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Introduction: Knowledge-Based Perspectives on Organizations: Situated Knowledge, Novelty, and Communities of Practice

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What is This?

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Introduction
Knowledge-based Perspectives on Organizations: Situated Knowledge, Novelty, and Communities of Practice

What value do we gain by viewing organizations from a knowledge-based perspective? This is an important question to answer if a knowledge-based approach to organizations is to be taken seriously. As is so often the case with social theories, what is important is not only what social theories say but also what they *do*. At least this is so if one takes a Wittgensteinian and a pragmatist position on what theories are for. Theories and perspectives draw our attention to certain issues; they invite us to punctuate the world in particular ways; they are tools for doing things, rather than mere representations of the world as it allegedly is (Rorty, 1991: 81).

What, then, are the particular aspects of organizations that knowledge-based perspectives draw our attention to, and why are they important? Searching for an answer, a good place to start is the work of Penrose (1959), March and Simon (1993), and Nelson and Winter (1982). These theorists have highlighted the importance of 'routines' in the functioning of organizations. Routines are recurring patterns of behaviour, which incorporate chunks of past organizational knowledge for getting things done (Feldman, 2000). Insofar as organizing implies the reduction of equivocality of interactions (Weick, 1979) and the institutionalization of predictable sequences of behaviour, organizations necessarily incorporate 'action programmes' and 'routines' (March and Simon, 1993).

Moreover, what is important for a firm is not the resources it uses per se, but the *services* rendered by those resources (Penrose, 1959). In this view, managers have discretion over how they use their resources and are charged with inventing new ways of utilizing them. Focusing on the services rendered by resources implies that those services are not fixed and given but, on the contrary, they are pliable and potentially limitless. As Romer (1993: 72) remarks,

> the only way for us to produce more economic value—and thereby to generate economic growth—is to find ever more valuable ways to make use of the objects available to us. We once used iron oxide (ordinary rust) as a pigment in cave paintings.

An elaborate set of ideas now lets us use it to store magnetic signals on audio cassettes, video cassettes and computer disk drives.

Organizations differ in terms of how they choose to use their resources and, by implication, in terms of the services they derive from them. Distinctiveness, in this view—a certain way of doing things—is an inherent feature of each and every organization (Kay, 1995; Tsoukas, 1996).

Developing a distinctive way of utilizing resources depends on the formal and informal processes of interaction and communication that are in place, through which organizational members are, in principle, enabled to draw on accumulated organizational knowledge (i.e. routines and experiences), as well as on externally supplied information, in order to carry out their tasks in a coordinated fashion (Grant, 1996). Drawing on accumulated organizational knowledge in open-ended contexts, and reflecting on how this is done, are the stimuli for inventing new ways of using resources and, hence, rendering new services from them. Thus viewing an organization from a knowledge-based perspective draws our attention to both the organizational routines and experiences on which individuals draw in order to carry out their tasks *and* the inherently creative potential of human action, which stems from when past organizational knowledge is applied in open-ended contexts (Cook and Brown, 1999; Spender, 1996; Tsoukas and Chia, forthcoming).

Organizational knowledge consists of sets of *routines* as well as of *experiences* arising from the application of routines and the necessary improvisations such an application necessitates (Orlikowski, 1996). Each type of organizational knowledge is formulated differently. Routines typically take the form of propositional statements ('If X then Y, in conditions Z') (Tsoukas, 1998), whereas experiences typically take the form of narratives shared in communities of practice (Orr, 1996). In this view, organizational knowledge is in a state of flux. On the one hand, new experiences arise from individuals applying routines in open-ended contexts (Tsoukas and Vladimirou, 2001). The question here is how such experiences are processed, shared, and further drawn on by individuals. There are both formal organizational mechanisms for doing this (e.g. meetings, Intranets, maintaining relevant documentation, etc.) and informal mechanisms used spontaneously by individuals to share experiences in communities of practice (Wenger, 1998). On the other hand, routines are updated through codifying (some) experiences, combining propositional statements, and reflecting on how routines are used in practice.

Knowledge-based perspectives on organizations draw our attention not only to routines and experiences but, also, to the constituents of *skilled action*, and the emergence and maintenance of *novelty* in organizations. Considering organizations as knowledge systems highlights the irreducibly *social* character of individual skilled action, insofar as it views individuals as drawing on both the propositional statements that are institutionalized across the organization *and* the narratives reflecting the collective experience and values of communities of practice (Cook and Brown, 1999; Tsoukas, 1996, 1998; Tsoukas and Vladimirou, 2001). Moreover, since communities of practice cut across organizations, a knowledge-based perspective does highlight the knowledge flows both within and between organizations (Appleyard, 1996). Given that experiences are profoundly contextual and depend essentially on community-based criteria of validation and justification, a

knowledge-based perspective does bring out both the interpretation (or 'translation') difficulties when knowledge flows cross communities of practice *and* the easiness with which knowledge flows within the same community across organizations. The situated character of knowledge makes it both sticky and leaky (Szulanski, 1996). In that sense a knowledge-based perspective helps us appreciate the broader 'information ecology' (Nardi and O'Day, 1999) that develops when systems of organizations, people, practices, technologies, and values coalesce in a mutually reinforcing manner, in particular locales.

As you will see, all articles included in this special issue touch on aspects of the above points—mainly, the situated character of knowledge and the difficulties inherent in its validation and transfer; the communities of practice and how they may be constructed to facilitate and legitimize knowledge flows; the conditions enabling the creation of new knowledge and the emergence of novelty.

A Discussion of the Articles Included in the Special Issue

Knowledge is irremediably local, argue Brown and Duguid in their essay. Why? To the extent that knowledge incorporates meaning; to the extent that the only creatures capable of making and understanding meaning are human beings; and to the extent that what human beings regard as meaningful varies systematically across time and space, there is no reason to think that knowledge will become a global commodity. What about all the wealth of information in the Internet, then? Yes, this is global but notice that this is information—knowledge that has been standardized. Innovative knowledge, however—the sort of still-nonvalidated, emergent knowledge that has led to the personal computer and countless other innovative products—is not standardized and, therefore, cannot travel. It is rather retained within communities of people who appreciate it, understand it, and imagine several uses for it. The innovativeness of regions such as Silicon Valley, argue Brown and Duguid, is underpinned by networks of communities of people who share the same visions, have common aspirations, and emulate one another.

The local character of innovative knowledge explains its being simultaneously sticky and leaky. It is sticky insofar as it is only used by those who appreciate it. It is leaky because those who appreciate it are not necessarily members of the same organization, but members of close-knit groups across organizations. When, therefore, we try to understand highly innovative clusters, such as Silicon Valley, we should not see them as mere collections of organizations, but as networks of communities or, even better, as entire 'ecologies': both established companies and start-ups have their niches; the visible hand of government joins the invisible hand of the market; primary and secondary trades feed on each other; universities and companies work together. In short, we should see innovative clusters as systems whose key features are interconnectedness and dynamic interactions over time.

Can a cluster such as Silicon Valley be imitated elsewhere? Like all ecologies, it cannot. But the local character of innovative knowledge opens up possibilities for countries that want to boost knowledge-fuelled economic growth. The key is for them to develop new technologies in service of their existing competencies and needs. Brazil, for example, has developed an internationally successful biotech

sector around its particular needs as a major exporter of agricultural goods. The message that Brown and Duguid are keen to get across to policy makers is this: in the networked economy, distance is not dead, geography matters, locality is important. To prosper in the global network, do not think in a dichotomous (either–or) but in an ecological manner—symbiosis is what matters.

Brown and Duguid do not paint an idyllic picture of the networked economy: they point out in passing some of Silicon Valley's less than desirable practices, such as its resistance to trade unions and the cut-throat competition it encourages. And they approvingly note the positive role of Scandinavian trade unions in spreading knowledge and improving skills. But they seem to understand, better than several other commentators do, that the networked economy is not just a vast technological network carrying digital information but, more subtly, is a network of social networks within which situated knowledge is created. It is ironic, perhaps, that to thrive in global competition, a knowledge economy needs strong local roots.

The situated character of knowledge and the stickiness of local knowledge are also a theme running through Terry McNulty's article 'Reengineering as Knowledge Management: A Case of Change in UK Healthcare'. Drawing on an extensive case study of the introduction of business process reengineering (BPR) into a large hospital, part of Britain's National Health Service, McNulty invites us to view organizational change in knowledge terms. What this means is that the introduction of a standardized package of redesign proposals, such as BPR, represents a case of knowledge transfer into an organization. When this organization happens to be a hospital—a professional bureaucracy in which managerial control and clinical autonomy exist side by side—then such a knowledge transfer is unlikely to be smooth.

Indeed, this is the conclusion McNulty draws from his study. Adopting Cook and Brown's (1999) distinction between 'knowledge' and 'knowing', he argues that BPR represents 'knowledge'; namely, an explicitly formulated set of generic propositions regarding the redesign of core processes. It is based on the idea that redesign needs to be radical, across the board, and it should start from scratch. This aim is not only over-ambitious, argues McNulty, but it ignores the specific contexts within which BPR is implemented. In the hospital he investigated, reengineers paid limited attention to the diffuse power structure, and the resistance of clinicians and middle managers to subscribe to the a-contextual, generic and canonical BPR vision that had been attempted to be imposed on them.

As well as 'knowledge', reengineering should be viewed as 'knowing'—a set of local adaptations and improvisations as 'knowledge' is put into action. Eventually, as McNulty reports, the hospital reengineers shifted their scope and focus. The initial concentration on radically redesigning a few core processes was replaced by a plethora of more specific, even idiosyncratic, initiatives. The structural configuration of the local context (the hospital) afforded managers and clinicians positions to interpret, evaluate and negotiate the engineering agenda. Traditional accounts of BPR, McNulty points out, need to pay closer attention to the 'dynamic affordances' (Cook and Brown, 1999) of reengineering, especially in contexts of relatively high ambiguity and dispersed power. Extending McNulty's reasoning, what is important, from the point of view of managing change effectively, is to find

ways whereby the 'epistemic work' of (situated) knowing (Cook and Brown, 1999) may be incorporated into the (generic) knowledge that is implemented. That, however, might jeopardize the commercial reputation of BPR as a generic, off-the-shelf consulting tool, applicable across the board.

The generation of new organizational knowledge has been the focus of a considerable amount of research. What about, however, cases where new knowledge *fails* to come about? Could it be that this is a more common state of affairs than knowledge creation? If the argument concerning the crucial role of routines in organizational life is to be believed, novelty is the exception rather than the rule in organizations. Why might this be the case? Organizational routines, after all, are enacted by individuals in open-ended contexts and the possibility of novelty is always there (Feldman, 2000; Orlikowski, 1996; Tsoukas and Chia, forthcoming). When novelty fails to emerge, why is it the case? This is the topic Nic Beech, Robert MacIntosh, Donald MacLean, Jill Shepherd and John Stokes explore in their article 'Exploring Constraints on Developing Knowledge: On the Need for Conflict'.

Beech et al. focus on data drawn from a video-taped meeting in a knowledge-intensive company that makes and markets high-technology products. The meeting was not successful in generating new ideas and the authors set out in this article to explain this outcome. What were the constraints in the group that prevented them from generating new organizational knowledge? Searching for an answer, Beech et al. adopt a multi-perspectivist approach. Realizing that many processes are at work that potentially explain the non-emergence of knowledge, the authors apply three perspectives to their data: organizational psychodynamics, social construction theory and complexity theory.

From a psychodynamic perspective, the meeting was filled with personal anxieties and ego-defences. From a social constructivist perspective, it was another playing out of the established roles—too much conformity to the formal rules. Finally, from a complexity perspective, the meeting never achieved a 'far-from-equilibrium' position; there was not enough challenge to the underlying 'attractor' of the meeting. Echoing Nonaka and Takeuchi's (1995) conditions for enabling knowledge creation (for example, the need for 'requisite variety' and 're-dundancy'), and psychological research on creativity (Perkins, 2000; Sternberg, 1999), Beech et al. draw our attention to the psychological factors underlying social interaction and point out the need for getting out of established roles if novelty is to be encouraged. Their overall conclusion is that for new organizational knowledge to emerge in groups, some conflict and dissent, as well as playfulness, are necessary.

Brown and Duguid's emphasis in their essay on informal social networks as the basis of innovative knowledge is echoed in several articles in this issue, mainly through the discussion of the concept of 'communities of practice' (CoP). Brown and Duguid (1991) were the first to draw the attention of management scholars to the concept of CoP, more than a decade ago. Since then CoP have been extensively used and discussed in the literature on innovation and knowledge management. Whereas, initially, CoP were seen as facilitating knowledge flows *within* communities of like-minded practitioners, more recently, it has been pointed out that CoP constrain knowledge flows *across* communities (what Brown

and Duguid refer in their essay as 'stickiness'). At the same time, although CoP are not necessarily co-extensive with single organizations, they have often been studied as if they were (Wenger, 1998).

In their article 'The Construction of "Communities of Practice" in the Management of Innovation', Jacky Swan, Harry Scarbrough and Maxine Robertson approach CoP from a different angle. They point out that, first, CoP usually cut across particular organizations, and this must be acknowledged. Second, the way CoP respond to radical innovation is an issue that has been under-explored. Third, CoP are not necessarily 'natural' communities—say, professionals who happen to work for the same organization or for similar organizations (e.g. software writers)—but they may well be 'constructed' communities.

The authors have conducted a case study of a radical innovation for the treatment of prostate cancer by Medico, a medical products firm, and explored attempts by managers to construct a community of practice as a vehicle for innovation. What comes out of their study is the persistent as well as intelligently discreet effort on the part of Medico's project management team to appropriate the term 'CoP' in order to legitimize wider changes in work practices. The concept of CoP had both performative and discursive qualities: on the one hand it enabled managers to facilitate knowledge sharing and knowledge flows between disparate groups of medical professionals; align commercial interests with those of powerful professional groups; and induce indifferent regional sales staff to get involved in the project. On the other hand, from a discursive point of view, the concept of CoP helped management foster consensus and mobilize commitment. For a radical medical innovation to become commercially viable, it needed the formation of a 'community' spirit with all the positive overtones of disinterestedness and commonality of purpose (i.e. the fight against prostate cancer) the term implies. Such a 'community' would facilitate knowledge flows between different groups and would overcome the resistance of those who were not so keen on adopting the innovation (e.g. urologists, regional sales staff). By seeking to build a CoP, management was not simply seeking to exploit a sense of community but, perhaps reflecting their politically disadvantaged position in the face of powerful professional groups and limited support from the rest of the organization, for which this particular innovation was rather peripheral, they modified their commercial objectives in order to fuse them with those of the broader community that they were seeking to build.

The theme of CoP also figures in the article 'The Justification of Knowledge: Tracking the Translations of Quality' by Hélène Giroux and James R. Taylor. In it the authors address an important and under-researched topic, namely how new knowledge is justified in organizations. Their point of departure is Nonaka and Takeuchi's (1995) well-known model of knowledge creation. One of the five phases of Nonaka and Takeuchi's process is that of justification of new concepts. Their argument is that justification involves 'a screening process', whereby new concepts are scrutinized against 'organizational intention'. Giroux and Taylor find two problems with such an understanding of justification. First, it takes for granted what organizational intention is—it views it as already established. And, second, justification is seen as an entirely intra-organizational affair—it is formed and carried out within the organization alone.

The article sets out to show that organizational intention is far from stable and established but, on the contrary, is itself the product of a broader knowledge creation process that involves both intra- and extra-organizational elements. The authors argue that justification criteria vary considerably within organizations, depending on the different rationalities manifested in diverse CoP. To put it differently, justification criteria are grounded in a particular realm of experience, which is different across CoP even within the same organization. Moreover, what is often not considered is that management itself constitutes a community of practice that extends beyond specific organizational boundaries, whose intentions are formed through a knowledge creating process, involving industry-wide and societal discourses and beliefs, supported by its own particular tacit premises and justification processes. In other words, yes, top management does form intentions but what is interesting to explore is *how* it does so and how its intentions become organizational.

Moreover, organizational intentions, even when formed, are not cast in stone—they evolve and, as Giroux and Taylor, argue, they may be 'inflected'. In fact one of the problems encountered in organizations is when intentions are not inflected to support innovative ideas. The justification of new knowledge, therefore, should not be seen mechanistically as a 'screening process'—like measuring given objects with a specific measuring-tape—but as a learning process in which intentions and new concepts intermingle, transcending the boundaries of a single organization.

Arguing from a constructivist perspective, Giroux and Taylor focus on management as a community of practice, and empirically illustrate their argument by investigating the development of Total Quality Management (TQM). The rise of popularity of quality management, they argue, was paralleled by the transformation in its justification and in the concept of 'quality' itself. Tracking the changes in how quality has been seen in the US, mainly through a textual analysis of a relevant influential book, the authors show how TQM was justified at different points in time in the development of the American economy, and became accepted as truth. Although their analysis is focused on the *extra*-organizational dynamics of the acceptance of TQM, they make the point that similar processes occur within organizations, whereby innovative concepts are 'translated' into the different languages of interested communities in order to capture their interest and win their backing. More importantly, insofar as quality today constitutes an organizational intention, it has become so through extra-organizational processes of discourse and action. What is taken for granted inside the organization is often due to the discursive battles that have been fought outside it.

These articles do not, of course, exhaust the topics that knowledge-based perspectives on organizations raise. But they do provide an interesting sample of what a relevant research agenda might include and the sort of conclusions that may be drawn from it. There is much work to be done both theoretically and empirically: elaborating ever more comprehensive theories of organizational knowledge is an important conceptual task that needs to be carried out; and the study of organizational knowledge in diverse empirical contexts, both physical and virtual, within as well as across organizations, will bring out a wealth of evidence in need of explanation.

Enjoy the special issue!

References

Appleyard, M. M. (1996) 'How Does Knowledge Flow? Interfirm Patterns in the Semi-conductor Industry', *Strategic Management Journal* 17(Special Winter Issue): 137–54.

Brown, J. S. and Duguid, P. (1991) 'Organizational Learning and Communities of Practice: Toward a Unifying View of Working', Learning and Innovation', *Organization Science* 2: 40–57.

Cook, S. D. and Brown, J. S. (1999) 'Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing', *Organization Science* 10: 381–400.

Feldman, M. (2000) 'Organizational Routines as a Source of Continuous Change', *Organization Science* 11(6): 611–29.

Grant, R. M. (1996) 'Toward a Knowledge-based Theory of the Firm', *Strategic Management Journal* 17(Special Winter Issue): 109–22.

Kay, J. (1995) *Foundations of Corporate Success*. Oxford: Oxford University Press.

March, J. G. and Simon, H. A. (1993) *Organizations*, 2nd edn. Cambridge, MA: Blackwell.

Nardi, B. A. and O'Day V. L. (1999) *Information Ecologies*. Cambridge, MA: The MIT Press.

Nelson, R. and Winter, S. (1982) *An Evolutionary Theory of Economic Change*. Cambridge, MA: Harvard University Press.

Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-creating Company*. Oxford: Oxford University Press.

Orlikowski, W. J. (1996) 'Improvising Organizational Transformation over Time: A Situated Change Perspective', *Information Systems Research* 7: 63–92.

Orr, J. (1996) *Talking About Machines*. Ithaca, NY: ILR Press.

Penrose, E. (1959) *The Theory of the Growth of the Firm*. New York: Wiley.

Perkins, D. (2000) *The Eureka Effect*. New York: W.W. Norton.

Romer, P. (1993) 'Ideas and Things', *The Economist* 11 September: 72–8.

Rorty, R. (1991) *Objectivity, Relativism, and Truth*. Cambridge: Cambridge University Press.

Spender, J.-C. (1996) 'Making Knowledge the Basis for a Dynamic Theory of the Firm', *Strategic Management Journal* 17(Special Winter Issue): 45–62.

Sternberg, R. (ed.) (1999) *Handbook of Creativity*. Cambridge: Cambridge University Press.

Szulanski, G. (1996) 'Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm', *Strategic Management Journal* 17(Special Winter Issue): 27–44.

Tsoukas, H. (1996) 'The Firm as a Distributed Knowledge System: A Constructionist Approach', *Strategic Management Journal* 17(Special Winter Issue): 11–26.

Tsoukas, H. (1998) 'Forms of Knowledge and Forms of Life in Organized Contexts', in R. Chia (ed.) *In the Realm of Organization,* pp. 43–66. London: Routledge.

Tsoukas, H. and Chia, R. (forthcoming) 'On Organizational Becoming: Rethinking Organizational Change', *Organization Science.*

Tsoukas, H. and Vladimirou, E. (2001) 'What Is Organizational Knowledge?', *Journal of Management Studies* 38: 973–93.

Weick, K. (1979) *The Social Psychology of Organizing*, 2nd edn. Reading, MA: Addison-Wesley.

Wenger, E. (1998) *Communities of Practice*. Cambridge: Cambridge University Press.

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