



Seeing Yourself in the Past

The Role of Situational (Dis)continuity and Conceptual Metaphor in the Understanding of Complex Cases of Character Perception

Maarten Coëgnarts, Miklós Kiss, Peter Kravanja, and Steven Willemsen

Abstract: This article examines the role of situational (dis)continuity and conceptual metaphor in the cinematic construal of complex cases of character perception. It claims that filmed events of the script “a character *S* seeing something *O*” can impede the continuity of real-life perception by eliciting discontinuity along two situational dimensions—the temporal dimension (i.e., one cannot directly see events in the past or the future), and the entity dimension (i.e., one cannot see oneself in the act of looking). The article concludes with a case study of Christopher Smith’s *Triangle* (2009) as an example of contemporary complex narrative cinema.

Keywords: embodied cognition, image schemas, metaphor, narrative complexity, perception, puzzle film, situation model, time

When classifying contemporary cinema, a substantial portion of the academic debate amounts to a discussion of narrative complexity, that is, a number of film scholars have theorized and evaluated cinema’s recent (from the early 1990s) tendency toward narrative forms that evade the conventions of classical storytelling while instead embracing such techniques as nonlinearity, time loops, subjective modes of narration, and fragmented spatio-temporal reality.¹ In order to characterize this trend, a vast amount of umbrella categories have been introduced: postclassical cinema (Elsaesser and Buckland 2002: 26–79; Thanouli 2006), complex cinema (Mittell 2006; Simons 2008; Staiger 2006), modular (Cameron 2008) or subjective multiform (Campora 2014) narratives, puzzle films (Buckland 2009, 2014), riddle films (Kiss 2013), or impossible puzzle films (Kiss and Willemsen forthcoming 2016). Despite the use of various labels to diagnose this trending strategy in contemporary films, many com-



plex narrative films usually have one feature in common, namely their refusal to be constrained by the spatial, causal and temporal laws of our experienced reality. Indeed, the complexity of these films often stems from concrete and local confusing events that present contradictory, paradoxical, or otherwise logically impossible state of affairs. In this article we focus on the kind of local instances of complexity elicited through the script of character perception. By this we mean specific instances in which filmic representations of “a character S seeing something O” (e.g., the point of view shot) are used to create a continuity break with the elementary laws of viewers’ real life (visual) perception. Usually this sort of films involves three types of scenes: (1) scenes in which characters directly see events that took place in the past or will take place in the future (temporal discontinuity), (2) scenes in which characters directly see themselves (entity discontinuity), or (3) scenes in which characters directly see themselves in the past or future (temporal and entity discontinuity). Notable examples of scenes involving at least one of these discontinuities occur in *2001: A Space Odyssey* (1968), *The Tenant* (1976), *Timecrimes* (2007), *Triangle* (2009), *Coherence* (2013), and *Interstellar* (2014).

The article’s main goal is to examine how the viewer comprehends particular scenes characterized by such discrepancies. To address this issue, we draw on two influential theories of discourse comprehension of the 1980s and 1990s, namely (1) the *theory of situation model or mental model construction* (SMT) (Glenberg et al. 1987; Johnson-Laird 1983; Van Dijk and Kintsch 1983; Zwaan and Radvansky 1998) and (2) *the theory of conceptual metaphor* (CMT) (Johnson 1987, 2007; Lakoff 1987; Lakoff and Johnson 1980, 1999). Using the conceptual tools from both frameworks, we develop a line of reasoning that can be best summarized as follows:

(1) When the viewer comprehends a filmed event of character perception, he does not only construct a mental representation of the *mode of expression* used to depict the event, but also of the *situation* that is conveyed by the mode of expression (i.e., the situation of a character S seeing something O). These representations, known as *mental or situation models*, are multidimensional in that their construction depends heavily on various aspects such as the temporal order of events or the spatial layout of the situation (Magliano et al. 1998, 2001; Zwaan, Magliano, and Graesser 1995). Continuity with regard to these aspects, then, is what constitutes a coherent situation model. As this article makes clear, a *continuous* situation model of character perception would entail, amongst other dimensions, that the object seen by the character occurs in the present (temporal continuity), or that the object seen by the character does not coincide with the perceiving character himself (entity continuity). Hence, a *discontinuous* situation model of character perception would involve the impediment of one or both of these entailments.

In this paper, we will focus on the kind of local instances of complexity elicited through the script of character perception.

(2) If we do indeed construct situation models during viewing, then, we might assume, as Zwaan and Radvansky (1998: 164) argue, that the viewer uses “modality-independent cognitive procedures to construct these models.” One such cognitive procedure, which we believe to play an important role in the construction of a mental model for the filmed event of character perception, is that of conceptual metaphor. Developed in the 1980s as a reaction to the amodal theories of syntax (see, e.g., Chomsky 1957), CMT proposed a theory of embodied or grounded cognition according to which people extend their sensory-motor knowledge to reason about abstract concepts (Lakoff and Johnson 1980, 1999). All abstract conceptual knowledge is claimed to be irreducibly metaphoric. This includes concepts such as time, thought, reason, knowledge, causation, and perception, which has been said to be particularly grounded in our sensory-motor representations of physical contact and movement (Lakoff 1995; Yamanashi 2010; Yu 2003, 2004). These metaphors are believed to underlie such *linguistic* expressions as “I *made* eye contact,” or “He *came into* my sight.”

Similarly we argue that conceptual metaphors are not only used to structure our understanding of perception in *textual* events, but also to structure our understanding of perception in *filmed* events. Motivation for this turn toward the nonverbal is provided by the claim of CMT that conceptual metaphors are modality-independent. Linguistic metaphors of perception are not random, but cognitively motivated. They express a way of thinking that is bodily grounded. For this reason the study of conceptual metaphor cannot be restricted to the study of language alone (see also Forceville 2009, 2011; Forceville and Jeulink 2011; Gibbs and Perlman 2006: 215). For instance, if conceptual metaphors are modality-independent, it is plausible to assume that the same embodied conceptual structures that lie at the heart of our linguistic expressions of perception are also pervasive in those filmic expressions that convey information about the perceptual states of film characters (Coëgnarts and Kravanja 2014, 2015a, 2015b).

Exposing the relationship between the situational dimensions of character perception, on the one hand, and the role of image-schematic driven conceptual metaphors, on the other hand, are the main objective of this article.² By highlighting this relationship, we hope to offer a potential explanatory model that allows one to grasp some of the embodied mechanisms that underlie the viewer’s comprehension of complex narratives, in particular, the viewer’s comprehension of complex cases of character perception.

The assumptions behind this line of thinking need to be clarified and require the study of at least three key questions:

- 1) How do the multiple dimensions of the situation model relate to the local event of character perception? And when do we consider an event
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of character perception as continuous or discontinuous along these dimensions?

- 2) How are the situational dimensions of character perception construed conceptually by means of conceptual metaphor(s)?
- 3) How do the conceptual mechanisms, raised by examining question two, manifest themselves in the cinematic mode of expression?

We conclude the article by showing how the proposed theoretical model can be extended to the discussion of narrative complexity in cinema. Using Christopher Smith's *Triangle* (2009) as a filmic example, we show how the viewer's felt experience of complexity arises from the construal of a situation model of character perception that is discontinuous along two dimensions (temporality and entity).

The Role of Situational Continuity in Character Perception

One of the most influential theoretical concepts to have emerged in the study of narrative comprehension has been the construct of a *situation model* (Van Dijk and Kintsch 1983) or *mental model* (Johnson-Laird 1983). The underlying idea behind this concept is that comprehension of narrative events involves more than what is explicitly given in the mode of expression (e.g., textual events, filmed events, real world events). It involves the construction of a mental representation of the *situation* or *state of affairs* described in the mode of expression, rather than the construction and retrieval of a mental representation of the *mode of expression* itself (Zwaan and Radvansky 1998: 162). To illustrate its significance for narrative comprehension let us briefly consider an experiment that was already conducted a decade prior to the coining of both concepts. In their study on sentence memory, Bransford, Barclay, and Franks (1972) have demonstrated empirically that the reader's mental representation of the situation described by the textual event can have a significant effect on the reader's memory (for a discussion, see also Zwaan and Radvansky 1998: 162–163). Assume, for example, that participants are hearing input sentences (1) and (2):

- (1) Three turtles rested *beside* a floating log, and a fish swam beneath *them*.
- (2) Three turtles rested *on* a floating log, and a fish swam beneath *them*.

Then, afterward, during the recognition test, the same participants are additionally confronted with the same sentences, albeit with the final pronoun "them" changed to "it".

- (3) Three turtles rested *beside* a floating log and a fish swam beneath *it*.
- (4) Three turtles rested *on* a floating log and a fish swam beneath *it*.

Participants who had heard input sentence (1) frequently confused it with recognition sentence (3), whereas people who had heard input sentence (2) rarely

confused it with recognition sentence (4). These findings indicate that the discrepancy cannot be explained by merely differential changes at the textual level. Indeed, sentences (1) and (3) and sentences (2) and (4) only differ with respect to the pronoun (“them” or “it”). How, then, can we account for this difference? As the authors argue, the explanation has to be found in the *spatial layout* described by the sentences (191). Sentence (1) offers a description that includes information about a fish swimming beneath the turtles. The description in sentence (2) also contains this information, but it includes something additional as well. As they write: “Since the turtles were on the log and the fish swam beneath them, it follows that the fish swam beneath the log as well” (191). The information, however, that the fish swam beneath the log, was not included in the input sentences. “It had to come from one’s general cognitive knowledge of the world (in this case, knowledge of spatial relations)” (191). Or as Zwaan and Radvansky (1998) put it: sentences (1) and (3) are being confused, “because they describe the same situation” (163). By contrast, sentences (2) and (3) “are less likely to be confused because they describe different situations” (163).

the audience (e.g., readers, viewers, listeners), when constructing coherent representations of the story structure, simultaneously monitor or index continuities on at least five different dimensions: time, space, causation, entities (characters and objects), and motivation or intentionality

The spatial layout of the described events is but one of many aspects of situation models. The *event-indexing (EI) model* proposed by Zwaan, Langston, and Graesser (1995) has been introduced to account for the *multidimensional* set-up of situation models (see also Magliano et al. 1998; Zwaan 2015; Zwaan and Radvansky 1998). It assumes that the audience (e.g., readers, viewers, listeners), when constructing coherent representations of the story structure, simultaneously monitor or index continuities on at least five different dimensions: time, space, causation, entities (characters and objects), and motivation or intentionality.

- (1) *Temporal continuity* occurs when the incoming event described in the mode of expression (e.g., a sentence, a shot) occurs within the same time frame as the prior events in working memory.
- (2) *Spatial continuity* occurs when the incoming event described in the mode of expression takes place within the same spatial region as the prior events in working memory.
- (3) *Causal continuity* occurs when there is a direct causal link between the incoming event described in the mode of expression and the prior events in working memory.
- (4) *Entity continuity* occurs when the incoming event described in the mode of expression and the event representations in working memory both involve the same entity (protagonists or objects).

- (5) *Intentional continuity* occurs when the incoming event described in the mode of expression and the event representations in working memory both share the same goal/plan structure.

The usefulness of this model has been predominantly tested with respect to narrative texts. More recently, however, the EI model has been successfully extended into the non-textual domain of film understanding as well (Cutting and Iricinschi 2015; Magliano et al. 2001; Zacks et al. 2010). For instance, research conducted by Magliano and colleagues (2001) provided empirical evidence that viewers index the spatial and temporal dimension of the events that occur in a narrative film in a similar way as readers index the spatial and temporal dimension of the events that occur in a narrative text. As the authors conclude, “this finding indicates that there are general mechanisms for event understanding that operate independently of medium or mode of experience” (533).

The EI model offers a general account of situational continuity in that it considers the continuity of *relations between non-specified events* of the story rather than the continuity of *relations within one specified event* of the story. For instance, it determines how incoming events conveyed in the mode of expression are related to prior events in working memory. By contrast, we narrow our focus by examining how the dimensions of situational continuity can be related to the internal building blocks of one event in particular, namely the event of character perception. More specifically, we limit ourselves to the script of the character’s visual experience. Scripts or schemata are mental structures that do not represent specific information about particular situations and entities, but rather general knowledge about their general, stereotypical form (see, e.g., Schank and Abelson 1977). The general script of character visual perception, then, can be defined as a situation in which “a character *S* sees something *O*” (on the role of scripts or schemas in character construction, see also Bordwell 1989: 129–95; Branigan 1992: 1–32). Following John Searle’s (2015) characterization of human visual perception,³ we claim that this script can be characterized as involving a relation between two distinct entities—a state of affairs in the story world outside the character’s head (i.e., the object perceived [OP] by the character) and the character’s head as the locus of the character’s subjective visual experience of that state of affairs (i.e., the perceiving character [PR]). Given this general description we can now describe the situational dimensions of character perception as follows:

- (1) *Temporal continuity* occurs when the perceiving character and the object of his perception both share the same time frame (the present).⁴ An event of character perception is temporally discontinuous if both entities of character perception occur in a different time frame. For ex-

ample, when the time frame of the object perceived by the character occurs prior or subsequent to the time frame of the perceiving character (the here).

- (2) *Spatial continuity* occurs when the object perceived by the perceiving character belongs to the visual field of the perceiving character. A spatial discontinuity occurs when the object perceived lies outside this spatial region.
- (3) *Causal continuity* occurs when the object perceived by the character causes the character's visual experience of that object.⁵ A causal discontinuity occurs when this is not the case, or when the character's visual experience of an object causes the appearance of that object.
- (4) *Entity continuity* occurs when the object perceived by the character and the perceiving character are not the same entities. An event of character perception is discontinuous on the entity part if a character is seeing, for example, himself directly as another entity (i.e., the narrative theme of the *doppelgänger*).
- (5) *Intentional continuity* occurs when the character's eyes are directed toward the object perceived. An intentional discontinuity occurs when the character's eyes are not directed toward the object perceived.

The discontinuities described under dimensions (2), (3) and (5) simultaneously entail the negation of character perception. Indeed, a character cannot see an object if (2) the object is no part of the visual field of the character, if (3) the object does not cause the visual experience, or if (5) the eyes of the character are not directed toward the object. Consequently, the spatial, causal and intentional dimension have to be satisfied in order for us to speak of character perception at all. This, however, is not the case with the discontinuities described under dimensions (1) and (4). An event can be discontinuous on the temporal and the entity dimension (and continuous on the other dimensions) while maintaining the predicate of character perception. For instance, if the viewer is confronted with a character who directly sees a past version of himself, character perception can still be evoked by continuity in the other criteria. By contrast, if an object is not included in the character's visual field, the notion of perception does no longer apply. Thus, whenever we speak of situational discontinuity with regard to character perception, we mean to refer to the temporal and/or entity dimension.

Having distinguished between the situational dimensions of character perception, we can now address the following twofold question:

- 1) How is situational (dis)continuity construed conceptually?
 - 2) And how does the conceptualization of situational (dis)continuity manifest itself in the mode of expression (in our case, film)?
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In the next two sections, we will examine both questions. To answer the first question we will draw upon the conceptualization hypothesis as developed in the 1980s by Lakoff and Johnson (1980, 1999; see also Shapiro 2011). The general idea behind this theme of embodied cognition, also known as CMT, is that human concepts (including the central concept of our paper, perception) are structured according to a wide range system of conceptual metaphors and metonymies that are grounded in sensory-motor representations (e.g., Johnson 1987; Lakoff 1987). Consequently, the second question is addressed by considering the application of CMT to Film Studies (see also Coëgnarts and Kravanja 2015c; Fahlenbrach 2016), in particular its application to film narration and its strategies of eliciting character perception. How do the conceptual metaphors and metonymies of (character) perception manifest themselves in cinematic terms?

human concepts (including the central concept of our paper, perception) are structured according to a wide range system of conceptual metaphors and metonymies that are grounded in sensory-motor representations, so called 'image schemas'

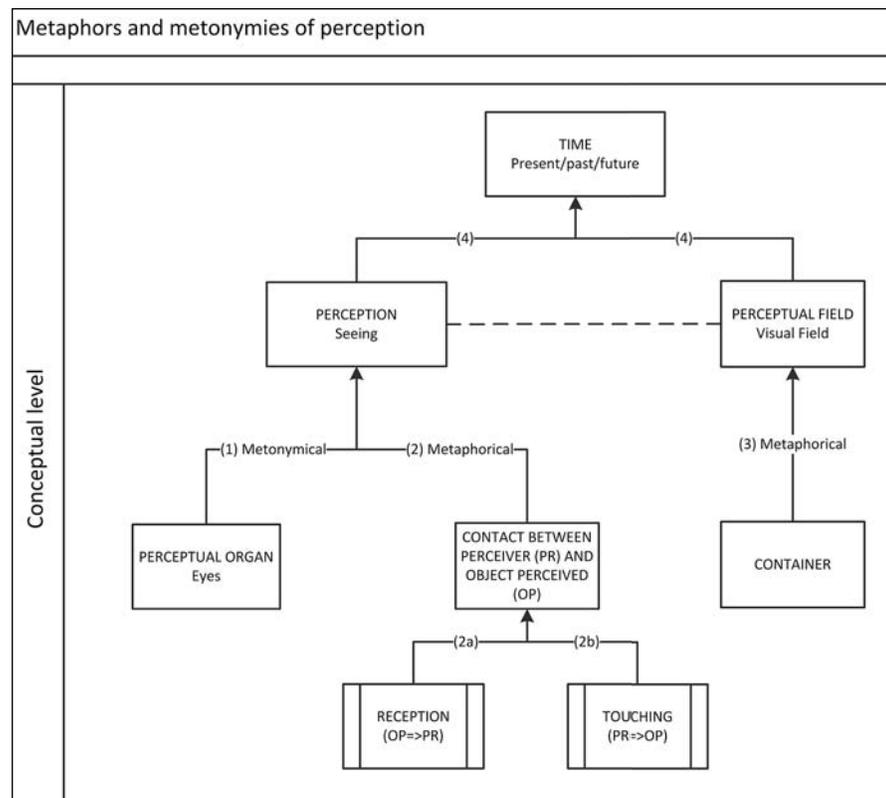
Embodying Character Perception Conceptually

How do people talk about perception? In addressing this conceptual issue cognitive linguistics have emphasized the workings of at least four embodied conceptual structures: the conceptual metonymy (1) PERCEPTUAL ORGAN STANDS FOR PERCEPTION OF EYES STAND FOR SEEING (Hilpert 2006; Yamanashi 2010; Yu 2003, 2004), the conceptual metaphors (2a) PERCEPTION IS RECEPTION and (2b) PERCEPTION IS TOUCHING (both subsumed under the general metaphor (2) PERCEPTION IS CONTACT BETWEEN PERCEIVER AND OBJECT PERCEIVED) (Lakoff 1995; Yu 2004), the conceptual metaphor (3) VISUAL FIELD IS A CONTAINER (Lakoff and Johnson 1980); and the conceptual metaphors PRESENT IS THE LOCATION OF THE PERCEIVER and PAST/FUTURE IS THE LOCATION OF THE OBJECT PERCEIVED (both subsumed under the more general metaphor (4) TIME IS SPACE). Schematically these mappings can be summarized as in Figure 1.

(1) In the first conceptual mechanism perception is understood *metonymically* in terms of conceptual mappings that occur within the *same* experiential domain: one entity in a schema (i.e., the perceptual organ) is taken as standing for the schema as a whole (i.e., the general concept of perception). Consequently, given that seeing and hearing are two of human's core senses, this general mapping further designates two special cases, namely the conceptual metonymy EYES STAND FOR SEEING (e.g., "Keep an *eye* on him," "Keep your *eyes* open"), and the conceptual metonymy EARS STAND FOR HEARING (e.g., "I cannot believe my *ears*," "Walls have *ears*"). Since both organs are directly related to their function, they also adhere to the more general conceptual metonymy THE INSTRUMENT USED IN AN ACTIVITY STANDS FOR THE ACTIVITY OF PERCEPTUAL ORGAN FOR FUNCTION OF THE PERCEPTUAL ORGAN (see also Barcelona 2003: 249).

(2) By contrast, in the second conceptual mechanism perception is understood *metaphorically* in terms of the *different* experiential domain of contact.

Figure 1. Metaphors and metonymies of perception.



It considers a distinction made by Lakoff (1995: 139) between two special cases: (2a) PERCEPTION IS RECEPTION and (2b) PERCEIVING IS TOUCHING (see also Yu 2004: 676). In the first conceptual metaphor there is a mapping from the source domain of reception onto the target domain of perceiving. In this metaphor perception occurs “when the thing perceived moves to the perceiver’s organs of perception” (Lakoff 1995: 139). Examples include such expressions as “A comet *came into my sight*” or “The noise *came through* the walls” (Lakoff 1995: 139). In both sentences, perception is construed in terms of perceptual sense impressions that reach the perceptual organs. By contrast, in the second conceptual metaphor there is a mapping from the source domain of touching onto the target domain of perceiving. In this metaphor perception occurs “when the perceiver moves his organs of perception to the thing perceived and touches it” (Lakoff 1995: 139). Examples include such expressions as “My eyes *picked out* every detail of the pattern” or “My gaze *is out over* the bay” (Lakoff 1995: 133). As Lakoff points out, the words “gaze” and “eyes” are conceived metaphorically as visual limbs that can reach out and touch things. In both conceptual metaphors, the SOURCE-PATH-GOAL image schema is extended metaphorically in order to structure the concept of perception (e.g., Johnson 1987, 2007; Lakoff 1987). Grounded in the real-life experience of bodily movement, both metaphors involve motion

from a starting point (perceiver or object perceived, respectively), over a pathway, toward an endpoint (object perceived or perceiver, respectively). Successful perception then takes place when the character's gaze or the sense stimuli reach the target. An entity discontinuity, then, rises when both spatial locations (source and goal) are taken in by the same entity, that is the perceiver perceiving himself. In the case of, for example, the *PERCEIVING IS TOUCHING* metaphor this can be schematized as portrayed in Figure 2.

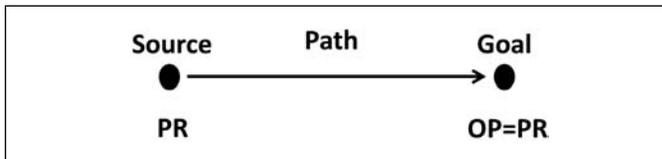


Figure 2. Entity discontinuity, as conceptualized through the *SOURCE-PATH-GOAL* image schema.

(3) The third and last conceptual mechanism relates to the perceptual mode of vision and states that we conceptualize human visual fields *metaphorically* in terms of the image schema of *CONTAINMENT*. When we look at some object or entity, we conceptualize what we see as being contained inside our visual field. This schema is grounded in a wide range of common basic experiences and is characterized by three structural features: an inside, an outside, and a boundary. For example, we experience our own bodies as three-dimensional containers into which we put certain things (food and water) and out of which other things appear. We walk through doors into rooms. We move in vehicles, clothes, and various other bounded regions in space. We put things into and out of containers and so forth (Johnson 1987: 21). As Lakoff and Johnson (1980: 30) argue, the conceptual metaphor *VISUAL FIELDS ARE CONTAINERS*, emerges naturally in that when we look at some territory, our field of vision automatically defines a bounded physical space (i.e., the part that we can see). Examples include such English expressions as “The ship *is coming into view*,” “That’s *in the centre of* my field of vision,” or “There’s nothing *in sight*” (Lakoff and Johnson 1980: 30). Similarly, an entity discontinuity, then, occurs when the inside of the container includes the perceiver himself (see Figure 3).

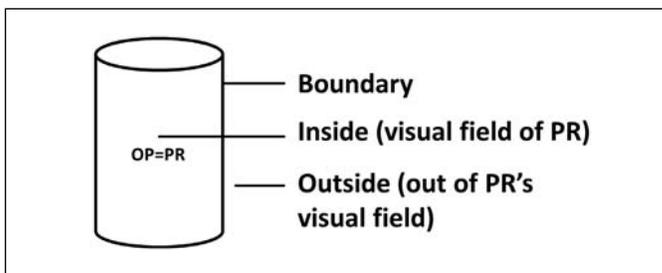


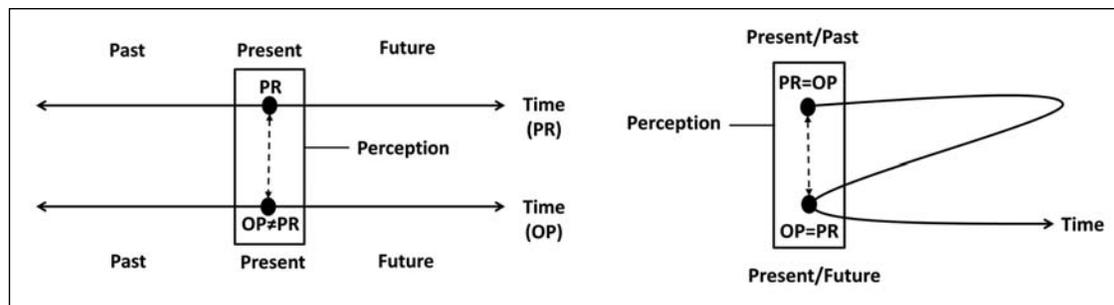
Figure 3. Entity discontinuity, as conceptualized through the *CONTAINER* image schema.

(4) All the conceptual mappings described so far involve cases in which perception is identified as the abstract target domain that needs to be clarified

either metonymically or metaphorically by extending representations from our sensory-motor experiences. In addition, scholars have identified a group of metaphors in which perception functions as a source domain in its own right. Thereby, scholars usually stress its conceptual significance for at least two abstract target domains, namely mental functions, including knowing, thinking, and understanding (e.g., Gibbs 2005: 97; Johnson 2007: 165; Lakoff and Johnson 1999: 393–399; Yu 2003, 2004), and time (Boroditsky 2000; Gentner 2001; Gentner et al. 2002; Evans 2003; Lakoff and Johnson 1980, 1999; Núñez and Sweetser 2006). With regard to the latter concept, cognitive linguists have pointed out that humans tend to map the location of the object perceived onto the time event (past or future). Belonging to the more general metaphor *TIME IS SPACE*, this metaphor underlies such linguistic examples as “Christmas *is approaching*” or “*We are approaching* the end of the year.” In both cases the *FRONT-BACK* image schema, which originates from human bodily orientation, is mapped onto the future and past, respectively.⁶ Núñez and Sweetser (2006) have labeled this metaphorical model, in which the location of the observer specifies the now, the system of Ego-Reference-Point (Ego-RP) metaphors. They distinguish this metaphorical categorization from Time-Reference-Point (Time-RP) metaphors in which time is not construed with respect to the ego as a reference point, as in, for example, “Wednesday *follows* Tuesday” or “Spring *follows* Winter.” A continuous model of time, then, can be visualized as two separate and parallel lines (of various locations), with the perceiving character on one time line and the object perceived on the other time line, and with both their locations being mapped onto the present (see Figure 4, left image). By contrast, a discontinuous model of time shows both entities as temporally situated on one time-line (see Figure 4, right image). Here, time is curved, allowing the perceiver to see objects either in the past or future, depending on the perceiver’s present location on the time-line (that is on the narrative’s deictic center).

Figure 4. Temporal continuity (left image) vs. temporal discontinuity (right image).

Similarly, one can conceptualize temporal (dis)continuity by retaining the conceptualizations of perception, as represented in Figures 2 and 3, and mapping both locations of the object perceived (i.e., the spatial region of the image schema: the goal and the inside, respectively) onto the time event (i.e., the



present in case of temporal continuity; the past or future in case of temporal discontinuity). The same line of reasoning could be applied with respect to other image schemas as well (e.g., FRONT-BACK, TOP-DOWN, LEFT-RIGHT).

From Concept to Form: Embodying Character Perception Cinematically

Having discussed how perception is conceptualized, we now turn to its articulation in film: How are the conceptual metaphors and metonymies of perception, as discussed in the previous section, manifested cinematically? To answer this question we would like to draw on our earlier work on cinematic subjectivity (Coëgnarts and Kravanja 2014, 2015a, 2015b). In these publications we argued that the character's visual experience (i.e., the idea of a character *S* seeing an outer event *O*) can be elicited cinematically by relating the four conceptual structures (see Figure 1) to the visual content of the filmic frame.

(1) The conceptual metonymy *EYES STAND FOR SEEING* can manifest itself on screen in a relatively uncomplicated manner by showing enough distinctive bodily features of the character to enable the viewer to recognize or infer the eyes of the character. Consequently, achieving this goal primarily requires a mode of representation that serves the purpose of what Noël Carroll's (2007) labels the "visible intelligibility of physical processes": the idea that a theme or concept is successfully initiated to the audience insofar the viewer is capable of grasping it visually. One parameter in particular presents itself as the ideal means by which the concept of the eyes can be elicited or inferred in film, namely shot size: the distance between the camera and the character's bodily features in front of the camera. However, showing the character's locus of perception in a clear manner is not sufficient to evoke the idea in the viewer that a character *S* is seeing something *O*. Indeed, the character's body in front of the camera has to be directed at *O*, namely the object of his perception, which is located either inside or outside the frame that contains the perceiving character. This evocation of a directedness toward *O* can be gestured in front of the camera by the bodily behavior of the character (e.g., the direction of eyes, head).

(2) To address the manifestation of the conceptual metaphor *PERCEPTION IS CONTACT BETWEEN PERCEIVER AND OBJECT PERCEIVED* in film, we distinguished between four major strategies (see Table 1). Depending on the choice of cinematic technique, a filmmaker can *force* an interaction between *S* and *O* either on the level of the individual shot or on the level of two shots. In addition, we divided each level further into two substrategies. On the level of the single shot the pairing of *S* with *O* can be elicited homospatially or not. In the former case, *S* and *O* are shown simultaneously on-screen through the strategy of framing. By contrast, in the latter case, both elements are not established as two copresent entities in the same larger frame of the screen. Similarly, on the level of two shots, character perception can be imposed on the viewer homospatially via split

Table 1. Four cinematic strategies to elicit the contact between PR and OP.

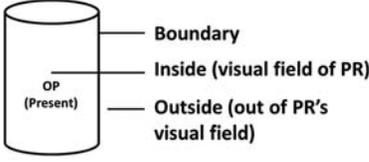
	Homospatality (HS)	Non-homospatality (NHS)
Single shot (SS)	By showing PR and OP together in one shot (e.g., framing or mise-en-scène)	By moving from PR to OP (e.g., tracking, panning, tilting, zoom-function)
Two shots (TS)	By presenting PR and OP, each occupying a different shot, as co-present or homospatial entities in the same frame (e.g., superimposition, split screen)	By cutting from PR to OP (e.g., editing)

screen or superimposition (i.e., each entity occupies a different space in a different shot, albeit in the same larger frame) or nonhomospatially via editing, the latter including the POV structure (Coëgnarts and Kravanja 2015a: 231).⁷

Figure 5. The CONTAINER schema and the SOURCE-PATH-GOAL schema as elicited by, respectively, editing (non-homospatality, two shots) and zoom-in camera movement (nonhomospatality, single shot).

It is here that the image schemas, as discussed in the previous section, are given their formal and cinematic articulation. For instance, camera movement expresses the underlying SOURCE-PATH-GOAL image schema in that the camera moves from a starting point (i.e., the character position) via a pathway toward an ending point (i.e., the object position) (see Figure 5, lower images). Horizontal split screen expresses the TOP-DOWN image schema, while vertical split screen expresses the LEFT RIGHT image schema. Superimposition also expresses one image schema, FRONT-BACK, while the strategy of framing can prompt multiple image schemas, for example, LEFT RIGHT and FRONT-BACK (see Figure 6).

The Beguiled (Don Siegel, 1971)

		
<p>Source → Path → Goal</p> <p>● → ●</p> <p>PR (Present) → OP=PR (Present)</p>		

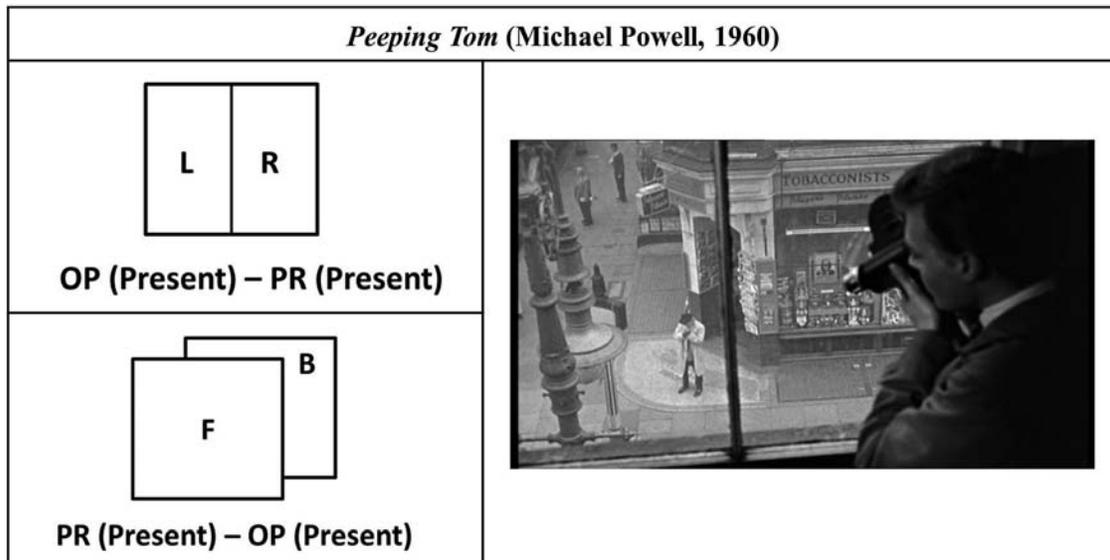


Figure 6. The LEFT-RIGHT schema and FRONT-BACK schema as elicited by framing (homospaciality, single shot).

(3) The conceptual metaphor *VISUAL FIELD IS A CONTAINER* can be elicited cinematically by the perception shot or the point of view (POV) shot.⁸ Embedded in the level of two shots (cf. editing), it involves a relation between an objective shot of a character (the subject) looking at something, and the actual subjective POV shot showing what the character is looking at (represented through the camera) (see Figure 5, top images). Similarly, the POV shot is spatially grounded in that the inside of the *CONTAINMENT* schema (physically instigated in the filmic frame) is mapped onto the visual content of the character's visual experience (i.e., the character's visual field), while the outside is mapped onto to the part in space that the character cannot see (e.g., the space that coincides with the character's own eyes). The various properties of the POV shot (the container), then, become, as Branigan (1984: 81) already pointed out, "metaphors for vision." As he writes: "The condition of being drugged supposedly results in a blurred vision which is *like* that of a change in focus or change in light intensity. A zoom would be analogous to a character's sudden discovery and heightened interest in an object; and a zoom which rapidly alternates in and out may be analogous, in the proper context, to a character's simultaneous attraction to and repulsion from an object. In all these cases (1) a perceptual state is signified and (2) camera position is that of character position—an optical POV" (Branigan 1984: 81).

(4) Once character perception is spatially grounded in film through one or more of the cinematic strategies described above, one can easily map the location of the perceiver and the location of the object perceived onto the time event; that is at least in case of a temporally continuous event of character perception, where both locations occur in the present. However, in order to

the viewer is able to map the spatial location of the object perceived by the character onto the abstract concept of the past

see whether an incoming event of character perception is temporally discontinuous, further information is needed. Indeed, the viewer cannot know, for example, that the location of the object perceived by the character belongs to the past, if the viewer has not seen or heard the object perceived during events that took place earlier in the film (and that are stored in working memory). Hence, in order to map the content of the object perceived by the character onto the past, one has to include prior knowledge about the perception of the character. That is, because the viewer has perceived the content of the object perceived before (equally through a prior filmed event or, differently, through textually channeled information), the viewer is able to infer that the object perceived belongs to the past. Or, to put it in a metaphorical way, the viewer is able to map the spatial location of the object perceived by the character onto the abstract concept of the past.

In sum, then, one could diagram the interaction between image schemas, cinematic form, and concepts as in Figure 7. The first level defines the level of the body, situated in a real world environment. It includes all of our human sensory-motor interactions that provide the internal logic for the image schemas, which can be found on the second level. Manifesting themselves through various cinematic means (the third level), these image schemas are, then, extended metaphorically in order to structure the script of character perception (i.e., the interaction between PR and OP;) (the fourth level. Combined with prior knowledge about *earlier* events, the current manifestation of character perception on-screen, then, can be further mapped onto the concept of time, that is the location of the object perceived by the character can be temporally related to the time event.

In the next section of the article, we test the practical validity of our theoretical model by showing its usefulness for the study of a particular case of complex narrative cinema. More specifically, we show how our model can be applied to our understanding of perceptual (and by that local narrative) complexity in Christopher Smith's *Triangle* (2009). We argue that some experiences of cinematic narrative complexity can be seen as the result of the problematization of the relations described above (Figure 7), all the way up; many complex films present scenarios that are not simply conceptually strange or formally deviant (in their structuring of time, for instance), but which actually problematize the interrelation between instances of conceptual knowledge, formal ways of filmic representation, and basic embodied image schemas.

Complex Narrative Cinema: The Case of *Triangle*

Narrative complexity is one of the palpable trends in contemporary cinema, notable through the abundance of what have been called *database*, *multilinear*, *forking-path*, *episodic*, *loop*, *modular*, *multiple-draft*, *multiform*, or *multiple-embedded* narratives. These and other unconventionally structured narratives

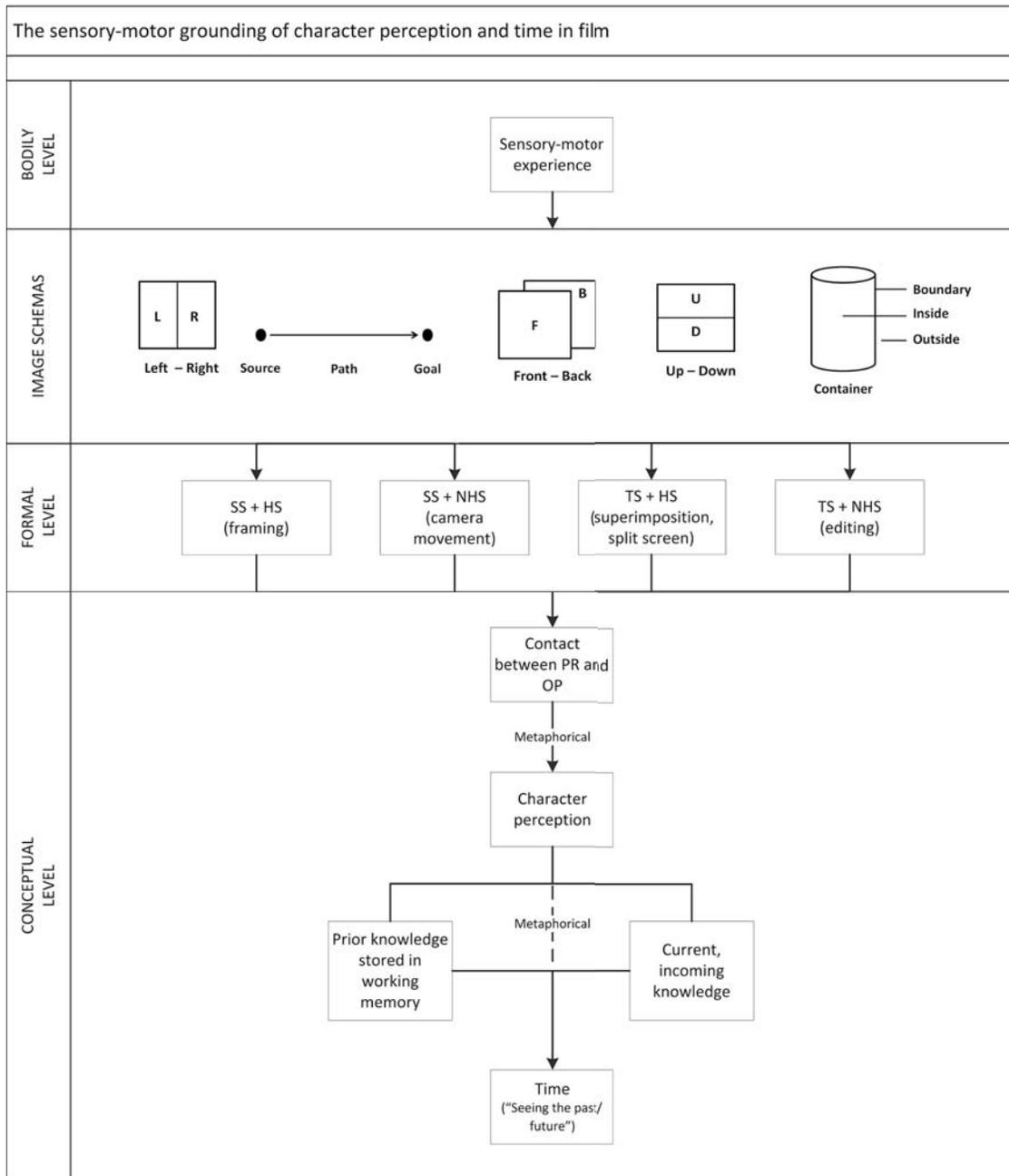


Figure 7. The sensory-motor grounding of character perception and time in film.

offer a formal-constructural variation that does not only complicate storytelling logic, but they also complexify viewing experiences by their effect. Thus, on the one hand, the complexity of these films is a constructural one, problematizing mimetic representational norms and rules of classical narratives. By using unusual formal-structural means, complex narratives modulate the causal, linear, and chronological forward-moving plot of classical storytelling

the complexity of this type of cinema does not lie in unconventional narrative structures by themselves, but in the felt experience and cognitive effect that such formal-constructural disruptions evoke

logic. On the other hand, one should realize that the complexity of this type of cinema does not lie in unconventional narrative structures by themselves, but in the *felt experience and cognitive effect* that such formal-constructural disruptions evoke. In this section we focus on the latter by showing how complex cases of character perception (i.e., filmed events of character perception that are discontinuous on the entity and/or temporal dimension) create a range of *complex viewing effects*. More specifically, we argue that the complexity of these films can be sought in the cognitive effects and intensified efforts that these films evoke in viewers. Complex cases of character perception can of course be studied and then classified as variants of playful constructions, but, in order to fully grasp their complex viewing effects, one needs to understand the puzzlement they exert on the experiences of viewers. The metaphorical and embodied situation model of character perception, as outlined in the previous sections, seems to us a useful conceptual tool to understand this kind of scenes, as it can explain the processes underlying viewers' experience of puzzlement (as well as the coping strategies by which viewers handle their psychological confusion). To exemplify our argument, we now provide a close analysis of a scene from Christopher Smith's *Triangle* (2009). Loop narratives like *Triangle* are particularly pertinent in illustrating complex films' effects, as these films play precisely on those fundamental embodied-cognitive capacities and routines that viewers rely on during their meaning making efforts in real-life as well as in mediated contexts.

Triangle tells a story of Jess (Melissa George), a single mother of autistic son Tommy (Joshua McIvor). Jess plans a yacht trip with Tommy, but shows up in the harbor alone and sets sail with a group of friends. When the yacht is hit by a heavy storm and capsizes, the group gets on board of a seemingly deserted passing ocean liner. The ship first appears to be abandoned, however soon Jess witnesses his friends' deaths, killed one by one by a strange burlap-masked figure. The murderer goes for Jess too, but she fights back and overcomes the attacker, who falls from the deck and disappears in the water. Just relieved from the events, Jess, the only survivor on board, hears yelling and sees her friends, including herself, approaching the ship standing on their capsized yacht. Shocked but not paralyzed by such an impossibility, she tries to break out from the character-multiplying loop. Notwithstanding her efforts, the events repeat again and again, and the loop resets every time when everyone is killed. Finally, setting herself as the murderer—who turned out to have been another version of herself all along—she is defeated by a newer version of Jess. Overthrown from board she wakes up washed ashore and goes home, where she encounters another version of herself abusing the autistic son. Survivor Jess kills the bad mother Jess, and drives away with Tommy. Heading to

the harbor, their car is hit by a truck and Tommy dies. Jess, being alone, decides to join her friends to the yacht trip, probably in hope of resetting the loop and by that having another try of fixing her derailed life, suggesting a loop ad infinitum.

By ambiguating narrative development and causality, and by presenting impossible scenarios like multiple character-doublings, loop narratives challenge viewers' story comprehension considerably. In order to address these difficulties, understand viewers' puzzlement, and, ultimately reveal these films' complexity on a global-narrative level, first one needs to focus on concrete and local instances of confusing events that feed the overall complex experience. In the following we concentrate on a key scene where the globally complex structure becomes manifest in a moment of perceptual impossibility—an inevitable consequence of the loop narrative. In this particular scene (at around 1:07:18), Jess 3, from the upper deck of the ship, directly sees herself (Jess 2) in the past, standing on the lower deck, while in turn this past self directly sees yet another earlier version of herself (Jess 1), approaching the ship by the capsized yacht (see Figure 8). The first perceptual relationship between Jess 3 (PR), on the one hand, and Jess 2 seeing Jess 1 (OP), on the other hand, is elic-

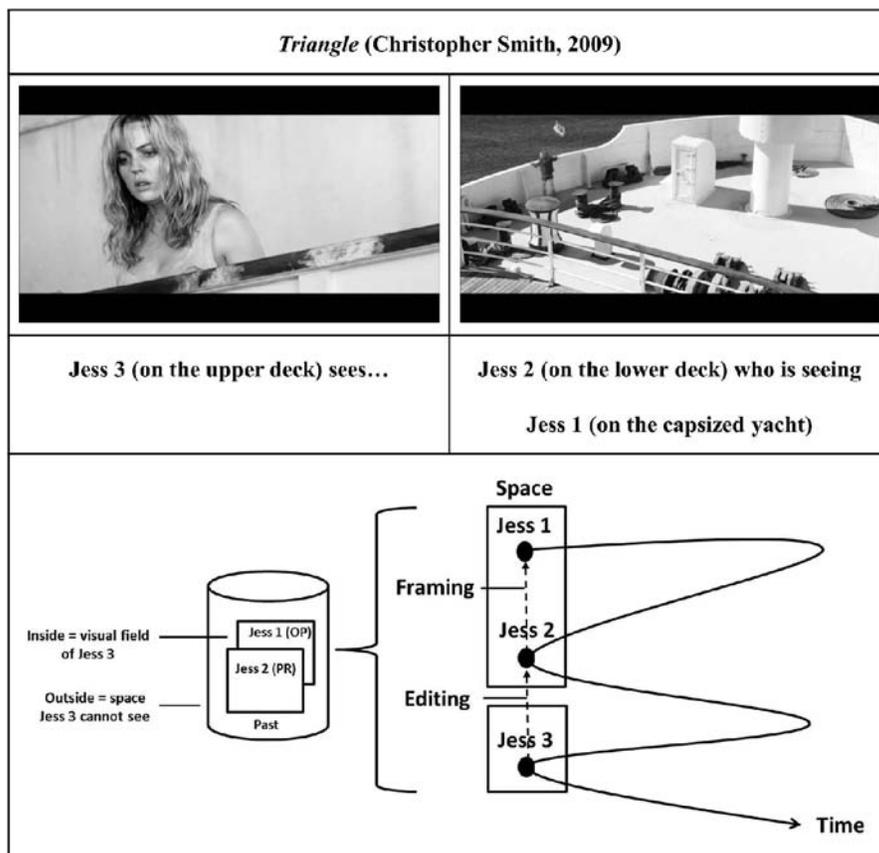


Figure 8. "Seeing yourself in the past": Temporal and entity discontinuity in Christopher Smith's *Triangle*.

ited by the strategy of editing (i.e., the level of two shots, nonhomospaciality). Both entities are shown successively: a subjective POV shot of the perceived object (Jess 2 seeing Jess 1) is pasted right after an objective shot of the perceiver (Jess 3). The underlying image schema at work is that of the *CONTAINER* in which Jess 3's visual field can be conceived as a bounded physical space (i.e., the frame) containing the perceptual relationship between Jess 2 and Jess 3. By contrast, the second perceptual relationship between Jess 2 and Jess 1 is elicited homospatially by the strategy of framing. The contact between PR and OP is construed cinematically by showing both elements together in one shot. More specifically, the *FRONT-BACK* image schema is extended metaphorically to express the idea of Jess 2 (*FRONT-PR*) seeing Jess 1 (*BACK-OP*). Moreover, the scene describes a static Ego-Reference-Point model of time in which the space in front of Jess's eyes is twice mapped onto the past (i.e., the space in front of Jess 3 and the space in front of Jess 2). The audience is able to infer both mappings from perception onto time because the inside content of Jess's visual field overlaps with events that were previously shown in the film.

It must be noted that the film style used in this scene is in itself conventional and in compliance with classical narrative logic and transparency, consisting of very common POV and continuity editing patterns. It is thus the perceptual content (rather than the style through which this content is presented) that is at conflict with basic embodied-cognitive structures.

Conclusion

This article has shown how certain filmed events of character perception are discontinuous with respect to two dimensions of the EI model—time and entity. In examining this claim, we have first analyzed how the situational dimensions of character perception can be conceptualized. Borrowing insights from cognitive linguistics, in particular CMT, we claimed that character perception in film is often spatially grounded by extending the spatial logic of various image schemas. These image schemas are vital in facilitating the viewer's comprehension of character perception, as they structure the concept of perception metaphorically by mapping the inferential logic of sensory-motor patterns (e.g., *CONTAINMENT*, *SOURCE-PATH-GOAL*) onto the inferential logic of (character) perception (i.e., the relationship between PR and OP). Discontinuity, then, has been further defined in relation to these mappings. For instance, entity continuity occurs when the object perceived by the character, which is being blocked in a particular spatial region of the image schema (e.g., source, goal, left, right, front, back, up, down, inside, outside), coincides with the perceiving character. Moreover, temporal discontinuity occurs if the location of the object perceived coincides with the past or future. It is through the formal articulation of these conceptual structures, which involve the use of various cinematic devices (e.g., shot size, editing, camera movement, frame-within-frame con-

figuration) that viewers are instigated to see whether or not a filmed event of character perception is continuous or discontinuous along the temporal and/or the entity dimension of the EI model.

Having discussed its conceptualization, we have been able to discuss how the conceptual metaphors and metonymies underlying character perception can be strategically disrupted to create local moments of narrative complexity. By bringing the theoretical discussion of complex storytelling in relation to the embodied underpinnings of the cinematic representation of character perception, we hope to have provided one way to analyze the complexity of narrative structures on a more concrete and local level. Furthermore, given that these filmed events are structured by virtue of the same cognitive mechanisms that underlie textual events, our analysis also provides support for the claim that there are general cognitive ways for understanding events that go beyond the medium or mode of experience. Our study, however, is not without its limitations. First, we do not provide experimental evidence for the theoretical hypothesis that viewers index scenes of character perception along multiple dimension of situational continuity. For instance, we didn't assess empirically how participating viewers identify natural breakpoints in continuity along the temporal and/or the entity dimension and to what extent they use audio-visual cues in the film to achieve this.⁹ Second, our study only deals with the visual perception, both of fictional characters and in terms of viewer comprehension. Given that film is an audio-visual medium, it would be equally worthwhile to examine how the theoretical model applies to the aural perception of characters as well, that is to the script of "a character *S* hearing something *O*." For instance, how are the modality-independent conceptual metaphors of perception articulated at the sound and music level of filmed events?¹⁰ Finally, our study does not take into consideration the role of emotion and affect in the viewer's experience of perceptual discontinuity. For example, we didn't examine the emotional effects of temporal and/or entity discontinuity on the viewer's engagement with characters or on their sensations of perplexity.¹¹ Despite these limitations we hope to have provided a theoretical framework that allows to analyze the embodied underpinnings of situational (dis)continuity in filmed events of character perception on a more specific and local level.

we have been able to discuss how the conceptual metaphors and metonymies underlying character perception can be strategically disrupted to create local moments of narrative complexity

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Notes

¹The names of the authors of this contribution are put in alphabetical order.

²On the relationship between embodied cognition and situation models, albeit without making reference to conceptual metaphor theory, see also Zwaan (2015).

³According to Searle there are three distinct elements central to visual perception: (a) the ontologically objective states of affairs that you directly perceive, (b) the ontologically subjective experiences of them, and (c) the causal relation by which (a) causes (b).

⁴As the British philosopher John Ellis McTaggart (1908: 458) put it: “We perceive events in time as being present, and those are the only events which we perceive directly. And all other events in time which, by memory or inference, we believe to be real, are regarded as past or future—those earlier than the present being past, and those later than the present being future.”

⁵ Within the field of philosophy of mind, this condition, is also known as the Causal Theory of Perception (Grice 1989; Pears 1976; Searle 2015; Strawson 1974).

⁶ Traditionally, cognitive linguistic research has predominantly focused on Ego-Reference-Point metaphors of time where FUTURE IS IN FRONT OF EGO and PAST IS IN BACK OF EGO (with regard to English, see, e.g., Gentner et al. [2002] and Lakoff and Johnson [1980, 1999]). As a result, this model has long been considered as cross-culturally dominant. Recently, however, this claim to universal validity has been challenged by Núñez and Sweetser (2006) who have argued that in Aymara—an Amerindian language spoken in the Andean highlands of western Bolivia, southeastern Peru, and northern Chile—there exists a major static model of time wherein PAST IS IN FRONT OF EGO and FUTURE IS IN BACK.

⁷ For a discussion of filmic examples within each category we refer to Coëgnarts and Kravanja (2015a).

⁸ For a discussion of the CONTAINER image schema in relation to the filmic frame, see also Buckland (2000, 2015) and Branigan (2003, 2006).

⁹ Useful methodologies to test the EI index model empirically in film are offered by Cutting and Iricinschi (2015) and Magliano et al. (2001).

¹⁰ For the application of CMT to the sound design of film narratives, see Fahlenbrach (2008). For the application of CMT to film music, see Chattah (2015).

¹¹ For a discussion of the emotional consequences of perceptual discontinuity on the viewer's film experience, see Colm Hogan (2007). For a discussion of the viewer's engagement (or "identification") with characters, see Smith (1995).

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