular capacity, whereas tacit knowledge is confined to the content of the matter.

“Knowledge is dynamic, strategic, political, and subject to change.”
6. Conclusion

The tacit/explicit distinction has contributed to the establishment of the field of KM. This paper has revisited these concepts, and the other core concepts in the field (data, information and knowledge) to see whether some of the concepts of applied linguistics and semiotics can help us to improve on the framework we use to understand and to manage KM.

These concepts have been used to unpack in more detail the relationships between the key terms, and specifically to unpack the processes of articulation and abstraction, which are more fundamental and more complex than the process of making knowledge more explicit.

A distinction is drawn between ante-formal information on the one hand, which is flexible, dynamic, and variable, and which affords us the opportunity to use language creatively and innovatively, and formal information on the other hand. Formal information is information that has been produced specifically as objective information, and both its form and its value reside in the fact that it is produced for exchange, as intellectual capital, which can be used by anyone, anywhere. Two kinds of formal information are distinguished: procedural information and contextual analysis. Procedural information is information about particular processes, and contextual analysis is information about the types of contexts in which these processes may be used.

That gives us the basis for the next articulation, knowledge, which is the fit between these two types of formal information – procedural information and contextual analysis. This fit is a complex process, as it involves a range of domains – institutional, personal, technical, financial, cultural, etc. It might also incorporate elements of ante-formal information, which makes the process even more complex.

The process of developing and deploying knowledge is not static, and it can only be effective within communities of practice, or ecologies of practice. This paper has borrowed the concept of “discourse” and “discourse community” from applied linguistics, to show in more detail how communities of practice relate to knowledge and intelligence, in ways that are inherently narrative.

This leads to the conclusions that knowledge and KM are core to management, that knowledge can be said to be inherently narrative in nature, and that knowledge (or intelligence) may usefully be defined as the capacity to prosecute effective narratives.

Where does this leave the tacit/explicit distinction? The analysis points to the conclusion that ‘tacit’ knowledge occurs, somewhat paradoxically, at opposite ends of the knowledge domain.

At the least formal level, of ante-formal information, tacit knowledge is present as intuition. But at the most formal level, tacit knowledge re-emerges as the product of the process of the mastery of complex knowledge. This is counter to one of the key tenets of the use of the tacit/explicit distinction in KM, i.e. that a decrease in tacit knowledge, as it gets made more explicit, is one of the key components, if not the key component, of knowledge management. What this framework suggests is that within the mastery of complex knowledge, tacit knowledge might decrease in the less formal stages, but it would definitely increase at the more complex stages. This is a paradox that does not necessarily lead to the rejection of the tacit/explicit distinction, but it does lead to a radical revision of how it functions within the management of knowledge.

On the other hand, in the core of this analysis (the process of meta-semiotic transcription, which yields objective, formal information), the tacit/explicit distinction is of little use, as the process of formalizing information, which is fundamental to this analysis and to this framework, requires much more than just making things explicit. The explicit in this context is a necessary but far from sufficient step in the development of formal information and, from there, knowledge and intelligence.

This framework also gives us an entry point to the analysis of external competitive intelligence, in the inter-company competitive environment, and also to internal competitive intelligence, within organizational culture and practices.
The overall aim of this paper is to contribute to a theoretical and a practical understanding of the nature of information, and knowledge, and how this might be integrated into a single strategic framework, founded on a detailed appreciation of the complexity of the articulations of information with knowledge and intelligence.

Managing knowledge is not (primarily) a matter of managing objective (and explicit) assets; it is fundamentally about managing strategy, relationships and communities of practice, which extensively employ objective information in creating and maintaining the narratives of their organizations. KM without an ethical dimension is a contradiction in terms, (whatever that “ethics” turns out to be). And narrative is too important to be left to the deconstructionists, who celebrated its demise prematurely (Lyotard, 1984). Narrative remains a key concept for the understanding and management of knowledge.

Notes

1. It might be useful to distinguish the ritualization of stories and narratives, which can develop into cultures, on the one hand, from the formalization and objectification of procedural information and algorithms, which can develop into science and bureaucracy, on the other hand (see Williams, 2005).

2. In a similar vein, we can talk of ante-formal learning, which takes place in the dynamic and variable domain of ante-formal information, particularly in the recorded conversations of email, blogs, e-learning, and communities of practices, and which now constitutes a major domain of (ante-formal) learning, and is a major resource to feed into formal learning, as and when appropriate.

3. This was dramatically illustrated in the major KM battle of the renaissance, Pope Urban’s 200 year censorship of Galileo’s work – not because of its content, per se, but because it challenged the authority and the agency of the Catholic Church, and of God, who had made his decision on his “chosen planet” which he had created as the center of his universe. An equally important, if less high profile, KM battle was the Catholic Church’s ban on the use of zero in mathematics, because it symbolized the work, and the agency of the Devil, the rival metaphysical power of the times. In a strange and paradoxical way, of course, the Pope was right: Galileo’s science was a heresy. It was the harbinger of objective scientific reason, and a breakthrough into the paradigm of no-agency or, even more pointedly, a paradigm of zero-agency, objectivity, and the beginning of the end of theological metaphysics.

4. This leads me to add a fourth heuristic to David Snowden’s three heuristics of KM (Snowden, 2002, p. 4): knowledge can only be volunteered, it cannot be conscripted; we always know more than we can tell, and we will always tell more than we can write down; and we only know what we know when we need to know it. Namely, the heuristic that your ability to act on what you know is partly dependent on the fact that I know what you know, that you know that I know that, and that I trust you to use it appropriately (Williams, 2003).

5. It is useful to differentiate ante-formal modes of action and discourse (stories) from more formalized elements (narratives) (see Boje (2001), who uses the term “ante-narrative”).

6. For example, a community of practice of entrepreneurs that meets in the Portsmouth area is said to have a membership threshold that you must have “lost at least £10 million”. Of course you have to have made it back again, but that’s, in a sense, secondary.

7. This notion of intelligence would be consistent with the notion of competitive intelligence as articulated by Rothberg and Scott-Erickson (2005).

8. Cultures in this sense can also be seen as competitive intelligence, as their differentiating value added is in their capability to operate, collectively, in particular times, and in particular parts of the world (it should go without saying that cultural value added is not immutable, but dependent on changing contexts, but tradition often makes it seem that way).

9. The narrative of the cold war, for instance, was created and acted out within the discourse (and subject to the fundamental drivers) of thousands of years of arms escalation. It managed, thankfully, between the 1960s to 1980s, to work through the dialectics of escalation to mutually assured destruction, and to strategic arms limitations. The continuation of that dynamic, i.e. towards real disarmament, seems to remain illusory, and the shift from the balance of superpower terror to the balance of asymmetric terror offers slight, if any, resolution to the matter.
10. Huntington (1997) has some provocative and interesting things to say about how these spatially and historically configured and embedded cultures are being transformed in the interaction between what he calls the major contemporary “civilizations” of the twenty-first century, many of which have a strong diaspora element to them.

11. This applies not only to the well established examples of computer professionals and knowledge workers (and Drucker’s (2001, p. 2) knowledge technologists) but also to international sports professionals and, far more interestingly, to national sports coaches, as well as the now burgeoning professional security/mercenary industry. Until a few years ago it would have been anathema to appoint a national sports coach who was not a citizen of that country (and preferably born there too). Now its commonplace. It is far more than just the professionalization of these roles.

References

Further reading


About the author

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