



# Understanding Organizations through Embodied Metaphors

Loizos Heracleous and Claus D. Jacobs

Loizos Heracleous  
Warwick Business  
School, UK

Claus D. Jacobs  
Institute of  
Management,  
University of Stey  
Gallen, Switzerland

## Abstract

We outline the dominant, positivist approach to conceptualizing and researching organizations through multi-level research that views levels as independently existing, hierarchically nested entities, and problematize this view by offering an alternative approach based on embodied realism. We operationalize this approach through a study of three organization development workshops where organizational actors constructed artifacts we label embodied metaphors. We propose that analysis of embodied metaphors can enable access to actors' first-order conceptions of organizational levels and related organizational dimensions and reveals alternative qualities and interrelations among them; can support a clinical approach to organizations; provides a window to organizational, divisional or task identities; and poses substantial challenges to established conceptions of ontology and method in organization theory.

**Keywords:** embodied metaphors, embodied realism, organizational levels

*'The mind is inherently embodied. Thought is mostly unconscious. Abstract concepts are largely metaphorical.'* (Lakoff and Johnson 1999: 3)

One prominent and established perspective for understanding organizations and organizational phenomena has been multi-level research. This positivist approach to organizational levels regards them as a priori, stable constructs whose existence, nature, and legitimate, hierarchically nested interactions are pre-assumed. Individuals make up groups that make up organizations that interact with their environments. This dominant view is underpinned by an ontology of essentialist realism and an epistemology of rationalism, put into practice in nomothetic research programs. While this approach is useful for gaining 'scientific' knowledge (in the manner that science has been conventionally understood in the positivist tradition), it does not provide more substantive, richer insights into first-order actors' perceptions about qualities of their groups, organizations, and environments; and how these entities might be interrelated.

Our purpose is to problematize the dominant view of organizational levels by offering an alternative, inductive way of understanding, that we label an 'embodied metaphors' approach. Related to social constructionism but distinct from it, this approach assumes that we perceive and understand the reality of physically external, independent elements through the way our embodied exis-

Organization  
Studies  
29(01): 45–78  
ISSN 0170–8406  
Copyright © 2008  
SAGE Publications  
(Los Angeles,  
London, New Delhi  
and Singapore)

tence shapes our experiences and perceptions; which then influences how we interpret more abstract entities, as evidenced, for example, by essential orientational and spatial metaphors in our everyday discourse (Johnson 1987; Lakoff and Johnson 1980, 1999).

We operationalize this approach in a study of three organization development workshops where groups of actors were engaged in constructing metaphors in the flesh — physical entities whose target domains were their task, their organization in its business landscape, and the identity of their division. In doing so, they drew on a variety of source domains, and the resulting metaphors produced insights for them, in terms of developing shared views of their target domains, as well as for us as researchers, through a three-stage analytical process involving contextual understanding, within-case analysis and cross-case analysis.

We analyzed grand metaphors and constituent metaphors constructed by these teams, and found that actors' first-order perceptions of organizational dimensions, such as power, importance, relatedness, coherence, belongingness, robustness/duality of relationships, and uniformity, are manifested in particular ways in these embodied metaphors, through the spatial arrangement of physical objects. We propose that analysis of embodied metaphors can enable access to actors' first-order conceptions of organizational levels and related organizational dimensions, and reveals alternative qualities and interrelations among them; can support a clinical approach to organizations; provides a window to organizational, divisional, or task identities; and poses substantial challenges to established conceptions of ontology and method in organization theory. In doing so, the embodied metaphor approach offers a viable, novel alternative to the dominant, positivist paradigm of conceptualizing and researching organizational levels as well as understanding organizations.

### **Analyzing the Machine: The Positivist Conception of Levels of Analysis**

Concerns with levels of analysis have gained visibility and momentum in organization and management research (Klein et al. 1999; Yammarino and Dansereau 2004; Klein and Kozlowski 2000). Initially, multi-level research aimed to bridge the gap between micro and macro approaches to analyzing organizational phenomena (Mossholder and Bedeian 1983; Staw et al. 1981). While the micro-perspective refers to psychological phenomena at an individual or group level, the macro-perspective has been associated with broader institutional or economic aspects such as strategy or environment. Early multi-level research was concerned primarily with formal groupings within an organization's structure and pre-assumed a relative stability of levels pertaining to individuals and groups at the micro-end, and organizations and industries on the macro-end, of the analysis continuum.

Recent contributions to the domain of multi-level research have aimed to transcend traditional views by specifying and explicating levels of analysis as more flexible constructs that may cut across formal groupings (Morgeson and Hoffmann 1999; Waldman and Yammarino 1999; Drazin et al. 1999). Further, sev-

eral researchers have called for a *meso*-level of analysis that aspires to integrate psychological, socio-psychological, and institutional aspects of organizations (Klein and Kozlowski 2000; Rousseau et al. 1998; Rousseau and House 1994).

A key concern of multi-level research has been to avoid serious errors in theory, conceptualization, and analysis of data (Dansereau and Yammarino 2002). In this context, researchers locate the legitimacy of inferences or extrapolations made from lower to higher levels of analysis in statistical aggregation and testing (Rousseau 1985). From this perspective, typical errors would be to use individual-level data to make inferences about group or organizational phenomena, or to use aggregated data to predict individual behavior (Rousseau 1985; Dansereau et al. 1984). To avoid such analytical fallacies, several statistical tests have been developed to measure and account for level effects such as within-group homogeneity (Within and Between Analysis: e.g. Yammarino 1998; Yammarino et al. 1997), relationships at different levels of analysis (Hierarchical Linear Modelling: e.g. Hoffmann 1997; Castro 2002), or the detection of moderating variables (Structural Equation Modelling: e.g. Kline, 1998).

This approach thus suggests that correlations between phenomena at different levels can be established by ensuring methodological consistency in terms of levels of construct, model, sample, and analysis; and that researchers may apply statistical tests to examine and test for potential level effects (Klein and Kozlowski 2000). While this approach has undoubtedly delivered substantial advances in our understanding of levels and organizational functioning, its very conception of levels themselves rests on some fundamental ontological and epistemological assumptions often taken for granted.

Organizations are seen as multi-level phenomena by nature, where their constituent levels that are distinct but interacting exist independently of any observer or researcher, and where these levels and their legitimate interactions are specified a priori by the researcher. This remains the default notion of levels even where analyses cut across formal groupings or typologies. Further, levels of analysis are assumed to be hierarchically nested (e.g. individual as a member of a group that forms part of a department that forms part of an organization that, in turn, is part of an industry). Epistemologically, the method of analysis is equally hierarchically nested and thereby mirrors the earlier ontological assumptions. For instance, the level of a theoretical construct needs to map on the model used, which in turn informs the sampling and ultimately the statistical analysis.

Within this view, organizational phenomena are assumed to operate on more than one level. Hence, the analytical challenge arising is how to make valid inferences across levels. Agreement, or within-group homogeneity, to use the technical term, within a lower level of analysis is a necessary condition for aggregating data to a higher level of analysis. Valid claims about groups, departments, organizations, or industries, or inferences across levels of analysis, are considered valid only when statistically significant correlations between levels of constructs can be established. A statistically unsubstantiated inference from individual to organizational level would be considered a fallacy, or serious mistake.

We propose that this conception of levels, based on a spatial-orientational perspective (levels are distinct but interacting entities that proceed upwards in a

nested hierarchy) is itself made possible by the way our bodies exist in the world and interact with its material make-up (Johnson 1987; Lakoff and Johnson 1999). In accordance with our metaphorical ways of perceiving the world (Lakoff and Johnson 1980) and engaging in social science (Morgan 1980, 1983), the positivist view of levels rests on an underlying metaphorical view of organizations, namely 'organizations are machines' (Morgan 1986). This has now become a taken-for-granted or 'dead' metaphor, where levels are the distinct, stable, interacting parts of the machine, and the task becomes to understand how these parts interact and what effects they produce within the parameters of the machine.

The positivist science perspective within which this view of levels has developed assumes a correspondence theory of truth (there is a one-to-one correspondence between symbols and entities in the world) and a functional view of language (Wittgenstein 1955), and regards metaphor as merely an ornamental, expendable linguistic device that can distort discussion of the 'facts', which should be stated literally so that they are amenable to objective analysis (Pinder and Bourgeois 1982; Tsoukas 1993).

## **Understanding Holistically: Social Constructionist and Embodied Realism Views**

### **A Social Constructionist View**

Whereas the concept of levels of analysis as a priori constructs whose legitimate, hierarchically nested interactions can be pre-assumed finds a natural home in positivist science, it sits uneasily within a social constructionist perspective that gives primacy to actors' first-order interpretations of what are the phenomena of interest and how they should be understood; and recognizes the role of agents and theorists in constructing concepts that are, in time, institutionalized and established as solid truths (Astley 1985). From this perspective, the very idea of levels of analysis is itself a contingent social construction of a community of scientists that acquires importance within a specific life-world and community of practice. Far from granting access to objective, unmediated truth and invariant laws, it is but one way of seeing and understanding, conditioned by its own assumptions.

A social construction perspective proposes that an alternative understanding of levels of analysis (the conventional categories of individual, group, organization, and environment) should be based on actors' first-order understandings as they manifest in their actions, discourses, and material expressions; and only if the exploration of these categories is warranted by inductive reasoning and by field data. 'Levels' in this perspective are still recognized as social constructions, but not a priori ones; the second hermeneutic of social science gives primacy to the first hermeneutic of the actors involved.

In this perspective metaphors, in common with the broader discourses they constitute, are recognized as constructive of social and organizational reality, as well as social science (Lakoff and Johnson 1980; Wittgenstein 1968). As Lakoff (1993: 203) noted, 'the locus of metaphor is not language at all, but in the way we

conceptualize one mental domain in terms of another'. Conceptual similarities between the source and target domains involve both ontological and epistemic correspondences (Lakoff 1990) whose blending can give rise to novel, emergent meanings (Cornelissen 2005). From a social construction perspective, the positivist science view of metaphor as an expendable ornamental device is seen as both unproductive and infeasible, given the fundamental and integral role of metaphors in sensemaking and theory generation (Morgan 1980, 1983, 1996).

In spite of this realization, there has been some debate as to the creative potential of metaphor, depending on the particular view adopted; for example, the comparison view (Oswick et al. 2002; Tsoukas 1991) assumes that actors discern already existing similarities between the source and target domains, and therefore there is an interpretive bias towards convention rather than novel insight. The domains-interaction view (Cornelissen 2004, 2005), on the other hand, maintains that the blending of domains can produce emergent, novel insights and meanings that were not previously inherent in the topological structure of the source and target domains; emphasizing the potential of 'generative' (Schon 1993) or 'strong' (Black 1993) metaphors.

### **An Embodied Realism View**

In this paper we advance an embodied realism view of organizational levels. Rohrer's (2007) survey of the senses in which the term 'embodied' has been employed suggests that at least four modes of usage can be identified. First, a meta-theoretical mode that sees embodiment as inherent to cognition and stands against a Cartesian philosophy that views knowledge and thought as distinctly and ideally separate from any bodily involvement or perspective. An aspect of this meta-theoretical mode is also inherent in the suggestion of unidirectionality in metaphor mappings from a more embodied source to a more abstract target; and in the grounding of meaning in a finite number of source domains arising from our bodily existence, what Lakoff and Johnson have initially labeled 'experientialism' (1980) and subsequently 'embodied realism' (1999).

Second, a perspective on embodiment as broadly an experiential phenomenon, relating, for example, to how sociocultural aspects such as child rearing practices can influence cognition and language, to the phenomenology of the lived experience of our bodies and its influence on our self-identities, or to our bodies as enablers of particular, subjective vantage points. Third, embodiment is often seen as the physical substrate of experience, as for example in studies of the unconscious neurophysiological processing that enables routine cognitive activities. Finally, embodiment has a temporal dimension in that organisms go through developmental changes over time that relate to their ability to acquire certain cognitive skills, and, in the context of longer time frames and as whole species, through evolutionary developments such as humans' acquired ability to use language.

Even though the embodied realism view could initially be perceived as a variant of social constructionism, it has some important differences. In terms of ontology, embodied realism holds that reality neither possesses a fixed essence independent of perception, as in positivism, nor fully depends on the institutionalization of interpretations and practices, as in social constructionism

(Berger and Luckmann 1966; Gergen 1999). Rather, it holds that our bodily experience and ongoing patterns of interactions with the physical world are central to structuring our thoughts, interpretations, and actions through the transfer of conceptual correspondences from this experience to more abstract domains (Lakoff and Johnson 1999; Lakoff 1990). This is consistent with phenomenology's emphasis on human experience's fundamental corporeal nature, where bodily experience both precedes and shapes conscious processes of thinking and interacting with the world (Merleau-Ponty 1962).

Embodied realism holds that metaphorical image schemata (figurative, analogical, and non-propositional in nature) that enable the structuring of interactions with the world at both physical and more abstract levels, as well as meaning and interpretation, themselves arise from patterns of embodied experience, and have a neurological basis. Human thought is seen as organized through metaphorical elaborations of image schemata that form and structure experience and understanding. Thus, metaphors are both constitutive of the structure of bodily experience, as well as emerge from this experience. (Johnson 1987; Lakoff and Johnson 1999).

This constitutive image-schematic view, which allows for the emergence of new knowledge and insights from metaphorical image schemata that were not initially present in the features of the tenor or vehicle, contrasts with the traditional objectivist/comparison view of metaphor. This view holds that both the tenor and vehicle have preexisting features with some partial resemblance, that metaphors allow some features of the tenor map onto some features of the vehicle, and that these mappings are reducible to literal propositions that, to be correct, have to correspond to the objective features of the world that they represent (Cornelissen 2004, 2006).

Further, in terms of epistemology, embodied realism rejects both rationalism (the positivist assumption of innate reason) and empiricism (the constructivist assumption of learned reason). It views the rationalist–empiricist dichotomy as too simplistic and unhelpful, refuted by the empirical evidence gathered by neuroscience showing, for example, that babies can learn, even before they are born, from their stay in the womb; and therefore when they are born they have knowledge that is both innate as well as learned (Johnson and Lakoff 2002). Embodied realism is proposed as an alternative that accepts both innate and learned aspects of conceptual systems.

Methodologies in organization theory that take embodiment seriously, in addition to highlighting the constructive role of metaphor, would also seek to gain understanding through a focus on the embodied nature of interpretation and on aspects such as space and topological interrelationships as manifested and constructed in actions, discourses, and artifacts, or material expressions. In this view, organizational levels of analysis as conventionally understood are explicitly regarded as dependent on the embodied, orientational nature of our existence in the world as well as the hierarchical nature of our reasoning and mental constructs (Eysenck 1993). Rather than an objective, inevitable representation of the 'true nature' of things, they are seen to arise from the structuring of our conceptual systems. By analyzing artifacts that can be interpreted to encompass the same categories as in the dominant conception (individual, group, organization, and environment), we aim to present an alternative way of understanding and researching these categories.

Table 1 Three Perspectives on Metaphor and Levels of Analysis

Paradigmatic approaches	Ontology: Nature of Reality	Epistemology: Theory of knowledge	Methodology: How to Research Reality	Role of Researcher	View of Metaphor	View of Levels of Analysis
Positivist organization theory (Donaldson, 1985, 1996)	Essentialist realism; reality is rule-governed, external, fixed, independent of observers' perception and experience	Rationalism; knowledge derives from pure reason and can be expressed and analysed in terms of formal logic or other symbolic systems. A-priori knowledge is thus possible	Nomothetic; seek to uncover universal regularities and causal laws of a rule-governed reality via survey instruments and statistical analysis so that valid predictions can be made	Researcher is independent observer, an expert, objective scientist who can have unmediated access to universality applicable, uncontaminated knowledge	Metaphors are merely ornamental and expendable linguistic devices. They distort analysis of the "facts" that should be stated literally, and have no place in an objective, rational science	A priori, stable constructs, whose existence, nature and legitimacy, hierarchically nested interactions are pre-assumed. Organizations are in effect aggregations of these levels
Social Construct-ionism (Berger & Luckmann, 1966; Gergen, 1999)	Ideationism; social (and for some authors even material) reality is context-dependent, shifting, based on perspective, values and interests of observer. There are no fixed essences but only ephemeral social constructions	Early philosophical empiricism; we can only know reality through our sense-perceptions or mental constructs rather than a-priori. Relativism; there are no universal laws, only contingent contexts	Idiographic; seek to gain understanding of unique life-worlds through in-depth immersion and direct, empathetic engagement. Reflexivity is essential in this endeavor	Researcher is part of the setting, seeking to understand actors' first-order interpretations; observations are mediated by existing interests, values and mental constructs of researcher	Metaphors are constructive of social and organizational reality, as well as social science. Views differ as to metaphors' creative potential (e.g. comparison vs domain-interaction views)	Socially constructed, contingent constructs. Can be explored, if warranted by inductive reasoning, though second-order interpretations of agents' actions, discourses or material expressions
Embodied realism (Johnson, 1987; Lakoff, 1990; Lakoff & Johnson, 1980, 1999)	Experientialism; we perceive and understand physical and social reality through the way our body shapes our experiences and perceptions through ongoing patterns of interactions with the world; there is no ultimate separation of mind and body	We perceive social reality via our image-schemas, themselves both metaphorical as well as with a neurological basis, and arising from the way we exist, experience and interact with the world in and through our bodies	Idiographic with topological emphasis; seek to gain understanding through focus on the embodied nature of interpretation, the constructive role of metaphors, and aspects such as space and inter-relationships	Researcher pays close attention to the topography of image-schemas and to metaphors-in-use as evident in actions, discourses and artifacts or material expressions of actors	Metaphors, particularly spatial and orientational ones, are fundamental to our reasoning and interpretation, and are derived from our embodied existence. We employ familiar source domains to understand complex target domains	Levels of analysis as conventionally understood are directly related to the orientational, hierarchical nature of perception, itself deriving from features of our bodily existence and the way we interact with other material objects

Table 1 presents central features of the paradigmatic approaches of positivism, social constructionism, and embodied realism, along with associated views of metaphor and levels of analysis. This table is not meant to be a comprehensive or definitive representation of all possible views of metaphor and levels of analysis, but rather to explicate our embodied metaphors approach in relation to the two other approaches presented.

## Method

### Case Study Approach and Data Set

Given that access to rich data and access to actors' own perspectives (Miles and Huberman 1994) is essential to our research topic, we have pursued an interpretive case study design (Stake 1995; Yin 1994). The empirical data set consists of embodied metaphors constructed at three management workshops carried out between July 2001 and June 2002 with groups of managers from the same organization. The teams involved were the strategy development team, the business operations team and the technical division of CellCo, a European mobile telephony provider. All three workshops aimed at exploring and addressing the strategic and operational implications of the major changes in CellCo's business landscape, and were facilitated by members of the Imagination Lab Foundation, of which the second author was an associate.

CellCo had become, by 2000, the fastest growing top-three player in its domestic market, with a market share of nearly 25%, projecting the image of a dynamic, innovative, and unconventional company. Then, two major changes significantly shifted its business landscape. Taking on a large debt, CellCo purchased one of the domestic 3G licenses through competitive bidding. Shortly after this purchase, CellCo was acquired by FixCo, a large, foreign European competitor that was the market leader in its domestic market. Capitalizing on the strong brand recognition of CellCo, FixCo decided to group its entire international mobile telephony operations under the auspices of a newly formed organizational entity called CellCo Global. Although CellCo had been assured of retaining a relatively high degree of autonomy within CellCo Global, management had been concerned with the implications of the change in ownership for strategic direction as well as operational priorities. The specific focus of each retreat was based on the nature of the team involved and their perceived organizational challenges. While six managers of the strategy team met for two days to develop a shared view on a renewed, ideal strategy development process at CellCo, nine managers of business operations and 10 managers of the technical division each explored for two and a half days a shared view on the adjusted, post-merger business landscape of their respective domains.

Physical entities were constructed by these groups of organizational actors, employing analogically mediated inquiry. This is a group of approaches in which participants are actively involved in constructing or sculpting physical, and simultaneously metaphorical, symbols that are then decoded or interpreted with the assistance of organization development practitioners who act as workshop leaders and facilitators (Barry 1994; Broussine and Vince 1996;



Buerger et al. 2005; Doyle and Sims 2002). In terms of approaches to tropological analysis, we studied what Oswick et al. (2004) refer to as 'exposed tropes in use', where tropes are not imposed on organizational phenomena, but are rather studied inductively; and where 'resonant' tropes, such as metaphor, rather than 'dissonant' tropes, such as irony, are focused on.

In this research, we have operationalized the concept of embodied metaphors in terms of these constructions. Even though metaphors are inherently embodied, as Lakoff and Johnson (1980, 1999) have shown, the constructions we have studied offer opportunities for gaining further insights because they are also *literally* embodied. The notion of embodied metaphors echoes what others refer to as multimodal metaphors. Forceville (2006), for instance, distinguishes monomodal (typically verbal) metaphors, 'whose target and source are exclusively or predominantly rendered in one mode', from multimodal metaphors, 'whose target and source are each represented exclusively or predominantly in different modes' (Forceville 2006: 5).

We have labeled the constructions we studied as 'embodied metaphors' for the following reasons: First, they are actual structures constructed through engagement of the body, involving a direct phenomenological, experiential relationship between the participants and the resulting constructions. Embodied engagement as our mode of being in the world (Johnson 1987; Lakoff and Johnson 1999) is actualized in the making of these constructions. Second, these constructions are not simply semantic or spatial metaphors such as cognitive maps (Huff 1990), but are tangible entities extending into three-dimensional space. They are metaphors in the flesh that are recursively and simultaneously constructed and interpreted. They embody the blending of source and target domains, and engender meanings both in the construction process and subsequent interpretations. They are material exemplars of metaphorical image-schemas, since they draw from particular source domains to represent target domains such as organizational identity or divisional identity or group task, as perceived by organizational actors. Embodied metaphors thus exhibit the meta-theoretical perspective of embodiment that holds embodied experience to be central to thought and interpretation. Further, the process of constructing these metaphorical structures through the engagement of the corporeal body actualizes the experiential perspective on embodiment (Rohrer 2007) and results in these constructions as unique artifacts, metaphors-in-the-flesh providing access to agents' thoughts and interpretations.

Participants in each workshop had available 3000 preselected construction toy materials in a variety of colors, sizes, and shapes (including materials with pre-configured meaning such as person figures or animals). After some exercises aimed at helping participants familiarize themselves with the material, the practice of crafting embodied metaphors involves four iterative stages that operate at both the individual and collective levels and build up to detailed conversations on the core strategic issues and challenges as perceived by participants. First, participants are invited to construct and then debrief or interpret their individual constructions relating to the goal of the workshop. Second, the groups are invited to integrate their individual constructions into a collective construction whereby redundancies should be eliminated but differences and diversity maintained. This

latter step represents the central part of the process, since consonances and dissonances in terms of the strategic issue are exchanged and negotiated. Third, in a recurring cycle of steps one and two, individual then collective models of key stakeholders and relationships to the core construction supplement the emergent strategic landscape. Finally, the overall construction is debriefed and probed into by means of 'what-if' scenarios suggested by participants themselves (for further details on the approach, see Buergi et al. 2005; Jacobs and Heracleous 2006; Buergi and Roos 2003; Roos et al. 2004).

## **Analytical Strategy**

### **Studying Embodied Artifacts in Social Interaction**

Gibbs (1999) emphasizes the relevance of our physical experience for our interpretation and understanding and holds that meaning is motivated by 'people's recurring bodily experience in the real world' (1999: 39). Thus, he rejects a concept of cognition as purely internal and disembodied, and rather advocates the examination of the interrelationship between language, thought, and embodied action (Gibbs 2003: 2). Processing linguistic meaning involves not only the understanding of what a word means, but also an acknowledgment of the role of physical experience and the body in intersubjective meaning generation (2003: 13).

Equally emphasizing the relevance of bodily and material resources in the generation and negotiation of meaning, Heath and Hindmarsh (2002) view the recursive interrelationship between language, body, and artifacts as crucial to understanding social interaction, emphasizing the necessity of studying how objects and artifacts shape meaning (2002: 102). Such emergent 'architecture of intersubjectivity' (Heritage 1984: 254) gives objects and artifacts their local, specific meaning, relevance, and significance. Thus, objects and artifacts are considered co-constitutive of meaning generation in discursive interaction, that in turn shapes the meaning, relevance, and significance of these material features in a 'local ecology of objects and artifacts'. (Heath and Hindmarsh 2002: 117).

Analyzing objects and artifacts comes with both certain advantages as well as trade-offs, and deserves some further specifications. While some materials such as plasticine are more 'neutral' in terms of pre-configured meanings, others such as construction toy materials may be more effective in terms of connectivity and likelihood of swiftly inducing rich imagery. While the participants may be partly constrained by the nature of materials available, they are also enabled by these same materials to externalize and debate their views. Methodologically speaking, the constraints relating to pre-configured meanings inherent in the materials can be considered limitations, but on the other hand participants are able to ascribe local meaning to their constructions through drawing from and combining these pre-configured meanings into broader metaphors and storylines, and therefore emergent, creative sensemaking is facilitated by these same materials.

Due to the nature of the method, the materials available become part of, and influence, participants' constructions. For example, stereotypical views of accountants, dungeons, dragons, or lions that are represented by materials seen as embodying such 'pre-fabricated' meanings, will influence how these materials are

used. We view the materials, however, as not simply constraining but also enabling, in that they offer effective ways to externalize such views and make them part of the constructions as integral elements of the storylines presented, and to make them amenable to conscious debate. So, while stereotypical meanings are no doubt part of agents' cognitive repertoire, they are also situationally activated and employed to present participants' own views, on their own terms, about the target domains of the embodied metaphors.

The process itself involves successive levels of complexity in what participants are invited to construct, aims to gradually increase confidence and dexterity with the materials, ensures that each single participant at any time has available a variety of construction materials, and finally invites participants to remove redundancies in their individual constructions so that diversity can be maintained in the group constructions. These features of the process help to reduce the likelihood that participants will simply behave as automata and put together elements of the construction mindlessly, or even in a manner determined by the dominant paradigms in their organizations.

Thus, established patterns of sensemaking and 'online' construction of embodied metaphors are not mutually contradictory, as the latter draws from the former in a manner that fosters creative constructions using available materials, but on participants' own terms as they are invited and enabled to tell their own story. Even though a method inspired by embodied realism might be seen as 'imposed' on the setting, as nomothetic research is (in the sense that the procedures involved are pre-designed and the instruments and materials preexisting), the responses in the former case are much more emergent and unexpected than those of nomothetic research, offering the ability to collect rich data and the potential for novel insights.

### **Analyzing Embodied Metaphor Mappings**

When analyzing embodied metaphors that resulted from the generic process outlined above, we distinguish between process and product of metaphorical processing (Gibbs 1999). Furthermore, we follow Gibbs's (1999) methodological recommendation in acknowledging the specific time course in the experience of metaphor processing, by focusing specifically on the stage most relevant to our analysis, namely that of *interpretation*, which involves the conscious, intersubjective development and active attribution of a particular meaning to a metaphorical utterance or text (Gibbs 1999: 39).

Both process and product involve participants mapping a source to a target domain by crafting physical artifacts that are concurrently being interpreted by them. Our analysis focuses on the artifactual level of metaphorical mapping, that is, embodied metaphors as our primary form of text. In a gesture of second-order interpretation, we interpret these by sticking as closely as possible to the first-order interpretations of participants, by considering the linguistic process of meaning negotiation as necessary interpretive context.

As an illustration of our analytical protocol, we outline below an extract from a transcribed vignette of the embodied metaphor of the 'safari park', a constituent element within the 'Strategy process is a journey of disoriented animals'

construction, the grand metaphor of the strategy development team in CellCo. Total time frame of the vignette was 14 minutes; we focus in this extract on selected sequences that are indicative of our analytical approach. We adapted Heath and Hindmarsh's (2002) transcription protocol for our analytical purposes, which recommends capturing the content of what participants said as well as what they physically built or manipulated in their meaning negotiation.

The process of embodied metaphorical mapping involved three related, yet distinct stages. The first stage of initial mapping refers to the construction of individual, unrelated artifacts, while the second stage of relational mapping interrelates these artifacts physically and narratively. Finally, integrative mapping refers to the physical and narrative integration of these relational mappings into constituent and grand metaphors. Table 2 provides a synopsis of these different steps in the process of embodied metaphorical mapping and highlights examples from the safari park episode (SD stands for source domain, TD for target domain, I for initial mapping, R for relational mapping, and IM for integrative mapping).

Table 2.  
Process Steps  
of Embodied  
Metaphorical  
Mappings

Stage of embodied metaphorical mapping	Stage of Constructing Embodied Metaphors	Agents' Actions and Artifactual Manifestations (Example from safari park episode)
Initial Mapping	Constructing individual, unrelated artifacts and attributing meaning to them	<ul style="list-style-type: none"> <li>• I(1): Four animals (SD); 70 national operators (TD)</li> <li>• I(2): Astronaut (SD); aligned managers (SD)</li> <li>• I(3): Green platform (SD); End point of strategy process (TD)</li> <li>• I(4): Blue book (SD); corporate strategic framework document (TD)</li> </ul>
Relational Mapping	Interrelating artifacts by physical positioning, performative gestures and/or narrative connections	<ul style="list-style-type: none"> <li>• R(1): Green platform of safari park as final destination for traveling animals (SD); End point of strategy process for 70 managers (TD)</li> <li>• R(2): Blue book within safari park but invisible (SD); Corporate strategic framework as guiding strategic behavior (TD)</li> </ul>
Integrative Mapping	Integrating relational mappings into constituent/grand metaphor by physical positioning, performative gestures and/or narrative connections	<ul style="list-style-type: none"> <li>• IM(1): Safari park as constrained habitat for animals (SD); Strategic alignment with degrees of freedom as goal of ideal strategy process (TD)</li> </ul>

Tables 3–5 expand each of the three stages by drawing on transcribed conversations and videotape analysis from the safari park episode. We illustrate the stages with extracts from this vignette, whereby the four examples are organized in their actual time sequence.

A first, initial mapping refers to participants actively constructing individual artifacts and concurrently assigning meaning to them. For instance, in the sequence reported in Table 3, four animal figures (SD) were constructed and positioned at the starting point of an ideal strategy process, to represent the target audience of such process, that is, 70 country managers of the organization (TD).

Second, these initial mappings were then mapped relationally, whereby initial metaphors were interrelated by producing (or deliberately rejecting) inter-metaphor relationships (Table 4). Here, the initial mapping of the four animals led participants to deliberately identify a green landscape platform for the metaphor of a safari park (SD), representing the end point of a (yet to be specified) strategy process (TD).

Table 3  
Examples of  
Initial Mappings

Participant	Verbatim Transcript	Agents' Actions and Artifactual Manifestations
1	"These are all individual national operators – 70 individual representatives in our company ... still respecting their individuality"	Puts four animal figures, a sheep a cow, a tiger and a giraffe at the front end, i.e. the starting point of the model [I(1)]
3	"But when they come out of the [strategy] process are they all one mind? Futuristic people?"	Holds up an astronaut person figure [I(2)]
1	"Not necessarily. They don't have to be all the same, but they all have something in common..."	Debate
3	"Well, how do we represent that ..."	Debate
4	"They understand, ... they understand that ... they are in the same ... safari park!"	Puts a green landscape platform at the end of the model [I(3)]
1,2,3,5	"yes, yes..."	Debate
1	"... and in fact, in a safari park, with limited resources, you have to be observant to each other in order to survive ..."	Debate

Third, the interrelated metaphors of animals and safari park were then integrated to form a constituent element of the grand metaphor, i.e. the strategy process as a journey (Table 5). Such integrative mapping converges subsidiary mappings into constituent metaphors that in turn form a grand metaphor.

This analytical protocol allowed us to understand the detailed meaning negotiation at an artifactual level, informed by what was said. Further, it allowed us to identify the safari park as a constituent metaphor within the grand metaphor. Importantly, it allowed us not only to track the mapping from source to target domain but to understand the emergent meaning (EM) resulting from such mapping, that is, an ideal strategy process in terms of a journey of disoriented animals.

Based on the above analytical protocol, we developed a case-database that contained contextual information on the company, and video recordings and

Table 4  
Examples of  
Relational  
Mapping (R)

Participant	Verbatim Transcript	Agents' Actions and Artifactual manifestation
2	"... ok, we start at the very beginning of the process with all these different companies"	Puts the four animals to the front end of the model.
3	"Do you mean companies or people?"	Debate
1	"Representatives of their companies and cultures I guess..."	Debate
2	"Yes, all the differences are represented here!"	Points to the four animals.
2	"Different types of people, personalities, different people. They all point and move into different directions."	Shuffles the animals so that they face different directions.
2	"Now, what happens crucially is that these people were facing different directions ..."	Takes animal figures from the front end ...
2	"... now have an understanding for the concepts within which they are operating, and know of each other's work and that where they are all coming from. That we are all now moving into the same direction."	... and puts them onto the green platform at the end of the model; the animals all facing forward. [R(1)]
4	"Actually, it is the corporate strategic framework that we produce which will enable them to construct the park. This is not necessarily aligning them in all directions. But we keep them in the park through this."	Lifts a blue book brick and puts it underneath the green platform [I(4)]
4	"Then, they can go wherever they like but this tells them how to behave in there."	Puts the blue book in the middle of the green platform
1	"Alignment is a huge issue! They are not gonna come out thinking and doing exactly the same thing. But they are gonna come out with a common understanding that there is one company and some guiding principles that can all adopt which allows them to run and be creative and innovative within the park."	Debate
3	"So just taking a step back, I see something very different what you [participant 4] describe!"	Debate
3	"I think this becomes incidental to these 70 people - because of the process we are guiding them through."	Points to the blue book and lifts it
4	"Yes."	Debate
3	"It is incidental inside the park and should actually be covered up."	Takes the blue book and puts it into a little immersion on the green platform and covers it with a smaller board [R(2)]
1	"Yes, it should be common guiding principles that tell you how to behave in the park, not the corporate strategic framework."	Debate

Table 5  
Examples of  
Integrative  
Mapping (IM)

Participant	Verbatim Transcript	Agents' Actions and Artifactual manifestation
1	“In nature, the lion would attack the gazelle. So in CellCo, France doesn't care whether we are in the we are in the same company. If you step on their turf, out you are! They will eat you alive, although you are part of the same company. In the park, the gatekeepers have to make sure that the lions don't eat all the gazelles. If you want to survive in the park, we have to have some ground rules, guiding principles of behavior.”	Debate
3	“I think what we have now described here is the transformation of these 70 disparate people. Guided them through a passionate and different process.”	Takes animal figures from the back end of the model to the front
3	“And what we have done is to transform them so that the bet is, they will help transform others, and - actually that's it. That is the whole bet! ... Incidental to this process is that we will try and capture what happens to these 70 people by building some simple rules and so forth. All we really want to do is transforming 70 people.”	Moves animal figures back to the green platform [IM (1)]

video-stills for each retreat gathered by Imagination Lab Foundation associates, as well as a systematic inventory of grand embodied metaphors and their constituent metaphors, as constructed by participants. We drew on these materials to develop detailed case write-ups for each retreat. These formed the basis for a subsequent systematic and iterative process of interpretation (Miles and Huberman 1994) involving three stages.

First, as an initial analytical moment, and in order to sharpen our hermeneutic apparatus, we reviewed the individual constructions of participants with regard to their respective target domains in order to get a sense of the context-specific metaphorical terminology employed when attributing meaning to the embodied metaphors produced, as illustrated above. Second, and for each case, we systematically analyzed both the collective constructions (which we label the ‘grand metaphors’) as well as their primary constituent metaphors. We selected five such constituent metaphors in each case for deeper analysis, whereby the selection of these constituent metaphors was informed by the emphasis given to a particular element by participants: the physical prominence with respect to the entire model as well as the centrality of that element for the overall narrative, as exemplified in the vignette above. We analyzed metaphorical mappings in terms of the interactions between source domains and target domains, and the emergent meanings resulting from these interactions.

Finally, and as a form of cross-case analysis, we juxtaposed within-case findings in terms of how organizational levels and other organizational dimensions

Table 6  
Outline of Three  
Analytical Moments

Analytical moment	Unit of analysis	Purpose	Outcome
Focus on process of individual constructions	Process of individual constructions treated as context for group constructions	Understanding the emergent, situationally specific vocabulary	Sharper hermeneutic apparatus for subsequent analysis
Within-case analysis	Collective constructions (grand metaphors and their constituent metaphors)	Analyzing within-case metaphorical mappings in terms of source domains, target domains, and emergent meanings	Case-specific understanding of embodied metaphors and their portrayal of conventional organizational level categories
Cross-case analysis	All three collective constructions, juxtaposition of spatial features of these constructions across cases	Cross-case pattern organizational recognition and exploring validity of these features across cases	Insights on levels and other organizational dimensions as embodied in constructions

were embedded in, and represented by, the group embodied metaphors. Table 6 outlines this analytical process.

## Analysis and Findings

### Within-case Analysis of Metaphorical Mappings — Grand Metaphors and their Constituent Metaphors

#### Strategy development Team: 'Strategy development is a troop of confused animals'

The target domain of the grand metaphor was a renewed, ideal strategy development process (target domain of grand metaphor, hereafter TG). This was portrayed as a troop of confused animals (source domain of grand metaphor, hereafter SG) that undertook an energetic journey to reach safe and common ground in a safari park environment. The emergent meaning of the grand metaphor (EMG) arising from the combination of source and target domains was the aspiration of the team to design a dynamic strategy development process that — in contrast to conventional strategy-making — drew otherwise disinterested and confused organizational members into passionate strategic conversation that allowed individual differences in outlook and identity while operating within the parameters of a collective framework.

Each of these dimensions of strategy development as the target domain was further cognitively structured or given meaning by five constituent metaphors, in this case structured as stages of the strategic journey. The first constituent metaphor, the point of departure, consisted of a 'group of disoriented animals' (source domain of constituent metaphor S1, hereafter numbered accordingly) representing the confusion of organizational members at the beginning of the strategy development process (dimension of target domain of constituent



metaphor T1). By combining source and target domains, participants conveyed that organizational members were a somewhat depersonalized, confused group of individuals that were unclear about the required processes and outcomes of strategy-making in CellCo, and thus in need of some guidance (EM1).

This stage of the journey led the traveler to a 'chocolate bar and a shaken bottle of Cola', symbolizing a dynamic, passionate desired strategy-making process. Second, the 'transformative engine' (S2) contained at its entrance a large, monochrome block of bricks (S2) representing myopic, conventional strategic development (T2). Blending source and target domains, participants made reference to their belief that conventional strategy development had been perceived as myopic and lacking passion. Physically juxtaposing monochrome with multicolour elements illustrated this duality (EM2).

A set of person figures with extra sets of 'eyes' at the center of the engine (S3) represented those strategists 'with vision' (T3) to lead strategy discussion groups, arriving at a multicolored set of bricks portraying new, creative perspectives of strategic thinking. Third, having gone through this engine, the strategic traveler reached an interconnected set of wheels (S3) that represented the 'massive gearing effect' (EM3) such a renewed strategizing process (T3) could have for the organization. A set of interconnected, interoperable wheels suggested a combination of source and target domains that revitalized and illustrated the effects of an otherwise dead metaphor: the notion of a gearing effect (EM3).

The endpoint of the journey was represented as a 'safari park' (S4) symbolizing the outcome of the strategizing process, namely strategic alignment (T4) of organizational constituent functions, combined with specific degrees of freedom. The emergent meaning from the metaphorical mapping of this fourth constituent metaphor showed that the animals still differed in their shape and identity, but had now arrived in a fenced territory that provided them with different degrees of freedom, within certain parameters (EM4). Thus, initially disoriented animals having travelled through a revitalized strategic development process would in the end have a shared strategic framework.

Surrounding this 'strategy as journey' embodied metaphor were further related representations. A group of conventional strategic business planners were portrayed as skeletons with black hats, positioned in a repetitive cycle (S5) of producing pointless and ineffectual (EM5) corporate strategic documents (T5). Skeletons and black hats suggested bloodless uniformity that produced somewhat meaningless outcomes (EM5).

#### **Business Operations Team: 'CellCo is a conquest of FixCo'**

Participants viewed CellCo (TG) as a castle, the most recent conquest (SG) of the 'FixCo Empire'. A previously strong, defensible fortress had become vulnerable and had now been conquered — with its members now taking orders from the conqueror, the new owner of the castle (EMG).

This grand metaphor consisted of five constituent metaphors. Having entered the CellCo castle through a castle gate entrance with CellCo's brand icon on top symbolizing the organization's image to the world, business functions such as call centers or customer service were portrayed as disconnected platforms, to represent their lack of organizational alignment or coordination. For instance, a call center (T1a)

was portrayed as six PC agents, whereby a person figure wearing a crown and a whip (S1a) to represent strict, authoritarian management (EM1a) represented the call center manager. The central castle square hosted the 'heart' of CellCo's service, the mobile network. A white tower hosted several person figures with black hats, all in the same posture and facing in the same direction (S1b), to represent the accounting department (T1b) — and the new, dominant view of business logic and shareholder value. The accounting function was portrayed as a remote, yet powerful, politically ambiguous, uniform and faceless activity in CellCo (EM1b).

The brand (T2) that had driven CellCo in the past was symbolized by a tall, mobile lighthouse on wheels, deliberately positioned outside the castle walls (S2). While the brand was still relevant and influential, it was somewhat remote and disconnected (EM2).

Also outside the castle was a set of scattered grey bricks (S) representing a 'grey invasion' of bureaucracy and business logic (EM) in CellCo (T). On the castle square was a set of disconnected wheels (S), also representing dysfunctional bureaucracy (EM). Close to them, yet outside the castle, were two animal figures, an elephant and a tiger facing opposite directions (S3), representing the perceived ambiguity and risk (EM3) with respect to the 3G license purchase (T3), which could turn out either as 'an elephant around our neck' or as a 'tiger of growth'.

Next to the castle's main compound was an annex building located on a smaller platform. It hosted a set of upward facing purple tubes (S), representing 'projects in the pipeline', that were as yet unused since they were not physically connected to any of the functional domains (T). An unpopulated carousel with yellow seats (merry-go-round) (S) represented the potential (and past) fun (EM) of working in the organization (T). Next to the carousel, and by far the largest population in this annex building, was a 'herd' of person figures (S4) symbolizing members of operations staff (T4). They were all positioned within a fenced area, facing different directions (S), thus indicating a lack of direction and coherence (EM4). While some of them wore brand icon hats (S), others were 'brandless', thus considered outsiders who were nevertheless inside (EM).

On top of a pyramid-type construction (S), representing formal hierarchy (T), was a person figure wearing a crown and a whip with his back to the team (S5), representing the head of business operations (T5). This authoritarian figure (EM5) did not wear any brand icons at all, also symbolizing a certain foreignness to 'branded' members of the organization (EM5). On the bottom of this winners' podium, and interestingly on the same platform as operations staff, was a ghost figure (S), 'the ghost of the founder', symbolizing the founder's image (T) at an earlier time of being 'one of the lads' (EM).

#### **Technical Division Team: 'Technical division is a conglomerate of dispersed machines'**

The grand metaphor employed by the technical division management team of CellCo to represent its identity (TG) was that of a conglomerate of distinct, poorly connected machines (SG), indicating the disconnectedness and lack of coherence of the division (EMG).

A first platform hosted the service solutions building, which had two main parts. Through a large entrance gate, customer enquiries were channeled into the

design function (T1), represented as a cluster of person figures seated at work benches (S1). Two policemen (S1) guarded a massive gate separating the design function from the production unit (T1), shown as a large, non-transparent 'sausage machine' (S1). They acted as gate keepers to enforce the final decision of the 'central design authority' (EM1), represented by a blue transparent globe (S) symbolizing a brain (EM). The approved output of the design process was the necessary input to the production 'sausage machine', whose output, in turn, was sent via a turntable to the next island of technical operations. Solutions delivery was portrayed as a mechanistic, non-transparent process consisting of two phases of design and production that were kept distinct (EM1). While the connection (T) through a turntable hinge (S) was portrayed as close and stable (EM), the connection to the third island was rather thin and fragile (EM).

The platform of operations hosted another machine at its center, this time in the form of a surgery theater with a patient being treated (S2). The patient — closely monitored by three bodyguard doctors wearing crowns (S), to indicate the utmost importance of the patient and their medical treatment (EM2), represented the 'heart of CellCo technical operations', the mobile network (T2). The surgical theater (S2) was surrounded by service and support functions such as service management and a help desk. The entire island was surrounded by a large fence and its only entrance was guarded by a warrior person figure (S), the whole set-up representing the fragility, security, and safety needs (EM2) of the network (T). The highest element of this area was the CellCo-branded platform with three person figures overlooking it (S), representing the network management center (T). On separate stand-alone platforms were two radio masts surrounded by maintenance and upgrade personnel (S).

The main element of the third platform — representing the infrastructure development unit (T3) as complementing the current mobile network with the newly purchased 3G technology — was a 4WD vehicle exploring a wild landscape that needed to be developed for use as a site for a radio mast (S3). Mapping the physicality of infrastructure development onto the metaphor of an exploration revitalized the dead metaphor of development and exploration (EM3).

Two smaller sites next to this central element hosted the central planning and strategy function (T), represented by person figures with computers and mobile phones (S), all wearing identical gear; and the regional infrastructure offices (T), represented by a vehicle with construction workers (S). While the planning departments between the two entities (T) were connected through a stable connection (S), the link to the finance function in the central planning entity (T) was portrayed by a broken chain (S). Next to the regional office platform were the 'broken bridges over the river Styx' (S4), symbolizing the problematic relationship (EM4) between infrastructure expansion and technical operations (T4). While technical operations needed to ensure 24/7 service, infrastructure expansion needed migration time to set up the new 3G services.

Outside this central grand metaphor representing the identity of the technical division were several significant agents. CellCo Global (T5) under the auspices of the new owners was portrayed as an unstable vehicle, crowded with person

Table 7 Outline of Source Domains, Target Domains and Emergent Meaning in Grand and Constituent Metaphors

		Strategy/Development Team			Business Operations Team			Technical Division Team		
Emergent Meaning	Target Domain	Source Domain	Emergent Meaning	Target Domain	Source Domain	Emergent Meaning	Target Domain	Source Domain		
<b>Grand Metaphor</b>										
Strategy-making is a journey of confused individuals eventually reaching common ground (EMG)	Strategy development process (TG)	Journey of confused animals searching for guidance and direction, eventually reaching common ground(SG)	The strong fortress of CellCo has become the conquest of FixCo (EMG)	Identity of CellCo (TG)	Castle in the center, buildings and towers of different shapes, sizes and height; conqueror observing conquest (SG)	Technical division consists of three scarcely connected operating entities (EMG)	Identity of technical division (TG)	Conglomerate of dispersed machines (SG)		
Organizational members are an anonymous group of individuals seeking strategic guidance (EM1)	Organization members at beginning of strategy development (T1)	Troop of disoriented animals (S1)	Call centres are pressurizing, strictly managed environments. Accounting dept is a remote, monitoring, powerful dept (EM1a,b)	Call centres (T1a), Accounting department and logic (T1b)	Uniform figures kept in order by the whip (S1a). White monochrome tower detached from main building, populated by black hats monitoring events in castle (S1b)	Solutions delivery operates as a mechanistic, intransparent process in two phases that are kept distinct (EM1)	Design and production function of solutions delivery (T1)	Person figures seated at work benches, Policemen, Sausage machine as black box (S1)		
<b>Constituent Metaphors</b>										
Strategy making is a passionate, energetic transformation process (EM2)	Strategy-making as transforming force (T2)	Combustion engine, transforming fuel into kinesthetic energy (S2)	Even though still relevant, the brand has become distant and detached from the organization (EM2)	CellCo Brand (T2)	A lighthouse detached from main building (S2)	The mobile network work is our most valuable asset, and needs protection and constant monitoring (EM2)	Mobile network (T2)	Patient; heart (S2)		

(Continued)

Table 7 (Continued)

<p>Renewed, revival- ized strategizing is essential to the journey (EM3) (T3)</p>	<p>Renewed strategy develop- ment process (T3)</p>	<p>Set of gearing wheels, transmit- ting energy between entities (S3)</p>	<p>Success or failure of the 3G invest- ment is highly risky and ambiva- lent (EM3)</p>	<p>3G investment (T3)</p>	<p>An elephant as a heavy, inflexible burden and a tiger as an agile predator (S3)</p>	<p>Infrastructure expansion is a dangerous but exciting expedi- tion (EM3)</p>	<p>Infrastructure expansion to provide 3G services (T3)</p>	<p>Expedition, exploration of landscape in 4WD vehicle (S3)</p>
<p>Strategic align- ment provides a common frame- work while simul- taneously allowing for degrees of freedom (EM4)</p>	<p>Relation of strategists and organization in renewed strategy process (T4)</p>	<p>Safari park as a fenced territory with degrees of freedom for different animals (S4)</p>	<p>Operations staff are a uniform, anonymous group of people seeking guidance (EM4)</p>	<p>Members of operations department (T4)</p>	<p>Group of farmed cattle, person figures behind a fence (S4)</p>	<p>Relations and connections are dysfunctional, fragile, and with potentially dan- gerous conse- quences (EM4)</p>	<p>Relationships and connections among subunits (T4)</p>	<p>Unfinished bridges over mystic river Styx (S4)</p>
<p>Existing, conven- tional strategy- making is a bloodless, repetitive exercise (EM5)</p>	<p>Conventional strategy planning process and outcome (T5)</p>	<p>Group of skele- tons with black hats in an endless cycle (S5)</p>	<p>Head of opera- tions is powerful, authoritarian and remote from team (EM5)</p>	<p>Head of business operations department (T5)</p>	<p>Elevated warrior king yielding whip, overlook- ing and with back- turned to opera- tions team (S5)</p>	<p>CellCo Global lacks stability, direction and shared profile (EM5)</p>	<p>CellCo Global (T5)</p>	<p>Unstable vehicle with passengers all waving in different directions (S5)</p>

Constituent Metaphors

figures waving various flags while all facing in different directions (S5), indicating the lack of stability, direction, and clarity of profile of the new entity (EM5). Table 7 outlines our analysis.

Thus, the analysis so far has shown that constructing embodied metaphors enables actors to actively, physically enact the blending of source and target domains and thus facilitate the emergence of locally embedded, first-order meanings. Further, that a methodologically useful way to view embodied metaphors is that they consist of a grand metaphor providing the context for inter-metaphor systematicity of constituent metaphors, where the whole is more than a sum of its parts. Finally, that if embodied metaphors address organizationally relevant target domains, analysis of emergent meanings enables researchers to access actors' shared views regarding aspects of their organizational, group, or task identities and other organizational dimensions.

### **Cross-case Analysis of Organizational Dimensions and Levels Embodied in Grand Metaphors and Constituent Metaphors**

The conventional view of levels of analysis in terms of conventional categories, even though appropriate and fruitful for certain types of investigations, might nevertheless limit the interpretive repertoire of research and be unsuited to capturing the richness of interpretations and meanings of organizational members that could be revealed by alternative approaches. The following analysis shows how, by transcending the conventional typology of levels, and extending the theoretical arsenal to such approaches as the embodied metaphor approach employed here, insights can be gained. We found that researching the spatial arrangement and recursive enactment of embodied metaphors reveals qualities and interrelations among different entities and dimensions of the organization that are not accessible by conventional approaches to organizational levels.

As Lakoff and Johnson (1980) note, spatial dimensions are inherent in the orientational metaphors we employ, deriving from our experience of our physical existence. The dimensions we identify below are consistent with this discussion (for example, spatial elevation symbolizes importance; spatial proximity symbolizes organizational relatedness), but also go beyond it in the sense that we address dimensions and their meaning to organizational participants that are not directly discussed by Lakoff and Johnson (for example, directional uniformity symbolizes coherence; similarity in spatial level symbolizes a sense of belongingness). Even though it would be interesting to examine in detail how these additional spatial aspects may relate to orientational metaphors and their qualities of systematicity discussed by Lakoff and Johnson (1980), such an analysis would go beyond the particular scope of this paper.

Thus, we propose that the study of the emergent meanings arising from the blending of source and target domains provides access to actors' first-order views regarding conventional categories of organizational levels. Further, as we outline below, a variety of organizational dimensions are represented in embodied metaphors through specific physical and spatial manifestations.

**Spatial elevation and centrality symbolize importance**

In all three models, we find that the spatially highest elements indicate high importance as perceived by actors. Interestingly, all three teams positioned FixCo as the highest element of each collective construction. Further, all three embodied metaphors show individuals, functions, or organizations with power as being located higher. For example, each tower of FixCo in all three models hosts the CEO of FixCo on top of the tower, overlooking the constructions representing CellCo. In addition, we find that the more central an element is positioned the more importance is attributed to it. For instance, the strategy team placed the 'transformative engine' at the core of its model, while the business operations team emphasized the mobile network. Interestingly, the technical division left the central space in its construction unpopulated, perhaps related to their view of the division's identity as an incoherent collection of three scarcely connected entities.

**Spatial proximity symbolizes organizational relatedness, and vice versa**

We found that significant elements positioned closely together have a perceived close relationship, functional or otherwise. For example, the strategy development team placed the 'dungeon of formal hierarchy' right under the 'transformative engine' which suggests that management, specifically the actors represented in the dungeon, were perceived as pivotal to the success of the transformation effort. The business operations team positioned the brand tower deliberately outside and remotely from the castle to indicate the increasing ambiguity and felt distance to the brand. The technical division positioned the three conglomerations of machines representing the division in a way that that a meaningful physical connection between the three was difficult, manifesting their views on organizational disconnectedness and incoherence.

**Directional uniformity symbolizes coherence, and vice versa**

The expressive repertoire of all three groups' embodied metaphors shows that uniformity in directional orientation indicates coherence, common views, and organizational connectedness, and the opposite indicates lack thereof. Examples include the representations of operations staff close to the CellCo castle of the business operations team; and the technical division team portraying CellCo Global as an overpopulated vehicle with individuals facing in all directions. Further, the strategy journey of confused animals, initially facing in all directions, ended with animals on the same ground facing the same direction, within well specified parameters.

**Similarity in spatial level symbolizes a sense of belongingness**

All three models exemplified the assumption that a similar spatial level represents belongingness and group membership, while difference in spatial level indicates remoteness or distance. For instance, the strategy development team portrayed members of the formal hierarchy all sitting in different chambers of a dungeon, irrespective of their differences in the formal hierarchy. The business operations team placed the ghost of the founder at the same height as the 'cattle of operations staff' to indicate a (lost) sense of equality.

**Solid physical connections symbolize coherent, smooth organizational relations, and vice versa**

The three embodied metaphors portrayed connected, coherent relations with physically intact connections, and dysfunctional or undetermined relations with disconnected or fragile connections. For instance, the strategy development team portrayed the relationship between the strategy development and the organization by a set of interconnected wheels having a 'massive gearing effect on the organization'. By contrast, the business operations symbolized the different projects in the pipeline with a set of purple tubes that were as yet unconnected to any business functions, therefore compromising their potential benefit. Similarly, the technical division portrayed a most difficult relationship between the infrastructure development and the operations subunit by 'unfinished bridges over the river Styx'. We also found that while embodied metaphors employ physical entities such as fences to indicate boundaries (for example, fences around the business operations staff, around the mobile network, and around the safari park), most metaphors also employ some empty space to leave the nature and quality of the interconnection or boundaries open and ambiguous.

**Dual structures symbolize dual aspects of relationships**

In several models, participants constructed models exhibiting duality to represent dual aspects of relationships and ambiguity. For instance, the business operations team portrayed the 3G license as both tiger and elephant, indicating the ambiguity and strategic risk of whether the investment turns out to be a lethal mistake or an avenue to success. Further, the panda and dragon at the entrance gate of the suppliers' plant symbolize dual qualities in this relationship that can turn from friendly to hostile and vice versa.

**Monochromatic constructions symbolize uniformity and convention; polychromatic constructions indicate diversity and creativity**

All models employ monochrome as well as multicolored elements to express both uniformity and convention (such as the sinister army of FixCo, or the monochrome accounting tower populated by accountants all wearing black hats, monitoring CellCo) or creativity and diversity (the multicolored block of bricks in the transformative engine to indicate creative strategic thinking, or the jungle expedition of infrastructure expansion). The business operations team employed the colour grey to indicate the conventional, rational, unemotional aspects of bureaucracy that contrast strongly with the previously experience of fun (on the colorful merry-go-round). Table 8 summarizes and exemplifies these findings.

## **Discussion and Implications**

We proposed a novel approach to understanding organizational levels and related organizational dimensions, the 'embodied metaphors' approach based on embodied realism. This offers an alternative to the conventional positivist model through which organizational levels have traditionally been conceptualized and researched, in an effort to understand organizations through multi-level research.



Table 8  
Organizational  
Dimensions  
Manifested in  
Embodied  
Metaphors

Physical manifestation	Example	Oriental metaphor	Rhetorical function in narrative	Example
Elevation	FixCo tower	Up-down: “up is powerful, down is powerless”	Power, observation	“FixCo, the new owners are observing us”
Centrality	Transformative engine	Central-peripheral: “central is important, peripheral is less important”	Importance	“The transformative engine is the core of the strategy development process”
Proximity	Dungeon of management	Close-remote: “close is related; remote is unrelated”	Relatedness	“Management is pivotal to the transformation process”
Directional uniformity	Disoriented animals	Same-different direction: “same direction is coherent; different direction is incoherent”	Coherence	“Country managers are very different”
Similarity of spatial level	Ghost of the founder	Up-down-level: “difference in level is different; same level is equal”	Belongingness	“He used to be one of us”
Solidity of physical connection	“Gearing wheels”	Robust-shaky: „robust is solid; shaky is less solid”	Robustness of relations	“Strategy process has a massive gearing effect”
Dual structures	“3G licence”	Same-different direction: „same direction is coherent; different direction is incoherent”	Duality of relationships	“We don’t know whether it is the tiger of growth or an elephant around our neck”
Use of colours	“grey invasion of accountants”	Same-different colour: “same colour is same; different colour is different”	Uniformity/creativity	“Grey invasion of accountants”

As we have shown, when constructing embodied metaphors, actors’ assumptions and interpretations about their organizations and environments, groups and selected individuals, and the interrelations among them, are spatially manifested in a recursive process of construction and interpretation. Through researching the interactions of the source and target domains and the emergent meanings afforded by these embodied metaphors, we found that these constructions offer insights for our understanding of levels as well as a variety of organizational dimensions that conventional positivist multi-level approaches cannot access. In particular, we found that analysis of embodied metaphors can enable access to actors’ first-order conceptions of organizational levels and related organizational dimensions, and reveals alternative qualities and interrelations among them; can support a clinical approach to organizations; provides a window to organizational, divisional, or task identities; and poses substantial challenges to established conceptions of ontology and method in organization theory.

### **Enabling Access to Actors' First-order Conceptions of Organizational Levels and Related Organizational Dimensions**

An embodied metaphors approach allows researchers to gain a meaningful understanding of the actors' frame of reference, what Dilthey and Weber referred to as *verstehen*. Dilthey (1989) suggested that whereas the natural sciences explain nature, human studies can understand 'lived experience' through its observable expressions. Further, in Weber's (1991) view, the aim of achieving an in-depth, first-order understanding was what could distinguish the social from the natural sciences by producing knowledge that would be 'adequate at the level of meaning'. Metaphorical mappings such as portraying the rest of the organization as a dragon to be kept at bay; the competitive environment as containing a threatening and unpredictable UFO spider; competitors variously represented as mirror, sheep, or predator animals; or suppliers as both evil dinosaur or friendly panda attribute imputed qualities to these domains that are hard to convey or capture otherwise.

Further, embodied metaphors not only enable access to actors' first-order conceptions, they also illuminate and highlight the relevance of different qualities and interrelations among levels that are not conventionally researched (or arguably researchable) within a positivist view. For example, portraying the CEO as a headless chicken, a warrior with laser gun, or a king of the castle, comes with narrative connotations relevant to understanding extant organizational relationships and dynamics in the various divisions. Portraying a division head as an elevated warrior king wielding a whip gives insights as to how the actors constructing the embodied metaphor perceive this individual.

Gaining a meaningful understanding of the actor's frame of reference and revealing different qualities and interrelations among levels are avenues that remain unavailable through the dominant way of conceptualizing levels of analysis as distinct, interacting, hierarchically nested elements at the individual, group, and organization levels.

### **Embodied Metaphors as Supporting a Clinical Approach to Organizations**

Organization development practitioners have long employed metaphor as an intervention device to facilitate a variety of organizational processes (e.g. Barrett and Cooperrider 1990; Burke 1992; Marshak 1993). Such interventions have typically involved the application of metaphors selected by organization development practitioners, based on their diagnosis of the organizational situation and on the desired organizational outcomes. While this deductively oriented approach involves the application of a generic, preexisting set of metaphors to organizational situations, a more inductive approach operates on the assumption that organizational members can generate and employ novel metaphors. In view of their context and experience, that can be tapped on for the purposes of system diagnosis and change; emphasizing the emergent, local, and contextual nature of metaphors (Palmer and Dunford 1996).

Similarly inductive, the embodied metaphors approach enables organizational members to construct and interpret these emergent metaphors in order to

address specific, targeted issues; in this case, to design a revitalized strategy process, or to reflect on and develop shared understandings regarding the identity of their organization or division in the context of an unsettling acquisition. Further, the additional dimensions identified in cross-case analysis can point to vital dysfunctions in organizations that would need to be addressed. For example, the solidity of physical connections symbolizing robustness of relations, or the directional uniformity symbolizing coherence (or vice versa in both cases), are metaphorical manifestations of organizational dysfunctions that can spark generative conversations on how these issues should be addressed. Embodied metaphors can thus help organizational actors view their challenges in a new light and help to focus conversations on pressing organizational issues.

### **Embodied Metaphors as Windows to Organizational, Divisional or Task Identities**

Whereas organizational identity was initially conceptualized as those aspects of an organization that its members consider central, enduring, and distinctive (Albert and Whetten 1985), more recent work has advanced a more interpretive approach (Gioia et al. 2000). In this approach, organizational identity emerges as a collective, shared understanding of an organization's characteristics (Pratt and Rafaeli 1997), as a socially constructed set of meanings about the organization and its environment arising from intersubjective meaning negotiations (Fiol 2001). Despite the increasing interest in the concept of organizational identity, few studies have investigated it empirically (Dukerich et al. 2002; Foreman and Whetten 2002).

In our study, the target domains of the three embodied metaphors were all related to the identity of the organization (business operations team), the division (technical division team), or the key task (strategy development team). Collectively, the metaphors represent a rich source of empirical data for understanding actors' shared views of the identities they have literally constructed. For example, the strategy team expressed core elements of its ideal identity when constructing the narrative of an overall journey that ends with a meaningful balance between individuality and alignment of organizational members; and when using a chocolate bar and a bottle of cola to symbolize the requisite dynamism and passion; and a multicolored set of bricks to portray the need for innovative, creative strategizing.

The business operations team revealed its shared dismay by portraying CellCo as a conquered castle, monitored and managed by the authoritarian CEO of FixCo. The brand, a once central element of CellCo's identity, was positioned outside the castle, remote and detached. The empty seats in the merry-go-round symbolized the lost sense of fun. 'Unbranded' insiders created unease for the more brand-conscious members; and the ghost of the founder positioned in the midst of the operations staff indicated a lost sense of equality. CellCo's identity, previously seen as a solid fortress, appeared to weaken and disintegrate in terms of its ownership, detached brand, lack of fun, and lost equality.

The technical division's embodied metaphor of its identity employed a disconnected conglomerate of machines, indicating a perceived lack of coherence within the division. Several black boxes (such as the sausage machine) indi-

cated a lack of shared understanding of how things worked, and the dangerous but exciting jungle expedition indicated a risky expansion into uncharted 3G territory. The surgery theater with the mobile network as the guarded patient indicated the centrality of the mobile network to the division's identity. The sinister black hats from FixCo were seen as malicious outsiders who would import unfettered business logic, threatening the current identity through the imposition of order and uniformity.

As indicated by our analysis, an embodied metaphor approach can thus offer insights to organizational identity that are hard to obtain otherwise, even in interpretive studies. The collectively built, shared constructions draw on a variety of source domains to represent the target domain of identity (organizational, team, or task identity as evidenced in our study). The inductive nature of the embodied metaphor approach allows key aspects of organizational identity to emerge in processes of analogically mediated inquiry, linked together in terms of meaningful narratives that offer a window to the group's innermost views of its identity. Our findings show that this approach also allows for both current and aspirational aspects of identity to coexist in the same construction (as in the strategic journey metaphor, where the beginnings symbolize current identity and the conclusion symbolizes desired identity), in what Lakoff and Johnson (1980: 81) call an 'experiential gestalt'.

### Reflections on Ontology and Method

We operationalized the approach of embodied realism in terms of analysis of embodied metaphors and suggested that this kind of analysis can offer a novel perspective to understanding organizational levels as well as organizations. We offered this approach as an alternative to the one offered by the traditional positivist paradigm, a suggestion consistent with *methodological* pluralism. If we take the trajectory of the argument to its logical conclusion, however, we can see that taking embodied realism seriously would render *paradigmatic* pluralism less tenable and inherently problematic, because it radically questions established conceptions of ontology and epistemology, as we have hinted early on in our discussion summarized in Table 1.

This can become clearer if we explore the ontology and attendant epistemology of positivism through the following metonymic metaphor that can be found in the Publication Manual of the American Psychological Association:

'Like a wall that is built one brick at a time, the peer-reviewed literature in a field is built by single contributions that together represent the accumulated knowledge of a field. Each contribution must fill a place that before was empty, and each contribution must be sturdy enough to bear the weight of contributions to come'. (1994: 291):

Similarly to the positivist conception of levels of analysis that we initially discussed, this is not only an essentially metaphorical view ('scientific knowledge is a brick wall'), it is also an embodied one par excellence, being based on our lived, physical experience. It is also a metonymy, where the part focused on (in this case the process of building scientific knowledge as the process of building a wall) stands for the whole. The implication complex of

conceptual correspondences transferred from the source to the target domain relates to aspects such as the nature of peer-reviewed literature and scientific knowledge (solid and unitary), the process of its development (methodical, ever advancing upwards and aiming towards completion), the actors involved (the knowledgeable craftsmen being the reviewers who decide which articles or 'bricks' are fit and worthy enough to form part of the wall of knowledge), and lastly the articles themselves (which, ideally, should be like sturdy bricks, enduring contributions that uniformly follow the conventions of normal science, so that they can be deemed worthy of inclusion in the wall of knowledge).

Further, from an experiential or embodied perspective, a more implicit aspect of this metaphor is the orientational nature of building a brick wall: from low, advancing upwards. As Lakoff and Johnson (1980: 14–21) have shown (and manifested in different ways in the embodied metaphors we analyzed), most positive or desirable states or situations are 'up', whereas most negative or undesirable ones are 'down', implying that more scientific knowledge is always more desirable than less. The metaphor 'scientific knowledge is a brick wall' therefore draws from the orientational nature of human thought and expression; and its attraction arises from the human desire for control and predictability that would result from complete knowledge. This implication can shed light on the idealism often surrounding the desire for a cumulative, unitary body of scientific knowledge, each contribution building on the ones that preceded it, advancing inexorably towards an end state of full understanding (e.g. Donaldson 1996; Pfeffer 1993).

Can there be fruitful dialogue across paradigms that do not share this teleological, instrumental, unitary view of science? Even though metaphorical analyses such as the one that we have carried out challenge the fundamental nature of positivist science and further buttress the view of its essentially metaphorical nature (Morgan 1980, 1983, 1986), accepting that this is the case would be anathema to scientists schooled in positivism and all its arsenal of ideas on ontology, epistemology, and method, because it would question the very basis of their identity as scientists and their conception of what science is all about.

This situation has led scientists in different paradigms to talk past each other rather than to each other, forming a rather shaky basis for fruitful cross-paradigm debate, as evidenced by Rakova's (2002) critique of embodied realism from the perspective of traditional, objectivist analytical philosophy. Johnson and Lakoff's (2002) response showed how the most essential propositions of embodied realism that call into question established beliefs can be wholly misunderstood if read from the perspective of analytical philosophy and essentialist realism.

Taking embodied realism seriously might thus render cross-paradigmatic debate that goes beyond method to considerations of epistemology and ontology problematic, especially if perceptions of the nature of paradigms remain implicit and undiscussed. A turn to reflexivity, striving to be explicit about such issues as how these inherent features shape approaches to inquiry and the knowledge produced, would be a good start but would be insufficient if not

accompanied by a willingness to examine how these modes of knowledge can best interact with and inform each other. This would lead to the acceptance of not only methodological pluralism but also ontological and epistemological pluralism, a rather radical notion for many social scientists committed to their craft and its view of the world.

## Note

We thank the guest editors of this Special Topic Section, the anonymous reviewers, participants of the EGOS 2006 Subtheme on Metaphor, Tropes and Discourse as well as John Sillince, Joep Cornelissen, and George Kassinis for their valuable feedback and reflections on earlier versions of the manuscript. We also gratefully acknowledge the conceptual and empirical contributions of former Imagination Lab Foundation colleagues, Peter Buerge, Jennie Gertun-Olsson, Marc-Olivier Linder, and Johan Roos. This article is the result of collaborative effort by the two authors, who have contributed equally to the work.

## References

- Albert S., and D. Whetten  
1985 'Organizational identity'. *Research in organizational behavior* 7: 263–295.
- American Psychological Association  
1994 *Publication manual of the American Psychological Association*, 4th edn. Washington, DC: American Psychological Association.
- Astley, W. G.  
1985 'Administrative science as socially constructed truth'. *Administrative Science Quarterly* 30: 497–513.
- Barrett, F. J., and D. L. Cooperrider  
1990 'Generative metaphor intervention: A new behavioral approach for working with systems divided by conflict and caught in defensive perception'. *Journal of Applied Behavioral Science* 26: 219–239.
- Barry, D.  
1994 'Making the invisible visible: Using analogically-based methods to surface unconscious organizational processes'. *Organization Development Journal* 12/4: 37–47.
- Berger P., and T. Luckmann  
1966 *The social construction of reality*. London: Penguin.
- Black, M.  
1993 'More about metaphor' in *Metaphor and thought*, 2nd edn. A. Ortony (ed.), 19–41. Cambridge: Cambridge University Press.
- Broussine, M., and R. Vince  
1996 'Working with metaphor towards organizational change' in *Organisation development: Metaphorical explorations*. C. Oswick and D. Grant (eds). 57–70. London: Pitman.
- Buerge, P. T., and J. Roos  
2003 'Images of strategy'. *European Management Journal* 21/1: 69–78.
- Buerge, P., C. Jacobs, and J. Roos  
2005 'From metaphor to practice in the crafting of strategy'. *Journal of Management Inquiry* 14/1: 78–94.
- Burke, W. W.  
1992 'Metaphors to consult by'. *Group and Organization Management* 17: 255–259.
- Castro, S. L.  
2002 'Data analytic methods for the analysis of multilevel questions'. *Leadership Quarterly* 13: 69–93.
- Cornelissen, J.  
2004 'What are we playing at? Theatre, organization and the use of metaphor'. *Organization Studies* 25: 705–726.
- Cornelissen, J.  
2005 'Beyond compare: Metaphor in organization theory'. *Academy of Management Review* 30: 751–764.
- Cornelissen, J.  
2006 'Organization theory: A case study of the organizational identity metaphor'. *Journal of Management Studies* 43: 683–709.
- Dansereau, F., and F. Yammarino  
2002 'Introduction to the many faces of multi-level issues' in *The Many Faces of Multi-level Issues, Research in Multilevel Issues* 1: 13–19. Amsterdam: JAI Press.
- Dansereau, F., J. Alutto, and F. Yammarino  
1984 *Theory testing in organizational behavior: The variant approach*. Englewood Cliffs, NJ: Prentice-Hall.

- Dilthey, W.  
1989 *Introduction to the human sciences*. R. A. Makkreel and F. Rodi (eds). Princeton, NJ: Princeton University Press.
- Donaldson, L.  
1985 *In defense of organization theory: A reply to the critics*. Cambridge: Cambridge University Press.
- Donaldson, L.  
1996 *For positivist organization theory*. London: Sage.
- Doyle, J. R., and D. Sims  
2002 'Enabling strategic metaphor in conversation: A technique of cognitive sculpting for explicating knowledge' in *Mapping strategic knowledge*. A. S. Huff and M. Jenkins (eds), 63–85. London: Sage.
- Drazin, R., M. A. Glynn, and R. K. Kazanjian  
1999 'Multilevel theorizing about creativity in organizations: A sensemaking perspective'. *Academy of Management Review* 24: 286–307.
- Dukerich, J., B. Golden, and S. Shortell  
2002 'Beauty is in the eye of the beholder: The impact of organizational identification, identity, and image on the cooperative behaviors of physicians'. *Administrative Science Quarterly* 47: 507–533.
- Eysenck, M. W.  
1993 *Principles of cognitive psychology*. Hove: Erlbaum.
- Fiol, C. M.  
2001 'Revisiting an identity-based view of sustainable competitive advantage'. *Journal of Management* 27: 691–700.
- Forceville, Charles  
2006 'Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research' in *Cognitive linguistics: Current applications and future perspectives*. G. Kristiansen, M. Achard, R. Dirven and F. J. Ruiz de Mendoza, (eds), 379–402. Berlin/New York: Mouton de Gruyter.
- Foreman, P., and D. Whetten  
2002 'Members' identification with multiple-identity organizations'. *Organization Science* 13: 618–635.
- Gergen, K.  
1999 *An invitation to social construction*. Beverly Hills: Sage.
- Gibbs, R. W.  
1999 'Researching metaphor'. in *Researching and applying metaphor* Cameron, L. and Low, G. (eds): 28–47. Cambridge: Cambridge University Press.
- Gibbs, R. W.  
2003 'Embodied experience and linguistic meaning'. *Brain and Language* 84: 1–15.
- Gioia, D., M. Schultz, and K. Corley  
2000 'Organizational identity, image and adaptive instability'. *Academy of Management Review* 25: 63–81.
- Heath, C., and J. Hindmarsh  
2002 'Analysing interaction: Video, ethnography and situated conduct'. In *Qualitative Research in Action*. May, T. (ed) 99–121. London: Sage.
- Heritage, J.  
1984 *Garfinkel and ethnomethodology*. Cambridge: Polity.
- Hoffman, D. A.  
1997 'An overview of the logic and rationale of hierarchical linear models'. *Journal of Management* 23: 723–744.
- Huff, A. S.  
1990 *Mapping strategic thought*. Chichester: Wiley.
- Jacobs, C., and L. Heracleous  
2006 'Constructing shared understanding: The role of embodied metaphor in organization development'. *Journal of Applied Behavioral Science* 42/2: 207–226.
- Johnson, M.  
1987 *The body in the mind: the bodily basis of meaning, imagination, and reason*. Chicago: University of Chicago Press.
- Johnson, M., and G. Lakoff  
2002 'Why cognitive linguistics requires embodied realism'. *Cognitive Linguistics* 13/3: 245–263.
- Klein, K. J., and S. W. J. Kozlowski  
2000 'From micro to meso: Critical steps in conceptualizing and conducting multilevel research'. *Organizational Research Methods* 3: 211–236.
- Klein, K. J., H. Tosi, and A. Cannella,  
1999 'Multilevel theory building: Benefits, barriers, and new developments'. *Academy of Management Review* 24: 243–248.

- Kline, R. B.  
1998 *Principles and practice of structural equation modeling*. New York/London: Guilford Press.
- Lakoff, G.  
1990 'The invariance hypothesis: Is abstract reason based on image schemas?' *Cognitive Linguistics* 1: 39–74.
- Lakoff, G.  
1993 'The contemporary theory of metaphor' in *Metaphor and thought*. A. Ortony (ed.), 202–251. Cambridge: Cambridge University Press.
- Lakoff, G., and M. Johnson  
1980 *Metaphors we live by*. Chicago: University of Chicago Press.
- Lakoff, G., and M. Johnson  
1999 *Philosophy in the Flesh*. New York: Basic Books.
- Marshak, R.  
1993 'Managing the metaphors of change'. *Organizational Dynamics* 22/1: 44–56.
- Merleau-Ponty, M.  
1962 *Phenomenology of perception*. New York: Routledge.
- Miles, M., and A. Huberman  
1994 *Qualitative data analysis*, 2nd edn. Thousand Oaks, CA: Sage.
- Morgan, G.  
1980 'Paradigms, metaphor and puzzle solving in organization theory'. *Administrative Science Quarterly* 25: 660–671.
- Morgan, G.  
1983. 'More on metaphor: Why we cannot control tropes in administrative science'. *Administrative Science Quarterly* 28: 601–607.
- Morgan, G.  
1986 *Images of organization*. Beverly Hills, CA: Sage.
- Morgan, G.  
1996 'An afterword: Is there anything more to be said about metaphor?' in *Metaphor and organization*. D. Grant and C. Oswick (eds), 227–240. London: Sage.
- Morgeson, F. P., and D. A. Hofmann  
1999 'The structure and function of collective constructs: Implications for multilevel research and theory development'. *Academy of Management Review* 24: 249–265.
- Mossholder, K. W., and A. G. Bedeian  
1983 'Cross-level inference and organizational research: Perspectives on interpretation and application'. *Academy of Management Review* 8: 547–558.
- Oswick, C., T. Keenoy, and D. Grant  
2002 'Metaphorical and analogical reasoning in organization theory: Beyond orthodoxy'. *Academy of Management Review* 27: 294–303.
- Oswick, C., L. Putnam, and T. Keenoy  
2004 'Tropes, discourse and organizing' in *Sage handbook of organizational discourse*. D. Grant, C. Hardy, C. Oswick and L. Putnam (eds), 105–127. London: Sage.
- Palmer, I., and R. Dunford  
1996 'Conflicting uses of metaphors: Reconceptualizing their use in the field of organizational change'. *Academy of Management Review* 21: 691–717.
- Pfeffer, J.  
1993 'Barriers to the advance of organizational science: Paradigm development as independent variable'. *Academy of Management Review* 18: 599–620.
- Pinder, C. C., and V. W. Bourgeois  
1982 'Controlling tropes in administrative science'. *Administrative Science Quarterly* 27: 641–652.
- Pratt, M., and A. Rafaeli  
1997 'Organizational dress as a symbol of multilayered social identities'. *Academy of Management Journal* 40: 862–898.
- Rakova, M.  
2002 'The philosophy of embodied realism: A high price to pay?' *Cognitive Linguistics* 13: 215–244.
- Rohrer, T.  
2007 'The body in space: Embodiment, experientialism and linguistic conceptualization' in *Body, language and mind*, Vol. 1. T. Ziemke, J. Zlatev and R. Frank (eds). Berlin: Mouton de Gruyter.
- Roos, J., B. Victor, and M. Statler  
2004 'Playing seriously with strategy'. *Long Range Planning* 37/6: 549–568.
- Rousseau, D. M.  
1985 'Issues of level in organizational research: Multi-level and cross-level perspectives'. *Research in Organizational Behavior* 7: 1–37.



- Rousseau, D. M., and R. J. House  
1994 'Meso organizational behavior: Avoiding three fundamental biases'. *Journal of Organizational Behavior* 1: 13–30.
- Rousseau, D. M., S. B. Sitkin, R. S. Burt, and C. Camerer  
1998 'Not so different after all: A cross-discipline view of trust'. *Academy of Management Review* 23: 393–404.
- Schon, D.  
1993 'Generative metaphor: A perspective on problem-setting in social policy' in *Metaphor and thought*, 2nd edn. A. Ortony (ed.), 137–163. Cambridge: Cambridge University Press.
- Stake, R. E.  
1995 *The art of case research*. London: Sage.
- Staw, B. M., L. E. Sandelands, and J. E. Dutton  
1981 'Threat-rigidity effects in organizational behavior: A multilevel analysis'. *Administrative Science Quarterly* 26: 501–524.
- Tsoukas, H.  
1991 'The missing link: A transformational view of metaphors in organizational science'. *Academy of Management Review* 16: 566–585.
- Tsoukas, H.  
1993 'Analogical reasoning and knowledge generation in organization theory'. *Organization Studies* 14: 323–346.
- Waldman, D. A., and F. J. Yammarino  
1999 'CEO charismatic leadership: Levels-of-management and levels-of-analysis effects'. *Academy of Management Review* 24: 266–285.
- Weber, M.  
1991 'The nature of social action' in *Weber: Selections in translation*. W. G. Runciman (ed.), 7–32. Cambridge: Cambridge University Press.
- Wittgenstein, L.  
1955 *Tractatus logico-philosophicus*. London: Routledge and Kegan Paul.
- Wittgenstein, L.  
1968 *Philosophical investigations*. Oxford: Blackwell.
- Yammarino, F. J.  
1998 'Multivariate aspects of the variant/WABA approach: Leadership illustrations'. *Leadership Quarterly* 9: 203–227.
- Yammarino, F. J., and F. Dansereau  
2004 *Multi-level issues in organizational behavior and processes*. Amsterdam; London: Elsevier JAI.
- Yammarino, F. J., A. J. Dubinsky, L. B. Comer, and M. A. Jolson  
1997 'Women and leadership: A multiple levels of analysis perspective'. *Academy of Management Journal* 40: 205–222.
- Yin, R.  
1994 *Case study research: Design and methods*, 2nd edn. Beverly Hills, CA: Sage.

## Loizos Heracleous

Loizos Heracleous is Professor of Strategy at Warwick Business School, University of Warwick, and an Associate Fellow of Templeton College at the University of Oxford. He received his PhD from the Judge Institute of Management Studies, University of Cambridge. He is the author or co-author of more than 45 papers and four books on issues such as organizational discourse, organization change and development, and organizational dimensions of strategy. His work has been published in leading management and organization journals and has been honoured by three awards from the US Academy of Management in 1999, 2004 and 2006.

*Address:* Warwick Business School, MSM Group, University of Warwick, Coventry CV4 7AL, UK.

*Email:* loizos.heracleous@wbs.ac.uk

**Claus D. Jacobs**

Claus D. Jacobs is Senior Research Fellow in Strategy and Organization of the Institute of Management at the University of St Gallen, Switzerland, and was Research Fellow of Imagination Lab Foundation. His main research interest is in the discursive practices of organizing and strategizing. He has published in *Human Relations*, *Journal of Applied Behavioral Science*, *Journal of Management Inquiry* and *MIT Sloan Management Review*, among others. He has co-edited with Steven Floyd, Johan Roos and Franz Kellermanns *Innovating Strategy Process* in the Strategic Management Society Series (Blackwell, 2005). He is also a Visiting Scholar at Saïd Business School and Templeton College, Oxford and Fellow of Daimler Benz Foundation.

*Address:* Institute of Management, University of St Gallen, Dufourstrasse 40a, 9000 St Gallen, Switzerland.

*Email:* claus.jacobs@unisg.ch

End of Themed Section
-----------------------