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Cognitive Perspectives on Immersion

• Immersion and the Storyworld, St John's College, Oxford, June 25–26, 2012.

What does it mean to be immersed in a book or film or computer game? This is an aesthetic and a philosophical question, but it is also an inherently cognitive question. The symposium »Immersion and the Storyworld«, convened by Sabine Müller and Marcus Hartner, sought to address all three aspects. The symposium announcement described immersion as »the phenomenon of getting <code>>lost<, >involved< or >drawn into< storyworlds created by literature, film and other media«, and as »a central hub in the network of fundamental questions concerning the very nature of our construction, understanding and evaluation of storyworlds«.</code>

The central aim of the symposium was to assess how useful cognitive approaches may be in analysing the shared cultural activities (including their aesthetic and philosophical dimensions) that are involved in creating and experiencing immersion. Key to this was the attempt to shed light on particular processes of aesthetic reception at the intersection between story and mind.

The research presented at this event can be seen against the backdrop of a tradition of cognitive inquiry into immersion. Key works in this tradition include Richard Gerrig's *Experiencing Narrative Worlds: On the Psychological Activities of Reading*¹ (on »transportation«) and Marie-Laure Ryan's Narrative as *Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*. Interesting research has also been yielded by prominent cognitive models such as >deictic shift< theory. In the context of visual media, a noteworthy individual contribution is Michael Fried's *Absorption and Theatricality: Painting and Beholder in the Age of Diderot*, while a 2008 special issue of *Montage* explores a variety of immersion-related issues in film and other audiovisual media. A range of empirical work has also investigated immersive experiences in connection with, for example, simulation and embodied cognition or the neuropsychology of empathy (especially with reference to >mirror neurons<). As so often in cognitive approaches to literature, the research in these areas is rich but also somewhat fragmented. The approaches discussed at the symposium usefully suggested ways in which these existing investigations might be fleshed out and connected up with each other and with other areas of literary study.

1. Mood and Emotion

The keynote speaker, **Carl Plantinga** (Calvin College, Michigan), spoke on »Immersion in Narrative Film: The Role of Mood and Emotion«. He described narrative films as »engines of attention« – and not of just any attention, but of the »rapt, focused« attention that constitutes immersion – and set this description against the common claim that we live in an age of terminally eroded attention. Plantinga argued that immersed attention is directed not only towards the diegetic world, events, and characters, but also towards the formal or perspectival features that the film's narration encourages. Noting that inducing emotion is an important means by which narrative film induces immersion, he employed an appraisal-based theory of emotion⁸ to argue that emotions have both reasons and objects, and that those objects may be

fictional, imagined, or in the future – although, as became clear in the subsequent discussion, he did not seem to think that these considerations solve the so-called paradox of fiction.

Plantinga used emotion as a springboard for addressing the more neglected topic of mood, which he defined as an atmosphere, or complex of emotions, with a more diffuse or ambiguous quality than emotion, and as an intentional phenomenon (i.e. as a result of the totality of acts of selection made by the filmmaker with the aim of triggering emotional responses). He distinguished between an art mood and the human mood (and human emotions) which the art mood may in turn elicit. At some points, the distinctions between mood and emotion were not entirely clear: Plantinga stated that the mood of a film consists of its affective character, that characters' appraisals can cause viewers to »catch« the mood in question, and that mood affects cognition and is also a way of perceiving and experiencing, as well as an embodiment and expression of perspective – but all this might also be said of emotions, and there seemed a danger of oversimplifying emotion for the sake of elevating mood. As Gerhard Lauer later pointed out in discussion, most films and novels induce »mixed« or secondary emotions, and the concept of a basic emotion is perhaps inherently problematic. The talk touched on the causal connections between emotion and mood – each being a possible preparatory step towards the other and towards attention – but did not fully demarcate them. A related issue was expressed in a question from Ralf Schneider about where precisely mood is located: whether just in perspective, or in more distributed form. Examples from A Touch of Evil and Rebecca, amongst other films, certainly manifested powerful moods, but as Plantinga pointed out, much work still needs to be done on the temporally extended nature of emotion and mood as episodic or as »flow«.

It was also notable that Plantinga seemed very careful to dissociate the ability to induce immersion from aesthetic quality: he insisted that inducing immersion does not necessarily imply aesthetic success. The opposite consideration, that it does not necessarily preclude such success, might be just as pertinent, given the conventional association of immersion with escapism and hence its opposition to intellectual reflection.

2. Empathy and Involvement with Fictional Characters

The first of five themed sessions comprised two talks which adopted opposite angles of the story-mind pair. The session began with a talk by Gerhard Lauer (Göttingen): »Through the Empathy Glass: Why We Are What We Read«. This presentation focused more on >mind« than on >story<, outlining many experimental methods and findings relevant to unpicking the paradox of why we are what we read, or see, or play, even though the characters never lived, the emotions are only as-if emotions, and it might all be nothing more than pixels on a screen. Lauer described, for example, behavioural studies on human and other primates' imitation and socialisation, imaginary friends, and theory of mind; brain-imaging work on empathy and speaker-listener neural coupling; philosophical accounts such as Searle on collective intentionality; and art-specific studies on perspective and comprehension/recall, on readers' abilities to distinguish between different fictional worlds, and on belief and personality change induced by reading fiction. These insights into various aspects of the imagination provided a good basis for Lauer to ask, if not to answer, further questions about the experiences induced by art. These included the issue of »granularity« – why it doesn't matter that we aren't told what colour Effi Briest's hair is – as well as questions relating to art's »altrocentric gestalt«, its encouragement to step into other people's shoes: in particular, how past personal experiences might influence aesthetic experience and, again, what might be the precise effects of the temporal structure of the artwork.

Patrick Colm Hogan (Connecticut) gave a talk entitled »The Transportation of Leopold Bloom: On the Varieties of Simulation«, and adopted a much more text-based approach, illustrating his theoretical points with reference to passages from *Ulysses*. Hogan's thesis was that »transportation« (his version of immersion⁹) is a specific form of simulation, and »involves a continuous arc of sustained attentional orientation linked with a severe limitation of sensitivity to extrinsic elements and a sustained development of perceptual detail«. He used Joyce's novel to exemplify various narratologically relevant distinctions between simulation, random thought, and fantasy; between pragmatic and exploratory simulation (involving either specific or broader goals); and between productive and guided simulation (by authors and readers respectively). These distinctions raised various questions, including one that connected with the question of granularity mentioned above: whether exploratory simulations by authors would be more effective than more pragmatic ones in guiding readers, because they might avoid the impression of contrivance or didacticism. Hogan's reflections also gave rise to a possible hierarchy of simulations, in which reader simulation might be considered »definitive« because it embraces simulations at the levels of both author and character.

3. Mindreading, Suspense, and Narrative Tension

The second session included talks by Karin Kukkonen (St John's College, Oxford) and Marcus Hartner (Bielefeld). Kukkonen discussed »Immersion and Suspense in The Female Quixote«, and connected immersion with suspense, interpreting immersion as »accepting the probabilities of meaning-making of a particular storyworld«. Kukkonen suggested that suspense might be thought of as the result of readers' difficulties in assessing how likely a given event is to occur, and that heightened suspense in turn results in heightened immersion because the reader engages in a search for clues to try to establish probabilities. Kukkonen gave evidence from studies on language acquisition in infants as demonstrating a powerful cognitive mechanism for computing statistical properties in language. She then showed how Charlotte Lennox's novels The Female Quixote and The Life of Harriot Stuart both induce particular configurations of probability and plausibility, affecting readers' reasoning as the plots develop. In *The Female Quixote*, this is achieved by juxtaposing realist and romantic systems of probability through the evocation of a protagonist who is so immersed in the romance genre that she reads the whole of her real world in romantic terms. The reader's probability distribution then also becomes aligned with the protagonist's, so that the reader is unlikely to feel suspense about the protagonist's actions even when the situation is inherently suspenseful, thus creating a sort of meta-immersive effect. In Harriot Stuart, the probability of certain violent actions of self-defence by the protagonist is both improbable to readers and implausible to other characters within the storyworld. Kukkonen showed how these hypotheses about Lennox's works also connect with the classical poetic rule of decorum – the appropriate style for a given subject – in a rich constellation of the probable, the likely, and the appropriate.

Marcus Hartner's topic was the question of »Why We ›Really‹ Care About Fictional Characters: Empathy, Mindreading, and Suspense in David Cronenberg's *A History of Violence* (2005)«. With this talk, the focus of the symposium shifted from literature towards film. Hartner's aim in this talk was to remind us that emotional involvement between reader and fictional characters is rarely with a single character in isolation, but typically with constellations of characters who interact with each other as part of a functional distribution. Hartner suggested that the notion of a »mental file« for each character in long-term memory might usefully be expanded with reference to blending theory in order to model the interlinking of these files. He showed how in Cronenberg's film, the viewer is forced to process different cognitive perspectives simultaneously, employing mindreading strategies to deal with the film's ambi-

guities, and keeping alternatives and their consequences in mind throughout: an enforced »dance on the far, dizzying edge of what is cognitively possible«. Hartner suggested at the end of his talk that 1) in general, cognitive approaches might not be able fully to explain all aspects of immersion and that 2) more specifically, mindreading alone – as a character-based approach – cannot account for people's »passion for plot« and all its immersive corollaries. If we are aiming at a comprehensive cognitive account of immersion, we will probably require an approach that takes character and plot into account as interconnected phenomena.

The subsequent discussion connected the two presentations by exploring further the elements of narrative other than character that work to transform expectations, touching on paratextual elements like chapter headings, and on the situation-model dimensions of time, space, causation, motivation, and protagonist. 12 Hartner argued that the last two of these have been relatively neglected, and could be brought back into a more productive dialogue with the other three if we were to adopt a more interactive perspective on character. The topic of irony was raised as a possible opposite to immersion, but the argument was put forward (by Professor Terence Cave, chair of this session) that, on the contrary, irony is not the enemy of immersion, but may indeed allow the reader to become more deeply immersed thanks to the reassurance of a degree of ironic reserve. The question of differences between media also arose, in relation to readers'/viewers' ability to expand beyond what is given, for example to read theatrical props as what they denote rather than what they are. As earlier, the suggestion was made that what is withheld perhaps positively fosters immersion – although by contrast graphic violence as in Cronenberg's films might intensify our engagement with the dilemmas it helps to configure and develop. Connected to this, the nature of mental imagery was discussed, specifically its simultaneously fragmentary and elusive yet also resilient qualities.

4. Immersion and Embodied Cognition

Under this broad heading, the third session continued the filmic theme with two discussions of the effects of camera perspective and movement. Patrick Rupert-Kruse (Kiel) gave a talk entitled »Dragged by the Gaze: The First-Person Perspective as Immersive Strategy«, and defined immersion broadly as »bodily/somatic presence«. His understanding of immersion in more detailed terms was indebted to Erkki Huhtamo, who conceives it as a transition, or a »passage«, from the immediate physical reality of tangible objects and direct sensory data to somewhere else. 13 Rupert-Kruse's approach was further informed by Béla Balázs's thought on art and film, in particular on how the moving camera can assist in bridging the distance between art and experience. Vivian Sobchack's reflections on the phenomenology of embodied perception were also key: Rupert-Kruse drew specifically on Sobchack's notion of the filmic body as dependent on a specific audio-visual point-of-view, and on her thoughts about how cinema uses the dominant senses of vision and hearing to speak comprehensibly to our other senses. Following Sobchack, Rupert-Kruse discussed the film viewer as »cinesthetic subject« (>cinesthetic< combining synaesthesia and coenaesthesia, the awareness of one's whole bodily and sensory being). ¹⁴ He suggested that we might understand the cinematic phenomenon of immersive presence as equivalent to the »body swap illusion«, in which manipulation of the visual perspective and receipt of correlated multisensory information from another person's body is sufficient to create the illusion of inhabiting that body. 15 With the camera as the eye, the lens as the retina, and the screen as the lived-in world, we might experience the same illusion when watching a film. Rupert-Kruse gave examples from films such as The Blair Witch Project, Cloverfield, and REC 2, which exploit the first-person character-camera hybrid in various ways to increase immersion.

Sabine Müller (St John's College, Oxford) spoke on »Placing the Viewer in the Storyworld: Camera Movement and Immersion«, and she too discussed the »unchained camera«, taking it back to its origins in Murnau's oeuvre as a key way of situating emotion and viewers' emotional responses. In discussion afterwards, Müller mentioned contemporary reviews that invoked the notion of »miterleben« (literally »to experience with«) in response to this innovative style. Müller gave a brief outline of some key approaches in the science of embodiment, and of Wittgenstein's and Barsalou's contributions to the field of situated conceptualisation, before offering an in-depth analysis of how Lang's *M* explores the abstract concept of loss through the camera's engagement with characters' fully embodied interactions with objects and surroundings, and through the motor resonances thereby created in the viewer. Müller concluded that her aim was twofold: to avoid *a priori* attributions of consciousness to the camera, and to abandon the conventionally monolithic notion of *the* camera, so as to be able to engage critically with the manifold emotional ways in which camera techniques may engage the viewer within a single film.

In the discussion which followed, several people challenged Rupert-Kruse's claim that the jerky hand-held camera used in *REC* 2 encouraged immersion: one delegate noted, for example, that given there is no equivalent for the film viewer of the physiological compensation for movement which stabilises real-life experiences, the effect is anything but realistic; another wondered whether the striking similarity to a computer-game style would mean that immersion was lesser or greater for people familiar with that medium. Rupert-Kruse argued that the factor of limited perspective, the inability to see everything at once, contributes to the suspenseful effect of realism in *REC* 2 – but again, the objection might be made that the filmic style goes far beyond a realistic replication of sensory experience in that we (as viewers seeing through and with the character-camera hybrid) cannot choose to move our heads, have no peripheral vision, and so on. Despite Rupert-Kruse's theoretical emphasis on bodily presence, his examples thus did not unproblematically support this focus, instead espousing a somewhat ocular-centric account of perceptual experience.

5. Conceptual Frameworks of the Storyworld

The second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from pmind further towards the pstory that second day of the symposium shifted the focus from the symposium shifted th pole again (and dealt with a mixture of films and literature). Michaela Schrage-Früh (Mainz) suggested that dreams might fruitfully be considered as a form of proto-narrative fiction in her talk on »Dreaming Fictions, Writing Dreams: Cognitive Immersion in Dream Worlds and Story Worlds«. More specifically, her thesis was that both fiction and dreams are hybrid states of altered consciousness, and manifestations of the same »literary mind«. 16 To support this claim, she cited a variety of psychological and neuroscientific perspectives speaking to their similarities and equivalences, on topics including imagery, self-reflective awareness, emotion and association, and metaphor. She discussed parallels between the dreamer and both author and reader, and also some key differences between dreams and fiction, notably the fact that immersion is stronger in the dream world because of the attention-dependent nature of the dream as an imaginative act that disappears if we stop attending. However, Schrage-Früh suggested that lucid dreaming served as key evidence for the continuum between dream and fiction, countering the claim that we are never aware of what's going on in a dream. She concluded that the dreamer engages in what we might see as the most extreme form of readerly immersion, and that in both fiction and dream immersion the experience is a reciprocal process of both creation and reception. In discussion, the paradox was noted that as a fictional text becomes more >dreamlike< it generally becomes less immersive (although empirical work would be needed to establish whether the two variables are simply inversely proportional). The importance of communicative functions of narrative language was also raised as perhaps sidelined by this approach, leading to a discussion of dream reports and their status.

J. Alexander Bareis (Lund) juxtaposed alternative approaches by Kendall Walton, Werner Wolf, and Marie-Laure Ryan in his presentation on »Immersion, Storyworlds, and Make-Believe«. He outlined Wolf's definition of immersion (or »aesthetic illusion«) as a basically pleasurable mental state that can be elicited by factors in (factual or fictional) texts, in reception processes and recipients, and in cultural and historical contexts. 17 According to Wolf, immersion is, furthermore, a state in which we experience the storyworld in a similar way to the real world, with variable emotional intensity that may be counterbalanced by rational distance as a consequence of a culturally acquired awareness of the difference between representations and reality. This connects with Walton's make-believe account of how immersion can coexist with awareness of immersion, a point which Bareis elaborated with reference to nonfiction and metafiction (using the film Adaptation as an example of the latter's immersive power). The question of narrative mediation and its effects on immersion were touched upon with reference to Nünning's notion of the »mimesis of narrating«, ¹⁸ and Bareis suggested some lesser-known additions to Walton's principles of generation for fictional truths: ¹⁹ the principle of media convention, the principle of genre convention (tying in with Kukkonen's thoughts on decorum), and the principle of suspense. As Bareis stated in conclusion, if we are immersed in a storyworld, we are always aware of its representational nature – if we weren't, we would probably be living in the Matrix. Connecting the two talks, the discussion touched on the notion that more significant and helpful than a distinction between fiction and nonfiction, or between fiction and dream, might be the principles of generation that operate in both.

6. Narrative Dynamics: Time, Junction, and Pause

The last session addressed in greater detail the question of temporal structure which had arisen at various points earlier in the event. In his talk on »Immersion and Narrative Dynamics: Cognitive Narratology and the Temporal Aspects of the Reading Experience«, Ralf Schneider (Bielefeld) defined immersion as the result of dynamic processes of text understanding (or storyworld construction). Schneider suggested that although narratologists have studied the spatio-temporal and logical coherence of the actions that constitute an unfolding story, less attention has been paid to the temporal dimension of the experience of reading as immersion. Situation-model theory has underplayed the possibility of non-linear processing, which has primarily been the domain of hypertext theorists (such as Jim Rosenberg), and the primacy of emotion in discourse processing (substantiated by various neuroanatomical findings) has only recently begun to be assimilated. Schneider suggested that conceiving of a network of primed items in the mental lexicon might be a useful framework for exploring nonlinear facets of response, in the context of Barbara Dancygier's concept of the »narrative anchor«²⁰ and an extension of this, the »emotional anchor«. Anchors are narrative place-holders: story-level devices which function thanks to the reader's search for coherence, as the story develops links and cross-mappings. Schneider gave examples from George Eliot's Silas Marner, showing how different sets of emotional evaluations might serve as distinct »emotion spaces«, combining to create a smaller number of emotional anchors; the idea was that expectancy structures would be triggered by emotional priming episodes, and that this would then structure the reader's understanding. In the subsequent discussion it emerged that there was some confusion regarding the various spaces and anchors of Schneider's account and their interactions; Patrick Hogan helped by clarifying that the input spaces (narrative or emotional) would, on the blending theory principle, still exist in their own right after they have been combined in the blend, with the lasting possibility of backwards projection. Kukkonen asked whether in an embodied context it is legitimate to separate narrative space from emotional space, and what relation or distinction was being posited between real and metaphorical spaces in this model.

The final presentation was given by **Lalita Hogan** (University of Wisconsin at La Crosse), and took the discussion beyond European and US film culture to consider Indian film. The talk was entitled »Pause for a Song: Sufi Qawali and Immersion in Vishal Bhardwaj's *Maqbool*«, and in it Hogan discussed the *qawali* (from the Arabic for »utterance«) – a songand-dance interlude – in the films *Delhi* 6 and *Maqbool*. Hogan suggested that the qawali's function in *Delhi* 6 is to immerse the viewer through emotional engagement in a semi-utopian sense of group harmony divested of individual difference, and that in *Maqbool*, by contrast, it acts more as a communal prayer with ironic connections to plot and characterisation. Hogan referred to elements of Sanskrit aesthetics and narrative theory that argue for the significance of the *sandhi*, or junctural pause (in plot progression), not least for their immersive potential.

7. Wrapping up

In the concluding discussion, various threads from previous discussion sessions were picked up again. Firstly, the matter of emotion: in particular, whether all the symposium's approaches were fully compatible with the appraisal theory of emotion, and how difficult it can be to trace the interactions between the social and the biological. Müller noted that this difficulty arises more broadly, in the question of the extent to which biological constants can be culturally transformed – as in the example of the unchained camera and viewers' habituation to its cognitive-perceptual effects since its introduction. The paradox of fiction reared its head again too, raising the related questions of whether emotions can be separated into the fictional and the non-fictional, and if so, whether they are both real, or indeed both the same. This led to considerations of the respective effects of fictional/non-fictional emotions (their effects on action, long-term planning, and moral outlook) and their relative intensities (perhaps we can experience fear, say, but not panic in response to art). Following on from the discussion of the principles of generation earlier, other dimensions were also suggested as the basis for drawing possibly more useful distinctions: we might categorise emotions according to their past or present status, or their foundation in report or immediate experience. The general conclusion (succinctly stated by Plantinga) was that the famous paradox must be based on a false premise, namely that we respond emotionally only to things that actually exist. As Müller put it, there is no paradox of fiction; it's a red herring, but somehow one that we can't quite leave behind.

This led to a second major theme underlying the entire event – the status of cognitive approaches to art. While Hartner noted that the natural sciences seek general laws, hence *the* human brain is often studied in a generalising manner, Plantinga remarked that the resistance to cognitive approaches on account of their perceived tendencies to normalise and exclude is based on a politically and ethically dangerous assumption that what we have in common is uninteresting compared with our differences. One delegate suggested that the perceived danger of generalising cognitive accounts may be associated by some people with those provided by previous schools of literary theory such as structuralism, while Patrick Hogan countered that there is nonetheless an importance difference between advocating false universals from advocating existent ones.

Almost the last comment of the symposium was Bareis's remark that immersion requires intense engagement. The symposium certainly stimulated intense engagement with the question of immersion, and with the many questions that encircle and intersect with it, so that I find myself struggling not to repeat what became a running joke after each talk: we were all thoroughly immersed in it. The fact that the speakers' definitions, explanations, and explorations of immersion derived from so many different starting points and focused on so many different kinds of >story< meant that the very notion of conceptual unification was beside the point, especially with only a day and a half at our disposal. But the richness of the approaches, in their divergences as well as their points of convergence, provided a wealth of ways of thinking about how story and mind combine to create immersive effects, and showcased the value that cognitive approaches can have in investigating key aesthetic phenomena like immersion.

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Notes

¹ New Haven, CT 1993.

² Baltimore, MD 2001.

³ See e.g. Judith F. Duchan/Gail A. Bruder/Lynne E. Hewitt, *Deixis in Narrative: A Cognitive Science Perspective*, Hillsdale, NJ 1995; David Herman, *Story Logic: Problems and Possibilities of Narrative*, Lincoln, NE 2002.

⁴ Berkeley, CA 1980.

⁵ See Robin Curtis/Christiane Voss (eds), *Montage AV*, Immersion, 17 February 2008, http://www.montage-av.de/a 2008 2 17.html (23.09.2012).

⁶ For a review, see Raymond A. Mar/Keith Oatley, The Function of Fiction is the Abstraction and Simulation of Social Experience, *Perspectives on Psychological Science* 3 (2008), 173–192.

⁷ See e.g. David S. Miall, Neuroaesthetics of Literary Reading, in: Martin Skov/Oshin Vartanian (eds), *Neuroaesthetics*, Amityville, NY 2009, 233–247.

⁸ See e.g. Nico H. Frijda, *The Laws of Emotion*, Mahwah, NJ 2007.

⁹ See Richard Gerrig, Experiencing Narrative Worlds: On the Psychological Activities of Reading, New Haven, CT 1993.

¹⁰ Blakey Vermeule, Why Do We Care About Literary Characters?, Baltimore, MD 2010, 57.

¹¹ Patrick Colm Hogan, Affective Narratology: The Emotional Structure of Stories, Lincoln, NE 2011, 1.

¹² See e.g. Rolf A. Zwaan/Gabriel A. Radvansky/Amy E. Hilliard/Jacqueline M. Curiel, Constructing Multidimensional Situation Models During Reading, *Scientific Studies of Reading* 2:3 (1998), 199–220.

¹³ See e.g. Erkki Huhtamo, Encapsulated Bodies in Motion: Simulators and the Quest for Total Immersion, in: Simon Penny (ed.), *Critical Issues in Electronic Media*, New York 1995, 159–186, here 159.

¹⁴ See Vivian Sobchak, *Carnal Thoughts: Embodiment and Moving Image Culture*, Berkeley/Los Angeles, CA/London 2004, e.g. 67.

¹⁵ See e.g. Valeria I. Petkova/H. Henrik Ehrsson, If I Were You: Perceptual Illusion of Body Swapping, *PLoS ONE* 3:12 (2008), e3832. doi:10.1371/journal.pone.0003832 (03.07.2012).

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¹⁶ See Mark Turner, *The Literary Mind*, New York/Oxford 1996.

¹⁷ See Werner Wolf, Illusion (Aesthetic), in: Peter Hühn et al. (eds), *the living handbook of narratology*, Hamburg: http://hup.sub.uni-hamburg.de/lhn/index.php/Illusion_%28Aesthetic%29 (03.07.2012).

¹⁸ See Ansgar Nünning, Mimesis des Erzählens: Prolegomena zu einer Wirkungsästhetik, Typologie und Funktionsgeschichte des Akts des Erzählens und der Metanarration, in: Jörg Helbig (ed.), *Erzählen und Erzähltheorie im 20. Jahrhundert: Festschrift für Wilhelm Füger*, Heidelberg 2001, 13–47.

¹⁹ See Kendall L. Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts*, Cambridge, MA 1990, e.g. 138–188.

²⁰ See e.g. Barbara Dancygier, Narrative Anchors and the Processes of Story Construction: The Case of Margaret Atwood's *The Blind Assassin*, *Style* 41:2 (2007), 133–152.