

Geometric and image-schematic patterns in gesture space:  
On the 'ex-bodiment' of embodied structures

Recent work on image schemas encompasses a variety of understandings and definitions, but overall the notion of embodiment seems to be taken more and more literally (cf. Hampe 2005). It has been realized that the human body's intuitive expressions and culturally-shaped practices are a rich source of insights into how higher cognitive activities may be grounded in dynamic patterns of perception, habitual body movements, and social behaviour (Johnson 2005). One of the central questions still seems to be how multi-faceted meanings—especially regarding abstract reasoning and emotions—emerge from embodied experience. Here, bodily semiotics can be assumed to inform us about qualities that are difficult to access via purely linguistic inquiry.

Given that image and motor schemas have been found to assume an important role in language acquisition (Mandler 1996, 2004), language per se (Lakoff & Johnson 1999; Talmy 1988), gestalt theory (Arnheim 1969), as well as in the visual arts (Johnson 1987; Mittelberg 2002), it might not be all too surprising that they may also motivate spontaneous co-verbal gestures (Cienki 2005). Indeed, over the past fifteen years, gesture researchers have shown that spontaneous manual gestures are not random hand movements, but exhibit recurrent forms and also recurrent form-meaning mappings. Gesture data from typologically different languages have proven to be a particularly valuable source of multimodal evidence for conceptual metaphor (e.g., Bouvet 2001; Calbris 2003; Cienki 1998a/b; Cienki & Müller *fc.*; McNeill 1992, 2005; Mittelberg *fc.a*; Mittelberg & Waugh *fc.*; Müller 1998, 2003; *fc.*; Nuñez 2004; Sweetser 1998, 2007; Williams 2004).

Focusing on the material part of gestural sign processes (and not on issues of metaphorical projection), this paper offers additional insights into how gestures may reflect less-monitored aspects of cognition during communication (cf. Sweetser 2007). The underlying assumption is that gestures are, due to their specific materiality and logic, particularly apt at depicting spatial and dynamic properties of conceptual structures and processes, thus supporting the theory of the embodied mind (Gibbs 1994, 2006; Lakoff and Johnson 1999). It will be argued that such internalized structures and routines may be externalized via the human body (hence, the term "ex-bodiment," Mittelberg 2006, *fc.b*). On the basis of linguistics lectures videotaped at two American universities, a set of geometric and image-schematic patterns that emerge from the data will be presented. I lay out these patterns and show how they evoke geometric figures (e.g., squares, triangles, cubes, circles) as well as image and motor schemas (e.g., OBJECT, PATH, BALANCE, SUPPORT, CONTAINER, ROTATION; Johnson 1987; Lakoff 1987; Mandler 1996, 2004; Talmy 1988). The figures and schemas are not just derived from the patterns; rather, the hand shapes and movement traces give minimal information that evoke the schemas, assumed to be abstracted from physical objects and bodily actions involving the manipulation and placing of objects. It will be suggested that a kind of "common-sense geometry" (Deane 2005: 245) may be among the factors that motivate what have turned out to be fairly systematic representations of linguistic form, grammatical categories, and syntactic relations.

(498 words)

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