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POWER, MASTERY AND ORGANISATIONAL LEARNING

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POWER, MASTERY AND ORGANISATIONAL LEARNING

Abstract

The topic of power has not featured strongly in debates about organisational learning, a point that is illustrated in a discussion of influential studies of teamworking. Despite the insights that such studies have provided into the nature of expertise and collaboration they have tended not to explore the relevance of issues of hierarchy, politics and institutionalised power relations. The paper addresses the problem by exploring the links between power, expertise and organisational learning. Power is analysed both as the medium for, and the product of, collective activity. The approach emphasises how skills and imaginations are intertwined with social, technical and institutional structures. While studies of teamworking have concentrated on situations where imaginations and structures are tightly linked, unexpected developments may occur when these relations are loosened. Such situations occur when the needs of the moment overshadow normal routines and relationships and there is no single overview or centre of control. It is suggested that organisational learning can be conceptualised as the movement between familiar and emergent activities and between established and emergent social relations. Events in a two-year action research project are used to illustrate the approach and explore episodes of decentred collaboration.

POWER, MASTERY AND ORGANISATIONAL LEARNING

Introduction

As Easterby-Smith, Snell and Gherardi (1998) observed, power has not been emphasised within the organisational learning (O.L.) literature. As Coopey (1996) pointed out, one consequence has been that writers who have championed the value of dialogue in organisational learning have tended to overlook the point that people differ in their abilities to construct the parameters of debate within an organisation. He suggests that a purely functional orientation to O.L. privileges management discourse and reduces O.L. to an ideology of control. Rather than concentrating on differences of appreciation in contexts of trust Coopey suggested that O.L. theorists should seek to highlight differences of interest in contexts of control.

Such an approach would follow a path that has already been taken in organisation theory, where critical approaches have been developed in direct opposition to functionalism. Yet as we discuss below, despite its successes, critical theory has not been without its difficulties. Debates within critical theory have become distanced both from matters of practical concern and from action for social justice. In this paper we offer an alternative orientation. By featuring the circumstances in which learning extends beyond the limits of peoples' experiences and imaginations we point towards ways in which new activities and new social relations may be created.

The structure of the paper is as follows. Drawing from recent developments in organisational theory we emphasise the links between power, expertise and collective learning. We explore these links first through an evaluation of studies of groupworking that have been influential in the O.L. literature, then through a discussion of collaborative processes more generally. Studies of teamworking have, we suggest, focused primarily on situations where institutional arrangements and personal imaginations are tightly linked. Where, on the other hand, people find themselves engaged in activities that they do not fully understand new kinds of collaborative relationships can be precipitated. Learning in such situations can be labelled as “decentred”. An action research project that included episodes of decentred learning is summarised, and the paper concludes with a discussion of outstanding research priorities.

Power as the Medium of Responsible Collective Activity

In their general review of the way power has been treated in organisation studies Hardy and Clegg (1996) contrast the power embedded in guild structures with contemporary organisational structures. Power within guilds depended importantly on ability, knowledge, experience and mastery of appropriate rules. In Offe's (1976) terms they were "task-continuous social structures". Modern organisations, in contrast, are "task-discontinuous status structures" with a highly fragmented division of labour and diverse knowledge bases. In these settings, Hardy and Clegg point out, *power* has been decoupled from *mastery*.

Charting the various ways in which this important development has been handled in organisation studies Hardy and Clegg review key developments in functionalism then focus on work in the critical tradition, exploring the contributions of postmodernist writers. They summarise how studies of the basis of social order have revealed that assumptions about justice and normality are embedded in discourses, technologies, structures and institutions. In this way imaginations and institutions become intertwined, power relations become pervasive and, as a consequence, they are difficult to resist. Indeed, faith in the emancipatory potential of rational analysis has been undermined, Hardy and Clegg suggest, by recognition of the close relationship between power and knowledge.

Although they do not want to revert to more simplistic treatments of power (e.g. power as social dependence) Hardy and Clegg are nonetheless critical of the ways in which academics who have been impressed with postmodern orientations have developed their approaches to power. Debate in this area has become remote from both pragmatic needs and social justice, they point out. They urge scholars to reunite practical and critical studies, by focusing on the diverse manifestations and uses of power and exploring its pragmatic and ethical foundations. Hardy and Clegg's suggestion is that power should be studied as the *medium of responsible collective action*. Citing Callon and Latour (1981) and illustrating their argument by reference to studies of gender discrimination (e.g. Sawicki 1991), disciplinary practices (Knights and Willmott 1992), and refugee systems (Hardy 1994), they suggest that researchers should explore how, in particular situations,

voices are heard or are silenced to illuminate how actors (including academic researchers) necessarily participate in the web of relations that they help to create. The time is ripe, they say,

"to treat all forms of power play, including its theorising, as moves in games that enrol, translate and treat others in various ways, in various situated moralities, according to various codes of honour and dishonour which constitute, maintain, reproduce and resist various forms and practices of power under their rubric. There is no reason to think that all games will necessarily share one set of rules, or be capable of being generated from the same deep and underlying rule set. Power requires understanding in its diversity even as it resists explanation in terms of a singular theory" (Hardy and Clegg, 1996, p.636)

While Hardy and Clegg have developed their interest in contemporary mastery from their studies of power, the interest of the present authors in power has, in contrast, developed from our interest in mastery. Our approach has been shaped by activity theory (Engestrom, 1987). Activity theory, as the name suggests, does not primarily theorise individual actions; rather it addresses the activities that individual actions express. Activities possess a consistency over relatively long periods of time but, importantly, because of the tensions they embrace (e.g. use value *versus* exchange value) activity systems contain within themselves the seeds of their own development. Activity theory explores the cultural infrastructure through which people know and collaborate; it analyses mastery as a collective, systemic, temporal and provisional achievement (Engestrom 2000).

Our own use of activity theory has been to explore the changing nature of expertise in contemporary organisations (Blackler 1993, 1995, and Blackler, Crump and McDonald 1999a, 1999b, and 2000). Generalising from the example of manufacturing industry we have suggested that in some sectors of the economy activity systems are becoming more complex, abstract, interpenetrated and unstable. Used in this way activity theory brings into common focus issues of purpose, expertise, organisation and the dynamics of collective self-regulation. In this it resonates with Hardy and Clegg's agenda for the simultaneous analysis of power relations, practical achievements and social justice. Indeed, our formulation of overall priorities for work in this area differs from theirs only a little. Rather than studying power as the medium of collective action our approach is to study power as *both the ongoing product, and the medium, of collective activity*. Note that in formulating the problem in this way our intention is to focus as much on the dynamics of long-term change as current patterns of enrolment and domination.

Power and mastery

Despite the point that scholars who have been influential in the field of organisational learning have not tended to address "power" as such there is, nonetheless, a strong corpus of work in the O.L. literature that can contribute to a unified approach. We refer to the contributions of cognitive anthropologists, ethnomethodologists, symbolic interactionists, actor-network and activity theorists in the late 1980s and early 1990s to the understanding of teamworking in particular and collective action in general (such as Engestrom 1987,

Suchman 1987, Lave 1988, Orr 1990, Hutchins 1991, Lave and Wenger 1991, Star 1992, and Chaiklin and Lave 1993). The work of these writers has both resonated with and influenced the work of key organisation learning theorists; see, for example the collection edited by Cohen and Sproull (1996). Broadly speaking such writers set out to rethink conventional views of agency and, drawing from detailed empirical studies, to reconceptualise the complex relationships between pragmatic activity and social processes. Overall, their contribution has been to suggest a redefinition of the nature of *mastery* in contexts which rely less on the abilities of skilled individual craft workers and more on peoples' abilities to co-operate in situations of high interactive complexity.

Convergence of insight achieved by these various traditions were summarised by the German activity theorist Raeithel (1996). Commenting on a series of papers assembled by Engestrom and Middleton (which included studies of teamworking in airline crews, air traffic controllers, underground railway controllers, scientific laboratories and healthcare professionals) he summarised their shared insights as follows:

"The semiotic objects distributed throughout the work room (memoranda, charts, blackboards, monitor screens, etc.) are used by the actors in a wide variety of ways. Many people have a special tone of voice or intonation for important messages that is familiar to the others and an indispensable element here. Each team develops its own customs, special names, and vocal or dramatic signals for the most important types of problems in its own specific field of work. For most messages concerning the status of task accomplishment, there are several independent 'channels', because the actors listen in for others in order to be able

to help out if needed. A global view of the work is verbalized only in extremely rare cases; but the actors are always locally aware of the important events and the necessary operations in their field of action". Raeithel, (1996, 328-9)

Citing Lave and Wenger (1991) Raeithel points out that members of teams typically understand the work of others in the group from their own experiences. Through talk and engagement team members "arrive at a global and cooperative work style which, to some extent, is represented semiotically in group-specific 'shared knowledge'". The point resonates with Weick and Roberts' well-known study of organisational learning in an aircraft carrier in combat conditions (Weick and Roberts 1993, reprinted in Cohen and Sproull 1996). Weick and Roberts were concerned that approaches to organisation which work effectively when people need to achieve high efficiency are probably less appropriate for organisations that depend upon high reliability. "Heedful interrelating" is the key process in such situations, their study suggested. Just as in the studies of teamworking that Raeithel reviewed, there is little space for the heroic, autonomous individual in the very complex work setting that Weick and Roberts described. Crew members simultaneously contribute to their work activity, subordinate their actions to the unfolding pattern of events, and vigilantly represent to themselves what is happening around them. At their most effective, teams operating in this mode demonstrate a "collective mind".

Raeithel underlined some of the limitations of the ways in which the group studies he reviewed have been described pointing out that, typically, they do not feature the social

contexts within which the teams operate. In the absence of such commentary ethnographic reports may present a highly romanticised view of organisations and organising processes. In particular, the studies Raeithel reviewed tended not to address

- a) the hierarchical aspect of group regulation in complex organisations and
- b) the politics of relationships between different expert or functional groups.

Importantly also, it is correct to point out, they do not to feature

- c) the nature of the broader institutional contexts within which the teams and their organisations are located, and
- d) the ways in which participants have become socialised to participate within these structures

Such points have led some writers (see for example, Pritchard, 1996) to conclude that detailed accounts of the dynamics of learning in teams are irrelevant to issues of power. Although we are sympathetic to his worries we suggest, however, that this is a mistaken conclusion. The tradition these studies represent does, we agree, need extension to accommodate issues of power more explicitly. But given their focus on the complexity of actual interactions this should not be too much of a problem. Studies in this tradition do not deal with social processes at an abstract, generalised level, nor do they focus on the experiences of fringe groups. Their strength is in the analysis they make of the dynamics of agency and collective self-regulation within skilled teams. The practices of team workers, like the practices of traditional craft workers, are shown in these studies to be object oriented and transformational in intent. Yet the activity systems that support their

work are far more complex than those of traditional craft workers. Their practices are artefact mediated (a point emphasised by actor-network theorists), socially distributed (a point emphasised by cognitive anthropologists) and historically situated (a point emphasised by activity theorists), and located within a social and cultural milieu (a point emphasised by social learning theorists). *Mastery* in the contemporary context is revealed as a systemic, collective and temporal achievement that depends upon, improvises around, (and, as we suggest in the next section) periodically moves beyond its social, technological and institutional context.

Dimensions of organisational learning

To move the debate forward studies of teamworking need to be located within a broader debate about development and power. Two further observations about the studies of teamworking included in the Engestrom and Middleton (1996) and Cohen and Sproull (1996) collections suggest how this might be achieved. Typically, the studies they include focus:

- (e) on well established groups with stable internal processes, clear boundaries between themselves and others, and routinised relations with external groups, and
- (f) on groups which are working at complex, but nonetheless well understood, activities.

In both these respects, from today's vantage point, studies of teamworking in the late 1980s and early 1990s look somewhat dated. Following the management fashions of the intervening years to downsize, restructure around multi-disciplinary teams, utilise advanced information systems that support "virtual" interactions, and to compete in alliances, and so on, many hitherto familiar demarcations and work priorities have been loosened or have disappeared. It has long been recognised that managerial work is fluid, involves collaboration across shifting boundaries, and that most manager's jobs are characterised by variety, brevity and fragmentation (see McCall's 1977 review). We suspect that, over the past twenty years fluctuating, collaborative relations have become the predominant features of a far broader range of work.

Whether or not this is the case can only be established by careful empirical work. In any case the practices of new or temporary groups and networks whose relations are unfolding, overlapping or unstable and which are addressing unfamiliar, paradoxical or incompatible priorities do raise issues that are of particular interest. Figure 1 presents a two-by-two classification to illustrate the point. On the vertical axis we distinguish between groups or networks which are more or less stable and established. On the horizontal axis we distinguish between activities that (however complex they happen to be) are more or less familiar to those who are engaged in them. In this way four key organisational priorities are featured: (i) the organisation of stable communities of practice or stable networks, (ii) the organisation of fluctuating communities or networks around familiar activities, (iii) the organisation of unfamiliar activities in established groups or networks, (iv) the promotion of collaboration in decentred and transient activity

networks. As we explain below, the arrows on the Figure represent organisational learning as movement between these four quadrants.

Quite a lot has been written about quadrants (i), (ii) and (iii) within the O.L. literature. Raeithel's (1996) summary of the Engestrom and Middleton (1996) collection, quoted above, summarises key lessons relevant to an understanding of the dynamics of mastery in quadrant (i). Weick's (1995) use of Wiley's (1988) account of levels of sensemaking helps summarise what has been written about the situations identified quadrants (ii) and (iii). In his discussion of the relations between macro- and micro-social processes Wiley had distinguished between "generic sensemaking" and "intersubjective sensemaking". Generic sensemaking refers to the processes through which individuals enact scripts, express roles, and follow rules. Referring as it does to the creation of structures through which agents can be substituted one for the other, the notion of generic sensemaking importantly links individual agency to institutional issues. Intersubjective sensemaking on the other hand involves a more fluid emergence of collective identity and refers to the ways in which thoughts, feelings and intentions between two or more people are synthesised in the movement from "I" to "we".

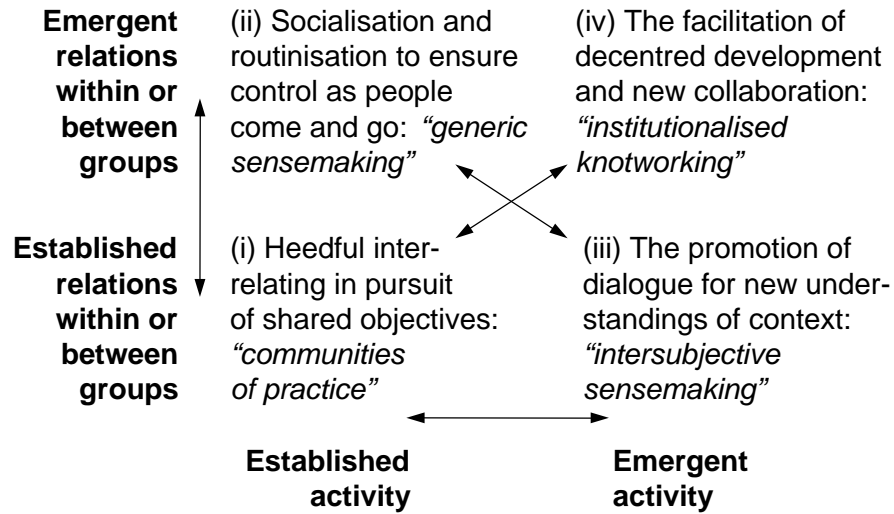


Figure 1:

Organisational Priorities and the Dynamics of Organisational Learning

Of particular interest to the theory of organisational learning is Weick’s observation that organisations lie “atop the movement between intersubjective and generic subjectivity”. Weick features, in other words, the tensions between quadrants (iii) and (ii) on Figure 1. Organisations, he suggests, are structures that

“combine the generic subjectivity of interlocking routines, the intersubjectivity of mutually reinforcing interpretations, and the movement back and forth between these two forms by means of continuous communication. Tensions between the innovation of intersubjectivity and the control of generic subjectivity animate the movement and communication. The goal of organisations, viewed as sensemaking systems, is to create and identify events

that recur to stabilise their environments and make them more predictable”.

(Weick 1995, p.170).

Until recently little has been written about the situation depicted in quadrant (iv) (although, as we note below, important clues about the issues involved are to be found in the O.L. literature). Recently, however, Barley (1996 and 1998) and Barley and Orr (1997) have featured the importance of lateral, rather than hierarchical, relations in the organisation of technical work. Such work has, they suggest, evolved into a non-routine activity that involves complex forms of collaboration. In what follows, however, we draw from a related analysis by Engestrom (1998) and Engestrom, Engestrom and Vahaaho (1999) who have offered an analysis that may form the basis of a more general formulation of the organisational challenges suggested by quadrant (iv).

Commenting that teams are usually conceived as stable entities with clear boundaries Engestrom *et al* (1999) note that in their own studies they have observed a more fluid situation. Groups in organisations regularly fade, inter-mix, are reconfigured and, they suggest, are routinely overshadowed by other organisational features. They illustrate the point by reference to trends towards a new paradigm of practice in manufacturing. “Co-configuration” (Victor and Boynton, 1998) has been described as the co-operation of multiple parties (manufacturers, suppliers and customers) in an ongoing process of product innovation. Then, drawing from their own research into the multi-agency provision of healthcare Engestrom *et al* suggest that, basic to the analysis of complex collaboration such as this, is the point that there is no single overview or “centre of

control” in collaborations such as these. Summarising the complex operations of an emergency medical team they suggest that little was stable in the episodes they followed: priorities differed, group membership fluctuated, technologies and procedures varied. All that was stable was the *ongoing mix* of contributors, tasks and tools and the long-term pattern that was associated with it. They describe this mix as a “knot of interaction”, an assemblage that has a life and impetus of its own. Over the short-term the knot demonstrates considerable variability but, viewed over a longer time span, a recurring pattern of relationships can be seen. Engestrom and his colleagues define “knotworking”, therefore, as a rapid, distributed and partly improvised collaboration of actors and activity systems that, aside from the knot, are otherwise only loosely connected.

To capture the rhythms of the changing character of this pattern Engestrom *et al* introduce the notion of “pulsation”. This term is intended to feature the patterns, as identified through time and across space, by which knots of interaction are tied, loosened then tightened again. As noted above no one individual or group is in control of this process which must be described as *decentred*. Study of such patterns brings into common focus the interests of organisational learning and organisational power theorists alike for the nature of collective activity is changing in these situations. Outcomes may be unexpected. Not only may the conjunction of multiple perspectives prompt a reconceptualisation of context and of task priorities, the pulsation of the knotworking can also facilitate a loosening, and perhaps a longer-lasting reordering, of practices and power relations and it may bring ethical issues into the foreground. Featuring as it does the

dynamics of emerging relations in a setting where professional identities and job demarcations are well established this analysis is of particular interest.

One of Engestrom and his colleague's aims is to characterise what they believe to be an emerging paradigm of work; another is to explore the ways in which institutional supports can be developed for such systems. We have found their characterisation very helpful in considering the processes likely to be involved in quadrant (iv), but our main purpose in developing the matrix depicted on Figure 1 is not to draw sharp distinctions between contrasting organisational archetypes. Rather we suggest that, in varying degrees and patterns, *all* complex organisations are likely to face *all* of the organisational problems identified on Figure 1. Weick (1995) featured a similar point when, in his comments summarised above, he highlighted the tension between intersubjective sensemaking and generic sensemaking and emphasised the importance of movement back and forth between the two. Such movement, he suggested, is manifest as *communication in the pursuit of environmental stability*, and he pointed to the bias towards generic sensemaking in formal organisations. Equally important for organisational learning, we suggest, is movement back and forth between quadrants (i) and (iv). This we characterise as *improvisation in the pursuit of object oriented activity*. The bias in this case can be expected to be towards established relations in the bottom left hand quadrant where imaginations and institutional structures are most tightly aligned.

We suggest that movements along this second axis are essential for organisational learning and perhaps common in their occurrence. As Brown and Duguid (1991) noted,

the traditional emphasis in management circles on “canonical practices” routinely obscures recognition of the fluid and creative ways in which people actually engage in their work and distracts attention from existence of transient problem centred groups. Moreover, Hutchins’ (1991) analysis of how a ship’s crew managed to plot the ship’s movement when both engine and gyro-compass had failed anticipated aspects of Engestrom’s analysis. Hutchins revealed how the interactions between the crew members in the difficult situation within which they found themselves produced a solution to their collective problem which “was discovered by the organisation itself before it was discovered by any of the participants”.

In this section we have explored the significance to organisational learning of diagonal movements within the quadrants of the matrix in Figure 1, i.e we have emphasised the importance of sensemaking and engagement processes. A similar case needs also to be made for the importance of vertical and horizontal movements on the Figure. Our general point however is that, conceived as a reciprocal movement between the matrices delineated on Figure 1, organisational learning is revealed to be a complex mix of intersubjective and generic sensemaking, heedful and decentred collaboration, enrolment and performance, apprenticeship and proficiency. In the complexity of this situation it does not seem sensible to us to seek to distinguish these processes definitively; each defines the other and contributes to the part continuing, part emergent patterns of power and activity in an organisation. As our analysis of movement between the quadrants represented on Figure 1 acknowledged, there are clear pressures towards conservatism in complex organisations. However, a developmental orientation raises the possibility that

movements between the quadrants depicted in Figure 1 may not only improve an organisation's capacity to achieve but, over time, may affect the nature and conduct of its activities and influence the broader context within which they are pursued.

Decentred collaboration in an action research project

We are able to illustrate some of the dynamics of power and collective learning as depicted on Figure 1 from our own experiences as part of an action research team that worked in partnership with one organisation over a two year period. The aims of the research were to develop detailed insights into innovation processes in the company and to consider the relevance of an activity theoretical orientation to relevant issues. As we describe below, over a two year period the dynamics of what was to become a close working relationships passed through several, sometimes difficult, phases and at times it was to evolve in ways that no-one anticipated or controlled.

Background details

One of the present authors was principal investigator for the project, the other was a full-time fieldworker. The project lasted two years and involved a detailed (and to some extent longitudinal) study of one organisation, a high technology engineering organisation that operates in the defence sector. It was funded by the U.K. government's Economic and Social Research Council as one of a number of projects exploring innovation and competitiveness. The proposal for this particular project had been developed by four

tenured academics, including two behavioural scientists and two operational researchers. This group was to be joined by two full-time fieldworkers. The research grant that supported the project was substantial and at a time when the performance of British universities was being heavily scrutinised by government its award represented important achievement for those involved. The project presented a unique opportunity to gather a large and detailed data set on theoretical issues that were of considerable interest to the grant holders. For the two fieldworkers employed by the project it represented a relatively long term contract and a potential starting point for an academic career. As can be imagined, therefore, members of the research team were highly committed to the successful completion of the project.

The motivation for the involvement of the company we studied was less clear cut. Indeed, until quite a late stage in the project top management remained reserved about its potential value to the business. It operates in one of the fastest changing sectors in the U.K. economy, high technology defence contracting. In recent years the company has experienced considerable changes and top management have pursued a far-reaching series of strategic reviews which had involved significant restructuring and a refocusing of the business. A range of highly trained engineers is employed in the organisation and their work typically involves the solution of complex engineering problems, sometimes at the edge of current knowledge. The company designs and assembles products to customer orders, normally only producing very small numbers of any one product. Day-to-day control of what was a somewhat fragmented business was maintained through a complex mix of operating procedures, design technologies, professional autonomy, project group

management, financial control systems and the personal authority and position power of top management.

To help the research team to generalise from the findings of this study over the full two year period a regular series of one-day discussion meetings was held with a group of senior industrialists from other high technology firms for them to comment on the developing outcomes of the research to their own organisations. This process was encouraged by the funding agency which was anxious to publicise outcomes from the project. Indeed the E.S.R.C. itself organised a range of events to publicise this project to other potential user groups a development that, as we note below, added to the pressures on the research team to make a success of the project.

The development of the project

At an early stage the project explored the changing nature of expertise within the company. This was researched through company reports and interviews with key informants. Next we developed an account of organisational learning and forgetting based a retrospective study of a relatively unsuccessful attempt to reform engineering design practices. Later, in the second year of the project work we focused on the reorganisation of the company. This involved an observational and interview study of multi-disciplinary project teams concerned with the development of business strategies and led to an analysis of the organisation as a distributed, decentred and emergent

knowledge system. (Reports of this work and details of the methodology of the project have been described in Blackler, Crump and McDonald, 1999(a), 1999 (b) and 2000).

Early in the study we focused on problems of teamworking and intergroup collaboration. About six months into the study it became clear that many of the problems we were experiencing in collaborating with the company were essentially the same as the problems we were researching in the company itself. Key issues are listed below. The first three points (difficulties of mutual understanding, changing priorities, and shifting group boundaries) are issues that we ourselves experienced and which we also observed in the company. The last two (improvised contributions and a retreat to the familiar) are drawn from our own experiences.

Key issues that emerged are listed below. Points are presented chronologically. The first three issues described touch on issues that we ourselves experienced and which we also observed in the company. The last two points are drawn from our own experiences.

- *Just as different expert and functional groups in the organisation we were studying demonstrated difficulties in understanding each other's priorities and methods of working so we experienced difficulties in understanding and accommodating the priorities and methods of our main collaborators. This often felt both unsatisfactory and unsettling.*

Although the project began and ended with considerable expressions of goodwill, the practice of industry/academe collaboration proved precarious over the two years that the project ran. On Figure 2 we contrast aspects of the activity systems that marked differences between the groups in the early phases of the project.

The company had worked with academics before, most notably in a project that had involved an eminent Harvard academic who had helped in the reorganisation of manufacturing operations. The research team's initial contact was primarily with a senior manager who had been closely involved in that project. This individual was a firm believer that work with universities was important and on his own initiative he had, in the past, developed several technical and scientific projects with UK universities. He understood that this project would be different in terms of its focus (organisational issues in general rather than manufacturing or technological issues in particular) but he believed that its organisation and output would be similar. His response was to try and manage the research team as he might have managed an engineering project

In their very different way the research workers also expected that the project would resemble work that they had undertaken in the past, albeit in the special circumstances of this particular project. The quantitative members of the team anticipated that they would formulate hypotheses, supervise the collection of data, then advise on the application of mathematical techniques of analysis. The social scientists anticipated more direct involvement and the use of open-ended qualitative research techniques involving interviews, observations and action research feedback. The latter group especially were

very uneasy about the strong emphasis that their main contact in the company at that stage was placing on the early specification of “deliverables”.

Key Expectations in the Company	Social Scientist’s Expectations
<p>Modelled by experience of (a) consultancy (b) research by technologists, and (c) research by academics specialising in manufacturing techniques</p>	<p>Based on experience of previous qualitative and action research projects</p>
<p>Researchers were expected to organise the details of the project themselves but, in so doing, to conform to the language and concepts of project planning and control (i.e. to utilise the language of milestones, progress charts, and deliverables)</p>	<p>The researchers expected that the project would begin with a period of familiarisation and continue with a number of studies whose nature would be negotiated as the project progressed. Communication with the company was recognised as essential but they anticipated that the study would be framed by social science terminology.</p>
<p>The company was seen as hosting the research team and, in return for relevant access, having research done for it</p>	<p>The company was regarded as backdrop to the investigation, whose parameters would be steered by the research team.</p>
<p>The aim was to collaborate with the research team in order to understand the ‘cultural’ stumbling blocks for the next phase of development.</p>	<p>The aim was to research innovation in the company and develop an activity theoretical analysis of innovation processes.</p>
<p>The researchers would, it was expected, offer specific prescriptions, indicating what was wrong and how things could be put right</p>	<p>The researchers would try to understand the company and hold up a mirror for them to gain new insights and perspectives.</p>

Figure 2:

Contrasting Orientations to the Project

At key times throughout the first half of the project these differences, and the others listed on Figure 2, were brought into sharp focus. To ensure the future of the project, the researchers repeatedly found it necessary to make major efforts to respond to the highly performative culture of the management team.

Other pressures on the team also required careful attention. Whereas the managers we were working with were interested in the immediate practical applications of the project; members of the Discussion Club of industrialists from other organisations whom we consulted periodically were interested in the general relevance of the project for their needs. In addition the organisers of the E.S.R.C. Innovation Research Programme wanted early examples of practical and theoretical outputs from the project, while the research team itself needed to resolve the, sometimes contrasting, assumptions members held of what their academic priorities should be. Indeed, over the course of the project the interests of the various stakeholder groups created a somewhat pressured environment for the three researchers most closely involved in the fieldwork and report writing.

- *Just as day to day priorities in the organisation often rapidly shifted, project ideas that once seemed feasible were often quickly overtaken by new priorities and unforeseen problems.*

Early expectations that the project would include a strong quantitative element did not materialise. Towards the end of the first year of the project a series of misgivings in the company about the consultative element of action research led to delays in the

organisation of key feedback briefings and in the launch of a new phase of empirical research. In the early months of the second year we began some of the projects suggested by the senior management team, but their interests quickly moved on, our momentum had been stalled by the earlier delays, and little was achieved. Tenured members of the research team found themselves unable to spend as much time in the organisation as they had anticipated given staff shortages in their university. Despite these difficulties, conscious of other pressures on them (which importantly included scheduled meetings of the Discussion Club) the principal researcher and two research fellows worked exceptionally hard.

- *Group boundaries and identities were rapidly changing in the company. In a similar way, as priorities changed and developed throughout the project, members of this group were pulled in various directions as each forged relations with different individuals and groups in the company.*

In the context of ongoing strategic reviews within the company the status of the manager who was our main contact point in the early months of the project declined. Early in the second year he was relocated and although subsequently he remained in close contact with us, his influence on the project was to fade. Around the time of an important review of the project the ESRC funding programme co-ordinator organised a presentation slot for the project at a prestigious forum and invited a Board Director to collaborate in the presentation with the principal investigator. The invitation was attractive to him and, flattered by the reception the presentation was to receive, the Director became closely

involved in the subsequent research. At the same time another Board member who was struggling with plans for a strategic review found some of our research useful. The two Directors began to involve the principal investigator ever more closely in discussions of immediate interest to them and their Board colleagues. Although this high level sponsorship of the project was the breakthrough we needed in order to maintain our access and move the research forward, both Directors were keen to work closely and exclusively with the principal investigator. Pulled in these different directions, under extreme time pressures, and initially unable to involve the fieldworkers directly, it becomes difficult to maintain the cohesiveness of the team.

- *Without a clear or shared overall understanding of what might be achieved at certain key times participants endeavoured to respond to the priorities of others and to contribute to the project as best they could. At such times it was clear that no one was in control of the course of the project.*

These episodes occurred in the second year of the project when the priorities of top management and those of the research team converged. By this stage the interests of the research team had shifted from the study of specialist teams to study of the interactions between different groups in the organisation. However we were not sure how best to deal with the issue. Our starting point had been relations between established groups with recognisable boundaries in the company, but the value of this approach was limited. Partly as a result of management's ongoing efforts to reorganise the business and partly because of emerging operational priorities we came to realise that the identity of, and

boundaries between, these groups were shifting rapidly. Indeed widespread uncertainties were being experienced in the company about what the long-term priorities of the organisation should be and how operations ought appropriately to be organised.

Around this time top management determined to impose a major reorganisation of the company. Early indications were, unmistakably, that it was not proceeding well. The research team diverted its energies to report on the implications of its research up to that time for the problems the Board had identified. A series of top level meetings proved helpful to both parties in developing ideas about the situation and what might be done. In retrospect the key aspect of what was new at this stage included a convergence in interest between the two groups and the resultant *engagement* that took place on both sides. The top team took a keen interest in the explanatory framework developed by the researchers and the researchers became increasingly problem centred and forward looking in their orientation. Then, in the final months of the project, the researchers were invited to study a series of specially convened cross-functional, cross-site strategy development teams whose work was considered vital to the future of the organisation. Over a three month period their findings and interpretations became a central resource for the Board members responsible for exercise.

- *Episodes of decentred collaboration were relatively short-lived, however. As the moments of shared concern passed, established outlooks and structures tended to reassert themselves and participants were pleased to return to familiar ground.*

In the early stages of the project the tendency had been for the managers and researchers to negotiate details of focus and access at a fairly superficial level, then to have relatively little contact until the report phase. (For example, after the prolonged and difficult period of presenting the findings from an early project, trying to arrange feedback sessions and attempting to gain acceptance and interest from management, senior managers had eventually set us the task of investigating “team management”. With little more than this phrase to go on, we happily withdrew into our own comfort zone and carried out a study into groupworking without further reference to the senior managers for either clarification or review). In later stages of the project, following periods of intensive involvement with the company, it was a relief for the research team to withdraw to the university and prepare academic reports of the work. The intention of the top team to maintain an ongoing contact with the researchers after the formal period of research quickly faded in the context of new problems and priorities.

Summary of the case example

Earlier we suggested that organisational learning could be characterised as a series of movements between the quadrants depicted on Figure 1. Developments in the relations between the research team and the company that we have sketched out here can be summarised to illustrate the point, and to feature the special significance of movement into quadrant (iv).

1. Early disagreements about appropriate aims and methods involved movement between quadrant (iii) and (ii) on Figure 1. The company's representative was explicit in his wish to define parameters for the work and to specify the rules by which it would be conducted (i.e. he placed a heavy emphasis on the generic sensemaking of quadrant (ii)). Through discussions with us (i.e. "intersubjective sensemaking", as in quadrant (iii)) arrangements that were broadly acceptable to both parties were agreed.

2. In the first months of the project relations between those team members who were most closely involved in the collection of data and report writing worked well. Team members co-operated in a way that approximated towards the "heedful interrelating" of quadrant (i). In their external relations the researchers worked hard to respond to the company's expectations. Relations with the company tended to be quite formal.

3. Around the midpoint of the research period the project became more difficult to run as managers involved in the project became increasingly preoccupied with company problems and the researchers felt that the survival of the project was at risk. Management lost interest in the problems it had only recently encouraged the team to consider and uncertainties developed about who our main contacts in the company should be. At the same time the problems the research team found it necessary to address became more complex and diffuse, yet events were conspiring to make it more difficult for the team to operate as a cohesive unit. Developments such as these marked a shift towards context depicted in quadrant (iv).

4. As top managers developed an interest in the project and the interests of both groups converged on issues that were of interest to everyone the process of collaboration displayed some of the characteristics of “knotworking”. No-one was in overall control of the collaboration. Those involved each contributed as best they could towards the understanding of an unfolding and complex series of problems. At this time it was the intrinsic interest of the situation, rather than external pressures, obligations or trade-offs, that motivated the collaboration. Access to, and relations between, key participants possessed an urgency and flexibility that was driven by task priorities.

5. After an exciting but stressful period of around four months relations between the two groups drifted back to a quadrant (ii) situation. However things were now different than before. Management showed a continuing interest in, and respect for, the research project. The researchers’ orientation to the company in particular and management problems in general had also changed significantly. Personal relations between all who had been involved remained cordial. Beyond this group the achievements of the project as a collaborative exercise was later to be acknowledged externally, in particular by a number of academics, industrialist and research administrators who had become interested in promoting closer industry/university links.

Conclusions: power, mastery and collective learning

At the start of the paper considered the way the split between functionalists and critical theorists have created a difficult legacy for organisation theorists interested in power.

The approach to power that we have adopted in this paper marks, we believe, an alternative both to the rationality of modernism and to the deconstructive critique of postmodernism. The study of *how* people know, act and collaborate, approaches power as both an ongoing product of collective activity and as the medium for it.

Underpinning the activity theoretical approach to the study of practices that we have featured in this paper is an image of society as supported by multiple conflicts and dilemmas. The (inevitably temporary) resolutions that are achieved to such problems are sustained by institutional arrangements, social and organisational structures, technologies and procedures, concepts and norms. Such systems obscure the arbitrary foundations of social life, in their daily lives people have no choice but to behave as if the infrastructure of their activities is cohesive and defensible and ideas of what is possible in human affairs become confused with descriptions of what already exists. As we emphasised in our earlier discussion of the relations between power and mastery, the pragmatism of daily interaction is intertwined with institutions and dogma.

Such processes are, no doubt, an integral and necessary part of collective action. For all involved they are hard to grasp and recognise, however, as the pragmatism and security of familiar arrangements obscures vested interests and power plays. The point is central to both social theory and to the theory of organisational learning. The dynamics of power, mastery and collective learning are inseparable.

In this paper we have presented a model that represents the pressures towards conservatism in organisational learning and which features the significance of situations that participants do not fully understand. Such situations, we have suggested, constitute an important aspect of organisational learning. The interactions that are associated with them may stimulate an unplanned revision of practical paradigms that extends expectations and understandings and, in the process, it may loosen familiar social relationships.

More needs to be done to record and understand such events. To conclude, two observations seem particularly relevant. First, the situations that we have featured by quadrant (iv) on Figure 1 are not only poorly understood and they are difficult to describe. Reports of complex collaborations tend to gloss over the untidy and unexpected, just as descriptions of action research projects tend to simplify what is, in important part, a disorderly process. In preparing this paper the authors debated the relevance of Engestrom, Engestrom and Vahaaho's (1999) images of knotworking and pulsation as aids to an understanding what is involved here. These images suggest that the key characteristics of decentred collaboration include the active participation of those involved (such contributions will, inevitably, be based on peoples' past skills and experiences) in such a way that the needs of the moment are allowed to overshadow normal routines (a process that may loosen familiar relationships and assumptions). Helpful though this analysis is, in one important respect it does not reflect the experiences we had of decentred development in the research project we have described here. The knotworking image does not emphasise the point that participants may themselves be

changed by quadrant (iv) experiences. In our own case, our commitment to the research programme and the concerns of the managers involved with the problems of their business drew us all into a relationship where, in essence, we “suspended disbelief” in the value of close collaboration with each other. What happened then stretched our behaviour, imaginations, attitudes and skills in such a way that it was simply not possible (for the authors at least) to shake free and walk away from the knot unchanged.

An image is needed to capture this developmental aspect of the process. Possible images might include competitive chess playing (where close interaction with another can expand one’s personal repertoire), the acquisition of a new language or dialect (which involves an appreciation of new perspectives and meanings), or improvisation (see, for example, Barratt’s 1998 analysis of jazz performance). In any case, detailed research needs to be undertaken into other examples of decentred collaboration. Such episodes need carefully to be described. Research should feature the circumstances that pull and hold people into such relationships, and should explore and explain the individual, organisational and institutional consequences that they may help stimulate.

Finally, related questions arise about the skills that support effective decentred collaboration. The ability to engage, negotiate, cross boundaries, and contribute is the essence of decentred collaboration and important questions arise about how such abilities might best be nurtured and encouraged. The collaborative research example we discussed earlier suggests that decentred collaboration may be facilitated by a focus on problems of significance to the different parties, efforts to extend and develop relations between them,

a general acceptance that problems will arise (both in the project and in the relations between those collaborating), and the expectation that participants will contribute from their strengths. Formulating the problem more generally, the task is the development of temporary activity systems that will support high levels of interactive complexity and contain the anxiety that might otherwise develop. Decentred collaboration is, we suggest, a precarious process. It cannot be “engineered”. Further analysis of relevant episodes is needed to illuminate how, as a process of development, it might be supported.

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