

Fictional Worlds and Cognitive Science

Cogsci 2011 Symposium

Cristóbal Pagán Cánovas (cpcanovas@um.es)

<https://sites.google.com/site/cristobalpagancanovas/>

Department of Cognitive Science, Case Western Reserve University
605 Crawford Hall, 10900 Euclid Ave
Cleveland, OH 44106 USA
Tel. +1 2163684753

Keywords: cognition-fiction -literature-performance-narrative.

Cognitive Science and the Study of Fictionality

Classical computationalism was committed to viewing cognition in terms of physical symbol systems, using representational formats akin to numbers, or language. Yet it is now becoming clear this is at best a very partial model that cannot account for and is in many cases incompatible with the emerging evidence from neuroscience.

The study of how the human mind builds and inhabits intricate fictional worlds has proved to be indispensable to our understanding of representation, meaning construction, social cognition, and many other central issues in Cognitive Science. At the same time, there has been a “cognitive revolution” in the disciplines traditionally interested in fictional worlds, like literary studies or art theory. This symposium presents the latest work of five researchers studying the relation between fictionality and cognition. They employ a variety of theoretical and empirical approaches, and examine fictional worlds in all major literary genres (narrative, lyric, drama), as well as in other modalities such as film or virtual interaction in the WWW.

Speakers

Richard Gerrig

Professor of Psycholinguistics, Psychology Department, SUNY, Stony Brook University. He is the author of *Experiencing Narrative Worlds* (Gerrig 1993) and many other publications on the psycholinguistics of narrative worlds (see selected references).

Professor Gerrig will outline a participatory perspective on readers' experiences of fictional narratives. The perspective asserts that readers function as side participants to narrative events: They encode participatory responses as reactions to characters' utterances and actions. He will review empirical projects that illustrate consequences of reader participation. Those projects demonstrate, for example, that readers' preferences for characters' decisions structure their experiences of story outcomes. The participatory perspective illustrates the potential for cognitive science to illuminate readers' experiences of fictional narratives.

Thalia Goldstein

Postdoctoral Research Fellow at the Mind and Development Lab, Department of Psychology, Yale University, with Professor Paul Bloom. She has authored numerous publications on the relation between acting, social cognition, and development (see selected bibliography).

Dr. Goldstein will present on fictionality in dramatic acting. Acting is a pervasive yet understudied part of modern life, despite its connections to such diverse areas of cognitive science as cognitive development, social cognition, and emotion regulation. Building on experiments recently conducted in her lab, she will lay out a psychology of acting, focusing on the cognitive effects of engaging in modern, realistic acting, why audiences are so absorbed by acting and how children understand distinctions between actor and character.

Cristóbal Pagán Cánovas. Symposium Moderator

Marie Curie Research Fellow, Cognitive Science Department, CWRU, with Professor Mark Turner. His project applies research on conceptual integration, spatial cognition and other areas of Cognitive Science to the study of narrative patterns in figurative language with affective meaning (see selected publications).

Dr. Pagán Cánovas will present on generic integration networks, which constitute cross-cultural cognitive patterns for the construction of fictional narratives in poetry. These structures, grounded on spatial cognition from early development, underlie one of the most typical functions of the lyric: the expression of emotion through metaphor.

Francis Steen

Associate Professor, Department of Communication Studies, UCLA. He is the author of numerous publications on cognitive approaches to literature and art (e.g. Richardson & Steen 2002, Steen 2005) and to fictional worlds in computer science and the web (Steen et al. 2006). He is also the editor of *CogWeb: Cognitive Cultural Studies*, a reference site with 20 000 hits per month.

Professor Steen will examine simulations, agency, and representational formats, in an exploration of what fiction can tell us about cognition. Narrative provides an avenue for investigating the representational formats that underlie and

compose cognition. Agency is a central feature of narrative and fictionality, and a deeper study of agency is essential to understand core aspects of cognition, from the organizing principles of action to the grounds of naive cartesianism. Fiction itself is a form of simulation, a highly complex cognitive activity that has a deep evolutionary history and requires a sophisticated cognitive machinery. Much of human problem solving must be understood from the point of view of fiction rather than from the constrained perspective of discursive reasoning.

Vera Tobin

Arnhold Faculty Fellow in Cognitive Approaches to Literature at the University of California, Santa Barbara. She has published extensively on cognitive narratology, especially from the perspective of conceptual integration theory (see selected publications).

Dr. Tobin will present on the readerly urge to repair narrative gaps, and thus to revise fictional worlds. It is by now a commonplace in the study of the mind that humans are continually constructing narratives in order to impose meaning and coherence on their memories and their selves. But these narratives are often partial, temporary, and internally inconsistent. Meanwhile, research on discourse processing brings into question the extent to which we actually construct detailed mental models of fictional worlds as we read. Detailed meaning construction at the level of global coherence with regard to an extended discourse or narrative seems primarily to take place only in the smallest minority of our most contemplative thinking moments. Nevertheless, there is strong cultural evidence that people crave and demand narrative coherence of exactly this sort.

Selected References Authored by the Speakers

Coulson, S. & Pagán Cánovas, C. (Forthcoming). Understanding Timelines: Conceptual Metaphor and Conceptual Integration. *Cognitive Semiotics*.

Gerrig, R. J. (1993). *Experiencing narrative worlds*. New Haven: Yale University Press.

Gerrig, R. J., & Rapp, D. N. (2004). Psychological processes underlying literary impact. *Poetics Today*, 25, 265-281.

Gerrig, R. J., & Jacovina, M. E. (2009). Reader participation in the experience of narrative. In B. H. Ross (Ed.), *The psychology of learning and motivation* (Vol. 51, pp. 223-254). Burlington, MA: Academic Press.

Egidi, G., & Gerrig, R. J. (2009). How valence affects language processing: Negativity bias and mood congruence in narrative comprehension. *Memory & Cognition*, 37, 547-555.

Goldstein, T.R., & Winner, E. (in press). Enhancing empathy and theory of mind. *Journal of Cognition and Development*.

Goldstein, T.R. & Bloom, P. (2011). The Mind Onstage: Why Cognitive Scientists Should Study Acting. *Trends in Cognitive Science*, 15, 141-142.

Goldstein, T.R. & Winner, E. (2010-2011). Engagement in Role Play, Pretense and Acting Classes Predict Advanced Theory of Mind Skill in Middle Childhood. *Imagination, Cognition, and Personality*.

Goldstein, T.R. & Winner, E. (2010). A new lens on the development of social cognition: The study of acting. In C. Milbrath & C. Lightfoot (Eds.), *The Arts and Human Development*. New York: Taylor and Francis.

Goldstein, T.R., Wu, K. & Winner, E. (2010) Actors are experts in theory of mind but not empathy. *Imagination, Cognition, and Personality*, 29, 115-133.

Goldstein, T.R. & Winner, E. (2009). Living in alternative and inner worlds: Early signs of acting talent. *Creativity Research Journal*, 21, 117-124.

Jacovina, M. E. & Gerrig, R. J. (2010). How readers experience characters' decisions. *Memory and Cognition* 38, 753-761.

Pagán Cánovas, C. (Forthcoming). The Genesis of the Arrows of Love: Diachronic Conceptual Integration in Greek Mythology. *The American Journal of Philology*.

Pagán Cánovas, C. (2011). Erotic Emissions in Greek Poetry: A Generic Integration Network. To appear in *Cognitive Semiotics* 6.

Pagán Cánovas, C. (2010). De bebés a poetas: integración conceptual, cognición espacial y la poesía de las emociones. *ENSAYA'10 Prize for scientific and humanistic journalism*. University of La Rioja, Spain.

Rapp D. N. & Gerrig R. J. (2006). Predilections for narrative outcomes: The impact of story contexts and reader preferences. *Journal of Memory & Language*, 54, 54-67.

Richardson, A. & Steen, F. (Eds. & introduction). (2002). Special issue, Literature and the Cognitive Revolution. *Poetics Today* 23:1.

Steen, F. (2005). The Paradox of Narrative Thinking. *Journal of Cultural and Evolutionary Psychology* 3:1, 87-105.

Steen, F., Davies, M., Tynes, B. & Greenfield, P. (2006). Digital Dystopia: Player Control and Strategic Innovation in The Sims Online. In R. Schroeder & A. Axelsson (Eds.) *Avatars at Work and Play*. London, UK: Springer.

Steen, Francis F. (2006). A Cognitive Account of Aesthetics. In Mark Turner (Ed.). *The Artful Mind: Cognitive Science and the Riddle of Human Creativity*. Oxford University Press. 57-71.

Tobin, V. & Oakley, T. (In press). Attention, Blending, and Suspense in Classic and Experimental Film. In R. Schneider & M. Hartner (Eds.) *Blending and the Study of Narrative*. Berlin: de Gruyter.

Tobin, V. (2009). Cognitive Bias and the Poetics of Surprise. *Language and Literature* 18.2.

Tobin, V. (2006). Ways of Reading Sherlock Holmes. *Language and Literature* 16.1. Winner of the 2006 Poetics and Linguistics Association (PALA) Prize.