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### The flesh and blood of embodied understanding: the source-path-goal schema in animation film

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#### ABSTRACT

According to Conceptual Metaphor Theory (CMT), the Source-Path-Goal (SPG) schema constitutes a central concept in cognition. Apart from literally structuring “movement,” SPG also shapes our understanding of “purposive activity,” including questing and story-telling. A problem in CMT, however, is that the existence of image schemas is almost exclusively postulated on the basis of *verbal* expressions. To examine the claim that people recruit image schemas such as SPG to make sense of life, it is essential that non-verbal modalities are examined. Animation has highly medium-specific opportunities to exploit SPG by its emphasis on “*manner* of movement” and “balance.” Three animation films (*Father and Daughter*, *Quest*, and *O*) exemplifying MOVEMENT, QUEST, and STORY are analyzed in terms of SPG to chart how they exploit this schema. We end the paper by positioning our findings with respect to recent discussions about image schemas in Hampe (2005a) and by suggesting avenues for further research.

**KEYWORDS** Source-Path-Goal; Animation; Balance; Manner of movement; Image schemas; Conceptual Metaphor Theory.

## 1. Introduction

According to Conceptual Metaphor Theory (CMT) metaphorizing is an indispensable human faculty for conceptualization. More specifically, and more controversially, CMT has proposed that human beings are only capable of understanding abstract phenomena by metaphorically coupling them with concrete phenomena (Lakoff and Johnson 1980, 1999, 2003). Since “concrete” pertains to the idiosyncrasies of our bodies, more precisely our sensory perceptions and motor skills, the shorthand way of referring to this conceptual mechanism is the metaphor MIND IS BODY (Lakoff and Johnson 1999: 248). The phrase “embodied cognition” refers to the same idea: reasoning, both phylogenetically and ontogenetically developed, is rooted in the functioning of the body. Very briefly, humans are able to survive thanks to their visual, aural, tactile, olfactory, and gustatory access to the world and thanks to their ability to *move* in certain ways (typically: forward, and along the horizontal plane). These motor skills, together with the information provided by the five senses, enable human beings to handle abstract concepts. Indeed, systematically understanding the abstract in terms of the concrete is the only way, or so the CMT claim runs, they *can* conceive of abstract concepts. Examples of this mechanism are primary metaphors (Grady 1999) such as TIME IS SPACE (“the future is *ahead* of us,” “he is *approaching* old age,” “the past is a different *country*”; for more discussion and examples, see Lakoff and Johnson 1980) and EMOTION IS A FORCE (“they *exploded* with anger,” “he *fought against* his tears,” “she *suppressed* her fear”; for more discussion and examples, see Kövecses 2000).

Since the publication of *Metaphors We Live By* (Lakoff and Johnson 1980), an impressive number of books, chapters, papers, and conference panels have been devoted to CMT. Most of this work is theoretical, and based on introspection and on the analysis of non-systematically collected data (e.g., Lakoff 1987, 1993; Johnson 1987, 1993, 2007; Kövecses

2000, 2005; Gibbs 1994; for a state of the art, see Gibbs 2008), but increasingly it is based on corpus research (Boers 1999; Charteris-Black 2004; Deignan 2005; Caballero 2006) and experimental work (for a survey, see Gibbs 2006). However, the import of the work hitherto done is restricted by two factors: first, the vast majority of studies is devoted to exclusively verbal manifestations of conceptual metaphors, and second, it is difficult to falsify the central claim.

As to the former, it can be pointed out that two relatively young research lines concentrate on forms of communication that are not (exclusively) verbal. The first focuses on gesturing, which interrelates with spoken language. This research finds gestural support for the postulation of conceptual metaphors (McNeill 1992, 2005; Cienki 1998, 2005; Cienki and Müller 2009; Müller 2008; Mittelberg and Waugh 2009). The second pertains to visuals, whether or not interrelating with other modalities – spoken and written language, sound, music (e.g., Forceville 1996, 1999, 2006a, 2008b; see also Carroll 1996; Whittock 1990), and it is this latter research line that is of primary interest here. Until recently, however, almost all work on pictorial/visual and multimodal metaphor discussed creative specimens, without considering the question whether these creative specimens were manifestations of deeply-entrenched conceptual metaphors – as would have to follow from accepting the claim by Lakoff and Turner that “basic metaphors are part of those conceptual resources, part of the way members of our culture make sense of the world. Poets may compose or elaborate or express them in new ways, but they still use the same basic conceptual resources available to us all. If they did not, we would not understand them” (1989: 25).

The latter problem, of which the CMT community is itself increasingly aware (Geeraerts 2006; Gibbs and Perlman 2006), is more difficult to solve. The issue is that if CMT is correct in emphasizing the centrality of the MIND IS BODY metaphor in human conceptualizing, it should be difficult or even impossible to find non-metaphorical

conceptualizations of abstract phenomena. The risk, then, is that every analysis of a surface manifestation of a metaphor in terms of its underlying conceptual metaphor tends to be seen by its supporters as further evidence of the correctness of CMT, while critics either deny the metaphoricity of the manifestation in question, or else say that the “findings” do not tell us anything insightful whatsoever. The focus on verbal manifestations of the postulated conceptual metaphors is no help here: detractors might object that the conceptual and the verbal levels are actually the same thing. If this should be the case, CMT claims about the central role of metaphor in cognition would of course be seriously undermined.

We have no structural solution, at this stage, for the second conundrum. However, we believe that a sustained focus on non-verbal and multimodal manifestations of conceptual metaphors is an essential way to further probe the validity of CMT, if only because it leads away from the concept-language loop. This imperative has motivated much of the scholarly work of the first author, who has long examined the role of visuals, music, and sound, often in combination with each other and with language, in metaphor (e.g., Forceville 1996, 2005, 2006a, 2007, 2008a; Forceville and Urios-Aparisi 2009). A central idea in this work is that the medium used for conveying information – pertaining both to the technical and institutional means by which the information is transmitted (e.g., book, TV, film, Internet) and to the materiality of the constituents used (e.g., paper, wood, wax, sand) – needs to be considered in attempts to generalize about any form of multimodal discourse (Forceville 2006b, 2008b). The same argument is mounted by Fahlenbrach, who correctly insists that film space is not only used to literally build up a fictional world but is also exploited to create audiovisual metaphors that are central to film viewers’ cognitive and emotional responses (Fahlenbrach 2007; see also Fahlenbrach 2010).

Thus, inasmuch as we are not aware of a rival theory for CMT that purports to explain the systematicity by which abstract concepts are understood – namely,

metaphorically, in terms of concrete, embodied concepts – we will, for the time being, axiomatically take CMT as correct, and explore non-verbal and multimodal discourses that communicate non-literal information from its vantage point. For CMT advocates this will provide more insight in how non-verbal modalities contribute to conceptual metaphors, while for CMT critics it provides challenges for finding alternative models to explain the interpretation strategies of the narratives to be discussed.

## **2. Travel stories and the Source-Path-Goal schema**

The CMT view of conceptual metaphors specifically and of embodied cognition generally depends on the plausibility of the claim that in their making sense of the world, human beings heavily depend on the use they make of “image schemas” (Johnson 1987, Lakoff 1987). Dodge and Lakoff, drawing on Johnson (1987) present the following characteristics of image schemas: “(1) recurrence across many different experiences; (2) a relatively small number of parts or components; and (3) an internal structure that supports inferences” (2005: 59).

Prototypical human movement is characterized by progress from a starting point or “source,” via a trajectory or “path,” to a destination or “goal.” Johnson (1993: 166) claims that this “Source-Path-Goal” (SPG) schema is one of the fundamental schemas in human conceptualization (for supportive experimental research, see Katz and Tamsen 2008; Ritchie 2008), which does not only underlie humans’ understanding of physical movement (called the JOURNEY domain by Johnson, but here referred to as the MOVEMENT domain to avoid the accultured connotations of the word “journey”) but of all purposive activity (the QUEST domain), including narration (the STORY domain). That is, PURPOSIVE ACTIVITY IS SELF-PROPELLED MOVEMENT is a deeply embedded metaphor in human conceptualizing. Since moving is an activity that fundamentally involves the body’s continual changing position in

space, the metaphor is also a thoroughly embodied one. In line with the CMT tenet of embodied cognition, Mark Johnson counsels that we “explore more concretely how forceful bodily experiences give rise to image-schematic structures of meaning that can be transformed, extended, and elaborated into domains of meaning that are not strictly tied to the body (such as social interactions, rational argument, and moral deliberation)” (Johnson 1987: 44-45). He distinguishes the following seven forms of physical force: *compulsion*, *blockage*, *counterforce*, *diversion*, *removal of restraint*, *enablement*, and *attraction* (Johnson 1987: 45-48). Each of these forces can play a role in movement, and thus qualify for metaphorical mapping onto the domain of PURPOSIVE ACTIVITY – here specifically the domains of QUEST and STORY. A traveler can for instance be pushed forward (compulsion); be hindered by an obstacle (blockage); encounter a power that tries to push him back (counterforce); find she needs to take a detour to pursue her way (diversion); be helped or help himself in getting rid of an obstacle or counterforce (removal of restraint); have the benefit of some external agency to help her forward (enablement); and/or be drawn to his goal (attraction). It is to be noted that the forces helping or hindering the traveler can be either “natural” ones (such as the landscape or the weather) or intentional agents (animals, humans, or humanoid creatures). Moreover, the instantiations of the physical forces usually acquire socio-cultural connotations (a mountain-obstacle may be beautiful as well as awesome, a vehicle-enablement may be primitive or comfortable, etc.).

Clearly, artists have always intuited the narrative possibilities of exploiting the correspondences between literal movement and quests by sending their heroes on a voyage. Homer’s *Odyssey* is the canonical example in Western society (see also Propp 1968 [1927]; Forceville 2006a, forthcoming), but non-Western societies also draw on this motif (see Campbell 2008, Yu 2009). Indeed, we submit that the SPG schema is the key concept underlying all artistic journey discourses. But animation offers expressive opportunities (or

“affordances,” Gibson 1979: 127 *et passim*) and constraints not, or not so clearly, available to for instance the medium of live-action film, let alone the novel, and thus warrants separate scrutiny. In order to substantiate this claim, we have selected three animation films that are particularly rich in their exploitation of the SPG schema. This enables us to present a checklist of aspects that serves as a starting point for analyzing other journey animations. In turn, this checklist can be used by CMT critics as a foil for finding alternative explanations that account for our interpretation of QUESTS and STORIES.

### 3. The Source-Path-Goal schema

Thanks to the shared SPG schema, there exist many correspondences between the domains of movement, quest, and story. Here is a list of some of the elements that can be aligned in the three domains (Table 1).

[INSERT TABLE 1 APPROXIMATELY HERE]

As we have seen, CMT considers these correspondences to be motivated rather than coincidental. Let us briefly elaborate on the two metaphorical extensions of the MOVEMENT level of SPG, that of QUEST and STORY. Purposive activities (quests) are what make human beings tick. One of the most common metaphors in which this purposive behavior is reflected is LIFE IS A JOURNEY. Many expressions pertaining to achieving goals in life manifest this metaphor (“Look *how far we’ve come*,” “We’re *at a crossroads*,” “It’s been a *long bumpy road*” exemplify LIFE IS A JOURNEY, Lakoff and Johnson 1980: 44-45). Canonical stories, whose temporal dimension is structured by the TIME IS SPACE metaphor, also have a beginning, a middle, and an end, as Aristotle (1987: 10) proclaimed long ago of well-made



tragedies. Although its chronology may be manipulated, the plot of a typical story begins with a situation of equilibrium, is followed by developments that jeopardize that equilibrium, and culminates in a new situation. Often the new situation exemplifies some sort of resolution or “closure” (Bordwell and Thompson 1997: 477), and in classical stories this is what we expect: a fitting and satisfactory ending. (Inasmuch as artistic stories are aestheticized versions of the stories that human beings develop to impose coherence and meaning upon their own lives, it is hardly surprising that we find the same structures in “life stories” – see e.g., Linde 1993; Smith and Sparkes 2004. And inasmuch as iconoclastic scholars want to overthrow existing paradigms, it is similarly unsurprising that these scholars often sport the word “beyond” in their titles, also revealing adherence to the PATH schema – see Dascal 2003.) That stories, like quests, draw on the SPG schema makes sense not only because they are purposive activities, too, but also because typical stories have plots that usually derive their interest from being *about* quests. That being said, we should not be misled into thinking that the quest and story domains can be conflated. There are good reasons to distinguish between the domains. For one thing, a person’s quest can take a lifetime and need not be explicitly expressed in language (or another modality) to somebody else, while by contrast a story presupposes an audience, often consisting of strangers who have made investments (time, money, energy), for the privilege to have access to the story, and who therefore expect to be rewarded (for more discussion, see Forceville forthcoming).

To recapitulate, then, the SPG schema underlies, first, literal movement – or rather, it is co-referential with it. Second, it is used to structure quests, whether of trivial or heroic proportions. Third, it imposes structure on stories. Moreover, by virtue of the TIME IS SPACE metaphor the SPG schema is always present in the conceptualization of time. We note in passing that it is possible to model the four manifestations of the SPG schema in terms of Fauconnier and Turner’s (2002) Blending Theory, with each of the manifestations as one

input space, and the film itself as the “blended space,” but we will not here further explore this possibility.

#### 4. The Source-Path-Goal schema in animation film

The medium of animation is ideal to explore the SPG schema. In the first place, animation expresses characters and events in a more stylized manner than live-action film. As one manual puts it, “animation is an exaggerated impression of the real world” (Beckerman 2003: 100). In animation there is typically no pro-filmic reality, and thus everything has to be artificially *made*: visuals, sound, music, language. Since it is also highly labor-intensive to produce animation – particularly in its pre-electronic varieties – its makers have presumably made their choice for every single frame after careful consideration. For this reason, we can assume that animation (like comics: see Forceville 2005; Forceville et al. forthcoming) is a good medium for tracing cognitive models such as the SPG schema.

Second, animation films can take liberties with the laws that hold sway in everyday life, and even in much live-action film, both in the realm of physics and of causality. Bodies in animation can unproblematically defy laws of gravity, be damaged and hurt and then reappear unscathed, or transform endlessly. In this respect, the materiality of the animation type – cel animation, claymation, cutouts, etc. – co-determines its possibilities for conveying narrative information.

Third, the essence of animation is movement. Malcolm McLaren calls animation “the art of movements-that-are-drawn” (quoted in Sifianos 1995: 62), while Bugs Bunny’s main creator Chuck Jones comments, “We are not what we look like. We are not even what we sound like. We are how we move” (Jones 1989: 14). More specifically, what matters is *manner* of movement, since this is what animation, together with dance and other body-arts,

can handle and manipulate better than any other medium. For present purposes this is important, since it ties in with a dimension of SPG called the BALANCE schema. Johnson argues that learning to control our bodily balance, a prerequisite for the prototypical movement of walking, lies at the root of our abstract concept of balance in abstract domains such as our sense of psychological equilibrium, even-handed opinions, and legal fairness (Johnson 1987: Chapter 4). Manner of movement and balance are dimensions that allow for far more variation in animation than in live-action film, although certain types of slapstick comedy come close (see Visch 2007).

A final motivation to focus on animation is that many of its shorter variants use little or no language. This lends support to the CMT claim that the SPG schema actually functions primarily on a conceptual, not a linguistic, plane.

In the following section we will study the SPG schema in three journey animations. At the risk of stating the obvious, we want to emphasize that our analyses do emphatically *not* aim to show that interpreters of the films need to be taught the SPG schema in order to understand and be moved by them; conversely, we hope to show that comprehension and aesthetic enjoyment of the films is governed by the – largely subconscious – “natural” activation of the SPG schema in the domains of movement, quest, time, and story and their interrelations.

## 5. Three animated journeys

*Father and Daughter* (Michael Dudok de Wit, UK/NL 2000, 8'08")

<http://nl.youtube.com/watch?v=GhieqAEi2r4> [Last accessed 19 August 2010]

Summary A young girl takes leave of her father (Figure 1), waving goodbye to him when he departs over sea in a rowing boat. He never comes back, and when she grows up she keeps

looking for him, always returning to the place on the dike where he left. In the final part, she looks out, an old woman now, over the sea again (Figure 2). She descends, finds that the sea has turned into land, and begins to walk. She discovers a rowing boat (her father's?) stuck in the sandy bottom of the erstwhile sea, snuggles up and falls asleep (or dies?) in it, and when she wakes up (or does so in a dream? in a hereafter?), she sees her father just as she knew him. She runs toward him, transforming into her younger selves during that run, and embraces him as her young adult self. It is to be noted that the light comes uniformly from the direction of the sea, portraying the characters largely in silhouette, and that the film shows no close shots of the characters (Cotte 2006: 225-226), which means that bodily behavior and postures are important sources of information about moods and emotions (see Sückfull forthcoming for an experiment testing how this film physically affects its *spectators*).

[INSERT FIGURES 1 AND 2 APPROXIMATELY HERE, PREFERABLY JUXTAPOSED]

MOVEMENT domain The girl, later adolescent, adult, and old woman, comes from somewhere, presumably “home,” which in Figures 1 and 2 is at “back-right” of the shot space. In most of the film’s shots, however, the sea is at the back of the image, while the road on the dike is seen extending before it from right to left. When the protagonist comes from home, she thus consistently moves from right to left on the dike; when we see her going left-right, we interpret this as her returning home. Her means of transportation is a bicycle. When she is old, she walks alongside the bike. Obstacles and impediments on the level of the physical journey are the protagonist’s need to keep her balance when facing wind, rain, and snow, as well as having to accommodate the ageing of her body.

TIME domain We map SPACE on TIME: the “past” is screen-right; the future is screen-left. The most important cue that time is passing, however, has little to do directly with the

SPG schema: we see the protagonist physically maturing from a child into an old woman. Other cues of time passing *do* tie in with SPG: The lengthening shadows cast by the sun are perceptual reminders, via TIME IS SPACE, that a day is passing.

QUEST domain The protagonist's quest is the lifelong search for her father, who departed when she was young and who never returned.

STORY domain The story comes full circle in that the quest is somehow magically fulfilled. We are not to interpret the last sequence, surely, as that the old woman literally becomes young again, but rather that she has at long last “found” her father again in some non-literal sense, in a dream, a fantasy, or after death. A lifetime of questing is condensed in eight minutes (see Bordwell 1985: Chapter 6 and Fauconnier and Turner 2002: Chapter 6 for more discussion on how representations can compress time), and results in closure.

Interrelations between domains in *Father and Daughter* The ease and difficulty of movement in the various stages of the protagonist's life resonate in the stages and dimensions of the protagonist's quest. When she is young she can manage the strong winds with relative ease while cycling. We can interpret this as her hopefulness that she will find her father. As an adolescent, riding with friends, she stops at the fateful place whereas her companions move on, suggesting that this is a personal trauma that she keeps silent to others about or that others cannot help her with. Older yet, sitting comfortably on the back of the bike of her lover, she only briefly looks up at the ominous spot; her father's disappearance is momentarily less important and she is concerned with her present happiness, conveyed by her smooth and uninterrupted movement. In old age, her progress becomes more laborious, and she maintains her balance on the bike with greater difficulty, and then has to walk next to it. We also hear the creaking of the bicycle more emphatically when it (and she) gets older. The decreasing tempo of her movements correlates with her growing despair ever to see her father again. When she now arrives at the place of her father's departure, the bicycle can no longer rest on

its kick stand and keeps falling over; and after the third time she cannot bother to put it right again. Clearly, the choice of vehicle means that the balance schema acquires great importance on the movement level. Being able to keep, or not to keep, one's balance on a bicycle in turn echo hopefulness and despair, respectively, about the quest.

The “circularity” theme (the repeated shots of a spinning bicycle wheel, the sun, the reed circle where the daughter falls asleep) is further reinforced by the fact that both the first and the last scene are accompanied by a musical theme from Ivanovici's “Danube Waves” (Cotte 2006: 245), while the segmenting of the episodes is also underlined by the music. As the composer of the film, Norman Roger, says, “each chapter [!] starts with a new theme and an instrumental arrangement that differs from the previous scene, but which ends with a musical motif associated with the departure (or the absence) of the father” (interview in Cotte 2006: 246).

*Quest* (Tyron Montgomery and Thomas Stellmach, Germany 1996, 11'33”).  
<http://www.youtube.com/watch?v=3ucgHMYf33Q> [Last accessed 19 August 2010]

Summary A sand creature desperately searches for water to survive (Figure 3). When he sees a wet spot, he starts digging, but then falls from the sand world into another, paper, world (Figure 4), then into a stone world (Figure 5), a metal world, and an underground world. The problems he encounters in his search for water are caused by the specific materiality of each world he finds himself in. Finally, he is pulverized into grains of sand falling into the water – which ensures his subsequent regeneration.

[INSERT FIGURES 3, 4, AND 5 APPROXIMATELY HERE, PREFERABLY  
JUXTAPOSED]

MOVEMENT DOMAIN The starting point of the sand creature's journey is a sand world (Figure 3). Its end is the sand world again. The trajectory he follows is consistently *downwards*, on the spot where he detects wholesome wetness – a wetness whose source cannot be precisely determined. His means of transport is solely his own body – walking, crawling, falling. The obstacles that he encounters are forces from the physical world that try to throw him off balance, or otherwise threaten to disintegrate him: the heavy wind in the paper world causes flying-around sheets to make him fall (Figure 4); in the stone world he needs to negotiate rocks, either falling from above or suddenly popping up; the dangers in the metal world consist of dangerous electric saws and of metal objects that hem him in; in the underground world, there are machines that might crush him – and in the end actually do so. Movement is in one direction only; the creature never returns to an “earlier” world by moving back upwards again. Significantly, though, salutary wetness first appears to come from above, and then appears below him, reinforcing the image of circularity.

QUEST domain The sand creature's quest is to find water, since it is water that holds him together. A constant dripping sound keeps reminding the creature – and us – of his goal.

TIME domain The passing of time is emphasized by the fact that the creature's body becomes more battered during his consecutive descents from one world into another, and in that sense his body ages. As in *Father and Daughter*, the SPG schema is moreover instantiated indirectly, via TIME IS SPACE, whereby here the direction of up-down movement maps onto past-present-future.

STORY domain Each entry into a new world marks a new “chapter” in the creature's life, and is introduced by a black, or almost black, screen. When he is in the underground world he disintegrates, despite his best efforts, and falls transformed into a trickle of sand toward the bottom of the water. During this last fall, the trickle is miraculously transformed from one toward the sea bottom into one falling from the sky onto the sandscape familiar

from the first scene. Here his body starts building up – after which the cycle presumably can begin again.

Interrelations between domains in *Quest* The progressive difficulties in the sand creature's quest for water through the various worlds are suggested by these worlds' varying material idiosyncrasies. Materials hindering his literal progress correspond to conditions thwarting his quest. The first four worlds display an increasing "hardness," combined with ever less freedom for the creature to move. His difficulties also affect his *physique*: he loses part of his feet, has to extract a stone from his hand, limps, and his head is flattened after a fall. The materiality of the worlds and the dangers the materials exemplify are conveyed aurally as well as visually: we hear winds blowing around the paper, the grinding and falling of rocks, the harrowing sounds of electric saws, and thumping and drilling machines. Each world moreover has its own quasi-musical motif – but all of them, except for the sand world, are low-pitched. The direction of movement is telling: the up-down direction suggests deterioration of the creature's condition, consonant with the metaphors GOOD IS UP and BAD IS DOWN (Lakoff and Johnson 1980: 16; but see Hampe 2005b for a warning that these valuations by no means always apply). Moreover, he *falls*, which connotes lack of control; at the same time, his digging indicates he is taking initiative to save himself. The creature, while seeming to be at the mercy of his world rather than being its master, is not entirely powerless. His eventual regeneration could thus be seen as being due to a combination of a miracle (or a mere fact of nature ...) and his persistent will to survive. Narrative unity is achieved by the fact that the creature ends where it started: in a sand world, where he is reborn. As in *Father and Daughter*, the opening and the closing scene feature the same musical motif.

*O* (Kireet Khurana, India 1996, 4'05"). <http://www.youtube.com/watch?v=dUFHVwUxQLg>

[Last accessed 19 August 2010]



Summary A baby grows up to be an infant, a child (Figure 6), an adolescent, a grown-up (Figure 7), and finally an old man (Figure 8). His amassing of knowledge and experience is visualized by the accumulation of symbols – most of them coming from the mouths of people he meets – in a cartoon-like balloon over his head. Perhaps because he only accumulates concepts, and does not integrate them with those gathered before, his balloon becomes so full along the way that he carelessly loses the very first symbol he discovered for himself as a baby: the “ball/circle/O” concept. As an old man he is exasperated by the vast burden that he literally has to carry on his back. He can no longer take it, and all the concepts he has collected in the course of his life shoot out of his balloon with unpleasant, twangy sounds. Then he meets a baby, who offers him a ball again – and the old man happily puts up the concept of “ball/circle/O” in his now empty balloon. The film ends with the following text in the ball/circle/O: “We shall not cease from exploration/And the end of all our exploring/Will be to arrive where we began from/And know the place for the first time. T.S. Elliot [sic].”

[INSERT FIGURES 6, 7, AND 8 APPROXIMATELY HERE, PREFERABLY  
JUXTAPOSED]

MOVEMENT domain The origin of the protagonist’s movement is located somewhere on screen-right, its end is an unspecified place on screen-left, and the protagonist’s path is from right to left. He makes progress solely via bodily movements: by crouching, walking, and staggering. Potential difficulties in making headway are having to keep his balance when learning to walk, to direct the idea-objects thrown at him into his conceptual balloon, and to ascend a long stairway when he is old while carrying his burden of knowledge.

QUEST domain The goal of the protagonist is acquiring experience and knowledge in life.

TIME domain Progress in time is suggested by the protagonist's maturing and ageing. In addition, the SPG schema is instantiated via TIME IS SPACE, with movement from right (past, birth) to left (future, death).

STORY domain Each "chapter" covers a stage in the protagonist's life. *O* is the animation equivalent of a *Bildungsroman* condensed into a few minutes. Closure is achieved when the protagonist, who has become literally de-pressed, happily rediscovers the perfect simplicity of the "ball/circle/O" that had first fascinated him as a baby.

Interrelations between domains in *O* The protagonist's conceptual balloon grows during his movement in keeping with his age. Aspects of this correspondence are the appearance of the balloon itself, early on, which suggests that the baby has acquired a rudimentary capacity to conceptualize. It is, after all, he himself who transforms the real ball he played with into the concept "ball/circle/O." Moreover, his initially unstable walking as a young child, matching the instability of the balloon above his head, gradually changes into stability both in his own and in his balloon's movements: the competence to make literal progress is mirrored by his growing knowledge. Note also that in the early stages, the mastering of each new concept (i.e., each act of storing a symbol in the balloon) is accompanied by a pleasant "clinking" sound, suggesting the joy of learning. That this process is only partially under the control of the protagonist transpires by the manner in which the symbols end up in the balloon. As a child he puts symbols of elementary forms – such as a square, a triangle, a letter, a punctuation mark – in the balloon himself, and as a young man he eagerly grabs and puts up the heart that emanates from the mouth of a lovely girl. But other symbols, such as a revolver and a knife hitting him from an aggressive man's mouth, bounce against his body before ending up, independent of his will, in the balloon, metonymically conveying how violent experiences have helped, willy-nilly, build his character. Symbols pertaining to religions, including a cross, fly into the balloon without any intervention – which

could be interpreted as being so much part and parcel of (Indian?) culture that they are absorbed automatically. Furthermore, it is noteworthy that after his epiphanic meeting with the baby, *O*'s protagonist jumps around, and thus breaks away from the rigid right-left movement; if even momentarily, he frees himself from the inexorable progress of time. The notion of “coming full circle” in rediscovering the simplicity of elementary concepts is suggested in the title.

Apart from the SPG schema, *O* may be seen as drawing upon other primary schemas (Grady 1999): when the protagonist staggers up a long flight of steps, it seems he is pressured by the idea that GOOD IS UP. Another metaphor that is activated is that of KNOWLEDGE IS A BURDEN (cf. “he that increaseth knowledge, increaseth sorrow,” Ecclesiastes 1.18).

## 6. A digression: the status of “image schemas”

Up till now we have taken for granted the status of SPG as an image schema. The contributions in Hampe (2005a), however, reveal that there is no complete agreement even among cognitive linguists about the precise definition of “image schema,” some (Zlatev 2005; Correa-Beningfield et al. 2005) proposing alternatives. And how “real” are image schemas in the first place?

We will address the last issue first. As with all phenomena that are not directly accessible to the senses, the justification for postulating the existence of image schemas depends to a large extent on the presence of a large number of perceptible symptoms with a minimum of internal structure that all seem to point to a common cause or source. To convince ourselves that this common cause or source is indeed responsible for the wide variety of symptoms, and is not simply a mere theoretical verbal construct, it is useful, perhaps even necessary, to show that it occurs across modalities. Thus we *see* CONTAINMENT

in its manifold manifestations, but we can also *feel* it and, through echoes and reverberations (think of tin drums) or the changing quality of the sound of liquid being poured into a glass we can even *hear* it. Thus, it makes sense to say that we have a supramodal idea of CONTAINMENT that helps our day-to-day survival and functioning in the world. Skeptics might nonetheless ask: are image schemas “real”? Do people activate image schemas each time when they literally and figuratively negotiate their daily lives in general, and when they are confronted with the kind of art animation discussed in this paper specifically? We suggest that people indeed do, but to a considerable extent without realizing. It is like typing, or driving a car. Once mastered, these skills are used most of the time without conscious reflection; but yet they once had to be *learned*, and when things go wrong (in typing, in driving) human beings are made aware of them again. We submit that image schemas are like that. We also submit that without the mappings of movement on non-literal extensions of the SPG schema (here: quest and story), the three animations would simply not make aesthetic and emotional sense in the way they apparently do (both *Father and Daughter* and *Quest*, for instance, won Oscars). Although all this does not *prove* that people draw on the SPG schema when viewing the animations under discussion (and numerous other journey stories), we think our analyses have made it highly *plausible* people indeed do. If critics challenge this plausibility, the burden is on them to propose a better explanatory model (better, that is, than recruiting SPG and its related schemas) for how viewers make sense of the films.

This brings us to the first issue raised above: the matter of definition. Our view is that as long as a community of users can agree on its central characteristics, it does not really matter how a given phenomenon is called. It would be a shame, though, if the struggle for *understanding* the phenomenon would be replaced by a battle for *naming* it ... What the cognitive linguist community agrees on is that “image schemas” are rooted in bodily perception. This is a good reason to retain the label, and not conflate them with, for instance,

“scenarios” (Musolff 2006), which have strong socio-cultural connotations. We trust that our discussions of the animations have strengthened the claim that human sense-making is rooted in embodied behavior, that this embodied behavior can be explained in terms of a limited set of routines, and that it is thus warranted to postulate that there is a type of knowledge that deserves a name – and why not stick to “image schemas”?

To conclude this section, we will briefly discuss views expressed on image schemas in Hampe (2005a) that we see as consonant with our own. Dewell felicitously proposes: “The effect of a language construction is somewhat like a chess opening, providing a conventionally patterned sequence that becomes progressively less constrained as it gets further from its starting point. Some aspects of the pattern will be very entrenched and automatic [...]. Other aspects will be subject to weaker conventional constraints and to a variety of contextual factors” (2005: 390). We will here take the liberty of somewhat bending and elaborating the metaphor. Just as there is a limited number of robust chess openings, there is a limited number of image schemas. Moreover, the seasoned chess player makes the moves of the opening almost automatically, since the first few moves have long been proven correct, and it would be a waste of costly time to reconsider them. The purely embodied part of image schemas is like this; it is activated routinely and requires no conscious thinking. In the chess game, it is only after the opening that the game develops in a unique and potentially interesting manner: although the number of choices for each subsequent move remains limited, one cannot simply fall back on pre-learned moves. We propose that this aspect of the game can be metaphorically mapped onto the accultured part of image schemas. Indeed, we see Johnson as arguing the same point when he warns, using a different metaphor (to which we are indebted for the title of this paper), “when we describe the image-schematic structure alone, we never capture fully the qualities that are the flesh and blood of our experience” (2005: 28). The embodied part of image schemas, like the chess opening, is “structured,” and

more or less the same in each particular case. The flesh and blood breathes life into the “skeleton” (Johnson 2005: 29); and it is the flesh on each skeleton that makes a person unique. Just so the accultured, situationally specific dimensions of the image schema make its recruitment unique – and useful. That is, if we want to study image schemas “in action” we cannot but take into account both their embodied and their accultured aspects (see also Kimmel 2005; Gibbs 2005; Forceville et al. 2006). This, incidentally, should not be taken to mean that the two are to be conflated: it is precisely in the embodied dimension that universals may be found (see Kövecses 2010: chapter 13).

We endorse the idea that the discussion about image schemas is sometimes confused by the fact that different scholars may discuss different *levels* of the same image schema without acknowledging so (Kimmel 2005: 295; see also Cienki 2005; Dewell 2005; Gibbs 2005; Grady 2005; Zlatev 2005) and that different schemas are often closely intertwined (Cienki 2005; Grady 2005; Kimmel 2005). In this paper we have focused on the SPG schema, but we hope to have shown that it is impossible to do so without discussing FORCE, BALANCE, UP-DOWN, and CYCLICITY. This, in turn, reinforces the observation by Johnson (1987), shared by many contributors in Hampe (2005a), that image schemas are inherently dynamic. Since image schemas are recruited in action, we constantly invoke the next one, or refine and calibrate the schema we are at that moment deploying.

## **7. Discussion and conclusions**

The three animations discussed exemplify the SPG schema in a very basic form. They do not pertain to just any movement-cum-quest, but to movements-cum-quests that touch upon existential questions of identity. We claim that this basicness emanates from the highly embodied nature of the movements. An important aspect of this is that in all three (almost) a

whole life is depicted, from birth to death – whereby it is to be noted that the protagonists' ageing from one "chapter" to another can be credibly conveyed thanks to the medium and conventions of the animation medium. Furthermore it is telling that the "vehicle of motion" is either the body itself or the bicycle, a vehicle that requires hard physical work, which further contributes to the self-reliant nature of the movement/quest. Undoubtedly, viewers would be less fascinated and emotionally touched if the protagonists had used a car as mode of transport. In addition, the strongly linear trajectory imposes a sense of inevitability. As a consequence, the interrelations between the instantiations of the SPG schema acquire great significance: the stories' subject is how an individual gives meaning to life.

But clearly much of the "flesh and blood" in the stories comes from socio-cultural aspects of the SPG schema. It is notable that all three films in some way come "full circle." The recruitment of the CYCLICITY schema by the viewer is surely motivated by its accultured rather than its embodied dimensions. Growing up, we have learned to expect stories to connect their endings to their beginnings. It is this what gives them "closure." Arguably, in these three films the closure leaves us cathartically consoled, because they unite beginning and end, birth and death, in ways that suggest that life, despite setbacks and problems, can teach us something crucially important. Although there is a physical end to life's journey, there is some form of renewal, or spiritual living-on. Re-finding a key phenomenon suspends the unidirectionality of "time's arrow," and thereby conquers time. It is pertinent, moreover, that coming full circle is partly the result of the protagonists' own perseverance, and partly something that appears to be beyond their control: a dream, regeneration, a meeting. Thus, we argue, it is really the learned, accultured dimensions of CYCLICITY – differently elaborated in each story – that put flesh and blood on the embodied skeleton (if we are permitted this oxymoron), and move the viewer.

The films' meanings are enhanced by yet other motifs that marry embodied and accultured dimensions of image schemas. The vehicle for motion in *Father and Daughter*, the bicycle, requires mastering BALANCE par excellence, but is also a typically Dutch mode of transport, and together with the accordion music gives a strong cultural flavor to this aspect of the movement level. It is also noteworthy that the depiction of the seasons allows for strong metaphorical mappings from the movement level onto the quest and the story. Indeed, the metaphor A LIFETIME IS A YEAR allows for a richer exploitation in a country such as the filmmaker's native Holland, where the weather differs markedly per season, than in countries with consistently hot or cold climates.

The technique of an animation, including the materials chosen, can co-determine the relevant inferences to be activated on the basis of the SPG schema. For instance, the fact that the protagonist in *Quest* is made of sand is important in that water makes a sand creature cohesive, while "water" is itself a symbol of salvation. Moreover, the dehydrating creature is at the end of the film "naturally" fragmented into its constituent parts – grains of sand – in a way that would not be possible with a paper or clay puppet. This is an aspect of a PART-WHOLE schema combining both embodied and accultured dimensions. And it remains a matter for debate whether the emphatic presence of earth, water, fire, sky – the "Four Elements" in Western mythology – in *Quest* should be considered an accultured dimension or an embodied (PART-WHOLE?) schema or had better be kept out of the image schema discussion altogether.

Our analyses have aimed to demonstrate how the SPG schema crucially informs the three animations discussed. More concretely we draw the following conclusions:

1. Polyvalent meaning is enhanced by the way SPG informs the four levels of journey, time, quest, and story, and their interrelations; SPG itself is intertwined with many other schemas, including FORCE, BALANCE, UP-DOWN, and CYCLICITY.



2. TIME IS SPACE: The past is the place where the protagonists come from; the future is the place where they are heading.
3. CONTROL OVER ACTION IS CONTROL OVER SELF-PROPELLED MOTION. The fact that the protagonists are at least partly in charge of their movement provides an important source for mappings of their locomotion to their choices and decisions (see e.g., Kövecses 2000: 56).
4. SPG is triggered on the basis of the films' visuals and sounds alone; language is not necessary for its activation.
5. In animation, more than in prose texts and live-action film, characters' manner of moving and the concomitant BALANCE schema (Johnson 1987; see also Dodge and Lakoff 2005) constitute a salient dimension of SPG.
6. The movement-cum-quest easily subdivides into "chapters"; musical themes can reinforce this subdivision.

## **8. Further research**

We propose that future research pertaining to the SPG schema in animation could follow two trajectories. In the first place SPG provides tools to analyze and theorize the genre of journey stories in animation (and by extension in other media, such as the "road movie," see Cohan and Hark 1997). Since what matters is which elements on the movement level can be metaphorically mapped onto the quest, time, and story levels, it is these that need to be first inventoried. Here is a provisional and non-exhaustive checklist:

- Where in screen space is the movement's starting point and where is its destination?
- In what direction is moved (right/left, up/down, back-front [or vice versa], in a circle, a zigzag pattern ...)?

- What means of transport is/are used (legs, bike, horse, camel, car, train, plane, stilts, toboggan ...)?
- What kind of obstacles/facilities does the path present (mountains, storms, lakes, snow, swamps, smooth flat roads, bridges, tunnels ...), as well as those travelling on it (helpers/antagonists)?
- How does manner of movement, specifically BALANCE, play a role in motion?
- How does sound cue spatially relevant effects?
- Are musical segments repeated? Does their key or tempo vary to reinforce, or contradict, visual information pertaining to movement?
- Does the type of material (drawn cels, cutouts, clay, sand ...) chosen for the animation affect type and manner of motion?

Subsequently, it is to be assessed if, and if so, how, these aspects of literal movement are exploited to structure QUEST and STORY.

In the second place, the medium of short art animation provides excellent opportunities to further investigate the embodied and accultured dimensions of image schemas, not in the last place because many of them do not or hardly rely on language. This thus allows for checking how the medium affects the (image-schematic) message, and challenges CMT critics to find alternative ways of accounting for how viewers elicit meaning from, and are moved by, art. Are there non-embodied schemas that help breathe meaning into concepts such as TIME, QUEST, and STORY in animation? Or are there other embodied schemas besides MOVEMENT? To check this, it will be useful to focus on narrative animation that relies less heavily on movement along a path – perhaps more on transformation. Alternatively, animated stories that are situated on a single spot might yield interesting findings, since they might not be able to exploit character movement metaphorically. An example might be the theme of creation, for instance, building.

However this may be, we believe that further research into the SPG schema in animation will benefit both the theorization of animation and that of cognition.

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## REFERENCES

- Aristotle [c.350 BC] 1987. *Poetics*. Translated and edited by R. Janko. Indianapolis: Hackett.
- Beckerman, H. 2003. *Animation: The Whole Story* (revised ed.). New York: Allworth Press.
- Boers, F. 1999. “When a bodily source domain becomes prominent: The joy of counting metaphors in the socio-economic domain”. In R. Gibbs and G.J. Steen (eds), *Metaphor in Cognitive Linguistics*. Amsterdam: Benjamins, 47-56.
- Bordwell, D. 1985. *Narration in the Fiction Film*. London: Routledge.
- Bordwell, D. and Thompson, K. 1997. *Film Art: An Introduction* (5<sup>th</sup> ed.). Boston: McGraw-Hill.
- Campbell, J. 2008 [1949]. *The Hero with a Thousand Faces* (3<sup>rd</sup> ed.). Novato CA: New World Library.
- Carroll, N. 1996. “A note on film metaphor”. In *Theorizing the Moving Image*. Cambridge: Cambridge University Press, 212-223.
- Charteris-Black. J. 2004. *Corpus Approaches to Critical Metaphor Analysis*. Basingstoke: Palgrave MacMillan.

- Cienki, A. 1998. “Metaphoric gestures and some of their relations to verbal metaphoric expressions”. In J.-P. Koenig (ed.), *Discourse and Cognition: Bridging the Gap*. Stanford CA: Center for the Study of Language and Information, 189-204.
- Cienki, A. 2005. “Image schemas and gesture”. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 421-441.
- Cohan, S. and Hark, I.R. 1997. *The Road Movie Book*. London: Routledge.
- Correa-Beningfield, M., Kristiansen, G., Navarro-Ferrando, I. and Vandeloise, C. 2005. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 343-366.
- Cotte, O. 2006. *Secrets of Oscar-Winning Animation: Behind the Scenes of 13 Classic Short Animations*. Amsterdam: Focal Press.
- Dascal, M. 2003 [1996]. “Understanding a metaphor: The beyond enterprise”. In *Interpretation and Understanding*. Amsterdam: Benjamins, 244-272.
- Deignan, A. 2005. *Metaphor and Corpus Linguistics*. Amsterdam: Benjamins.
- Dewell, R.B. 2005. “Dynamic patterns of CONTAINMENT.” In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 369-393.
- Dodge, E. and Lakoff, G. 2005. “Image schemas: From linguistic analysis to neural grounding”. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 57-91.
- Fahlenbrach, K. (2007). “Embodied spaces: Film spaces as (leading) audiovisual metaphors”. In J.D. Anderson and B. Fisher Anderson (eds), *Narration and Spectatorship in Moving Images*. Cambridge: Cambridge Scholar Press, 105-124.
- Fahlenbrach, K. (2010). *Audiovisuelle Metaphern*. Marburg: Schüren.

- Fauconnier, G. and Turner, M. 2002. *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.
- Forceville, C. 1996. *Pictorial Metaphor in Advertising*. London: Routledge.
- Forceville, C. 1999. "The metaphor COLIN IS A CHILD in Ian McEwan's, Harold Pinter's, and Paul Schrader's *The Comfort of Strangers*". *Metaphor and Symbol* 14: 179-198.
- Forceville, C. 2005. "Visual representations of the Idealized Cognitive Model of Anger in the Asterix album *La Zizanie*". *Journal of Pragmatics* 37: 69-88.
- Forceville, C. 2006a. "The Source-Path-Goal schema in the autobiographical journey documentary: McElwee, Van der Keuken, Cole". *New Review of Film and Television Studies* 4: 241-261.
- Forceville, C. 2006b. "Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research". In G. Kristiansen, M. Achard, R. Dirven and F. Ruiz de Mendoza Ibáñez (eds), *Cognitive Linguistics: Current Applications and Future Perspectives*. Berlin: Mouton de Gruyter, 379-402
- Forceville, C. 2007. "Multimodal metaphor in ten Dutch TV commercials". *Public Journal of Semiotics* 1(1): 19-51. <http://semiotics.ca/>
- Forceville, C. 2008a. "Pictorial and multimodal metaphor in commercials". In E.F. McQuarrie and B.J. Phillips (eds), *Go Figure! New Directions in Advertising Rhetoric*. Armonk NY: ME Sharpe, 272-310.
- Forceville, C. 2008b. "Metaphor in pictures and multimodal representations". In R.W. Gibbs Jr. (ed.), *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press, 462-482.
- Forceville, C. forthcoming. "The Source-Path-Goal schema in Agnes Varda's *Les Glaneurs et la Glaneuse* and *Deux Ans Après*". In M. Fludernik (ed.), *Beyond Cognitive Metaphor Theory: Perspectives on Literary Metaphor*. London: Routledge.

- Forceville, C., Hekkert, P. and Tan, E. 2006. “The adaptive value of metaphors”. In U. Klein, K. Mellmann and S. Metzger (eds.), *Heuristiken der Literaturwissenschaft. Einladung zu disziplinexternen Perspektiven auf Literatur*. Paderborn: Mentis, 85-109.
- Forceville, C, and Urios-Aparisi, E. (eds) 2009. *Multimodal Metaphor*. Berlin: Mouton de Gruyter.
- Forceville, C., Veale, T. and Feyaerts, K. forthcoming. “Balloonics: The visuals of balloons in comics”. In J. Goggins and D. Hassler-Forest (eds), *The Rise and Reason of Comics and Graphic Literature: Critical Essays on the Form*. Jefferson NC: McFarland.
- Geeraerts, D. 2006. “Methodology in cognitive linguistics”. In G. Kristiansen, M. Achard, R. Dirven and F. Ruiz de Mendoza Ibañez (eds), *Cognitive Linguistics: Current Applications and Future Perspectives*. Berlin: Mouton de Gruyter, 21-49.
- Gibson, J.J. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Gibbs, R.W. Jr. 1994. *The Poetics of Mind: Figurative Thought, Language, and Understanding*. Cambridge: Cambridge University Press.
- Gibbs, R.W. Jr. 2005. “The psychological status of image schemas”. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 113-135.
- Gibbs, R.W. Jr. 2006. *Embodiment and Cognitive Science*. Cambridge: Cambridge University Press.
- Gibbs, R.W. Jr. and Perlman, M. 2006. “The contested impact of cognitive linguistic research on psycholinguistic theories of metaphor understanding”. In G. Kristiansen, M. Achard, R. Dirven and F. Ruiz de Mendoza Ibañez (eds), *Cognitive Linguistics: Current Applications and Future Perspectives*. Berlin: Mouton de Gruyter, 211-228.
- Gibbs, R.W., Jr. and Steen, G.J. (eds). 1999. *Metaphor in Cognitive Linguistics*. Amsterdam: Benjamins.

- Grady, J.E. 1999. "A typology of motivation for conceptual metaphor: Correlation vs. resemblance". In R.W. Gibbs, Jr. and G.J. Steen (eds). *Metaphor in Cognitive Linguistics*. Amsterdam: Benjamins, 79-100.
- Grady, J.E. 2005. "Image schemas and perception: Refining a definition". In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 35-55.
- Hampe, B. (ed.). 2005a. *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter.
- Hampe, B. 2005b. "When *down* is not bad, and *up* not good enough. A usage-based assessment of the plus-minus parameter in image-schema theory". *Cognitive Linguistics* 16: 81-112.
- Jeulink, M. 2006. "De Belichaming van het Source-Path-Goal Schema: De Metafoor HET LEVEN IS EEN REIS in het Medium Animatie" [The embodiment of the Source-Path-Goal schema: the metaphor LIFE IS A JOURNEY in the medium of animation film.] MA thesis, Dept. of Media Studies, Universiteit van Amsterdam.
- Johnson, M. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason*. Chicago: University of Chicago Press.
- Johnson, M. 1993. *Moral Imagination: Implications of Cognitive Science for Ethics*. Chicago: University of Chicago Press.
- Johnson, M. 2005. "The philosophical significance of image schemas". In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 15-33.
- Johnson, M. 2007. *The Meaning of the Body: Aesthetics of Human Understanding*. Chicago: University of Chicago Press.

- Jones, C. 1989. *Chuck Amuck: The Life and Times of an Animated Cartoonist*. New York: Avon Books.
- Katz, A.N. and Taylor, T.E. 2008. “The journeys of life: Examining a conceptual metaphor with semantic and episodic memory recall”. *Metaphor and Symbol* 23: 148-173.
- Kimmel, M. 2005. “Culture regained: Situated and compound image schemas”. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 285-311.
- Kövecses, Z. 2000. *Metaphor and Emotion: Language, Culture, and Body in Human Feeling*. Cambridge: Cambridge University Press.
- Kövecses, Z. 2005. *Metaphor in Culture: Universality and Variation*. Cambridge: Cambridge University Press.
- Kövecses, Z. 2010. *Metaphor: A Practical Introduction* (2<sup>nd</sup> ed.). Oxford: Oxford University Press.
- Lakoff, G. 1987. *Women, Fire and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Lakoff, G. 1993. “The contemporary theory of metaphor”. In A. Ortony (ed.), *Metaphor and Thought* (2<sup>nd</sup> ed.). Cambridge: Cambridge University Press, 202-251.
- Lakoff, G. and Johnson, M. 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.
- Lakoff, G. and Johnson, M. 2003. “Afterword”. *Metaphors We Live By*. Chicago: University of Chicago Press, 243-276.
- Lakoff, G. and Johnson, M. 1999. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.
- Linde, C. 1993. *Life Stories: The Creation of Coherence*. New York: Oxford University Press.



- McNeill, D. 1992. *Hand and Mind: What Gestures Reveal about Thought*. Chicago: University of Chicago Press.
- McNeill, D. 2005. *Gesture & Thought*. Chicago: University of Chicago Press.
- Mittelberg, I. and Waugh, L.R. 2009. “Metonymy first, metaphor second: A cognitive-semiotic approach to multimodal figures of thought in co-speech gesture”. In C. Forceville and E. Urios-Aparisi (eds), *Multimodal Metaphor*. Berlin: Mouton de Gruyter, 329-356.
- Müller, C. 2008. *Metaphors Dead and Alive, Sleeping and Waking: A Dynamic View*. Chicago: University of Chicago Press.
- Müller, C. and Cienki, A. 2009. “Words, gestures, and beyond: Forms of multimodal metaphor in the use of spoken language”. In C. Forceville and E. Urios-Aparisi (eds), *Multimodal Metaphor*, Berlin: Mouton de Gruyter, 297-328.
- Musolff, A. (2006). “Metaphor scenarios in public discourse”. *Metaphor and Symbol* 21: 23-38.
- Propp, V. 1968. *Morphology of the Folktale* (2<sup>nd</sup> ed., revised and edited with a preface by L.A. Wagner; translated by L. Scott).. Austin TX: University of Texas Press.
- Ritchie, D.L. 2008. “X is a journey: Embodied simulation in metaphor interpretation”. *Metaphor and Symbol* 23: 174-199.
- Sifianos, G. 1995, Spring. “The definition of animation: A letter from Norman McLaren – with an introduction by Georges Sifianos”. *Animation Journal* s.n.: 62-66.
- Smith, B. and Sparkes, A.C. 2004. “Men, sport, and spinal cord injury: An analysis of metaphors and narrative types”. *Disability & Society* 19: 599-612.
- Sückfull, M. (forthcoming). “Films that move us: Moments of narrative impact in an animated short film”. *Projections* 4(2).
- Visch, V. 2007. “Looking for Genres: The Effect of Film Figure Movement on Genre Recognition.” PhD dissertation, Faculty of Arts, Vrije Universiteit Amsterdam.

Whittock, T. 1990. *Metaphor and Film*. Cambridge: Cambridge University Press.

Yu, N. 2009. “Nonverbal and multimodal manifestation of metaphors and metonymies: A case study”. In C. Forceville and E. Urios-Aparisi (eds), *Multimodal Metaphor*. Berlin: Mouton de Gruyter, 119-143.

Zlatev, J. 2005. “What’s in a schema? Bodily mimesis and the grounding of language”. In B. Hampe (ed.), *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 313-343.

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