looking to Strati's list, or the editors' parts of the book, it lets me look to the possibility of form to delineate the field of organizational aesthetics. Yes, there are a wide variety of topics, but, above all, there is the opportunity for the defining characteristic of the field to be that it reflexively includes aesthetics not just as a topic, but as something to be done. The book shows that, for organizational aesthetics, this is not yet the case. If organizational aesthetics is to be more than just new rhetoric for old academic debates, then it must not only talk aesthetics, but do them as well.

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Ralph D. Stacey: Complex Responsive Processes in Organizations. Learning and Knowledge Creation

2001, London and New York: Routledge. 258 pages.

The main goal of the new book by Stacey is to develop an alternative approach to knowledge management in organizations, an approach different from what he calls 'mainstream system thinking'. The book is part of a new book series edited by Stacey, Griffin and Shaw on *Complexity and Emergence in Organizations*.

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Stacey describes system thinking as being based a cognitivist theory that analyzes individuals as processors of information. Given limited capacity to process information, individuals rely on representations of an outer pregiven (but possibly changing) selection environment. Learning takes place through a negative feedback mechanism of adaptation through trial-and-error. Knowledge creation in system thinking is described by distinguishing between the individual level and the social level. In short, tacit knowledge resides in individuals and can become available to other individuals through the system of language or through a process of imitation. In both cases, there is a notion of sender–receiver that describes interaction solely in terms of exchange of information bases on tacit knowledge already residing in the individual. Knowledge creation is thus not really explained, as new knowledge does not arise from interaction between individuals. Accordingly, the central problem in mainstream knowledge

management is how the tacit knowledge already residing in individuals can be put to use in achieving an organization's goals.

The main purpose of Stacey's review of mainstream system thinking is to contrast these approaches to his own alternative approach, so it is clearly more interesting to go immediately into his theory of 'complex responsive processes'. In my reading, his approach hangs on two central theses. First, the distinction between the individual and the social is judged as being unhelpful, because only through communicative interaction is meaning produced. Second, the distinction between a system and its environment is also unhelpful, because the goals of an organization cannot be derived from an outer selection environment, as goals are also constructed and negotiated within the process of communicative interaction.

Stacey's approach provides a welcome alternative perspective on the theory and tools of knowledge management. Concerning the theory of knowledge management, Stacey argues that the creation of new knowledge, and thereby the process of organizational change itself, is to be viewed as a self-organized process of communicative interaction between individuals in the organization. From this, it follows that organizational change cannot be designed by formulating new goals and designing paths on how to arrive at these goals. It is during the self-organizing processes among individuals that new goals are formulated and new knowledge is created to achieve these goals. For this reason, knowledge management should start from facilitating conversation about what people are doing at present, rather than discussing what goals should be met in a yet unknown future of the organization. This thesis is further illustrated by a few examples from Stacey's own practice.

The analysis of knowledge creation as a social process of communicative interaction cannot really be ascribed to Stacey. A whole literature on social constructivism from the last twenty years — a literature that is surprisingly little used — is available from social studies of science and technology. The main novelty and contribution of this book is more Stacey's attempt to integrate the perspective of communicative interaction with complexity theory developed in the natural sciences.

Stacey develops his thesis by drawing an analogy between knowledge creation and self-organization in natural systems. Models of natural self-organization simulate the development and reproduction of living entities as an ongoing process of interaction between elements 'at the edge of chaos' (for example, the way genes interact in a Boolean regulatory network). Edge-of-chaos means that, when network structures are neither too rigid (to allow for novelty to emerge) nor too responsive (to prevent decay), they are able to reproduce themselves. Stability and change must be balanced, as happens in loosely coupled systems, where most changes in interaction will not cause the system to leave its present attractor, but some will move it to a new attractor.

Analogously, most communicative interaction amongst people takes place within a common interpretative framework (or what Stacey calls a 'theme'). However, when the communication network moves from one framework

(attractor) to another one (new attractor), the possibility of misunderstanding allows for a radical change in theme. This perspective also highlights the fact that a large majority of communications take place in groups that share a common interpretative frame, thus ensuring stability of meaning. In contrast, cross-departmental communication often leads to misunderstanding, and, in some instances, to new meanings (knowledge creation). This perspective suggests that radical change in organizations towards a new coherent set of practices does not necessarily require steering by management, but can emerge from communicative interactions.

Though the book offers a coherent alternative to system thinking by substituting self-organizing communicative processes instead of evolutionary adaptation, it fails to elaborate these self-organization processes of communicative interaction systematically, in an analytical fashion. This is perhaps the main weakness of the book. Analogies are made in quite a loose sense, which at times obscures the type of self-organizing processes that Stacey has in mind. For example, to use the analogy of an organization that navigates an NK-fitness landscape *à la* Kauffman would fit naturally into the mainstream system thinking that he criticizes, but Stacey is very careful not to use it. Dan Levinthal and others have shown that organizational change on a NK-fitness landscape is consonant with adaptive learning to an outer environment (e.g. consumers). By the same token, Stacey elaborates at length on Kauffman's concept of 'patch' (see, pp. 177–180), which he considers to fit his approach of communicative interaction. Kauffman, on the other hand, uses patches to model decentralized trial-and-error learning on a NK-fitness landscape.

The self-organization analogy in understanding change through communicative interaction is indeed powerful. Systematic elaboration of the analogy into self-organization models of organizational change will prove more difficult, as is evident from earlier attempts. For example, there are very few successful examples of analytical models of Luhmann's autopoiesis theory of communication. Clearly, Stacey's book provides a large number of theoretical building blocks that may prove of great use in this future endeavour. However, as long as studies in organization remain incapable of developing the concept of self-organization into their own more specified models, the implications of self-organization for strategic (knowledge) management can only be derived intuitively.

Book Notes

Joel A. Baum (ed.): Companion to Organizations

2002, Oxford: Blackwell. 957 pages.

Here is another 957-page handbook of organization, this time edited by Joel Baum. In creating this *Companion,* the editor's aim was to provide a com-