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# Towards making knowledge in communities

— *Some thoughts and a KIDMM conference announcement by Conrad Taylor*

My thoughts here are about concepts of **knowledge community** in general, but for obvious reasons are also rooted in the BCS situation of practice, as it is experienced by Specialist Groups (SGs) and Forums, and by KIDMM.

## Knowledge Communities in BCS discourse

A paper<sup>1</sup> circulated from BCS HQ before the October 2006 BCS SG Assembly first proposed the formation of 'flexible Knowledge Communities', but it did not define what this meant.

At the 18 April 2007 SG Assembly, a *Knowledge Community Proposal* paper published under the name of the Synergy Working Party<sup>2</sup> claimed there was a 'consensus to evolve the Forums and SGs into flexible Knowledge Communities (KCs)'. A list of 7 'existing Knowledge Communities' was given, identical to the list of existing BCS Forums. It seems that for these authors,<sup>3</sup> 'knowledge community' had evolved into a re-branding term for Forums; but this usage (and the claim of consensus) has been dropped since.

However, within the Specialist Groups community the idea of 'knowledge communities' does not seem to have been rejected *per se*. They *sound* like a good idea; the question is, what they might be! The phrase does seem to express something of two ideals:

- ◆ active synergy and collaboration between SGs, Forums and others; and
- ◆ aspirations towards accumulation of knowledge, and the building of a 'learned society'.

## KIDMM, a prototype knowledge community?

In my October 2006 paper *Memberships and communities in and around the BCS*,<sup>4</sup> I suggested that KIDMM (an ad-hoc group formed in 2006 between members of more than a dozen BCS SGs and Forums, to discuss Knowledge, Information, Data & Metadata Management) might be seen as 'an experiment in constructing a knowledge community from the bottom up'.

Others have supported this view, and during 2007 KIDMM received BCS financial help which enabled a conference and initiated the design of an exhibition.

But the primary activity within KIDMM has taken place around its discussion list, which is hosted on the academic JISCMail system.

- ◆ BCS-KIDMM list has been active for 25 months; over 1,200 postings have been made.
- ◆ There are now 71 members, including people active in 15 BCS SGs and 3 Forums, 4 museums/archives, 19 universities and several associations. KIDMM includes BCS and non-BCS members.

In addition, there is a lot of face-to-face networking and conversation within the KIDMM community. Not just at KIDMM events, but also through crossover participation at SG meetings, at SG Assemblies and at meetings of ISKO-UK.<sup>5</sup> Several new personal friendships have been formed within the KIDMM context.

## A comfortable focus on data and information

Discussions within KIDMM have focused quite a lot and quite productively on issues of *data management*, and even more so around *information management*.

The latter has been understood, I think it is fair to say, as the management of 'information products' such as books and journals and Web pages, maps and wikis: the traditional foci of publishers and broadcasters, librarians and information scientists, information retrieval experts, digital asset managers, Webmasters, researchers, academics and so on.

Within KIDMM, discussion of how effectively to manage information products brings up such issues as classification, the use of controlled terminologies versus ad-hoc tagging, information structure and encoding, the attachment of metadata, and such technologies and approaches as RDF and XML, OWL and SKOS and GPS, Dublin Core and Topic Maps, and so on and so forth.

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1. Untitled discussion paper, dated 6 Oct 2006, filename sgforum\_sp-synergy.pdf. May be found in the SGA Secure Area on the BCS site.
  2. BCS Synergy Working Party *Knowledge Community Proposal*, April 2007. May be found in the SGA Secure Area.
  3. It became apparent in the sometimes heated debate at the April 2007 SG Assembly that the paper had been written by and represented the views of a subset of members of the Synergy Working Party.
  4. *Memberships and communities in and around the BCS* by Conrad Taylor, 19 Oct 2006. Filename memandcom\_ct.pdf. May be found in the SGA Secure Area.
  5. The UK chapter of the International Society for Knowledge Organisation. Eight ISKO-UK members are members of BCS-KIDMM and about another eight BCS-KIDMM members regularly attend ISKO-UK events.
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## Knowledge management: our weakest link?

But, what do we understand by 'knowledge'? How are we to manage it? There are big issues here with which we have not yet effectively grappled. And, within this discussion, might we be able to elicit a good definition of a 'knowledge community'?

In an article in *Information Research*,<sup>6</sup> UK scholars Paul Hildreth and Chris Kimble unpick the concept of Knowledge Management as it is used by practitioners and scholars. They argue that most KM projects seem to be primarily about knowledge assets that can be 'quantified, counted, organised and measured' and that in their use of technology, a 'capture/codify/store' approach is dominant. This causes the suspicion that KM is no more than a buzzword, a more fashionable term for Information Management:

*... What many software vendors tout as Knowledge Management systems are only existing information retrieval engines, groupware systems or document management systems with a new marketing tagline.<sup>7</sup>*

However, Hildreth and Kimble acknowledge a more recent trend towards recognising that there are aspects of knowledge – stuff that people know – which are out there 'in people's heads', but not yet recorded and abstracted, captured and stored:

*The recognition that KM is a 'people' process and that knowledge is not simply an object marks a major shift in emphasis for KM. With the increased interest in knowledge that cannot be captured a number of researchers ... have begun to realise that its management poses significant challenges and that existing approaches to KM are not adequate. This in turn has led to much debate about how to describe and theorise about such knowledge.<sup>8</sup>*

## Knowing about knowledge

Hildreth and Kimble describe a number of ways in which KM researchers and practitioners differentiate between types of knowledge, often expressed as some kind of dichotomy or spectrum e.g. between hard vs. soft – tacit vs. explicit – know-how vs. know-what – formal vs. informal.

The concept of 'tacit knowledge' was introduced by the philosopher and scientist Michael Polanyi. In the field of KM it has come to mean knowledge which is known by individuals, but is difficult to communicate to the rest of an organization. The challenge is said to be to find ways of transforming tacit knowledge into explicit knowledge by 'codifying' or 'articulating' it, so that it is capable of being communicated.

Turning tacit knowledge into explicit knowledge is important to organisations. It can improve how the knowledge of one cohort of practitioners is passed to the next. The other side of this is that when experienced staff leave a post, they take their contacts, skills and knowledge with them.

The importance of tacit knowledge, and embedded but inarticulated social processes, is also increasingly recognised as important to systems design and software development. This is why firms employ research staff with anthropological skills, to build a more comprehensive understanding of users and their needs.

Among the various positions outlined by Hildreth and Kimble, some claim there are forms of knowledge which can *never* be articulated. At the other end of the spectrum, we can say that there are many instances of personal knowledge which are fully articulated, but lost to the organisation because of a lack of structures and practices to collate, organise and share them.

It seems paradoxical to say that 'wild knowledge' can be managed. Perhaps it is better to say that we can manage the processes through which tacit knowledge can be articulated, and scattered knowledge gathered, organised and shared.

## Knowledge in Communities of Practice

Many of these issues arose in a KIDMM conversation with Marilyn Leask of the Improvement and Development Agency (I&DeA),<sup>9</sup> set up in 1998 by the Local Government Association to promote the sharing of knowledge about best practice between local administrations in England and Wales. They have set up an impressive Web-based platform, 'IDeA Knowledge', as a virtual online meeting space for several dozen 'Communities of Practice' (CoPs).

6. *The duality of knowledge*, by Paul M Hildreth & Chris Kimble. In *Information Research*, Vol. 8 No. 1, October 2002. Available online at <http://informationr.net/ir/8-1/paper142.html>

7. Offsey, S (1997) 'Knowledge management: linking people to knowledge for bottom line results' in *Journal of Knowledge Management*, 1(2). Cited in Hildreth and Kimble 2002, *ibid*.

8. Hildreth and Kimble 2002, *ibid*. Note: I disagree with the suggestion that such knowledge cannot be captured, and later in the article, it appears that the authors do too. What is clear is that processes and structures are very often not in place to facilitate the teasing out of knowledge 'in people's heads' into a form that can be shared, learned from and taught. There are also forms of knowledge that are harder to codify because they are hard to frame in words, such as how to play a violin, massage a sore back or teach effectively.

9. I&DeA: see [www.idea.gov.uk](http://www.idea.gov.uk). This conversation took place on 17th May 2007 between Genevieve Hibbs and Conrad Taylor (KIDMM) and Marilyn Leask and colleagues. This led to KIDMM inviting Richard Millwood to speak on knowledge communities at the MetaKnowledge Mash-up event in September 2007. Richard worked as a consultant with I&DeA on their rollout of online Communities of Practice.

I&DEA's COPS are groups of people who work in local authorities across the land and who share similar job responsibilities or concerns. Each COP maintains an ongoing conversation through a bulletin board system, with facilities for document sharing, personal blogging, content classification etc.

The concept of **Communities of Practice** was first articulated by Jean Lave and Etienne Wenger in the 1990s. Their use of the term is best expressed in Wenger's 1998 book *Communities of Practice: Learning, Meaning and Identity*.<sup>10</sup> Wenger explains:

*Being alive as human beings means that we are constantly engaged in the pursuit of enterprises of all kinds, from ensuring our physical survival to seeking the most lofty pleasures. As we define these enterprises and engage in their pursuit together, we interact with each other and with the world accordingly. In other words, we learn.*

*Over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. It makes sense, therefore, to call these kinds of communities **communities of practice**.*<sup>11</sup>

To provide a concrete example, Wenger opens his book with a description of a group with whom he did anthropological research: female insurance claims processors, all working on one floor of an anonymous American medical insurance firm. He then explores their experiences of meaning, community, learning, boundary, locality, identity, participation etc.

### The negotiation of meaning in community

Etienne Wenger usefully focuses on a process within such communities which he calls **the negotiation of meaning** – 'the process by which we experience the world and our engagement in it as meaningful'.

*I intend the term **negotiation** to convey a flavour of continuous interaction, of gradual achievement, and of give-and-take. By living in the world we do not just make meanings up independently of the world, but neither does the world simply impose meanings on us.*

*The negotiation of meaning is a productive process, but negotiating meaning is not constructing it from scratch. Meaning is not pre-existing, but neither is it simply made up. Negotiated meaning is at once both historical and dynamic, contextual and unique.*<sup>12</sup>

As I see it, this passage captures an important part of the experience that we in KIDMM have had within our email discussion group, and our conferences and meetings. Not only have we shared with each other hard information and opinions, but we have also had to negotiate the contended meanings of terms such as 'metadata'.<sup>13</sup> (A more subtle negotiation would be, for example, about the relative merits of using better free-text search algorithms to find information, versus expending effort to accurately tag information sources with descriptive metadata.)

### Meaning or knowledge?

Does the idea of negotiated meaning within communities of practice help with a definition of knowledge communities? For me, this raises the question of the gap between 'meaning' and 'knowledge'.

As I said in my presentation about KIDMM to the SG Assembly in Autumn 2007, the word 'knowledge' is a problematic one. It can span the range of statements from the definitional 'there are 8 bits in a byte' to the highly contentious 'I know that my Redeemer liveth.' Is knowing mere conviction?

To the philosophical mind, to classify a proposition as 'knowledge' implies a burden of proof that it is not only meaningful, but 'true' in an objective sense. For the scientist, this means it has predictive value, it can be tested against real conditions, and is in principle falsifiable. But this extra burden of proof does not, to my mind, negate the observation that enquiry after knowledge has always occurred in a social setting, and often special communities have been created within which the meaning of truth has been negotiated.<sup>14</sup>

Therefore I characterise 'knowledge communities' as communities which bend themselves consciously to the tasks of sharing experiences, observations and opinions – and processes of negotiating meaning – with the aim of eliciting shared knowledge.

10. Etienne Wenger, *Communities of Practice: Learning, Meaning and Identity*. Cambridge University Press, 1998, with their series 'Learning in Doing: Social, Cognitive and Computational Perspectives'. See <http://www.cambridge.org/9780521430173> for more details of this book.

11. Etienne Wenger, *Communities of Practice: Learning, Meaning and Identity*. Page 45.

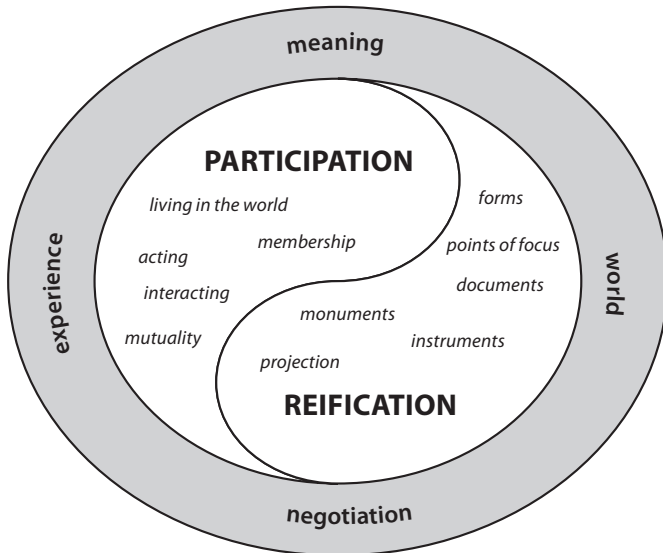
12. Etienne Wenger, *Communities of Practice: Learning, Meaning and Identity*. Page 54.

13. This contention erupted during a KIDMM seminar: see page 21 and following of *Account of the KIDMM discussion meeting, 6th March 2006* (filename KIDMM\_6March.pdf). As I later documented in my monograph *Metadata's many meanings and uses*, data managers have one meaning for metadata, librarians and publishers have another. As we include all these kinds of people in KIDMM, we have to make clear what usage of 'metadata' we mean when we use the term.

14. To cite a few historical examples, we have the *Ἀκαδημία* (*Academy*) presided over by Plato, the 5th-century Persian academy of Khusrau I at Gundishapur, the *Bayt al-Hikma* (House of Wisdom) founded by the Abbasid caliph al-Mansūr at Baghdad in 762, and (closer to home) the Royal Society founded in London in 1660.

## Participation and reification

For Wenger, the negotiation of meaning involves the interaction of two complementary processes. These are **participation** and **reification**, and ‘they come as a pair...they form a unity in their duality’ (see diagram below, from Wenger 1998 page 63, and discussion on pages 51–71, summarised below).



**Participation**, for Wenger, is ‘the social experience of living in the world in terms of membership of social communities and active involvement in social enterprises.’ He goes on:

*It is a complex process that combines doing, talking, thinking, feeling, and belonging. It involves our whole person, including our bodies, minds, emotions, and social relations.*

Wenger also clarifies that his view of participation is not a rose-tinted one. Participation in a community may not be on equal terms with others, or mutually rewarding, and it can be conflictual. But participation is essential to the negotiation of meaning in any such community.

It is more difficult to understand **reification**, but no less important. Wenger describes it as the process of giving form to our experiences by producing objects that congeal this experience into ‘thingness’:

*In doing so we create points of focus around which the negotiation of meaning becomes organized... [My] use of the term reification is its own example. I am introducing it into the discourse because I want to create a new distinction to serve as a point of focus around which to organize my discussion...*

## Participation and reification in KCs

Now it is time to see how these concepts apply to the organisation and life of ‘knowledge communities.’ I aim to discuss this without prejudice to any decision within the BCS about what kind of organisational

form might in the future be endowed with the formal label of a ‘Knowledge Community’. In practice, I see every one of our BCS Specialist Groups and Forums as having a knowledge community aspect to their activities, together with less formal networks such as KIDMM or ‘IT Futures’.

Starting with participation, this obviously happens when we hold a meeting. The participation of each person attending can take various forms and degrees of intensity:

- ◆ Those attending may sit in silence, absorb the speaker’s ideas, speak to no-one else, and leave. Or one might stand to ask a question or give a point of view in the Q&A session – a greater degree of contribution to the negotiation of meaning.
- ◆ Informal participation may take the form of swapping opinions with the person sitting next to you; but many of our SGs and Branches lay on hospitality with the aim of encouraging chat and networking over drinks.

In the case of KIDMM, our primary interaction is through our email discussion list.

- ◆ It is obvious that some people contribute postings to the list more than others. In two years of 1200 postings to the KIDMM list, over 1118 came from the top 21 contributors, and 475 of those from one individual (guess who!)
- ◆ However, off-list conversations reveal that many KIDMMers participate by reading and thinking about postings, and that this is valued – though some are overwhelmed by the volume of email.
- ◆ Postings are of various types: news of events and drawing attention to interesting Web sites and news items are common. There are also people who float concepts and argue about them.
- ◆ Even thinking differently about an issue because of past discussion in KIDMM is a form of participation, in Wenger’s terms.

## The struggle for reification

In the articulation of knowledge, reification means the production of things that capture ideas, opinions and collections of fact.

This, it seems to me, is the real challenge in developing knowledge community. Unless we can capture the evanescent, turn discussion into documented and organised form, our short-term shared memories quickly evaporate into a dispersed universe of private, volatile memories. One may even speak ruefully of a ‘tacitization’ of knowledge!

## How, then, can emergent knowledge be reified?

- ◆ There is a sense in which an email discussion list is self-documenting, if the system archives the messages. For KIDMM this is true, thanks to JISCMail's infrastructure. However, JISCMail email archives are simply monthly dumps, lacking the kind of organisation and tools necessary for effective browsing, searching and retrieval.<sup>15</sup> And there's simply too much of it.
- ◆ If the community has a journal, the articles that are published in it constitute reified knowledge. To cite one example – *The Informer*, published by the Information Retrieval SG for its members. Other communities may compile and publish reports, such as that produced in late 2006 by the Health Informatics Forum on the state of the NHS's National Programme for IT. Published objects of this sort are also useful as a focus for further debate, and the next cycle of knowledge creation.
- ◆ I believe where we are really still missing out is in recording the ideas and knowledge created and shared at public meetings – whether it be as written accounts, MP3 downloads or full video recordings. However, a number of BCS SGs have begun to address this, and I am pleased to have been able to facilitate (and document) much of this experimentation.<sup>16</sup>

## New tools, new possibilities for KC

As Richard Millwood suggested in his presentation to KIDMM's MetaKnowledge Mash-up 2007 event,<sup>17</sup> the business of building, facilitating and empowering knowledge communities is being transformed by the 'Web 2.0' technologies on which blogging and social networking is based.

There is a great deal of interest in the tools which communities of practice can use to collaborate online. For example, in recent weeks the Knowledge Management for Development email list (KM4Dev-1) has been debating the relative merits of such tools as

MediaWiki, Infolution, Drupal, Plone, Joomla!, etc., under the subject line *Institutional Memory/CoPs and Experts Directory*.

This subject has become a major focus of Etienne Wenger's recent work. In 2001 he self-published a report<sup>18</sup> surveying a large number of online tools which can provide the kind of functionality which this task demands.

Etienne is a founder of CPSquare, self-described as 'the community of practice on communities of practice'<sup>19</sup> – and at the time of writing, this organisation is just starting a five-week online workshop about how to build and support communities of practice online, including the use of

*...many freely available technologies, including web conferencing, teleconferences, blogging, RSS syndication, microblogging, social bookmarking and tagging, wikis, mashups, and social networking.*

Professional societies are interested in facilitating online community: the Chartered Institute of Library and Information Professionals has launched its 'CILIP Communities', and it describes itself as taking its early 'toddler steps' along this road. And, of course, we await with interest the roll-out of the discussion tool currently being developed for the Members Area of the BCS Web site.

## Making knowledge about making knowledge

With its self-imposed remit of learning and sharing knowledge about the management of knowledge, information and data, it is only natural that KIDMM should seek to lead in the study of how to promote knowledge community, while itself trying to be one!

Therefore, in collaboration with the UK chapter of the International Society for Knowledge Organization, we are planning to hold a KIDMM-ISKO-UK event on 9th October, with a focus on 'Making Knowledge in Communities'. Mark your diaries now!

[www.kidmm.org](http://www.kidmm.org)

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15. What, then, is missing? What would help? ◆ **Threading** is a mechanism whereby responses to postings are organised under those to which they responded, helping discrete debates to be followed. However, in email usage, people often 'reply' but start a new topic, which defeats proper threading. ◆ **Tagging with keywords** can identify postings by theme, but requires someone to do the tagging, and a sensible set of keywords. ◆ **Search** may discover relevant messages; I am able to do this against KIDMM archives on my desktop because my email client is good at it, but this isn't available against the online archives – and most people don't keep years of old emails.
16. The **Streaming Media Working Party** was convened in 2004, and with Adrian Walmsley I compiled its Report, which is still a good source of advice for how to record meetings and exploit those recordings to produce streamed AV, video DVDs, MP3 downloads, transcripts and other written accounts. Another useful document available to SGs is the the 36-page illustrated report *EPSS experiments in the use of digital audiovisual media*. I've also assisted with recording and/or documentation for BCS Women, Consultancy SG, FACS, Computer Conservation Society, BCS Central London, ISKO-UK and of course EPSS and KIDMM.
17. This event was recorded and a detailed account written up, available from <http://www.kidmm.org/home/mashup2007/outputs.html>
18. *Supporting communities of practice: a survey of community-oriented technologies* by Etienne Wenger. From [www.ewenger.com/tech/](http://www.ewenger.com/tech/)
19. [www.cpsquare.org](http://www.cpsquare.org). For details of the workshop, see [www.cpsquare.org/edu/CP2W2/index.htm](http://www.cpsquare.org/edu/CP2W2/index.htm)