TRACK 9: The Philosophical Roots of Organization Studies and Organizational Practice: Epistemologies, Methodologies, and Approaches

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Paradoxical Relationships in Collaboration, Competition and Innovation: a Critical Systemic Perspective

Introduction

This paper seeks to discuss the nature of complex relationships among participants in organizational life, including ways in which paradox and ambiguity in their interactions impact upon organizational performance.

Any relationship emerges and subsists through interaction between people. The nature of a relationship is the result of double description (Bateson, 2002). Each of the parties involved will have perceptions of contextually dependent aspects of their interactions with others, through which behaviour is generated reflecting the concept of 'relationship'. Bateson points out that the relationship is there first – descriptions emerge from it. Where complex webs of interaction are involved (as in the case of organizational life as it is lived) then multiple levels of description will emerge reflecting inter-individual and inter-group dimensions. As pointed out by Bateson (1972), social interactions can be subject to double bind, in which individual and group descriptions of interactions lead to emergence of negative learning spirals in which participants become entrapped. Where this occurs, emergent behaviour may not be beneficial to individuals or the emergent group. Examples of this can be found in Argyris' (1990) description of defensive routines which he describes as 'skilled incompetence'. In order not to cause uncomfortable disturbance to a negotiated equilibrium in organizational relationships (i.e. not rock the boat) people will avoid dealing with problematic issues and allow them, therefore, to remain problematic. At times, a need to protect norms and values of group interaction (what Schein (2004) referred to as organizational *culture*) has an effect of paralysing organizational actors' capability to bring about beneficial change. In effect, they have become locked into a "no-win" situation (a double bind). Theories that people espouse to describe their actions and motivations are not what other people can observe to be their theories in use. We are reminded of Æsop's fable of the scorpion and the frog:

> *A scorpion and a frog meet on the bank of a stream and the scorpion asks the frog to carry him across on its back. The frog asks, "How do I know you won't sting me?" The scorpion says, "Because if I do, I will die too." The frog is satisfied, and they set out, but in midstream, the scorpion stings the frog. The frog feels the onset of paralysis and starts to sink, knowing they both will drown, but has just enough time to gasp "Why?" Replies the scorpion: "It's my nature..."* (http://aesopfables.com/cgi/aesop1.cgi?srch&fabl/TheScorpionandtheFrog).

Reflection upon the concepts of double bind, defensive routines and on the fable set out above highlight for us the paradoxes of organizational life. A particular example is the high proportion of Information Systems Development teams who persist with projects they already know will fail (Williams, 2007). Maister emphasises this point in his recent work 'Strategy and the Fat Smoker'. It is possible for managers to identify a problem and to set out with the intent to bring about beneficial change. However, '*knowing what to do is easy: doing it is hard*' (Maister, 2008).

Sometimes, it has been possible for unscrupulous individuals to secure success for themselves at the expense of their colleagues and customers, by exploiting these instances of double bind. For example, a new manager may propose radical changes which his senior colleagues believe will be highly beneficial to the organization. He initiates innovation, knowing full well the difficulties which such undertakings often meet with in practice, through the operation of 'skilled incompetence'. However, before it is possible for failure to be perceived and admitted within the organization more widely, the manager has been able to build his next career move on his reputation as a change agent. This contrasts with practice by executives who are committed to remain in one organization (see Semler, 1995).

It has been pointed out (e.g. by Haddadji, 2006) that paradox and uncertainty are inherent in the complex relations from which organizations emerge. Haddji points out that these paradoxes may also be a source of creativity:

"*Admitting that every organization is complex by nature in the sense that it is an ongoing expression of paradox and uncertainty means that organizations must be complex in order to maintain the relationships with the environment and with employees. Complexity and the ambiguity are the source of creativity to adapt to the chaotic environment in which they exist. In fact, paradox can be seen as a competitive advantage for the organization at a different level. Accepting the inherent irrationality of the organization gives participants the freedom to unleash creativity in the succession process, as well as in any kind of organizational change*" (Haddadji, 2006, p.453).

Research has suggested that paradoxical relationships within business organizations can bring about a creative tension (Senge, 2003). Where there is a conceptual 'vision' for the future of the organization, and individuals and groups also attempt an honest appraisal of their current situation, a tension exists that can be resolved either by acceptance of the status quo or attempts to bring about change to match the desired state.

"*Individuals, groups and organizations who learn how to work with creative tension learn how to use the energy it generates to move reality more reliably towards their visions*" (Senge, P. in Starkey et al p.291)

We can perceive three forms of relationship between collaboration, competition and innovation in organizations. First, creativity may be supported in situations of *safety* – where there are ample resources in a relatively stable environment, so that experimentation is supported. An example might be a pharmaceutical company in which research chemists are permitted free access to laboratory facilities and spend their time in experimentation which is not directed to particular, but to general efforts at discovery. An example arises from the merger of Astra and Zeneca to form one business organization. The two original companies had very different approaches to R&D. At Astra, employees were supported to experiment freely in order to create new knowledge, leading to new products. This business performed well. Ultimately, the companies may have merged because Astra's practice

promoted innovation whereas Zeneca's practice, focused on efficiency, failed to support innovation and thus (long term and sustainable) prosperity for the company.

Our second category may be described as a situation of *crisis*. When a business is experiencing hard times, then it may be necessary to promote innovation as a means to secure survival. For instance, a company in crisis may turn to Business Process Re-engineering as a remedy (Hammer, 1990). In BPR, radical change is brought about through generation of 'stretch goals'. Employees are encouraged to 'think the unthinkable' and 'break the china' in order to bring about radical change and thus avoid disaster. Change management practices, co-operation between co-workers and adherence to a common set of goals are emphasised. Thirdly, creativity may be stimulated through competition between individuals and groups within a work environment. This arises through inspiration – competition with peers leads to a creative dialectic. Here we see paradox and ambiguity as a key feature. This phenomenon is often observable in academic and/or scientific communities, or in other knowledge-oriented organizations in which a person's work is appreciated by her peers, which spurs on those others to reflect over the achievement, engage in creative thinking, hard work, etc. as a result. A productive learning helix can result. If it is intended to create a 'learning organization', success depends upon creation of such productive spirals.

What all of these categories have in common is the productive impact of paradox upon the context of innovation. In the first instance, creativity and innovation are managed by setting people free to act on their own initiative. In the second, in contrast, people are confronted by business imperatives and must innovate in a situation of resource constraint. The third instance shows how competition between individuals, rather than collaboration, can generate benefits for the organization as a whole. Why are these categories relevant to our discourse? The context of innovation is crucial here. We can contrast the productive learning spiral of example three, above, with other types of organizational dynamic in which relationships between people play a role.

If it is the beliefs and expectations that people hold that ultimately determine their actions, then it may be beneficial, both for themselves and their organizations, if they can be supported to explore what those expectations are (Checkland, 1981; Mumford, 1983). In this way, it may be possible for them to negotiate a path out of double bind situations and to engage in actions that can bring about beneficial change (Bednar and Welch, 2008). For any of the innovative relationships described above to subsist, some similarity in the multiple descriptions constituting the relationship must be achieved. Herein lies what we often refer to as 'purpose'. In order to explore 'purpose' in an organizational context, we must give our attention to exploring 'knowing', Weltanshauungen and human judgment.

The next section of the paper is devoted to discussion of the critical systemic perspective that underpins our discourse. We then go on to examine one instance of a paradoxical relationship in organizational life leading to negative impact, involving failure of Information Systems development projects. Following this, we explore in more depth the concept of emergence in relation to human activity systems, and the ways in which organizational histories are created. We then return to our main discussion with an examination of human 'knowing' processes, acts of judgment and their relationship to Weltanschauungen, before attempting to draw some conclusions.

Critical Systemic Thinking

A number of researchers (e.g. Held, 1980; Honneth, 1991; Ngwenyama, 1991) have attempted to define and encapsulate the essence of 'critical research'. It has been suggested to encompass interpretation of social phenomena, and goes beyond this to examine underlying assumptions; it seeks for understandings that could support efforts to bring about beneficial change (Klein (2007). It has

been further suggested that such work is characterised by: concern with substantive social issues (e.g. power, values); foundation in a cohesive socio-theoretical core; and a distinctive role in informing the work of others. Critically informed research from a systemic perspective includes a desire to explore the unique. Particular observations, made by particular observers, are not disqualified as mere 'anecdotal' evidence. We do not seek to generalise from the particular but to gain a richness and depth of understanding which may add to transparency in reflection on phenomena (Nissen, 2007).

This is not to suggest that there are no circumstances in which we as researchers might legitimately choose to regard particular instances of a phenomenon as similar, i.e. that those instances may be regarded for practical purposes as repeatable or indicative of patterns. However, as researchers, we need to maintain awareness that we are making a choice to regard particular phenomena in this way. This must include awareness of the practical purpose behind the act of choosing, and of the limited extent to which any conclusions are generalizable. However similar phenomena appear to be, it is the specific complex network of contexts surrounding them which defines their uniqueness (Bednar and Welch, 2007a).

A critical element in any human being's understanding of society cannot be avoided. As conscious beings, we necessarily reflect upon our experiences. It is therefore impossible to take a value free stance and an attempt to do so is, in itself, value laden. As critically informed researchers of social phenomena, it is important that we specifically recognise the double hermeneutic involved, i.e. we are considering behaviour of individuals who are themselves consciously reflecting on their experiences. This is the essence of uniqueness, referred to above. Critical thinking involves attempts to challenge not only assumptions of others, but our own assumptions (Bednar and Welch, 2005). This is an exercise in practical philosophy, in which we attempt to reflect upon experience, and reflect upon this process of reflection (sense-making), in a continuous spiral in order to question our own values, beliefs and understandings. Whilst it may be difficult to achieve levels of reflection of 'second order' or beyond, this does not make the attempt less worthwhile (Bateson, 1972).

Critical systemic perspectives also focus on emergence as a feature of holistic, critical thinking. Some systems perspectives have tended to conceptualise social systems as collectives, in which properties of the whole emerge when the elements are organized in a certain way. As critical systemic thinkers, however, we choose to see a social system as an emergent property of the interactions between unique individuals whose social relations are of interest (Bednar, 2007).

Klein (2007) discusses his view of the essential features of critical research, going beyond mere interpretation to embrace critique intended to suggest opportunities for beneficial change. Drawing upon this, and also work of e.g. Claudio Ciborra (e.g. 2000; 2002; 2004; 2006), we consider critical systemic thinking to encompass interpretation and critique and some consideration of what would constitute beneficial change from particular points of view. Human reflection upon a problem situation requires that a scale for evaluation is created by which critique becomes meaningful and opportunities for beneficial change are established. Furthermore, we consider that these factors cannot be separated – processes of human reflection leading to a creative learning spiral must involve interpretation, creation of scales of measurement and judgments based upon these measures (Bednar, 2000). Ciborra emphasises the role bricolage (tinkering) in a context of efforts to bring about beneficial change in organizational life. He relates this to a concept of 'mood' that is essential in relation to creativity. Here, he is attempting to distance creative processes involving beneficial change from the mythical 'appearances' of cognitive strategies. For Ciborra, a playful creative dance among organizational actors is what generates progress, rather than a deliberate plan of action (Ciborra, 2004). The concept of 'mood' represents a deliberate attempt to emphasise the affective dimension in

human interactions; to distance improvisation from the 'appearances' of cognitive problem solving to incorporate feelings as a state of being.

'*Looking at improvisation as a special disposition or attunement with the situation, a special way of being amidst the world and being thrown into it, opens up a different point of access to the phenomenon: improvisation as mood*' (Ciborra, 2002, p.162)

When philosophy is regarded as a practical discipline, and built upon systems thinking as is demonstrated in the works of Gregory Bateson and Claudio Ciborra, evaluation cannot be separated from a scale of measurement. Essentially, Critical Systemic Thinking encompasses all of these processes.

In the next section, we examine one example of the impact of 'double bind' in organizational relationships as an inhibitor of innovative behaviour.

Failure in Information Systems governance – an example of 'double bind'

Williams (2007) gives an interesting account of the incidence of failure in IS-related projects in industry, drawing upon data obtained from the Information Technology Governance Institute. He highlights a phenomenon that projects survive and continue to be supported for a considerable time, even to 'completion' although it is already known that they are likely to fail. Indeed, of almost 1,700 projects sampled in the study, representing some £4.3 bn of investment by 60 separate undertakings, 52% were expected to lead to negative returns, while 31% actually destroyed value for the companies concerned. Only 3% of projects were abandoned before completion. This suggests to us that the impact of Ciborra's 'appearances' of rational planning continues to enjoy a hegemony. Actors continue to support practice based in formal methodologies, designed to bring about control over developments and resources, knowing that these will not work. We surmise that a double bind is at play here in that actors' 'mood' is bound up in affective attachment to cognitive interpretations of 'best practice'. Even though it has become clear that a project is doomed to fail, actors stubbornly uphold commitment to project goals. Something approximating to the 'defensive routines' of Argyris prevents them from abandoning an organizational reliance on rational planning and governance. Such anomalies may be supported by a mismatch between processes of governance over 'projects' and processes of evaluation of business performance. An example can be found in Symantec's experience of introducing an Enterprise Resource Planning System during 2005-2007. Although the project was technically 'successful' and came in well within budget, the re-engineered processes supported by the system did not suit the way customers wished to deal with the company, resulting in a high volume of complaints and extra customer service activity. The negative impact on profitability was very considerable and could not be turned around quickly (Songini, 2007).

Williams' suggested advice on "How to increase the success rate of IT projects" (2007, p.20) is interesting in that it maintains just such a focus. However, Williams' advice ignores the perspectives of the individual actors who are stakeholders in any project. We suggest below some alternatives incorporating phenomenology and hermeneutics.

> *Ensure robust and consistent approach to approval of business cases*;

This advice ignores the individually unique contextual dependencies experienced by actors when carrying out their business roles. Problems with such 'hard' approaches have been highlighted by researchers such as Checkland (1999) and Ulrich (1993). We suggest instead that developers inquire into *relevance* of systems through engagement of end-users and boundary critique.

> *Apply industry best practice for portfolio management*;

A concept of 'best practice' ignores both the individual perspectives of actors engaged with the system and organizational uniqueness and desire for competitive advantage. Any such view of 'best practice' can only ever provide a snapshot of what organizations within an industry have thought appropriate to do at a given point in time and ignores the need to respond to a changing environment. We suggest instead reflection upon inquiries into contextual dependencies by stakeholders, to promote resilient and sustainable, rather than robust (rigid), decisions (Checkland, 1999; Nissen, 2002; Bednar and Welch, 2008; 2008b).

> *Undertake regular, formal reviews of projects to ensure requirements specifications are*
> *based on business case assumptions that are still valid*;

This advice suggests that 'requirements' pre-exist and merely need to be elicited. It evokes an assumption that projects fail to satisfy users only because of 'requirements creep' where needs change in the meantime. We consider that this analysis involves an inherent confusion between the 'map' and the 'territory'. If requirements have not been explored fully and created effectively, then subsequent changes are irrelevant to the outcome. We suggest engaging all stakeholders in inquiry into business cases, encouraging them to challenge their own assumptions and explore multiple levels of contextual dependencies in relation to their professional roles. By this means, engage in creation and shaping of requirements to establish a knowledge base for development of meaningful and flexible systems (Friis, 1991; Stowell and West; 1995; Bednar and Welch, 2008; Bednar and Welch, 2008c)

> *Ensure continued independent and objective review of IT investment*;

This advice suggests that it is possible to take an independent view, ignoring the contextual experience of life as it is lived by actors within the organization. We suggest instead a need for evaluation of situated usefulness through an inquiry owned by the actors themselves (Vickers, 1970; Friis, 1991; Klein, 2004; Monod, 2004; Bednar and Welch, 2007b). We advocate continual, relevant and situated reflection over systems in use by the stakeholders concerned. We also suggest a need to consider returns on investment in terms of indirect and intangible benefits or costs, as well as the direct costs of technical implementation. This is illustrated by the experience of Symantec described above (Songini, 2007).

> *Ensure sufficient management teams are in place to take tough decisions*;

This advice ignores many recent contributions from researchers interested in management of organizational change, e.g. critique of Business Process Re-engineering, Total Quality Management and ISO 9000 as deficient in dealing with the situated experience of actors (Checkland, 1999; Davenport, 2007; Bednar, 2007). We recommend that organizations should ensure instead that management capability is developed to facilitate effective decision-making by users/stakeholders themselves (Bednar and Welch, 2008b). It is important to consider how views of the roles of leaders and managers in business have changed in recent years. Senge, for example, (in Starkey et al, 2003) points to leadership as comprising both a teaching role and a stewardship role in modern organizations. Sandberg and Targama (2007) point to a paradigm shift in management thinking, away from control and towards facilitation of organizational activity.

Much of the body of literature dealing with information systems development has been concerned with optimal designs to support people in their supposed work tasks (Baskerville and Land, 2004). Whilst even structured methods involved efforts to engage in finding out user 'requirements' and socio-technical methods went further than this to engage in establishing a trade-off between social and technical requirements, the focus seemed often to be upon 'social acceptability'. The idea was to design systems which users could be persuaded to accept without resistance which would lead to greater 'efficiency' in the organization. Baskerville and Land (2004), in their discussion of socially self-destructing systems, point out the potential of problematic information systems to be inwardly destructive. Both Soft Systems Methodology and socio-technical approaches have been advocated as

means intended to prevent inwardly or outwardly-destructive systems (as described by Williams, 2007) being implemented. Critical theory has been applied at times to analyze the underlying power structures and processes leading to development of destructive systems (Honneth, 1991). However, approaches that would lead to useful and meaningful systems for both the individual actors and their collective expression as 'the organization' have remained elusive. We suggest that approaches based in phenomenology and hermeneutics (critical systemic thinking) may offer opportunities to address this (Nissen, 2007; Whitaker, 2007; Bednar and Welch, 2007b).

In the next section, we explore how histories of organizational change come to be written, by discussion of the concept of emergence in human activity systems.

Organizational change as an aspect of emergence

The discussion above reflects on ways in which organizational change episodes come to be linked to one another through paradoxes "explained" and contradictions "reconciled"? It is interesting to consider what roles interpreters of contradictions and paradoxes play in organizational change dynamics? Are they conceptualized as drivers, consequences or resources? As Argyris points out, organizational discourses often attempt to 'pretend' that everything is planned. Williams work on project failure appears to give an illustration 'skilled incompetence" in play. Weick (2001, p.60) has suggested that organizational design in the 21st century should be understood in the light of a number of dimensions:

1. *Designing is continuously reconstructed;*
2. *Designs produce order through attention;*
3. *Design codifies unplanned change after the fact;*
4. *Designs are relatively transient;*
5. *Designs are small structures that are amplified.*

These can be seen to resonate with earlier points in our discussion. The first, for instance, remind us that relationships are emergent from social interactions, and of Bateson's stricture that relationships are always double described. The second and third dimensions in the list appear to concur with Ciborra's emphasis on a need to escape from the 'appearances' of rational, rather than affective processes, and to engage with the latter. When defining the concept of a system, researchers often refer to emergent properties, i.e. that the whole can be perceived to exhibit qualities that are more than just the sum of the individual components of which the perceived whole is comprised. Checkland (1999) for instance, puts it as follows:

"*The principle that whole entities exhibit properties which are meaningful only when attributed to the whole, not to its parts – e.g. the smell of ammonia. Every model of a* human activity system *exhibits properties as a whole entity which derive from its component activities and their structure, but cannot be reduced to them*" (Checkland, 1999, p.314)

When considering this concept of emergence, it is important to realise that its relevance is demonstrated only in relation to a mental construct of 'system' that a particular observer finds relevant to her purpose at a particular time. 'Systems' have no independent existence beyond the interest of an observer (or collection of observers). In giving consideration to an organizational problem space, different parties will bring their individual, contextually dependent perspectives to bear. An example might be a Board of Directors considering whether to relocate their factory – the problem as framed by the Finance Director, the Marketing Director and the Director of Personnel may

appear entirely different, due to the different contexts of their differing roles. In relation to IS development, Bednar (2007) describes this phenomenon as follows:

"*A problem changes character when its ownership is juggled between different parties (a, b, c). All of these parties can be represented as being members of different 'communities' (or systems). Focus is, with the use of an imaginary triangle, put on different classes of mental constructs. Each significantly influences not only an understanding of a problem space, but also an understanding of a problem character and changing boundaries. An 'analyst', 'client' and 'user' can be different individuals or groups of individuals (but they do not have to be different individuals since they could all be the same person). However, use of different classes of mental constructs might still be supportive in a search for properties of individual emergence (at a composite level)*" (Bednar, 2007, p.29).

Thus, the problem space represented by a perceived need to relocate a factory constitutes a financial problem for one director, an employee relations problem to a second, and a customer service problem to another. However, the system for achieving a decision on relocation is one which is an emergent from the interactions between these differing perspectives. A mental construct of a human activity system as a purposeful integrated whole, emerging from interactions of individuals has an appealing logic. However, it is possible to go beyond this construct to envisage a more complex phenomenon of emergence. Bednar (2007) goes on to make the following observation:

"*Individual emergence in contextual analysis is possibly equal to inquiries into systems organized around processes individuals go through in devising and carrying out efforts to maintain a professional personality. Such an analysis might include representing a recreation of identities within an organizational context. Individuals viewed as open systems are not framed atomic entities. This is true even if they pragmatically might be temporarily presented as a collection of closed systems. Rather, contextual analysis is to be seen as an 'as if' ad hoc creation of closed systems where boundaries are related to chosen contextual dependencies (which might be temporal). Such contextual dependencies are represented as assumptions of networks of interactions relating individuals with there (sic) biological, sociocultural and technological environment*" (Bednar, 2007, p.31)

When a living individual is present in an organizational context, she is there as *herself* with all her attributes derived from life as she lives it (Ciborra, 2002). When attending a meeting, for instance, she does not leave outside the room her existence as a daughter, a wife, a sailing enthusiast, etc. She does not become divorced from her gender, age or ethnicity. All those aspects that comprise her life are present with her. As Bednar points out, individuals can be viewed open systems and thus interactive within many apparently separate systemic constructs. This leads us to conclude that while an organization can be regarded as a system emerging from interactions among individuals, any individual may have emergent properties that are greater than those of the whole. In the same way, small groups within a larger organization may reflect the same phenomenon.

Due to the incidence of double bind and defensive routines outlined above, it is possible to observe a phenomenon that organizational narratives appear to reflect only a form of tri-valued logic, i.e. paradox, paradox explained or paradox reconciled. This can lead to a phenomenon that organizations may exhibit an appearance of being schizophrenic, as actors become entrapped in 'double bind'. In life as it is lived, individual people conduct sense-making processes and interactions making use of multi-valued logic. An individual human being can deal with paradox in everyday life by giving an answer to a question as "Well, yes and no." We frequently decline to give an opinion when

questioned, but answer instead "It depends". When engaging in a process of collective framing of a problem space, groups of people (such as organizational actors) frequently engage in a search for an early consensus. This may be misguided in practice since it involves giving up the opportunity to explore differences in perspective. In view of the issues raised by Weick and by Bednar (above), this may be seen as a missed opportunity to explore potential innovation. Methods for contextual inquiry can support exploration of diversity networks (Bednar, et al 2007). In constructing diversity networks, we deal with reconciliation not of concept but of relationship. Sjostrand (1997) suggests a need for managers to incorporate both rational and irrational thought processes into their decision-making practice. We interpret this to suggest engagement in an acceptance of both affective and rational ways of thinking and to accept the inherent paradoxes of life as it is lived. This is supported by the work of Lindblom (1993) who discusses the way in which managers are often successful in negotiating complex problem situations through a process of 'muddling through' rather than rational planning. Ciborra also highlights similar concepts in his discussion of bricolage (tinkering) and improvisation, in which he draws upon Heidegger's concept of 'Befindlichkeit'.

The next section of the paper gives consideration to the importance of Weltanschauungen in framing our human judgment and knowing processes.

Knowing, judgment and Weltanshauungen

When exploring individual and organizational 'knowledge', we can reflect upon a number of important distinctions. Explicit knowing is that of which the individual is aware. She can by deliberate and reasonable efforts *make it known* (to herself or others), e.g. in speech, in written reports etc. However, there may also be explicit knowing that remains unexpressed. For example, a person may never mention to her work colleagues that she can speak another language, yet she is all the time aware that her knowing of that language is available to her. In an organizational context, where 'knowledge' can represent power, individuals may often not choose to express all the explicit knowing that they hold. The term 'implicit knowing' we use to refer to that of which the individual has limited (or no) conscious awareness. This can be conceptually divided into knowing that is accessible to the individual concerned with some 'effort' and knowing that is tacit, i.e. that of which the individual has no conscious awareness, until some trigger causes awareness to surface.

Discussion of 'knowledge' in its various forms, though interesting, is nevertheless inadequate to the purpose of this discussion since it ignores the living presence of a human being who 'knows'. It is therefore preferable to consider 'knowing' as an on-going process. Knowledge cannot be regarded as a commodity, more or less accessible according to type, because it is embodied in a living being. The relationship between the mind of an individual and 'the World' has been a subject for speculation by philosophers, psychologists and other scholars throughout human history and remains, to a large extent, undefined (Bateson, 2002). Ciborra touches on this point in his discussion of 'practical intelligence' which, for him, transcends the distinction between knowledge that is either explicit or tacit:

"*It is the intelligence of the octopus: flexible, polymorphic, ambiguous, oblique, twisted, circular.*"
(Ciborra, 2002, p.94)

He goes on to point out that human beings find themselves in a complex and changing world and are often faced by forces impossible to fully comprehend (through cognitive strategies) or to control. In these circumstances, it is often better not to face unfolding circumstances head-on, but through '*false moves, wavering behaviour*' and sudden improvisations (p.94). This may be illustrated in the actions of contestants in a Judo match, for example, where human instinctive behaviour (fight or flight) is

modified through learning to use the individual's relation to the strength exhibited by her opponent. The inherent difficulties in reaching for the relationship between mind and World are encapsulated by Bateson (2002, p.85) in the following suggested criteria:

"I propose that the mind-body problem is soluble along lines similar to those here outlined.

The criteria of mind that seem to me to work together to supply this solution are here listed to give the reader a preliminary survey of what is proposed.

1. A mind is an aggregate of interacting parts or components;
2. The interaction between parts of mind is triggered by difference, and difference is a nonsubstantial phenomenon not located in space or time; difference is related to negentropy and entropy rather than to energy.
3. Mental process requires collateral energy.
4. Mental process requires circular (or more complex) chains of determination.
5. In mental process, the effects of difference are to be regarded as transforms (i.e., coded versions) of events which preceded them. The rules of such transformation must be comparatively stable (i.e., more stable than the content) but are themselves subject to transformation.
6. The description and classification of these processes of transformation disclose a hierarchy of logical types immanent in the phenomena.

I shall argue that the phenomena which we call thought, evolution, ecology, life, learning, and the like occur only in systems that satisfy these criteria."

Human judgment has often been considered in terms of a cognitive domain in which evidence can be assessed, problem situations defined and analysed, and plans made for action to resolve these situations. Many models for rational judgment have been put forward on this basis, e.g. Simon's models of the decision-making process (e.g. Simon, 1976), models put forward for strategic planning in business (e.g. Porter, 1985) and for developing information systems (see e.g. Avison and Fitzgerald, 2003). However, many researchers have recognised that rationality can often be called into question in relation to aspects of human behaviour. Simon, for instance, developed a theory of 'bounded rationality' (Simon, 1991) in which he pointed out that individuals, though essentially rational in their relationships with the World, are also often emotional and irrational in particular circumstances. Claudio Ciborra gave a great deal of attention to these questions in his discussion of *Bricolage* (improvisation) in the context of design and decision-taking. Many descriptions of improvisation are grounded in a model of rational behaviour – it is seen as a cognitive process of purposeful action, which exploits tacit knowledge to respond to emerging situations through on-going and rapid feedback (Ciborra, 2004). The temporal dimension is thus emphasised as a distinguishing feature of improvised solutions. As Ciborra notes, in artificial intelligence based on representations and symbol processing, improvisation is supported by routines that continually re-describe the problem space in the light of external stimuli. Again, the temporal dimension is highlighted (2004, p.31). Weick (1998) and Bednar (2000) criticize assumptions that temporal constraints lead to improvisation by pointing out that a need for rapid action might well drive a person to draw upon recognised and familiar routines, rather than tacit knowledge and improvisation. The choice of routine may, of course, be an instance of improvisation in its own right. Ciborra (2004) goes on to point out that the word 'extemporise' is often used as synonymous with 'improvise' in relation, for instance, to music. This term literally means 'outside of time' – the temporal dimension is not stressed, but the role of tacit knowledge and ability to deal with emergent circumstances (the playing of others, the reactions of an audience) comes to the fore instead. We can reflect here that although emphasis of a temporal dimension might be misleading, as Ciborra points out, nevertheless, feeling (like knowing)

is an on-going experience through time. For Ciborra, distinguishing between explicit and tacit knowledge, or even embodied knowledge (Suchman, 1987) is not enough. Without putting affectedness, or mood, at the centre of the discussion, key dimension is missing.

"Moods are the uncontrollable, changing skies of the otherwise flat world of cognition and action, whether planned or situated."

"… affectedness discloses the world in an intrinsically social way as a threat, as boring, or as exciting. It sets the stage for shaping the problem's definition, solution, design and action" (Ciborra, 2004, p.32)

Human judgment is bounded by the extent of our sense-making processes and the limits of our perception. For example, we only operate in four dimensions, although many more can be conceptualised (see e.g. Byanton, 2006). Human senses have limitations defined by our physiology, e.g. dogs hear sounds outside our frequency range; light beyond the limits of a defined spectrum cannot be directly perceived by human sight. We often speak of a 'sixth sense' by which we mean that some people appear to have perceptions beyond the normal human range that we cannot currently explain. It is recorded that some people develop capabilities not normally accessible to human beings, e.g. to waggle the ears or flex the first finger joint independently. Whatever the limits may constrain an individual's awareness of 'the World', conscious reflection and description do not automatically follow from awareness. In human behaviour, a meta-level representing development of language must intervene (Wittgenstein, 1958). This may happen as a result of normal maturation/learning in childhood or may be created in a purposive way, e.g. through communities of practice in particular disciplines or activities. Mentoring and collective reflection have a role to play in emergence of language in either case.

A crucial component in our interactions with the World around us is represented in the concept of Weltanschauung (loosely translated as *worldview*). Checkland (1981), drawing on earlier work of Churchman (1968) and Vickers (1970), points out that in an inquiry into a problem situation it is important to question the nature of the problem itself. This can only be determined by application of human judgment and any such judgment will reflect the particular perspective of the person who is engaged in inquiry. Thus, if a number of stakeholders are involved in a problem situation, their views about the problem will be likely to differ. Many investigations grounded in a Logical Empiricist paradigm make attempts to adopt an 'objective' stance. Vickers warns us of the pitfalls of such a position, however:

"Science has vastly helped to order and extend our appreciated world but it has not led us out of it into an 'objective' world, independent of all human viewpoints and values. It too has its viewpoints and its values. They can usually be taken for granted but they should not be forgotten. They are indeed a major contribution to our appreciative system" (Vickers, 1970, p. 104)

Gregory Bateson (2002) also placed emphasis on perspective, in his discussion of epistemology:

"… epistemology is always and inevitably personal. The point of the probe is always in the heart of the explorer: What is **my** *answer to the question of the nature of knowing? I surrender to the belief that my knowing is a small part of a wider integrated knowing that knits the entire biosphere or creation"* (2002, p.82).

Processes of human sense-making (knowing) are continuous, on-going and reflective. However, it has been suggested that the concept of a 'thought' always relates to something which is past – a snapshot

taken from the continual flow of thinking in which an individual is immersed (Bohm, 1991). Our very immersion may constitute a barrier to reflection and hence to learning. As Langefors' Infological Equation reminds us, it is important to realize that even the same stakeholders will be unlikely to express the same ideas and perspectives at all times and in all circumstances – human sense-making processes lead us to change our views over time (Langefors, 1966; Nissen, et al, 2007). The concept of Weltanschauung may be helpful to us as we attempt to exercise human judgment. We need to find ways to explore our own perspectives and motivations, bearing in mind the importance of 'mood' highlighted by Ciborra. We suggest that an alternative expression for the concept of Weltanschauung might be 'adjusted judgment'. As we continually adjust our judgment through reflection, we may move from first order learning (reflecting upon epistemic uncertainty in a problem situation) to second order learning in which we attempt to reflect upon the process(es) by which we accomplish our first order learning (Bateson, 1972). However, in a context of immersion in a flow of continual experience, it may be difficult for human individuals to surface their own Weltanschauungen and learning. Such problems may be exacerbated by situatedness in which we do not act alone, but become immersed in processes of co-creation of adjusted judgment(s) with others. For example, anecdotally, individual members of The Beatles often spoke wistfully of the time when they collaborated as a team and understood one another's needs and wishes in collectively extemporising. After the (acrimonious) break-up of the band, none was able to capture again in other contexts the dynamics of co-creation that had subsisted between them. Individually, we often experience a state of immersion as a near-meditative state when we are engaged in e.g. dance, sport, playing music, musing on life … It is not easy to surface the experiences and learning subsumed in such dreamlike states of mind. Such experiences do, we suggest, impact on our Weltanschauungen and consequently on the boundary choices, and investment choices, we make during our purposive activities.

Conclusions

It is our view that organizations subsist through emergence from interactions among individual people who occupy particular roles and are charged with particular contextual tasks. Even in relatively modest organizations, the resultant complexities of interactions lead inevitably to situations that can be perceived as paradoxical. One such paradox can be identified in the desire by key stakeholders to establish control over organizational practice, particularly in relation to deployment of resources. At the same time, seeking for a sustainable competitive position delivering profit/surplus requires encouragement of innovation and this requires empowerment of actors engaged in organizational activities to exercise their initiative and creativity, individually and in groups. Ciborra (2000) has drawn attention to the dynamics of this particular paradox.

As critical systemic thinkers, we seek understanding of the emergent properties of human activity systems such as business organizations and wish to highlight potential for beneficial change. We argue that it is desirable to promote the establishment of productive learning spirals in relation to organizational practice, in order to bring about positive organizational dynamics and thus long-term sustainability and prosperity. However, it has been observed by a number of researchers that strategic projects in organizations often fail to deliver their desired benefits. This, we argue, may be due to a double bind in which individuals and groups become entrapped, in which they espouse rationality in decision-making and practice and are inhibited from re-examining the underlying validity of such approaches when benefits

are not forthcoming. We argue that inherent paradoxes in approaches to management and evaluation in organizations may tend to exacerbate such entrapment. We agree with Ciborra (2002) when he points to a need for exercise of practical intelligence, and we note that a beneficial creative tension may arise in many differing contexts in business. Sometimes innovation can arise through collaboration, at other times it is spurred on by competition. However, in all these differing circumstances, a synergy arises through interactions of individual human actors whose Weltanschauungen and 'knowing' are unique to them. These individuals need to be empowered to interact in a context in which *mood*, as well as rationality, combine to create productive learning spirals.

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