Foreword

MESSY COHERENCE

Unlike many of the management movements of the last half century knowledge management has no single origin or unambiguous instantiation. Business Process Reengineering, the Balanced Score Card and the Learning Organisation (to mention but a few) all originate with a single book which then defines the field. In Knowledge Management *The Knowledge Creating Company* has considerable status but it is only one of multiple sources in a heterogeneous field. While Nonaka with his various co-authors popularised a partial account of Polanyi’s distinction between tacit and explicit knowledge, other thinkers and practitioners drew on a body of information theory that can be traced back to Shannon. Add to that the Intellectual Capital movement associated with Edvisson and Stewart which is a distinctive and persistent strand. In parallel many of us entered the field from a background in decision support and strategy.

Despite this varied background knowledge management is for good or ill defined by the technologies of its common practice; the early growth coinciding with the early development of collaboration software and the early growth of the internet and its internal corollary the intranet. Whatever the intention of its founders knowledge management was soon hijacked by the technology providers, and most programmes started with a taxonomy, progressed to communities of practice and then fell into disuse accompanied by desperate questions from well-intentioned knowledge professionals which were variations of *How do I create a knowledge sharing culture.* Curiously as the field of practice fell back to the late adopting government sector academic interest suddenly surged. It is a telling comment that at the time of writing academic conferences outweigh practitioner conferences to a significant degree.

Now, just as many of us thought knowledge management was, to quote Larry Prusak, a *Deadman walking* we are suddenly seeing a resurgence of interest associated with the growth of social computing. It is as if knowledge management has finally found a technology platform which is fluid enough to channel its promise; messily coherent, the product of voluntary adoption and above all validated, navigated and informed by social connection. For me this is best illustrated by a personal experience. Some years ago I made a very public statement at a military institution in Washington to the effect that the US Army had the best method I knew for knowledge capture, but the worst method I knew for knowledge distribution. Technology was used to capture the experience and commentary of soldiers in the field under fire, but that evocative and functional material was then distilled into doctrine and various other manifestations of what is commonly referred to as best practice. The reception to my comment was hostile to say the least, but five years later, in the same location I was told by a three star general that
the only thing which had worked in Iraq was Platoon Commanders blogging. The need was for the raw narrative of colleagues experience, not distilled and sanitized official documents, however well-meaning and professional in their creation.

Some years ago in an article *Complex Acts of Knowing* I drew on anthropology to make a critical distinction between two types of culture as follows:

- **Rule based**
  
  The socio-cultural system or the pattern of residence and resource exploitation that can be observed directly, documented and measured in a fairly straightforward manner. The tools and other artifacts that we use to create communities, the virtual environment we create and the way we create, distribute and utilise assets within the community. These are teaching cultures that are aware of the knowledge that needs to be transferred to the next generation and which create training programmes. They are characterised by their certainty or explicit knowability.

- **Ideation based**
  
  Cultures in this sense comprise systems of shared ideas, systems of concepts and rules and meanings that underlie and are expressed in the ways that humans lived. Culture, so defined, refers to what humans learn, not what they do and make. Such cultures are tacit in nature: networked, tribal and fluid. They are learning cultures because they deal with ambiguity and uncertainty originating in the environment or self-generated for innovative purposes.

If we look at the pattern of knowledge management activity over the last two decades we can see the domination of the rules based approaches. The creation of taxonomies appeals to the western tendency to categorise material to death; taxonomy and taxidermy not only sound the same but produce similar results namely a static and retrospective snap show on what we knew, rather than what we know or may need to know. Formal communities of practice cater to the structured and explicit aspects of the organisation. Best practice documents in creation and promulgation focus on transfer of knowledge seen as a *thing*, an object with discrete boundaries that exists independently of its social context. Trust is formal, assumed by virtue of status and the various validation processes that allow material to be published.

Such an approach has much to commend it, within boundaries. For the stable aspects of information and knowledge within an organisation the process of codification, validation and authentication is key to ensure quality, legal compliance and the like. However it could not, and *a priori* cannot satisfy the needs for knowledge flow to support decision making under conditions of uncertainty and innovation.

If we look at probably the most successful method for knowledge transfer that has evolved in human society, namely apprentice schemes we can see that the emphasis is primarily on ideation based culture. Yes there is formal teaching, but much of the learning comes from tolerated failure, imitating the master’s work, modifying it to match as yet under developed capabilities, talking with other apprentices, learning from them. After a period, the ritual walking of the tables indicates the achievement of journeyman status, where greater autonomy also carries with it teaching duties and community responsibilities. The field of work associated with an apprentice model is not static, it is constantly evolving through social interaction and social convention. Knowledge is a series of flows within a social context.
Social computing in many ways mimics these environments but is informed and enabled by what I call the publishing paradigm, a focus on push rather than pull in creating authority. Those who publish interesting material in their blogs, or say/link to interesting things in tweets build networks of influence in which learning takes place. The powerful bloggers are the new masters in a modern and distributed system of learning. Anyone who blogs frequently will tell you that they mix formal material with insights and indiscretions into their own histories and beliefs. Without the seasoning of personal revelation there is no social connection, excessive revelation on the other hand is self-indulgent and the sphere of influence contracts. I used my own twitter network recently to solve a complex issue relating to translation of Urdu in a project in crisis. The network created by the publishing paradigm had sufficient variety and connectivity to respond to a need. Like many people I often use Twitter in preference to Google to find key information; it is a socio-technical system not a semantic engine. These environments mimic the common room and the water cooler but extend over both time and space to magnify their utility a thousand fold.

Related to this we have the major shift from application dominated architectures to architectures in which applications evolve through the interaction of objects both software and human in nature. The growth of enterprise wide application software is a characteristic of the period in which knowledge management technologies first emerged, and their early development mimicked those products. Requirements were captured through interview processes, designs were produced, software selected or built and implementation plans produced. When things failed to survive beyond the initial hawthorn effect phase, cultural change and other programmes were run in a futile attempt to force or cajole participation. Now contrast that with social computing. A typical desk top contains multiple applications that interact with each other seamlessly. No one uses Twitter directly, they use independently developed twitter clients such as Nambu. RSS readers are changed frequently and often on a whim. New methods emerge (they are never designed) such as hash tags in Twitter, that enable new pathways in unexpected and serendipitous ways. The environment is messy, but it is coherent and it works.

One of the main reasons for this success is that the environment has a light constraint structure in place. Without any constraint evolution of meaning is not possible; with heavy constraint we only replicate what we already know without novelty or the emergence of insight. As such the systems now more closely reflect the tribal and clan nature of humans: over 90% of our genetic history is as Pliocene hunter gathers, a simple fact that we should try to remember. Our brains are pattern based intelligences, we don’t process information with any ease. We conceptually blend patterns in novel and interesting ways to innovate in the context of threat or opportunity. The micro-narratives of day to day existence are still the primary method of knowledge transfer from the expert engineer to the shopping queue. We are homo narrans not homo economicus in our hearts as well as our minds. From neuro-science we know that human consciousness is a distributed function, it is not confined to the brain but extends over the hormonal and muscular systems as well as into the wider environment. That extended and intertwined network of coherence is an essential feature of human intelligence and capability.

Technology can augment human intelligence, it cannot replace it; unless that is we dumb down our intelligence and capability to the autistic linear processes that were all to characteristic of knowledge management in its first two decades. We need to learn to embrace uncertainty not to reduce it, to understand that messy environments are natural to humans as they allow discovery in the context of current need. We need to move from futile attempts at anticipation, to initiating states of anticipatory awareness
in which social networks respond to the unanticipated; above all we need knowledge management to demonstrate wisdom by creating a synthesis of technology and human capability.

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Dave Snowden is the founder and chief scientific officer of Cognitive Edge. His work is international in nature and covers government and industry looking at complex issues relating to strategy, organisational decision making and decision making. He has pioneered a science based approach to organisations drawing on anthropology, neuroscience and complex adaptive systems theory. He holds visiting Chairs at the Universities of Pretoria and Hong Kong Polytechnic University as well as a visiting fellowship at the University of Warwick. He is a senior fellow at the Institute of Defense and Strategic Studies at Nanyang University and the Civil Service College in Singapore. His paper with Boone on Leadership was the cover article for the Harvard Business Review in November 2007 and also won the Academy of Management aware for the best practitioner paper in the same year. He has previously won a special award from the academy for originality in his work on micro narrative. He is a editorial board member of several academic and practitioner journals in the field of knowledge management and is an Editor in Chief of E:CO. In 2006 he was Director of the EPSRC (UK) research programme on emergence and in 2007 was appointed to an NSF (US) review panel on complexity science research. He previously worked for IBM where he was a Director of the Institution for Knowledge Management and founded the Cynefin Centre for Organisational Complexity; during that period he was selected by IBM as one of six “on-demand” thinkers for a worldwide advertising campaign.