56   A DIFFERENT VIEW OF LEARNING AND KNOWLEDGE CREATION IN COLLABORATIVE NETWORKS

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This conceptual paper considers in some detail Nonaka's Dynamic Theory of Knowledge Creation. Especially the concept of Ba or Basho is explored to figure out its applicability as an alternative view of learning in Collaborative Networked Organisations (CNOs). To that end its grounding in East-Asian thinking is further analysed, and some similarities and differences with Chaordic Systems Thinking (CST) – are described. It is concluded that Nonaka's theory can support learning in CNOs, and that it might be regarded an early, alternative view of CST.

1. INTRODUCTION

Chaordic Systems Thinking (CST) is a qualitative approach to both organisation and management, which is grounded in the Chaos and Complexity (C&C) lens (Van Eijnatten, 2003). CST is all but new in the absolute sense of the word. It rather 'integrates' existing concepts, methods, and approaches from several authors to provide a consistent C&C framework for learning (Van Eijnatten & Putnik, eds., 2004), that may be used as a toolkit for both the design and explanation of the functioning of Collaborative Networked Organisations (CNOs).

Collaborative Networks (CNs) as complex, dynamical networks of Virtual Enterprises (VEs) might provide new challenges for flexibility, quality and speed in 21st-century business ecosystems (Miles & Snow, 1984/ 86; Camarinha-Matos, 2004; Putnik et al., 2005). Theoretically, CNs might gain from a C&C approach. In an earlier paper CST for CNOs was introduced, and some basic C&C concepts were presented: Discontinuous, fractal growth; and the emergence of real novelty (Van Eijnatten, 2005). In that paper we have proposed a chaordic view of CNOs, in which the basic reconfiguration process of a dynamic virtual organisation or CNO network is seen as routine, continuous change, and in which creative processes taking place within the virtual organisations' Market of Resources (MR) – or 'breeding environment' as MR- like environment (Cunha & Putnik, 2005) – are seen as incidences of nonroutine, discontinuous, leap-like changes (Van Eijnatten, 2005). It was suggested that in an effective organisational approach to CNOs both routine and nonroutine developments might be smoothly balanced with one another in order to keep flexibil-

ity, creativity, and competitiveness at acceptable high levels, not only occasionally but constantly.

In this paper a well-developed Japanese approach is presented – Nonaka's (1994) 'Dynamic Theory of Organisational Knowledge Creation', and its revision by Nonaka & Toyama (2003) – with the explicit goal to research its applicability as an alternative view of learning in CNOs. Taking into account the specific oriental context, similarities and differences between Nonaka's theory and CST are distinguished.

2. THE CONCEPT OF BA OR BASHO

Nonaka's 'Dynamic Theory of Knowledge Creation' is solidly based in Japanese Thinking. According to Robert Chia (1998: p. 2) Eastern thought stresses the inherent inadequacies of language and rational analysis for describing natural and social phenomena. Instead, direct knowing is highly recommended, see *Box 1*.

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Box 1 – Some basic characteristics of East-Asian thinking

Sources: Nonaka &Takeuchi (1995), pp. 27-32;
Chia (2002), pp. 4-24; Yuasa (1987), p. 68

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The following nine aspects are some fundamental characteristics of Oriental Thinking:

1. Holistic approach (unity of humanity and nature; no separation of self and nature; perception is orientation towards objects that are subtle, but, at the same time visible and concrete).
2. Non-separability of body and mind (Non-Dualism; no Cartesian Split; entire personality).
3. Co-emergence of self and other (collective and organic view of human relationships; you and I are two sides of the same coin; individual self is a secondary phenomenon, not a primary unity of reality; goal in life is existing among others harmoniously as a collective self).
4. Primacy of pure experience (knowledge, feeling and volition remain undifferentiated; direct unmediated understanding through the ongoing perfecting of action; immediacy of lived experience).
5. Primacy of acting instead of cognising (acting intuition; emphasing performative action as bodily experience).
6. Correlative instead of linear-causal thinking (iterative movement, change, and transformation instead of stasis, form and permanence; urging the harmonising of internal wills through concrete-existential engagement rather than external causal relations).
7. Language and written documentation are secondary (knowing is achieved directly through the immediate engagement of tasks rather than through the acquisition of linguistic signs and symbols; perform instead of explain; words are used only as pointers; actions speak louder than words; perfect truth cannot be expressed in words).
8. Progenerative emptiness/ absolute nothingness/ concrescence (Concrete Existentialism; grasping the absolute in a primitive state of pure unself-conscious experiencing; pure experience is prior to consciousness and words; fact from pure experience).
9. Flexible view of time and space (time is seen as a continuous flow of a permanently updated 'present'; ultimate reality is confined to 'here and now'; space is free from a fixed perspective; no fixed view- or standpoint).

Ikujiro Nonaka stresses interaction as a primary condition for knowledge creation (Nonaka, 1991). He interprets knowledge creation as a dynamic, iterative, spiraling process from, what Michael Polanyi (1967) has called, 'tacit' into explicit knowledge, and back again. The core concept in Nonaka's theory is a central time and place where information is interpreted through interacting individuals in order to become knowledge, which he indicates with the Japanese term 'Ba'. This concept was

originally proposed by Kitarō Nishida, Japan's foremost theoretical philosopher of the twentieth century, and co-founder of the Kyoto school, in 1911 (Nishida, 1921; Shimizu, 1995). Based on Zen learning, he developed the Buddhist notion of 'Pure Experience' or 'Absolute Nothingness' which is both active and prior to awareness (Chia, 1998, p. 14). The individual self is secondary. According to Nishida, facts can only be acquired from direct, on-the-spot, personal experience. Nishida (1970: pp. 61-41, 68, 80-84) distinguished three concentric fields or 'Bashos' in his 'logic of judgment' (as summarized by Chia, 1998: pp. 14-15). The following summing-up was further edited by the authors of this paper:

- Basho of Being: Empirical judgments are made unreflectively (i.e., the observing self is ignored).
- Basho of Relative Nothingness: Existential judgments (self-consciousness of the self; self as acting intuition).
- Basho of Absolute Nothingness (or Tao): Purified experience (direct knowing by pure experience of the complexity of the ultimate reality, in which all distinctions – like subject/ object – converge). Progenerative field of primordial knowing, prior to consciousness and words.

Nonaka adapted Nishida's notion of Basho to fit his Dynamic Theory of Knowledge Creation. Nonaka and associates define Ba as a "fertile ground" (Nonaka & Nishiguchi, 2001: p. 3), as a spontaneous or man-built "context that harbors meaning" (Nonaka et al., 2001: p. 19), as a background for learning, as a "platform where knowledge is created, shared, and exploited" (Nonaka et al., 2001: p. 19). Ba is "a shared context in cognition and action" (Nonaka et al., 2000b: p. 8); "Ba is fluid, and can be born and disappear quickly" (Nonaka et al., 2000b: p. 8); "Ba has a 'here and now' quality" (Nonaka et al., 2000a: p. 15). According to Nonaka & Nishigushi (2001: p. 4): "Ba is a shared time and space for emerging relationships – either physical, virtual, or mental – shared by two or more individuals or organisations." Ba (Basho) is defined as a holonic concept:

"Ba exists at many levels and these levels may be connected to form a greater Ba (known as Basho). The self is embraced by the collective when an individual enters the Ba of teams. Just as the Ba for individuals is the team, the organisation in turn is the Ba for the teams. Finally, the market environment is the Ba for the organisation. Ba is of fundamen-tal importance for knowledge creation, and this creative process is amplified when these Ba conjoin to form a Basho."

Nonaka & Konno (1998: p. 41)

A firm is a dynamic configuration of 'Ba' (Nonaka et al., 2000b: p. 8). Nonaka and associates distinguish between four types of Ba (Nonaka & Konno, 1998: p. 46; Nonaka et al., 2000b: p. 10; Nonaka et al., 2001: pp. 20-21):

- Originating or Primary Ba: Subjective, ontological, existential field. Physical world, time and space of day-to-day social interaction where individuals share feelings, emotions, experiences, and mental models (tacit knowledge). Central characteristics: Physical, individual (face- to- face), context for socialisation, empathising.
- Dialoguing or Interacting Ba: Collective, reflective field. Physical world, conscious-ly constructed time and space of interaction where mental models (tacit knowledge) are shared, and analyzed. The space is man-made, for instance by careful selection of

heterogeneous team members. Basic characteristics: Physical, collective (peer-to-peer), context for externalisation, articulating.

- Systematising or Cyber Ba: Collective, interactive field. Virtual world, cyber space where combination of new and existing explicit knowledge take place in collabora-tive networks. Essential characteristics: Virtual, collective (group-to-group), context for combination, connecting.
- Exercising Ba: Subjective, synthetic field. Physical world, consciously constructed time and space of interaction where explicit knowledge is internalized by on-the-job training and participation. Main characteristics: Physical, individual (on-the-site), explicit, context for internalisation, embodying.

Recently, Ba was reconceptualized as "a shared context in motion, which can tran-scend time, space, and organisational boundaries to create knowledge" (Nonaka & Toyama, 2003: p. 2). "Ba should be understood as a multiple interacting mechanism explaining tendencies for interactions that occur at a specific time and space" (Nona-ka & Toyama, 2003: p. 6). "Thus Ba is a continuously created generative mecha-nism that explains the potentialities and tendencies that either hinder or stimulate knowledge creative activities" (Nonaka & Toyama, 2003: p. 6). Nonaka and Konno (1998) define learning in a rather indirect way:

> "To participate in a Ba means to get involved and transcend one's own limited per-spective or boundary. This exploration is necessary in order to profit from the 'magic synthesis' of rationality and intuition that produces creativity. Within an organisation, then, one can both experience transcendence in Ba and yet remain analytically rational, achieving the best of both worlds."
>
> Nonaka & Konno (1998: p. 41)

This quotation illustrates how well Nonaka's approach fits a C&C approach: Self-transcendence is a key issue. Nevertheless, its source is rather different, and is deep-ly rooted in Oriental thinking, see *Box 1*. Robert Chia (1998: p.1) remarks: "Theory is available in the rich tradition of Eastern thought where Complexity is understood as 'nothingness', absence, decentredness, and 'unspeakability' and where the lan-guage is elliptical, allusory, implicit and immanent."

3. BA/ BASHO AS PLATFORMS FOR LEARNING AND KNOWLEDGE CREATION IN A CNO

We propose the use of Nonaka's theory for the design and explanation of the func-tioning of CNOs, especially with respect to Ba/ Basho for learning and knowledge creation. These environments are shown in *Figure 1*, in an ad-hoc representation of a CNO – as conceptualised by ECOLEAD (2004) – i.e., Mono-Disciplinary Profes-sional Virtual Communities (PVCs) together with a Multi-Disciplinary Virtual Or-ganisation Breeding Environment (VBO), and a number of Dynamic Virtual Organ-isations (DVOs). Such a CNO may provide "a common platform where knowledge is created, shared, and exploited" (Nonaka et al., 2001: p. 19), which is the definition of a 'Ba' or 'Basho'. People who are interacting in the CNO's Basho get involved and transcend their own limited perspectives or boundaries. For an illustration of the CNO's Basho, see the concentric circles in *Figure 1*.
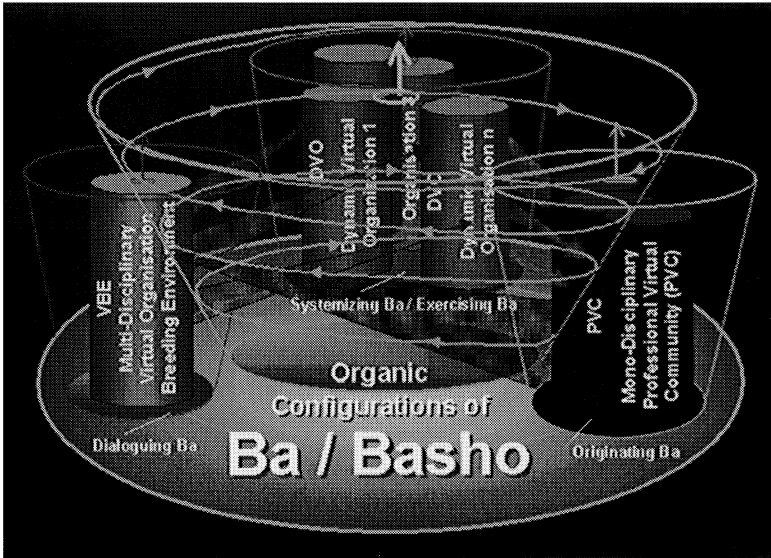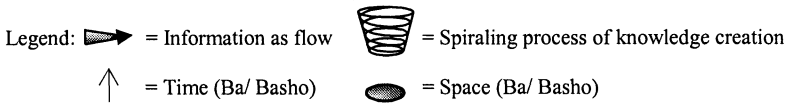
Figure 1 – Environments for learning and knowledge creation, illustrated in an ad-hoc CNO Model (ECOLEAD, ed., 2004)

Legend: ▶ = Information as flow   🌀 = Spiraling process of knowledge creation

↑ = Time (Ba/ Basho)   ⬭ = Space (Ba/ Basho)

We assume that in the PVCs interactions take place in a process called 'socialisation' (conversion from tacit into tacit knowledge). The ideal type of environment is an Originating Ba, or *physical* place, where individuals can share feelings, emotions, experiences, and mental models. Conferences, colloquia, and workshops might provide such a space. In a VBE we assume interactions will result in 'externalisation' (the conversion from tacit into explicit knowledge). The ideal environment for this is a Dialoguing Ba or consciously constructed physical space where mental models (tacit knowledge) are shared, and analyzed. In the DVOs we assume interaction of people will trigger processes of 'combination' and 'internalisation' (conversions from explicit into explicit, and explicit into tacit knowledge). The accompanying ideal types of environments are Systematising and Exercising Ba, partly virtual spaces in collaborative networks, and partly physical spaces, where knowledge is integrated and competencies are trained.

Also at the level of PVC, VBE, and DVO, within the three individual CNO pillars, learning and knowledge creation might take place, see the cones in *Figure 1*. Individual learning is taking place by self-organising, communicative interaction of the people who participate within the three individual, by ECOLEAD (2004) defined, CNO pillars (PVC, VBE, and DVO); organisational learning seems to be happening in the DVOs only; interorganisational learning is likely to occur at the CNO, seen as a whole or holon.

4. CONCLUSIONS AND DISCUSSION

4.1 An alternative view of learning in CNOs

In this paper we have suggested Nonaka's interaction fields as ideal-types of environments for learning in CNOs. But we have to take into account that the basic idea of Ba or Basho stems from a complete different world context, as was shown in *Box 1*. However, a closer inspection of that Box learns that the Eastern mindset shows striking similarities with a C&C approach. For instance, the holistic, non-dualistic method, the correlative thinking, and the flexible view of time and space are also characteristics of CST. Therefore, we think Nonaka's concepts – especially the distinction between physical versus virtual Basho – might be helpful for a better holonic understanding of the complex interplay between individual, organisational and inter-organisational learning in CNOs, and might be regarded as an early, orientally-based view of CST.

4.2 Learning versus knowledge creation: Different viewpoints of the same communicative interactions

As we have seen in the previous paragraphs, Nonaka's theory focuses on knowledge creation (c.f., Nonaka, 1991; Nonaka & Takeuchi, 1995). In CST, learning is put more central (c.f., Van Eijnatten & Putnik, 2004). We think that learning and knowledge creation can be viewed as indications of one and the same communicative interaction process, seen from different angles or perspectives. We second Stacey in defining the process of learning as "the activity of interdependent people, which can only be understood in terms of self-organising communicative interaction and power relating in which identities are potentially transformed" (Stacey, 2003: p. 325). This process of self-organising communicative interaction and power relating might result in both knowledge creation and knowledge destruction as a CNO goes through the different stages of its life cycle.

## 4.3 The possibility of 'real novelty'

Stacey et al. (2000) claim that conventional Systems Thinking basically is unable to create novelty, because – in line with Formative Teleology – the system's ultimate goal already is known in advance (c.f., *Table 1*). Although we concur with Stacey and associates that previous system approaches indeed suffered from a Kantian split, we think that the term 'system' as such is not fully obsolete yet, as long as it is seen as a whole-part or holon. Therefore, a methodological migration was suggested from Open Systems Thinking into Chaordic Systems Thinking (Van Eijnatten, 2000; Van Eijnatten & Hoogerwerf, 2000). We claim that CST will prevent any split between different frameworks of causality. By the identification of the five chaordic properties – conciousness, connectivity, indeterminacy, dissipation, and emergence – we propagate in line with Stacey et al. (2000) the use of a Transformative Teleology. In that sense we speak of organisational renewal or organisational novelty as transformation instead of reformation, the latter we have called improvement, see *Table 1*.

Although Nonaka and Konna (1998: p. 41) also are talking about "transcending one's own limited perspective or boundary", which might be interpreted as a process

leading to novelty, Nishida (1970: p. 80-84) seems to seriously question whether novelty can be 'created' (Tanaka, undated), or that it is just a matter of "pure experiencing the unfolding of a complex reality". Although both path and goal might be unknown in advance, learning takes place by immediate perception or intuition. This issue might be interesting enough to deal with in more detail, in another paper.

Table 1 – Real novelty as contrasted with improvement and renewal

Adapted from Stacey et al. (2000)
Van Eijnatten (2005), further refined on the basis of Van Eijnatten (2003)
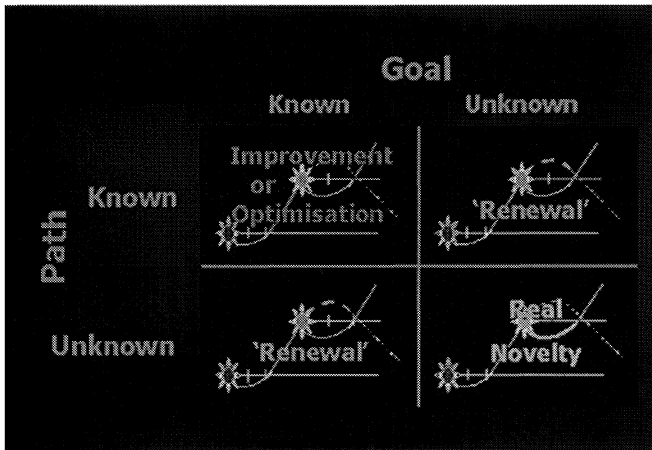
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