

Long Range Planning 37 (2004) 549-568

Playing Seriously with Strategy

Johan Roos, Bart Victor and Matt Statler

This article details two cycles of interventions and reflection in various executive development contexts led by the authors as facilitator/consultants. Their hunch that changing the constraints of strategy processes would also change the content generated was tested by changing the typical mode of work to that of 'serious play' and modifying the usual medium from verbal, computer and two-dimensional text and graphic by the introduction of 3-D media (LEGO bricks). The authors examine the potential for using serious play in the particular organizational challenge of making strategy, and highlight the capacity of 'action research' to contribute simultaneously to both academic understanding and practical value.

© 2004 Elsevier Ltd. All rights reserved

Introduction

This paper addresses the relationship between strategy content and strategy process in general, and the relationship between process constraints and content outcomes in particular. By 'process' we mean the sequence of events and activities through which 'conversations' about strategy in firms unfold over the time. By 'constraints' we mean the implicit and explicit restrictions on, and frames around, such conversations. Our basic hunch, firmly grounded in our experience in teaching and coaching managers on strategy-making, researching strategic management processes, and engaging in the practice of strategy-making ourselves, is that *if the constraints of strategy processes are changed, the content generated will also change.* The purpose of this article is to explore and further develop this hunch.

Because our field is still in the early stages of investigating the intricate relationship between strategy process and strategy content,¹ our research in this area is necessarily *exploratory*. Strategy making processes is an elusive object of study. Still, it has certainly been linked both to the conditioning variables that surround it (such as inertia and dominant logic)² and to the stage of development.³ However, questions concerning how these linkages are related, and (perhaps more importantly) which specific process choices might prove most influential on strategy content, are still being posed in our field.

Since we began our research in this area, several studies have come to publication which provide initial empirical support for what appears to be an increasingly shared 'hunch' in the field. We place our study therefore within this growing literature on the connection between strategy process and strategy content: *We are interested in what is actually done, and not done, in people's context-rich*

activity of making strategy, and what comes out of this activity. Our empirical focus is narrower than either Burgleman's epic study of Intel's strategy making or the comparative work of Baden-Fuller and Stopford. However we share these authors' methodological preference for thick description and pragmatic exploration. Our findings furthermore reiterate research observations that the approach to strategy making matters in terms of adaptation and success.⁴ We add to this existing literature an exploration of how variations in the process of strategy making might stand in relation to strategic innovation and adaptation.

In response to the decade-long call to observe strategy processes in action,⁵ our exploratory method falls under the umbrella of *action research*,⁶ a methodological choice consistent with the approach taken by many others in the area. Moreover, in line with the aims of action research, we aspired to develop theory based on *involvement* with organizations rather than from observation only.⁷ Although we have tried to follow its rules, our method is not 'pure' action research (see Appendix for a detailed description of our research method). Our method is also consistent with recent calls for strategy researchers to realize that we cannot gain an insider's perspective alone by being '...project managers, skilled negotiators, trainers, co-workers and collaborators as well as writers, methodologists, analysts and theorists.'⁸

Our research began in early 1997 with initial conversations between the two first authors about designing and delivering a specific in-company executive education program, and ended with an overall reflection phase in 2003 during which the third author questioned our early findings and inferences, added to the conceptualisation, and made connections with existing literature. We engaged in two sets of interventions in firms (1997-1999) followed by subsequent reflection on our observations. The interventions were straightforward: among the many various ways in which strategy processes might be constrained, we intentionally changed the strategy process on two levels of analysis — *medium* and *mode* — and observed what happened in terms of content.

The following sections present accounts of both of these interventions and of the concepts and literature streams we used to make sense of our observations. In closing, we highlight opportunities for future research on how changes in mode and medium constraints might transform the practice of strategy making itself.

strategy-makers typically engage in cognitive activities ... 'thinking', 'analysing', and 'assessing' ... sitting in chairs around tables with occasional trips to flip chart or projector.

Preparing for intervention

Levels of analysis

The ways in which mode and media act as constraints on the strategy-making process are illustrated in Figure 1.

With respect to the *medium* of strategy-making, our experience suggests that strategy-makers typically engage in conversations that lead to outputs in the form of documents. These conversations often utilize visual media (e.g. flipcharts, overheads, slides, etc.) and data are additionally represented and communicated using some form of electronic media (e.g. spreadsheets, PowerPoint presentations, emails, instant messages, etc.) Thus, to the extent that the traditional media of strategy-making include conversations, texts, graphs, and numbers, we have sought to understand how these media might function as constraints on the strategy process.

With respect to the *mode*, we refer on one hand to the different dimensions of human experience that are presumed to be relevant to strategy-making. Again, our experience suggests that strategy-makers typically engage in such cognitive activities as 'thinking', 'analysing', and 'assessing.' Their considerations are data-driven, and they typically sit in chairs gathered around tables, mainly sitting

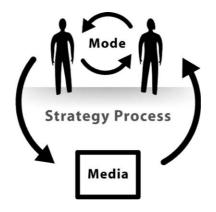


Figure 1. Mode and media constraints on strategy process

still, with occasional trips to the flip chart or PC (projector). Thus, while social and emotional modes of experience are involved in strategy processes, in general they are suppressed in favour of cognitive elements. In this research, we assume that cognitive, social and emotional variables are all relevant to the strategy-making, and we refer to the integration of these various dimensions of experience as a particular *mode* constraint on the strategy process.

In another respect, we consider *mode* in terms of the character of the intention with which strategy is made. In particular, we are inspired by the distinction that has been made between 'deliberate' and 'emergent' strategy.⁹ Following this distinction, people who lean toward the 'deliberate' school presume a necessary and direct relationship between strategic intent and organizational performance outcomes. By contrast, people who lean more toward the 'emergent' school presuppose instead that strategy emerges over time as a pattern of adaptive behaviours in a dynamic stream of action. We have focused on how these different modes of intentionality might function as constraints on strategy processes. The mode and media constraints on typical strategy process are illustrated in Figure 2.

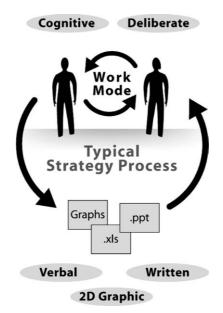


Figure 2. Typical mode and media constraints on strategy process

Preparing changes in mode and medium constraints

One year before the first intervention, the first author had been engaged by the LEGO Company (the Danish-based manufacturer of the famous plastic brick, see *www.lego.com*) to advise and contribute to a new product development project. Through this work he was exposed to the learning theories of *constructivism*¹⁰ and *constructionism*¹¹ which underpinned the company's philosophy and were manifested in its play products.

In 1996, the LEGO Company asked for an executive development program to be designed and delivered and the first author was handed the task of directing this program. Given his recent exposure to the underlying, play-based learning philosophy of the firm it seemed natural to incorporate aspects of play, constructivism and constructionism into this program. The two first authors eventually joined forces to co-direct the program and deliver a number of sessions. Through their reflections about constructivism and constructionism, the idea emerged to encourage participants on this program use LEGO materials *to make and express meaning*. (Interestingly, the corporate director of the program had never imagined the potential of using LEGO materials this way. At the LEGO company, the use of the materials in business meetings had always been limited to having some bricks available for fiddling.) It actually required direct intervention and support by the CEO, who was very enthusiastic about our ideas, to get us a green light to experiment with the LEGO materials in this way.

our gut feeling was that by making sessions 'playful' the dimensions of experience, maybe the intentions of the activity, might change

As strategy researchers, we seized this opportunity to experiment more systematically with both the *medium* constraint (by adding LEGO materials to the usual repertoire of from text, graphs and numbers) and the mode constraint (by changing it from deliberate and uni-dimensional (i.e., cognitive) to an emergent and multi-dimensional (i.e. cognitive, social and emotional)) of the strategy making process, to see how such changes would play out in the program. These changed mode and medium constraints had the immediate de facto effect of making the executive education program seem less like 'work' and more like 'play'. Although the LEGO Company is devoted to serving and enhancing the playful life of children, we did not find that work practices within the organization were more or less 'playful' than in other firms. And yet, play was a term used throughout the corporation, and it carried very positive connotations. This inherent bias may explain why the otherwise reluctant project manager did not object when the term 'play' came up in the conversations about how the program should be designed (We are fully aware that such acceptance might not be the case in other organizations where managers think that play and work are distinct activities, and that the former should remain at home when hard working people go to work.) Based on our partial knowledge about play theories at that time we only had a gut feeling that by making some sessions more 'playful' than others, and explicitly expressing this upfront, the dimensions of experience, and maybe even the nature of the intentions of the activity, might change in some way – especially in light of the concurrent change in media. The experimental strategy process is illustrated in Figure 3.

1st Cycle of action and reflection

The first intervention: playing in executive education

In the first phase of our action research in 1997, we experimented as part of the 8-month executive education program for the LEGO Company. Anticipating more turbulent times ahead, the program placed a particular emphasis on a stimulating a more participatory, future-oriented way of managing the firm, labelled 'compass management'. The firm's senior leadership hoped that the

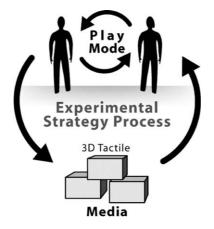


Figure 3. Experimental mode and medium constraints

program would help the most senior level managers (some 350) to think and act differently in the years ahead.

At the outset of each program we told participants that they would have the opportunity throughout the week to use LEGO materials to make and express meaning, whether they were working individually or in groups. In practice this meant that, instead of using slide transparencies or flipcharts to capture and present summary bullets from breakout discussions of cases and company issues, we invited participants to construct and share their ideas or solutions using LEGO bricks. To this end we provided a varied supply of LEGO materials in all group rooms throughout the week.

In addition to this general invitation, we set the expectation that the last day would call more directly for their use of the materials to make and express meaning. Based on what had been discussed during the program, during the last day small groups of participants made sense of the very idea of the new management approach ('compass management') by jointly 'building' a representation of it. The afternoon was dedicated to sharing and discussing the meaning of these constructions in plenary session, with the CEO in attendance. For this session, we provided a wide assortment of material categorized into familiar strategic management categories, like resources, connections, people, dynamics, etc. In addition we experimented with pre-built materials, like bridges, walls, trees, and vehicles, as well as elaborate, branded retail sets like LEGO Pirates, Western and Ninja, as well as with white bricks only. It should be noted that we only *required* all participants to use this material in this last session of the program. Traditional pedagogical tools like white board, flipcharts, and transparencies were available to participants. Over the course of this 8-month intervention, which included eight 5-day programs, we gathered data on how 352 managers used a range of LEGO materials (often for the first time ever) to make and express meaning in the context of serious business conversations.

During the course of the program we observed that managers easily constructed and expressed their opinions about organizational challenges and opportunities using the LEGO medium. The kind of materials employed varied significantly, but we identified some patterns over time, for instance, that materials symbolizing 'connections' and 'people' seemed to be part of all constructions.

We observed (and managers reported) improved participation in the group work in which people used LEGO materials rather than flipcharts and slides as the conversation and presentation medium. During the first 3-4 program offerings, few groups brought back their construction into plenary sessions or used them to share their conversations. This changed over time and by the end of the program groups would spontaneously bring their group constructions into the classroom and expressively explain them.

Participants constructed intricate models of strategic choices and used them (with elaborate stories) to interpret their meaning to others

Participants constructed intricate models of strategic choices in their breakout sessions and, when they were comfortable with this, they also used these constructions in the plenary to interpret their meaning to other participants. In explaining their constructions, they told elaborate stories — often with strong affective dimensions — to account for both the general patterns and the details of the issue at hand. Participants attributed meaning to the colours, sizes, shapes, and metaphors available in the LEGO materials. Some constructions also incorporated a temporal dimension with the consequence that as the story unfolded some parts of the model moved while other parts became detached or were even destroyed.

In the breaks following the sessions in which they had used LEGO materials, the level of interaction was unusually high with more laughter, smiling, and engagement – signalling a very positive affective experience. Moreover, participants reported that they generated new insights during and after the play-based sessions, repeatedly claiming that they had come up with new ideas and/or seen an existing problem in a different way. They frequently used expressions like '*I'd never seen it this way before*,' '*I learned more about my colleagues' view today than during the whole last year*,' and '*this really visualizes [the issue at hand] for me*.' These observations were confirmed by the semi-structured interviews that we conducted between sessions and during informal gatherings throughout the week.

Reflection on the first intervention: from play to serious play

We had intentionally and explicitly changed the constraints of the educational program in two ways: by using LEGO materials (media) and by framing some sessions as 'play' (mode). Although the context was executive education rather than *in vivo* strategy processes, our own observations, combined with what participants reported back, supported our initial hunch, namely that changing the process medium and mode constraints would change the strategy content (of 'compass management'). But how exactly did our reframing of some sessions as 'play' contribute to the generation of new ideas and perspectives reported? How might a better understanding of play help explain the new and/or changed content? To gain further insight into these questions, we consulted the vast literature on play.

At first glance, the incredible diversity of activities referred to as 'play' appeared to be mirrored by the range of diverse theories that seek to explain the purpose and process of the activities themselves. Following the lead of recent theorizing in the field of educational psychology, these varying perspectives can be understood as 'rhetorics', which functions both descriptively and normatively to explain and legitimise certain forms of social and cultural activity.¹² At this general level, contrasting categories of human activity include 'love', 'interpretation', 'meaning-making', 'science', and so on, but in the context of organizational life, the most direct point of contrast is certainly 'work'.¹³ At first glance, this distinction between work and play appears to involve a relationship of mutual exclusivity. Indeed, work and play have been differentiated precisely in terms of the mode of intentionality with which people engage in them.¹⁴ Whereas 'work' involves productive, goal-oriented ('telic') behaviours and activities, 'play', by contrast, involves unproductive behaviours and activities that are pursued as ends in themselves ('autotelic'). On closer inspection however, the literature posits that even though people may not play with the direct intention to produce anything, nevertheless a range of significant benefits can emerge through the activity.

Play has, for example, been shown to develop the capacity for those logical operations and cognitive processes that are the primary means through which individuals interact with the world.¹⁵ This stream of constructivist theory holds moreover that the adult cognitive framework takes form as increasingly complex logical operations are enacted through play activities. An adjacent stream of

research claims that the capacity to understand meaning in culturally-specific contexts is as crucial as the capacity to understand purely logical operations.¹⁶ According to this equally influential perspective, in early childhood humans cannot yet distinguish between the real and the hypothetical, and thus cannot properly be said to have an imagination. The capacity for imagination is developed through play activities, which begin with direct mimicry of adult behaviours (e.g. playing with dolls) that require only the most simple, constitutive rules (e.g. 'do like Mommy does'). As the individual matures, the rules become more overt and complex while the behaviour that is being mimicked becomes ever more covert and hypothetical, requiring ever more imaginative capacity.

Similarly, play has been seen as a process through which individuals become familiar with societal symbols, identify themselves in relation to others, and acquire skills to function effectively in the community.¹⁷ It has been famously argued that play has contributed to the formation of civilization as such, influencing and giving rise to institutions like war, law, art, and philosophy.¹⁸ From a different analytic angle, play has been seen as a metaphor for human communication, to the extent that the rule-based frames imagined in play also serve to organize the individual's experience of society.¹⁹ In this light, it seems fair to say that play develops not only the capacity to understand meaning in contexts, but also to recognize social rules and to act and communicate in accordance with them.

play develops the capacity to understand meaning in contexts, to recognize social rules and to act and communicate in accordance with

them.

As we reflect on these various literature streams, our guiding question is whether mature adults can engage in play with the intent to allow the development or refinement of such capacities to emerge. On this point, Sutton-Smith has argued 1) that the lack of productive requirement makes play *'the primary place for the expression of anything that is humanly imaginable'*, and in turn 2) that precisely because play activities can effectively integrate cognitive, social and emotional dimensions of experience, they allow for the *'potentiation of adaptive variability'* for the social human organism. In other words, even though play activities are in themselves autotelic and without direct productive output, they may nevertheless serve to enable people to imagine new possibilities for society and new ways to bring those possibilities into lived reality.

In view of these streams of research, the association that we observed between the playful mode of activity and the development of new strategy content appears less than purely accidental. Yet while the benefits of play have been recognized by many scholarly disciplines, the direct relevance of play for strategy-making remains somewhat less than clear. Our intervention was not in any way framed as 'frivolous' play, opposed categorically to the productive aims of work. On the contrary, the educational program was a serious, \$1 million undertaking by the firm to stimulate the behavioural change top management judged necessary for future business success. We designed the program so that participants would perceive it to be relevant for their daily work life. Was that still play? How can we grant the autotelic character of play while intentionally seeking its benefits in the context of organizations? We found some preliminary answers to these questions in Platonic philosophy. Figure 4 illustrates our refined understanding of the mode constraint.

In *The Republic*, Plato distinguishes between 'frivolous play' that aims at amusement, and 'serious play' (*spoudaious paidzein*) that is concerned with excellence in education.²⁰ The term 'serious play' refers to the purpose and structure of philosophical dialogue in Platonic philosophy. The 'seriousness' pertains to the truth of the matter under consideration, while the 'play' pertains to the movement of the dialectical method of questioning.²¹ Following Plato's argument, a seriously playful educational process can prepare individuals to contribute to a good society, and leaders to govern wisely. Bourdieu refers to Plato's concept in his analysis of those individuals (such as scholars, artists

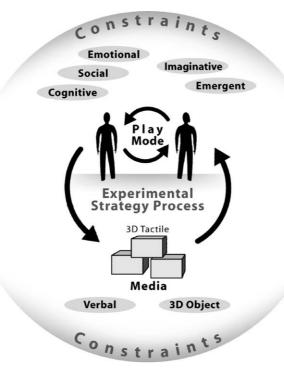


Figure 4. Refined understanding of the mode and media constraints

and clerics) who would seem to be pursuing aims (truth, beauty, divinity) that are ends in themselves, serving no instrumental purpose. He argues that even these individuals exist in a socially instituted situation (in Bourdieu's terminology, a 'habitus') that is structurally comprised of interests and purposive dynamics – and thus, that even the most apparently playful activities are always intentionally oriented within social contexts.²² Our educational intervention seemed to align well with both the form of serious play Plato deemed relevant for the education of leaders as well as with Bourdieu's notion that even apparently purposeless playful activities have serious implications for human social life. Thus, whereas we constrained the educational intervention in the first round of action research as *play*, we could have more appropriately referred to the mode of activity as *serious play*.

even apparently purposeless playful activities have serious implications for human social life.

Inspired by these reflections, we sought at that time to introduce the 'serious play' concept in management studies, developing a model of innovative strategy-making that encourages people to use different kinds of imagination to construct new knowledge, share meaning and transform their identity than is usually the case in organizations.²³ But this initial work was purely theoretical, and we began to consider on an empirical level whether practitioners engaged in strategy-making might benefit from engaging in activities constrained as serious play; that is, a playful mode of activity that 1) incorporates the cognitive, social, and emotional dimensions posited in the literature, and 2) remains intentionally open to emergent outcomes without seeking intentionally to produce them. Indeed, what type of strategy content could be generated if strategy-making processes were simultaneously constrained by the medium of three-dimensional objects and the mode of serious play? Our subsequent phase of action research focused on this question in the context of strategy retreats for three different firms.

2nd Cycle of action and reflection

The second intervention: serious play retreats

The second phase of our action research consisted of a three interventions framed as serious play with different management teams, spanning a period of 18 months (April 1998 – September 1999). As part of carrying out these interventions, we identified three senior executives with whom we could develop a shared agenda with respect to changing the constraints of the strategy-making process in an experimental context. In each of these three cases, which included top-level managers only, the first two authors acted as *facilitator-consultants*.

In the first case, we staged and facilitated a half-day workshop on an unresolved strategic issue that involved the top four executives of a multinational packaging firm. In the second case, the first author served as the external facilitator of an aluminium firm's strategic planning process that involved ten executives and spanned a 7-month period. In the third case, the first two authors convened the entire senior management team (12 people) of a fine chemicals firm for a two-day retreat aimed at developing ideas for how to differentiate their strategy.

Case 1: surfacing absurdity and contradiction

In the first case, the CEO of a major packaging firm had approached the first author for insights about a potentially serious challenge to the company's after-sales technical service business. The CEO had solicited both internal and external assistance to identify and analyse the most important issues. In his view, two camps of opinion had emerged within the company. One group of managers considered the challenge a non-issue unworthy of executive attention because the firm already dominated the industry and the technical support business did not represent a significant part of their revenue or profits. The opposing camp saw many more worrying aspects, which they believed could pose a threat to their customer relationships. They argued that the technical support people had very strong relationships deep inside customer organizations, which arguably played a significant indirect role for repurchasing decisions. Moreover, although the firm's competitive position was solid, the CEO was concerned by the potential threat from small firms to their business system. Although he had not yet made up his mind about a course of action, the CEO believed he had all the facts worth knowing. However, he complained that the process of discussing these matters had become routine, and he jumped at the opportunity to reframe the conversation in a way that might generate new insights and perspectives.

Accordingly, we converted the corporate boardroom into a 'serious play' room containing LEGO materials ranging from loose bricks to pre-packaged retail sets, including some human-sized statues borrowed from the LEGO company. Now bricks in many colours shared the boardroom with the dark oil paintings of the company's founding fathers, and employees passing by the open door stopped in their tracks to stare in silence as the room took shape. In order to familiarize the workshop participants with LEGO materials, we asked each of the four executives to make a small construction (a race car) prior to the meeting and to bring their models along with them.

bricks in many colours shared the boardroom with dark oil paintings of company founding fathers

On the morning of the workshop, as the four participants entered they expressed amazement at the appearance and playful atmosphere of the room. We began the meeting by telling the participants to use the LEGO materials to build a representation of their company in the context of its industry sector, taking care to also represent the competition in their after-sales service business. Despite this intended focus on the downstream part of their value chain, the participants' discussions kept drifting back towards how they viewed their own organization in comparison to competitors. They constructed their company as a well-defended fortress with elaborate yet inflexible, large and expensive connections with the outside world (see Figure 5). Their castle was



Figure 5. Building the competitive threat

full of gold and heavily guarded with canons pointing in all directions. In contrast, the competitor was portrayed as a small pirate nest constituted by a great diversity of people with very flexible connection points.

The conversation eventually focused on the sources of the company's competitive advantage today and in the future, which, in turn, sparked a discussion of their own core competencies. Although they all knew the official line about what these competencies were supposed to be, they did not appear to have a shared view of what they looked like. One participant had placed a sarcophagus (taken from a retail LEGO set of adventures in Egypt) in a larger solid box built of bricks that had been placed within the centre of the fortress. As the conversation continued, he pulled out the larger box from within the group's construction, slowly opened it, pulled out the sarcophagus, blew off the imagined dust, and opened it saying: '*This is our core competency*.' The box was empty.

This dramatic moment shifted participants into an elaborate discussion of the business environment where they explored how different players (manufacturers, customers, retailers, end consumers as well as the firm's numerous subsidiaries) were connected, and the nature of those interrelationships. In their representation of the company in its landscape, the participants had portrayed some connections as straightforward and based on common sense, whereas other connections were seen as ill-defined or even ridiculous. In the process, participants made statements like: '*This is absurd! We have to change this.*' One suggested that the company could form an alliance that would enable collaboration with, rather than competition against, other organizations that were positioned to supplant their after-sales service business. No one had dared to explore such a radical idea in previous strategy conversations.

In summary, the content of the conversation in this case shifted from a focus on understanding how things really are today, to searching for new ideas in order to close known gaps, and finally to focusing on potential flaws in their corporate strategy. The emotional intensity of the conversation about contradictions and absurdities sparked by the model the four had built led the CEO to ask the group: 'Are we just like the dance band on the Titanic, trying to keep spirits high after the ship has hit the iceberg?'

Case 2: keeping the lid on emotions

During a seven-month period in 1997/98 the first author had been coaching the top management team of an aluminium firm on their strategic planning process. All meetings took place in the same room of the same hotel a few kilometres from the corporate headquarters. The whole process was anchored around revisiting the company's previous 5-year plan and followed the conventional activity patterns of strategy-making: working with the team to develop vision and mission

statements; carrying out an exhaustive analysis of the industry (using the Porter five-forces model), their core competencies, and portfolio (using the classical BCG-matrix); delineating strategic issues; making SBU and corporate action plans; and finally developing detailed budgets.

In this second case, the motivation and drive for the strategy-making process was clearly dissipating. The CEO had been running the company for close to twenty years. He was a well-known authority on the industry, but his poor communication skills were equally well-known, and he tended to suppress the emotions and involvement of others. Thus, as the strategy-making process unfolded, members of the management team had gradually increased their dependency on the internal facilitator (a middle-level manager in transit into a new, more senior position at the headquarters) and the external facilitator (the first author). When asked a few months into the planning process, all participants felt that the strategy-meetings had limited value for them. During each coffee and lunch break, all of the participants, including the CEO, were quick to move away from the room and use their mobile phones to *'run the business*,' as one of them said.

As this conventional process reached a critical point, all new ideas had been exhausted and the team was still not happy with the strategy. The first author suggested trying an 'experimental, innovative approach' to revitalize the strategy process. After some discussion about the how much time would be involved and the best place for doing this, the CEO agreed. Accordingly, we organized a 1-day 'serious play' event to take place two months later in a different off-site location.

We divided the executives into two groups of six and instructed them to build a representation of company, as they saw it in the future using the LEGO materials available in the room. The group that included the CEO spent 30 minutes building a representation of the current businesses, carefully representing its relative size on the competitive landscape. Despite an initial 'wow' effect similar to the one that we had previously observed in the packing firm, the *modus operandi* in the aluminium firm did not appear to be significantly different from their own previous strategy meetings. The conversations were heavily steered and directed by the CEO. In the group that did not include the CEO, after an initial discussion without LEGO materials, participants each began to build only their own part of the organization's future, typically something close to their current responsibilities.

Participants reported an unwillingness to be playful (and), continually deferred in their constructions and explanations to the dominant CEO

Participants reported an unwillingness to be playful, which was confirmed by our observation of their closed body language and seeming lack of enthusiasm. They continually deferred in their constructions and explanations of them to the dominant opinions of the CEO. And yet, the LEGO representations did appear to give rise to a lengthy discussion about the company's core attributes, as they had been constructed by the participants, in comparison to the company's official vision, mission, and core value statements. But even as participants began to recognize a certain lack of coherence, the conversation came eventually to focus on what was the 'right' description of their business. Not surprisingly, the view of the CEO prevailed.

Case 3: forming committed relationships

In the third case, the CEO of a fine chemicals business had heard about our early experiments with the other two firms and approached us to help his team come up with new ideas about how to differentiate the firm from its competition. In a commodity business, this task appeared insurmountable to him. The company had been created out of a recent merger that had left them with a large management team and, de facto, two bosses. After an initial meeting between the first two authors and the CEO, the first author interviewed the 12 members of the top management team to validate what the CEO had told us and to gather additional inputs for a strategy retreat. Based on the interview findings we framed the intervention helping them 'describe their business

environments in a way that is easily understood, creating entirely new ways to do business, and challenging conventional thinking and dogma.' We prepared and staged a structured 2-day 'serious play' retreat to surface new ideas to achieve competitive advantage. We helped these managers to categorize potential ideas into product ideas, process ideas, and business system ideas. Participants were instructed to select the 'best' idea and construct in the LEGO medium the most important 'critical success factor' that would bring the idea to life.

Their constructions of critical success factors led to discussions about what approaches work in their industry, and which ones fail. After they discussed the similarities and differences across the models, they returned to discussing how to realize such ideas. Unexpectedly, a heated argument emerged between two participants that suddenly shifted the focus from how to implement their ideas to what made the organization function the way it did. Participants began reflecting on the patterns of their own interactions with each other. Rather than talking about competitive differentiation, they started discussing how the split between their different operations made it difficult for people to work together. They talked about how the merger strategy worked only at the headquarters, but not at the level of their operations, acknowledging that in some parts of the company, the atmosphere was very much one of 'us vs. them'.

As the discussion continued, the participants began to reflect on their current organizing principles, rather than how to implement new ideas in the future. This discussion was emotionally intense and touched on issues where all participants jockeyed to state their view. They gathered as a group around the constructed representation of their firm, leaning forward, interrupting one another to contribute opinions, and exhibiting signs of passionate involvement. Throughout this part of the conversation, they kept referring to potential, more or less realistic changes in their business, how the company would be impacted, and what they should do in case such changes occurred.

They repeatedly reminded themselves and us that these kinds of discussions, which seemed to be all about personal relationships, were not really the intended topic of the day, but they nevertheless kept talking about these aspects until the close of the retreat. Before departing, however, they made a number of promises to each other about how to work better together, and publicly committed themselves to make improvements that would positively impact the organization's capacity to develop and implement strategy.

Reflections on second intervention: serious play mode and 3D media

This set of three interventions allowed us to examine how changes in the medium and mode of strategy process could affect the quality and nature of the content generated, this time in the context of dedicated strategy retreats rather than management education. Furthermore, these cases allow us to speculate in particular about how the medium of LEGO materials and the mode of serious play might provide a beneficial form of constraint on the practice of strategy. Overall, our observations and associated literature supports our initial hunch that changing the medium and mode constraints on strategy processes can lead to changes in strategy content.

Firstly, with regard to the change in the *medium* constraint of strategy-making, we have several reflections. In each of the cases, as participants used the LEGO materials to represent and discuss strategic issues, the organization and the environment, they appeared to generate new insights about these different elements of strategy content. Some people reported insights involving new phenomena (such as the possibility of an alliance in case one while others evidenced the emergence of a new perspective on familiar phenomena (such as new ways of working together in case three). This observation finds support in the line of research on the connection between cognitive and manual activity, including the link between the hand and the brain,²⁴ and between speech and gesture.²⁵ Learning theoreticians such as Harel and Papert have argued furthermore that learning occurs when we literally *manipulate material* in the appropriate context to discover new ways of interacting with the world. If we accept that hand-mind relationship is not simply an evolutionary curiosity, but a vital part of the modern human mind, then it seems likely that the use of LEGO

materials to construct physical representations of ideas, concepts and models of strategy might help strategy-makers to generate new content.

These reflections are further supported by the traditions within psychology and art therapy that use drawing, collage, sculpture, etc. to create *analogues* of internal mental maps.²⁶ Such analogues are effective means by which both conscious and unconscious dimensions can be mediated and brought to the surface of a conversation. Organizational research has begun to build on these psychological traditions and explore the use of visual representations to name and indicate strategic relationships between important entities on a bounded landscape.²⁷

The team became aware of 'absurdities,' signalling a transformative insight with emotional impact for both them and the CEO.

Reflecting secondly on the changes in constraints at the level of the *mode* of activity, the serious play approach appeared capable of integrating the cognitive, social, and emotional dimensions of experience discussed in the literature, and bringing them to bear on the content of the strategy. For example, in case one, the team became aware of what it labelled 'absurdities,' which signalled a transformative insight with emotional impact for both the team and the CEO. This finding is mirrored in recent research on the importance of conceptual irony in organizational metaphors to generate transformational insights.²⁸ Similarly, in case three, as participants began to see the familiar in a new way, the conversation shifted to include expressions of emotionally-charged commitment among the participants. This finding also matches theorizing on the importance of commitment to strategy.²⁹

In case two, where the different dimensions of experience were not effectively integrated due to the dominance of the CEO, the 'serious play' constraint did not seem to have significant impact on the strategy content. The suppressed emotions of the team made it difficult, if not impossible, for participants to uncover new insights and ways of interacting. This finding is consistent with organizational cultural research, which indicates that organizational change is difficult when underlying values are not addressed or transformed.³⁰

These cases also focused our attention on the limits of any modal changes in the strategy making process. Play, as a process, is by definition voluntary. That is, the play mode is one that can be encouraged, enabled and supported, but not forced. In particular, participation in adult play is a choice that must be made by each individual. Absent this choice, a kind of ersatz or false play can emerge. In case one we observed a reticence on the part of at least one participant to engage in this 'serious play': we could certainly understand the risks associated with this novel mode.

The 'playful' mode of intentionality is not in and of itself unusual in organizations. Joking, consequence-free competition, and even rather elaborate gaming are in fact quite common in organizations. Other 'play-like' activities such as scenario planning, budgeting and role-playing are commonly found well embedded in the strategy-making process. And yet, as we have emphasized above, these playful elements are under-emphasized relative to the more deliberate, cognitive modes of action.

During the serious play experiments the play mode was far more present. Not only were the materials playful, there were also unusual play 'rules'. Participants were instructed to interact in very un-work like ways - to take turns, to share, and to collaborate. They were no explicit rules protecting either hierarchical status or organizational territory; nor any pre-specified output evaluation criteria; i.e. no prior knowledge of what would be 'doing a good job.' So it was not unexpected that an executive would enter this process with some trepidation. In case one, the most senior executive (the CEO) intuitively sensed this and immediately role-modelled the play mode. In this experiment (as noted above) we had sent a LEGO car model to each participant prior to the meeting. The first executive to enter the room (a senior marketing VP) brought the box unopened; perhaps unsure or insecure, he did not risk building the model and arriving in the board room with

a 'toy.' When the CEO arrived shortly thereafter, he immediately crouched on the floor, wound up his car's 'motor' and challenged everyone in the room to a race. The frame for play was readily set.

the CEO immediately crouched on the floor, wound up his car's 'motor' and challenged everyone to a race.

In case two, the CEO was also quite public with his playful participation, but unable (or unwilling) to permit the others to follow the play rules on participation and equal sharing. During this case, each participant dutifully went through the motions of serious play; building models, telling stories, etc. However it was only modestly playful, involving a game of 'follow-my-leader'. What was intended to be play became more of what was critical in organizational work in this firm: showing deference to the CEO.

In each of the three interventions we traced a change in strategy content compared to what was intended, as summarized in Table 1. The nature as well as the extent of the change differed in each case. In case one the focus shifted from a potential strategic issue to absurdities of industry logic and the role of top management. In the second case, we set out to continue the strategic planning process and came to focus on inconsistencies between the official description of the firm and its core attributes. Finally, in the third case, an attempt to differentiate the current strategy resulted in conversations about personal interactions among top managers and appropriate organizing principles.

Defining serious play

Based on our reflections on how changing the boundaries of strategy process mode and medium bring about change in strategy content, we are now in a position to contribute to the development of a more coherent theory of *serious play* as a mode of action in organizational contexts.³¹

Recall that play involves an imaginative frame within which experience is somehow different from 'normal' reality. Both the educational sessions and the strategy retreats were notably distinct from their more 'normal' versions. During the first cycle our sessions were the only ones in which participants explicitly used LEGO materials. The strategy retreats during the second cycle were explicitly labelled 'serious play retreats', and their design in terms of mode and medium were far from normal. Moreover, we set rules for the 'play' and 'serious play' respectively by designing and facilitating educational and retreat sessions in a particular way. We did not engage them in 'free play' – instead, we had a structured process that was facilitated and observed.

Still, participants reported that in our interventions they felt more imaginative than in other sessions of the same kind (i.e., in executive education programs and retreats). Specifically, in most of the educational sessions people described their business environment, organization and strategic

Case	Initial Content Focus	Intervention	Emerging Content Focus
1	Potential strategic issue	½ day on-site retreat	Absurdities of industry logic; role of top-management
2	Strategic planning	1 day off-site retreat	Inconsistencies between the official description of the firm and its core attributes constructed
3	Ideas for how to differentiate the strategy	2 day off-site retreat	Nature of personal interactions; difference between what was said and done; organizing principles for today

Table 1. Summary of the changed strategy content

challenges in ways that were both new and often very challenging. The packaging and fine chemicals executives remarked during and after these retreats that they had seen their businesses in a new way, in part by actively co-creating entirely new kinds of information. Although this effect was lesser among the aluminium executives, they also reported feeling more imaginative at the serious play retreat than during the preceding strategy process. In line with previous research that considers imagination as the human capacity to 'see-as',³² the people we observed playing were indeed using their descriptive, creative and challenging imagination to 'see' their organizational and strategic reality 'as' something other than the current reality.

Our early understanding of the concept of serious play was loosely built on the work of Plato and Bourdieu. Our two cycles of interventions seemed indeed to align well both with the dialectical form of play Plato deemed relevant for the education of leaders, and with Bourdieu's attempt to overcome the conventional 'play vs. work' dichotomy by situating all human activity in a habitus that is constituted significantly and irreducibly by intentions (as well as structures). Through these cycles of interventions in four firms we have come to understand this concept more precisely. Specifically, we suggest that serious play is a mode of activity that draws on the imagination, integrates cognitive, social and emotional dimensions of experience and intentionally brings the emergent benefits of play to bear on organizational challenges.

The apparently paradoxical character of the intention to pursue emergent benefits calls for a reevaluation of the clear-cut distinction drawn above between deliberate and emergent strategy. The mode of serious play does not force strategy-makers to choose between a form of deliberate intentionality that seeks through strategy processes to predict and control specific organizational outcomes, and a form of emergent intentionality that seeks through strategy processes to identify patterns in existing streams of action. Instead, the serious play mode provides strategy-makers with a way to create the conditions for the emergence of new ideas and courses of action. Recalling Sutton-Smith's notion of 'adaptive potentiation', we suggest that by constraining the mode of strategy processes as serious play, strategy-makers may intentionally enable the emergence of cognitive, social and emotional outcomes that, in turn, positively influence the strategy content.

constraining the mode as serious play (can) intentionally enable cognitive, social and emotional outcomes that positively influence

strategy

Thus, although the cultivation of adaptive potential was not the explicit intention of the interventions, in each case the *leitmotif* for these executives was to strike a better balance between passively responding to changes in the environment and actively shaping that environment.³³ The 'compass management' educational program was designed to educate and empower participants to take fast decisions further down throughout the LEGO Company management hierarchy. The retreat for the packaging firm was aimed at creating a coherent viewpoint among the leaders about what might turn out to become a significant competitive threat. By unifying their viewpoints the fine chemical executives aspired to overcome hurdles to decisions and actions they needed to become a more flexible and dynamic operation. To the extent that each of these goals requires a more adaptive strategy, we suggest that *serious play can be considered as a process constraint with potentially adaptive content outcomes*. Figure 6 summarizes the resulting integrative model of serious play.

Final reflection

The purpose of this article was to explore, and further develop our hunch that if the constraints of strategy processes are changed, the content generated also changes. Over two cycles of interventions and reflections we changed *both* the typical work mode (cognitive experiences and deliberate

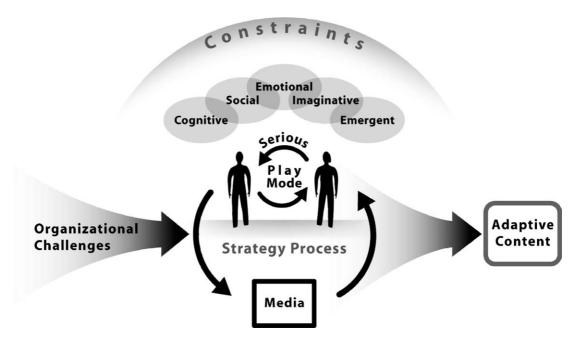


Figure 6. Defining the mode of serious play

intentions) *and* media (two-dimensional, text and computer-based verbal and graphical) into a '*serious play*' mode (cognitive, social, and emotional experiences and emergent intentions) and combined that with three-dimensional, tactile media (LEGO bricks). We applied this change of two constraints (mode and media) to a particular organizational challenge - the activity of making strategy (our object of study). Overall, our study suggest that our initial hunch that changes in strategic making mode and media may also change strategy content may be well justified.

Many questions are obviously left unanswered by our study. Among the questions that remain open for future research is the extent to which the medium constraint of 3-D construction materials, as well as the mode constraint of serious play, can lead to the emergence of innovative, adaptive strategy content. We recognize that our findings can provide only an initial indication of the potential for changing the constraints on strategy processes. At the same time, we are encouraged by the extent to which our findings appear to be coherent with streams of research that run parallel to the strategic management literature. In this light, we would like to highlight opportunities for additional theory development and empirical experimentation.

The first pertains to the *medium of conversations among managers*. While 'analogically mediated inquiry' (AMI) techniques have been used for organizational development interventions,³⁴ and organizational study scholars such as Huff have attempted to 'map strategic thoughts', our use of 3-dimensional construction materials (LEGO bricks) in the field of strategic management seems relatively new.³⁵ We anticipate that more research on the effects of changing the constraints of the strategy medium can contribute to the theoretical and empirical literatures on sense-making, metaphors and dialogue.

The second pertains to the *mode of conversations among managers*. While the potential benefits of play for organizations have long been recognized in the context of creativity, the idea that play can be taken seriously in the context of strategy remains relatively new. Building on our own previous explorations of this concept as well as the definition presented above, we suggest that additional research might follow a series of different paths of inquiry.

Many management scholars argue strategy process research is very difficult.³⁶ We agree. Instead of making an observer-independent, retrospective account of processes conducted after they unfolded, we have tried to make observer-dependent, real-time observations of the events and activities as they unfolded, and without knowing the outcomes in advance.

we tried to make observer-dependent, real-time observations of events as they unfolded without knowing the outcomes in advance.

Even under the best of circumstances and with the best of intentions, action research is not without its limitations and difficulties. Argyris (one of its pioneers) argues that new skills are called to conduct action research but, as Van der Ven points out, few researchers have the time, capability and/or access required to pursue it. We are not sure that we spent enough time, had the capability, or sufficient access, to really comprehend what was unfolding during these interventions. But by affirming the basic tenets of action research and by pursuing iterative cycles of action and reflection,³⁷ we hope our study will both contribute new insights to the topic of this special issue and further legitimise action research in mainstream strategic management studies.

The overall lesson for managers is that if you are striving for innovative strategy content, then start by innovating your strategy process. One way to do this is to ensure that the mode of activity includes multiple dimensions of experience, and keeping an open attitude toward emergent change. Another way to innovate the process is to extend the media currently used by integrating threedimensional objects. Although both the mode and media change are important and interplay, in practice the former is more difficult than the latter. Changing the mode among strategy makers calls for careful design and skilful guidance of a process which, handled well, can stimulate managers to bring hidden insights to the surface and generate entirely new ideas about their firm's situation. If the imagination thus released leads on to the creation of successful new strategies, the effort to complement 'work' with 'serious play' will be money well spent.

Acknowledgements

The authors gratefully acknowledge comments on earlier versions from Anne Huff, Gerry Johnson, David Oliver, Claus Jacobs, Mark Marotto, Peter Bürgi, Charles Baden-Fuller, Michel Gibbert and two anonymous reviewers for LRP.

Appendix

Research methodology

The choice of research method was guided by our desire to assist the organizations we engaged with rather than just observe them. Because our intention was to contribute to the literature *and* to the practices in the firms, and since our interventions were designed to challenge the status quo on strategy process thinking and practice, we selected action research as our research method. This method serves our purposes because it allowed us to work in an organizational context with managers over a matter of genuine concern to them, and thereby intentionally to contribute to more effective action.³⁸

We captured data from four firms over two action research cycles. First, we designed and delivered a five-day educational program at the company's HQs (in Denmark) that was repeated seven times for a total of 256 company managers. The first program was run in August 1997 and the final program run during March 1998. During each program we took notes of our impressions and made semi-structured interviews with as many of the participants that we could. Additionally, before, during and after this period we had a series of meetings with the CEO and the executive acting as the program sponsor. As program co-directors and primary program faculty the first two authors had ample opportunities to review notes and debrief general impressions about their engagements with these managers during these programs. They also spent much time debriefing and discussing these data in-between the programs (facilitated by the fact that their offices at the business school were close to one another).

The second action research cycle unfolded between April 1998 and mid 2000, during which we designed, delivered and reflected on three distinct strategy retreats for the leadership of three large firms. (The three retreats took place in May and August 1998 and April 1999.) Unlike in the first cycle, we were engaged during these three interventions as *facilitator-consultants*, alternating as facilitators to give the other the opportunity to take notes. After each retreat we debriefed and discussed issues surfacing from the data gathered. As in the first cycle, our interaction was enabled by the fact that we spent much time together as colleagues in the same business school. Specifically, in the first case we interviewed the CEO before the retreat and took careful notes during the retreat, which was held in their corporate headquarters, and did a follow up phone interview with the CEO. In the second case, because the first author was already engaged in the firm as a consultant (to coach the strategy process) we had plenty of data about the company, its business environments and strategic issues as well as about the people forming the top management team to be able design a retreat for this firm. In the third case, after an initial meeting with the CEO, we interviewed the entire 12 strong management team about their organization, business landscape, strategic challenges etc., which served as the basis for designing the retreat. During all three retreats we took notes about the process and content issues arising as observed by the first two authors as active participants.

In terms of Schein's typology of research strategies ours was one of a high degree of both researcher and client involvement during both cycles. Although the client initiated the educational program as such in the first cycle, *we as researchers* initiated the project of integrating 3 dimensional materials in a playful process during this program. Likewise, although the first and third case in the second cycle approached us, we initiated the project of using an identical in all three cases. In Schein's terminology, this research strategy can be called 'traditional action research.'

References

- D. Schendel, Introduction to the Summer 1992 Special Issue on Strategy Process Research, Strategic Management Journal 13, 1–4 (1992); D. Schendel, Introduction to the Winter 1992 Special Issue on Fundamental Themes In Strategy Process, Strategic Management Journal 13, 1–3 (1992).
- 2. R. A. Burgleman, *Strategy is destiny: how strategy-making shapes a company's future*, The Free Press, New York (2002); C. K. Prahalad and R. A. Bettis, The dominant logic: a new linkage between diversity and performance, *Strategic Management Journal* 7(6),485–501 (1986).
- 3. C. Baden-Fuller and J. M. Stopford, *Rejuvenating the mature business*, Harvard Business School Press, Cambridge, MA (1994).
- R. A. Burgleman, Strategy as vector and the inertia of coevolutionary lock-in, Administrative Science Quarterly (2002); K. M. Eisenhardt and M. J. Zbaracki, Strategic decision making, Strategic Management Journal 13, 17–37 (1992).
- B. S. Chakravarthy and Y. Doz, Strategy process research: focusing on corporate self-renewal, *Strategic Management Journal* 13, 5–14 (1992); A. H. Van de Ven, Suggestions for studying strategy process: a research note, *Strategic Management Journal* 13, 169–188 (1992).
- 6. D. Schon, *The reflective practitioner: how professionals think in action*, Basic Books, New York (1983). C. Argyris, *Strategy, change, and defensive routines*, Pitman Publishing, Marshfield, MA (1985).
- 7. C. Eden and C. Huxham, Action research for the study of organizations, in S. E. A. Clegg (ed.), *Handbook of Organization Studies*, Sage, Thousand Oaks, 526–580 (1996).
- 8. J. Balogun, A. S. Huff and P. Johnson, Three responses to the methodological challenges of studying strategizing, *Journal of Management Studies* **40**(1),197–224 (2003).
- 9. H. Mintzberg and J. A. Waters, Of strategies, deliberate and emergent, *Strategic Management Journal* 6(3),257-272 (1985).
- 10. J. Piaget, Assimilation et connaissances, Etudes D'epistemologie Genetique V, Presses Universitaires De France, Pairs, 49–108 (1958).
- 11. L. Harel and S. Papert, Constructionism, Ablex Publishing Corporation, Norwood, NJ (1991).
- 12. B. Sutton-Smith, The ambiguity of play, Harvard University Press, Cambridge, MA (1997).
- 13. E. Fink, Grundphänomene des menschlichen daseins, Karl Alber Verlag, Freiburg (1979).
- 14. R. Callois, Man, play and games, Free Press of Glencoe, New York (1961).

- 15. J. Piaget and B. Inhelder, The growth of logical thinking from childhood to adolescence; an essay on the construction of formal operational structures, Basic Books, New York (1958).
- L. S. Vygotsky, Mind in society: the development of higher psychological processes, Harvard University Press, Cambridge, MA (1978).
- 17. M. Mead, Coming of age in Samoa: a psychological study of primitive youth for western civilization, Harper Perennial Press, New York (2001).
- 18. J. Huizenga, Homo ludens: a study of the play element in culture, Beacon Press, Boston (1950).
- 19. E. Goffman, Frame analysis: an essay on the organization of experience, Harper and Row, New York (1974).
- 20. Plato, The Republic of Plato (A.D. Bloom trans.) (2nd Ed.), Basic Books, New York (1991).
- 21. B. Freydberg, The play of the Platonic dialogues, Peter Lang, New York (1997).
- 22. P. Bourdieu, Practical reason: on the theory of action, Stanford University Press, Stanford CA (1998).
- 23. J. Roos and B. Victor, Towards a new model of strategy-making as serious play, *European Management Journal* 17(4),348–355 (1999). This concept has also been elaborated in M. Gibbert, Crafting strategy imaginatively, *University of St. Gallen Ifpm Series 6*. Difo Druck, Bamberg, Germany (2003), while the term 'serious play' has also been used to label the processes through which innovation can occur in the context of product development and prototyping in M. Schrage, *Serious play: how the world's best companies simulate to innovate*, Harvard Business School Press, Boston, Mass. (2000).
- 24. F. Wilson, *The hand: how its use shapes the brain, language, and human culture*, Pantheon Books, New York (1998).
- 25. R. Kraus, How the gesture summons the world, Columbia Magazine Spring Issue, 60-63 (2002).
- 26. N. Edwards, Anglesey in the early middle ages: the archaeological evidence, *Anglesey Antiquarian Society and Field Club Transactions* 19–41 (1986); C. Case and T. Dalley, *The handbook of art therapy*, Routledge, New York (1992).
- A. S. Huff, Mapping strategic thought, John Wiley, Chichester, NY (1990); A. Huff and M. Jenkins, Mapping strategic knowledge, Sage Publications, London (2002); K. E. Weick, Introduction: cartographic myths in organizations, in A. S. Huff, Mapping strategic thought, John Wiley, Chichester NY (1990); D. Barry, Making the invisible visible: using analogically-based methods to surface conscious organizational processes, Organizational Development Journal 12(4) (1994).
- C. Oswick, T. Keenoy and D. Grant, Metaphor and analogical reasoning in organization theory: beyond orthodoxy, *Academy of Management Review* 27(2),294-303 (2002); R. J. Marshak, Metaphor and Analogical Reasoning in Organization Theory: Future Extensions, *Academy of Management Review* 28, 9-10 (2003).
- 29. S. W. Floyd and B. Wooldridge, Managing strategic consensus: the foundation of effective implementation, *Academy of Management* 6, 27–39 (1992); F. R. Wesley, Middle managers and strategy: microdynamics of inclusion, *Strategic Management Journal* 11, 53–71 (1990); M. A. Korsgaard and D. M. Schweiger, Building commitment, attachment, and trust in strategic decision-making teams: the role of procedural justice, *Academy of Management Journal* 38, 60–84 (1995).
- E. Schein, Organizational psychology, Prentice-Hall Inc., Englewood Cliffs, NJ (1980); E. Schein, The three cultures of management: implications for organizational learning, Sloan Management Review 38, 9–20 (1986).
- 31 For more on play as an enabling bound see D. Dougherty and C. H. Takacs, Team Play: Heedful Interrelating as the Boundary for Innovation, *Long Range Planning* Special Issue on Boundaries and Innovation, 37(6), 569–590 (2004); and on boundaries and innovation in general, see M. Boisot and I. C. MacMillan, Crossing Epistemological Boundaries: Managerial and Entrepreneurial Approaches to Knowledge Management, *Long Range Planning* 37(6), 505–524 (2004); S. Karim and W. Mitchell, Innovating Through Acquisition and Internal Development: A Quarter-Century of Boundary Evolution at Johnson & Johnson, *Long Range Planning* 37(6), 525–547 (2004); S. Grand, G. von Krogh, D. Leonard and W. Swap, Resource Allocation Beyond Firm Boundaries: A Multi-Level Model for Open Source Innovation, *Long Range Planning* 37(6), 597–610 (2004).
- 32. R. Kearney, *The wake of imagination: toward a postmodern culture*, University of Minnesota Press, Minneapolis (1988); J. Roos and B. Victor (op cit at Ref 23).
- 33. D. Oliver and J. Roos, *Striking a balance: complexity and knowledge landscapes*, Mcgraw-Hill, Maidenhead (ISBN 0 07709556-1) (2000).
- B. Edwards, Drawing On The Artist, Fireside Books, Within NY (1986); T. Dalley, Art as therapy, in T. Dalley, C. Case, J. Schaverien, F. Weir, D. Halliday, P. Nowell-Hall and D. Waller (eds.), Images of art therapy, Routledge, London, 1–35 (1987).

- 35. P. Bürgi and J. Roos, Images of strategy, European Management Journal 21(1),69-78 (2003).
- 36. A. H. Van de Ven and M. S. Poole, *Research on the management of innovation*, Ballinger, Cambridge, Ma (1989); B.S. Chakravarthy and Y. Doz (op cit at Ref 5).
- D. Coghlan and T. Brannick, *Doing action research in your own organization*, Sage, London (2001).
 P. Reason and B. Hilary, *Handbook of action research: participative inquiry and practice*, Sage, London (2001); E. H. Schein, Clinical inquiry/research, in P. Reason and H. Bradbury (eds.), *Handbook of action research*, Sage, London, 228–237 (2001).
- 38. D. L. Cooperrider and S. Srivastva, Appreciative Inquiry in Organizational Life, in W. Pasmore and R. Woodman (eds.), *Research in organizational change and development* 1, JAI Press, Greenwich Ct, 129–169 (1987); E.H. Schein (op cit at Ref 36) C. Eden and C. Huxham (op cit at Ref 7).

Biographies

Johan Roos is Director of Lausanne-based *Imagination Lab Foundation* (www.imagilab.org). He was previously Professor of Strategy and General Management at the International Institute for Management Development (*IMD*), Switzerland. He has published numerous books and articles on a wide range of general management topics. *Imagination Lab Foundation, Rue Marterey 5, 1005 Lausanne – Switzerland Tel: +41 21 321 55 44 – Fax: +41 21 321 55 45 e-mail: johan@imagilab.org*

Bart Victor is the Cal Turner Professor of Moral Leadership at Vanderbilt University. His research interests include the social and moral consequences of new organizational forms, and the process of strategy making. *Vanderbilt University, 401 21st Avenue, South Nashville, TN 37203 Tel: +1 800 288 6936 Fax: +1 615 343 1175 e-mail: bart.victor@owen.vanderbilt.edu*

Matt Statler is Director of Research at the Imagination Lab Foundation. He gained his PhD in Philosophy from Vanderbilt University, and his current research is focused on how serious play can contribute to the development of practical wisdom in organizations. *e-mail: matt@imagilab.org*