

The knowledge: John Seely Brown

Renowned for his groundbreaking work at Xerox PARC and pioneering thinking on the interplay between organisations, technology and people, John Seely Brown has had a significant impact on the knowledge-management world. He talks to Sandra Higgison about his major influences, describes selected highlights from his career and discusses his current challenge to bring joy and meaning back to the workplace.

As I write 'The knowledge' this month, I feel as if I am compiling a potted history of some of the most innovative organisational thinking born by the past few decades. With so many facets to his work and life, it is difficult to do justice to a man who can put his name to authoring industry-acclaimed books and research papers, placing the 'document' in the Document Company, receiving personal accolades for his innovation and research and co-founding the Institute for Research on Learning, while also finding time to lecture on film theory at USC and drive a brilliant red BMW motorbike. By combining his extensive knowledge of technology and sociology, John Seely Brown, or JSB as he is often called, offers a unique perspective on how organisations, processes and people work together by answering questions that many companies have yet to realise even need asking. Most well known for his roles as chief scientist at Xerox Corporation and director of the Xerox Palo Alto Research Center (PARC), Brown's work continues along similar lines. As it says at the beginning of the book he co-authored with Paul Duguid, *The Social Life of Information*,^[1] he aims to bring a much more humane and textured reading of how work actually gets done in the organisation.

While speaking to Brown, it is clear that the passion he feels for his work is one of his biggest motivators. Many people may sigh listlessly here and vow that one day they will experience similar enthusiasm for their jobs, however Brown believes it does not need to be this way. His current thinking reflects this as he examines what makes work meaningful and how can organisations bring joy back to the workplace. "Think a moment about the etymology of the word 'leisure'. I believe it used to mean freedom in work, not freedom from work," he says. "What would it mean to make more of what you do in the workplace so that you construct meaning and value from it?" Most organisations today focus on efficiencies and working smarter, not harder – one of the latest terms to join management's list of favourite buzzwords. "This doesn't say anything," says Brown. "There's no reason why working smarter is going to make me any more joyful." Before fully exploring this concept, it is worth looking at some of Brown's work and research that lie at the foundations.

Among the challenges Brown says he has faced during his career, opening management's minds to new concepts and making them see differently has been one of the toughest. "I think the greatest challenge is getting them to see beyond technology, to understand that it is the social embedding of technology that matters," he says. "We need to go beyond the treatment of just individuals to realise that value is created in our interactions with one another," a mantra Brown successfully instilled in PARC.

In the late 1970s, Brown started a group at PARC on cognitive science, which many considered strange given that until that point the centre had been almost purely oriented on hardware technologies. "My pitch was that as we were reaching the stage with technology where we could probably build anything we ever wanted to, the constraints on our work were therefore what people could appropriate," he says. "We started to look at social sciences to understand how technology that is embedded in an organisation affected its social life, and how we could use it productively rather than constantly fight it."

His work here coincided with one of the first strategic questions he asked himself: how do you take advantage of being a large organisation? Answering this question involved working out how to make the whole substantially more than the sum of its parts. "At the same time," he says, "you have to understand that most of the really interesting stuff within an organisation is happening on the edge, on the periphery – the people that feel estranged from the centre and those that actually touch the customer." As Brown says, the larger the corporation, the further the core is from knowing what the customer is thinking and the larger is its periphery. By mining and capturing the experiences and insights of the people on the periphery – call-centre staff, technical representatives, trouble-shooters, etc – the corporation would know where it should be going next. The challenge he faced was capturing these experiences and rendering them in a way that the core could understand, while also honouring what people at the periphery and customers knew. The outcome was the creation of Eureka, a system that enabled technical representatives to capture and share knowledge (see Box 1). In parallel to his work, Xerox was trying to fine-tune itself through, what would now be called, business process re-engineering. "A well-oiled machine is frictionless," he

says. "But an awful lot of the fun that leads to new ideas lies in the creative abrasion. An organisation's social life comes from an organic life, not a well-oiled machine."

Based on this backdrop, Brown identifies the ideas of three people that were profound influences on him at the time. "From traditional organisational science – that I must admit I didn't have much respect for – I came across a beautiful paper by Karl Weick that examined the whole notion of enactment, the interpretative stance," he says. "It just felt so correct. Part of sharing knowledge is having something worth sharing, and if you're on the edge of an organisation you are constantly trying to make sense of what's going on. It struck me that sense making and knowledge sharing were two sides of the same coin." Weick's work made Brown think more about how you build a learning organisation where everyone is engaged in sense making. The next person was a young graduate student at the time, Lucy Suchman, who joined Xerox from Berkeley. "Her work on situated action was an eye-opening investigation for me," he says. "I confess that for the first year or two I wondered what she was talking about, but I knew that she saw things that were important so I was hell bent on understanding how she looked at the world." The third influential figure on Brown's work was Austrian philosopher Ludwig Wittgenstein, "I had encountered his work at various points in my life but had not taken the time to understand how unique his concept of a rule was. When I went back to study him more carefully I realised why the guy was a genius and how radical his conception of the social world was." As Brown describes, these three influences came together around the need to work out how to unleash the creative spirit inside the organisation and how to make the whole more than the sum of the parts.

With this objective in mind, JSB became engaged in trying to move Xerox's focus from copiers and printers to the more general notion of documents. "It hit me and a couple of people I was working with that the document itself is an amazing social artefact and, without being overly poetic, one might consider it the ratchet of civilisation," he says. "It is more important than any other kind of technology as it enables us to build on and preserve each other's findings." Brown even went back to look at the etymology of text and was interested to find that the words 'text' and 'textile' come from the same base, to weave. "The whole notion of a document is based on fragments of thought woven together to present a point of view and educate the reader," he says. "In the simplest sense, the document became the most beautiful manifestation of a knowledge-sharing device." Enthused by his findings, JSB worked towards repositioning Xerox as the 'document company' in the more social sense. This would turn Xerox into a company that would take the advancement of knowledge, competency and capabilities seriously. "These were enormous issues," says Brown. "If we could get to the root of them we had a chance to reposition huge forces around this concept." At first, the corporation was not particularly open to these concepts as they could not be fully analysed or measured. As Brown says, there is always a gap between the poetry and the ROI. However, with access to Xerox's corporate office, Brown was able to engage senior management and help them see the power of these ideas. With Xerox now firmly established as the document company, the rest, as they say, is history.

It was during his time at Xerox that JSB met Paul Duguid, a long-term collaborator on books and research. "There is an interesting interplay between Paul and myself," says Brown. "He is fundamentally a scholar and I live in a field of action within organisations. It's a very productive and generative dance between the two of us." One of the areas that Brown and Duguid have investigated is what causes knowledge to stick and what causes it to leak. As they explored the area, they found themselves fighting the concept that there are two types of knowledge – tacit and explicit – by saying that instead these are two dimensions of knowledge. "I started thinking of knowledge as a tree," says Brown. "Above the ground you find the explicit part of knowledge, while what is below the ground – the roots that keep the tree alive and make it robust – is the tacit part." This metaphor grows stronger when applied to the act of moving knowledge through best practice. "If you uproot a tree and replant it in a new context, the chemistry of the soil has to be close to what it was, and you will also find new roots developing as you replant it," he says. "Unless you are a gardener, you are not aware of this because all you see is the explicit. It is the root structure, what it comes into contact with and its new context that make something usefully moveable." To counter the belief that knowledge management's goal should be to make all knowledge explicit, Brown and Duguid shifted their focus onto understanding how situated best practices are and whether they can be reinvented or re-enacted in a new context. A process they refer to as dis-embedding and re-embedding knowledge (ideas similar to those of Anthony Giddens). "This became the alternative to transforming tacit knowledge into explicit, which we feel is, to some extent, philosophically impossible," he says.

Currently, Brown is researching the value created by today's remix culture, as Brown calls it. "When I retell a story I change it," he says. "Stories that we transmit orally have an interesting, semi-mutable property. If I can't change a story as I retell it then I don't get much out of sharing it or the person hearing it wouldn't construct their own understanding as

readily." Brown finds that power lies in a story's ability to mutate as it travels, which he sees reflected in the digital world's open-source movement. "Through remixing code you construct and leave behind a piece of your identity," he says. "Identity and social capital is constructed through this process of remix, which was also the essence of Eureka. "Technical representatives who constructed the most powerful ideas became central members of the networks of practice," he says. "They were constructing and enhancing their identity, which formed a wonderful two-sided coin. There was intellectual capital creation on the one side and social capital creation on the other, and when you have these together, the coin represents the creation of meaning."

This brings us full circle to the question that is currently playing on Brown's mind, how is meaning created? Brown is answering this through what he calls 'creating meaning from bits'. "I'm bringing together my experience with Eureka, my theories of remix culture and a broader notion of what bricolage is all about, in terms of what happens when you tinker," he says. "By tinkering with an object and passing it on, you have not only learnt something, but a piece of you also moves with the object when somebody else appropriates it," he says. Indeed, one of the terms Brown is thinking about is the general notion of bricolage, which means construction through appropriating, tinkering and transforming. "These lie at the very root of knowledge management, creation and sharing," he says. "We need to readdress the topic that has receded so far into the background that we've lost track of it: what makes work meaningful?"

According to Brown, the challenge we face is "understanding just how much of all work – no matter how routine it may appear to be – involves improvisations or work arounds for handling the unexpected. Each of these improvisations involves a kind of situated problem solving." "Most of us like creating and solving problems," he says. "We like taking something and being able to add even the smallest thing to it. In that process we learn, create value and build our identity from our work. These are ideas that are never talked about but are at the roots of where meaning comes from, and where we can feel happy and joyful at the end of the day. Instead, however, we are told to work smarter, not harder; and to follow all the processes and routines circumscribing our work – as if we never had to improvise. Failing to see these invisible improvisations does violence to who we are." As he says, efforts seem to focus on eliminating dead time and creating efficiency, but they almost never look at how organisations can create live time where you become effective rather than just efficient. "What I'd love to see in the knowledge-sharing movement are efforts to make work more joyful," he says. "Every time you create an idea or something new, you have the right to hold that in awe. We are in a position to refocus current thinking and address the questions of awe and joy. And I think it can be done." The challenge Brown is taking on is one that many people would find almost insurmountable, but with the knowledge that he can move giants and shape industries, it will not be long before we hear the answers to these questions.

John Seely Brown is giving a keynote presentation at KM Europe 2004, 8-10 November in Amsterdam. For more information contact Peter Nussey at pnussey@ark-group.com

1 Brown, J. S. & Duguid, P., *The Social Life of Information* (Harvard Business School Press, 2000)