

## Cognitive Approaches to Children's Literature

Kokkola, Lydia; Van den Bossche, Sara

*Published in:*  
Children's Literature Association Quarterly

*Document version:*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2019

[Link to publication](#)

*Citation for published version (APA):*  
Kokkola, L., & Van den Bossche, S. (2019). Cognitive Approaches to Children's Literature: A Roadmap to Possible and Answerable Questions. *Children's Literature Association Quarterly*, 44(4), 355-363.  
<https://muse.jhu.edu/issue/41491>

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

### Take down policy

If you believe that this document breaches copyright, please contact us providing details, and we will remove access to the work immediately and investigate your claim.



PROJECT MUSE®

---

## Cognitive Approaches to Children's Literature: A Roadmap to Possible and Answerable Questions

Lydia Kokkola, Sara Van den Bossche

Children's Literature Association Quarterly, Volume 44, Number 4, Winter 2019, pp. 355-363 (Article)

Published by Johns Hopkins University Press

DOI: <https://doi.org/10.1353/chq.2019.0044>



➔ *For additional information about this article*

<https://muse.jhu.edu/article/742701>

# Cognitive Approaches to Children’s Literature: A Roadmap to Possible and Answerable Questions

Lydia Kokkola and Sara Van den Bossche



What you are doing right now is, cosmically speaking, against the odds.  
—Damon Young, *The Art of Reading* 9

**A**s Maryanne Wolf explains, “*we were never born to read*. The brain that reads is not a given. Literacy is a cultural invention, which means that there is no genetic program that can dictate its design” (3; emphasis in orig.). Instead, the brain makes use of structures that evolved (and are still used) for different purposes, building connections that are simultaneously novel and ancient. Understanding the interplay between the written word and the physiological structures involved in interpreting those symbols is one small part of the recently emerged cognitive approach to the study of literature, which has proved especially relevant for understanding texts intended for the developing minds of children. This special issue of *Children’s Literature Association Quarterly* aims to provide a roadmap to these approaches, guiding readers to see the range of questions made possible and answerable from this perspective.

When we state that, when reading, the brain repurposes existing mental structures, we mean that reading capitalizes on the way the brain instinctively interacts with its environment. Human cognition—making sense of the world—is essentially about forming and distinguishing between categories. One of the earliest things that infants learn is how to identify similarities and differences. Survival depends on this skill: that which resembles “us” is known

---

**Lydia Kokkola** teaches at The University of Oulu (Finland). Her current research focuses on Literature and Film set in the European Arctic and on reading in a foreign language.

**Sara Van den Bossche** is Assistant Professor of Children’s Literature Studies at Tilburg University, with a focus on diversity, literary competence, canonization, and adaptation. She teaches in the Erasmus Mundus International Master program in Children’s Literature, Media, and Culture (CLMC). She co-edited *Never-ending Stories: Adaptation, Canonisation and Ideology in Children’s Literature* (Academia, 2014) and has recently published in *ChLAQ*, *DiGeSt*, and *JHCY*. She is an advisor for *Barnboken* and co-guest editor of a special issue, and has served as a jurist for several literary prizes (e.g., Theo Thijssen Prize, 2018).

and therefore safe, whereas that which is different and new requires attention as it may pose a threat (Tenngart 26). By categorizing the familiar as harmless and the unfamiliar as potentially harmful, the brain sorts information efficiently. Attention is drawn to understanding how the new behaves, to be able to predict what will happen next, especially when observing other humans. The human brain identifies behavioral patterns by attributing mental states to others. This is known as Theory of Mind (abbreviated as ToM), which is necessary for empathy: the ability to adopt a similar state of mind temporarily. The array of possible reactions to others' behavior is also stored mentally (Stockwell 75–77).

This brain-environment interaction is inherently embodied; language forms a bridge between the body and the world. Rejecting the Cartesian dichotomy between mind and body, Ronald Langacker and other cognitive linguists, like neurologists and psychologists, recognize the deeply embodied nature of cognition. The human capacities for observing, experiencing, and perceiving take place within the body, never externally. These biological conditions shape all forms of perception and expression. All that is known is “involved in and expressible only through patterns of language that have their roots in our material existence” (Stockwell 5; cf. 109). The brain applies this embodied knowledge about the workings of other brains when reading literature.

Cognitive approaches to the study of literature originate from similar insights in the neurosciences, psychology, linguistics, and education. Independent lines of inquiry into cognition were boosted in the 1980s and '90s by technologies that allowed for research methodologies that had hitherto proved impossible. For instance, the development of Functional Magnetic Resonance Imaging (fMRI) enabled neuroscientists to measure blood flow very precisely, making it possible to identify which areas of the brain are being used and, therefore, to extrapolate the sequences of neural pathways. Separately and unrelatedly, the digitalization of texts enabled linguists to examine large corpora and thus form evidence-based conclusions about how language is used and how it has changed over time. The dramatic expansion in methodologies made empirical research on how human cognition functions more precise. Consequently, ideas such as the Whorfian hypothesis<sup>1</sup> proposing that perception is encoded through language could be tested, and the computer programs generating artificial intelligence could be “fed” with the contextual, conceptual knowledge needed to process language (Stockwell 75).

The new high-tech methodologies easily dazzle newcomers, particularly within the liberal arts and the so-called soft sciences, including education and literary studies, which are often dismissed as “unscientific”—not least due to questions about the neutrality and verifiability of their methodologies. We do not think it coincidental that cognitive approaches to literature emerged during the recent worldwide recession, when there was great pressure on the arts to justify their position within academia and quantify their value to the world beyond the campus. So it is important to note that most of the new methods were not, in fact, generating novel information per se. For instance, eye-tracking

technology provides a very precise way of determining what features readers/viewers pay attention to, but Margaret Mackey's method of having readers place sticky notes in a book at points of interest essentially yields the same information, albeit in a coarse-grained way. Computers enabled linguists to process large amounts of data, but folklorists had already noted the pervasiveness of parable and its corresponding mental activity of projection in everyday thought and literature, as in the motif of talking animals in folktales (Turner 67). Taking this into account, the fact that scholars of children's literature, in particular, were late in adopting a cognitive approach is especially striking, given the ubiquity of parable and conceptual blending in books for children (e.g., in fairy tales or animal and toy stories). Since language and meaning-making are fundamental to reading literature, attempts to apply insights from the cognitive sciences to the study of fiction should have been a logical next step. Nevertheless, it took several decades before the first studies appeared, and even longer before the implications for the study of children's literature were explored.

Cognitive approaches to children's literature are oriented toward readers and the role of literary works in real-world contexts, which inevitably means an orientation away from other approaches. While a special issue is not a manifesto, we do wish to proclaim that this way of thinking about and conducting research on children's literature does not require a rejection of previous approaches. On the contrary, the field needs different approaches to address the broad array of questions worth answering. We can categorically state, then, that cognitive approaches complement philosophical perspectives by posing different questions. There are no enemies, no dichotomies, no battles to be fought. Indeed, some of the critics who have been the most influential in promoting cognitive approaches to children's literature—John Stephens, Maria Nikolajeva, Roberta Seelinger Trites, Bettina Kümmerling-Meibauer, and Karen Coats—have provided the best road maps we have for philosophical analyses of the same material. Cognitive approaches enable researchers to examine why the mechanisms identified by, for example, narratologists, material feminists, and Marxists function so effectively. For instance, imagological analyses of children's books have helped to identify and evaluate widely circulating images found in many children's books. Cognitive criticism provides tools to deepen those insights by investigating the cognitive models that underlie these images, thereby picking up where imagology leaves off, resulting in a fruitful, holistic understanding of the phenomenon.

Roughly speaking, the cognitive approach arrived in literary studies along two complementary tracks. The cognitive area that was first implemented and is still most widely researched is Theory of Mind (ToM): the capacity to attribute mental states to others. This domain focuses on the human's preoccupation with other humans (Zunshine 8). It accounts for empathy and thus for affective responses to literature, as Suzanne Keen and Blakey Vermeule highlight in their pioneering studies. Lisa Zunshine sees literary texts' tendency to test readers' mind-reading abilities as one of their main points of attraction. She

expands the rationale by showing how literature challenges the brain's capacity for "metarepresentation," that is, keeping track of the source of the sentiments attributed to others by virtue of ToM (47). Keen, for her part, emphasizes the value of discussing fictional characters with other readers for honing ToM skills (146ff), whereas Vermeule examines how the emotional attachments that readers form with characters from literature influence their relationships with real people. The second major line of inquiry, promoted by George Lakoff and Mark Johnson, Mark Turner, and Peter Stockwell, diverts attention back to the body. Although the term "cognitive" highlights the highly cerebral aspects of perception and thought, as shown earlier in our brief overview of methodologies, cognition is decidedly material and embodied. The return to the body both allows for and generates renewed attention to readers, a topic that had fallen out of favor because reader response criticism as envisaged in the 1970s and '80s—encompassing psychoanalytical interpretations (Bleich), community formation (Fish), and attention to readers' capacities to fill gaps (Iser)—later gave way to a renewed interest in textual structure and ideological intent.

Cognitive criticism is somewhat less concerned with *what* is interpreted and more focused on *how* the interplay between reader and text/images produces meaning. It considers the text's "affordances," a notion introduced by James J. Gibson to refer to "the complementarity of the animal and the environment" (127). Gibson's "ecological theory" highlights the way that interacting with the environment simultaneously affects both the animal (humans, in our case) *and* the environment. In the context of reading, the affordances of the text (and images in multimodal environments) refer to the text's potential to stimulate readers' sensory perception—sight, sound play, haptics, and so on—and the interpretation of the information gained through the readers' pre-existing experiences. Cognitive critics stay very close to the text, tracking how it guides readers toward certain interpretations and emotional responses, but they are not proscriptive about the effects that texts will have on readers. They accept that some interpretations are "better" than others, in the sense that they are more fully grounded in the text, but do not reject individualism entirely. Cognitive criticism combines readerliness with textuality to explain not only highly personal interpretations but also readings acknowledged widely across groups and cultures (Stockwell 5).

This textual focus often draws on work within cognitive linguistics, which highlighted the language/body connection (see, for example, Langacker). The patterns of language investigated most fully in relation to embodied cognition are metaphor and other figurative forms. "Metaphor" covers far more than overt comparisons of "thee" to "a summer's day." An apt example is the extension of the term "trauma," which originally referred solely to a physical wound, to describing mental anguish (Kokkola, forthcoming). In 1980, Lakoff and Johnson showed how these types of linguistic metaphors reveal the underlying cognitive processes (cf. Stockwell 105). For example, the language used to describe an argument is strongly associated with war: *attack a position*,

*indefensible, strategy* (Lakoff and Johnson 3–7). In *Literary Conceptualizations of Growth* (2014), Trites builds on Lakoff and Johnson’s insights as she highlights the centrality of the embodied conceptual metaphors UP IS GOOD and GROWTH IS A JOURNEY in adolescent literature and its criticism (22–27).<sup>2</sup> Maturation is understood as an embodied, physical process that grows all the more complex as the individual moves through several stages, each hierarchically building on the previous one. Underlying it all is “the notion of ascent; positive growth is both outwards and upwards” (22). Trites’s examples show that embodiment may involve *entailment*, as mental concepts are restricted by how the world is perceived from within and through the body (15; 18; 32–33).

Indeed, many of the most common spatial conceptual metaphors (e.g., HAPPY IS UP or SAD IS DOWN) have a direct correlate in the real world, for instance in the postures of a depressed or a happy person (Stockwell 110). The majority, however, are not “natural” in the sense that they have a biological basis, but are culturally specific. As Langacker explained from the outset: “Semantic structure is not universal; it is language-specific to a considerable degree. Further, semantic structure is based on conventional imagery and is characterized relative to knowledge structures” (2). Lakoff and Johnson’s main point is that metaphors reveal the habituated ways in which humans make sense of the world within any given culture. Similarly, Turner stresses that the basic mental processes involved in dividing the world into “small spatial stories” is always active, but goes largely unnoticed (23). And precisely because metaphor and spatial conceptualizing are so habituated, they are easily presumed to be “natural.”

In proffering the mindset and tools to unveil naturalized meanings (Stockwell 110), cognitive criticism lends itself to ideology criticism exceptionally well. Metaphors reveal the underlying ideological affordances of literary texts. Usually, they work in one particular direction. When Shakespeare compares “thee” to “a summer’s day,” he ascribes to his apostrophic love interest the qualities of said day—warm, sunny, enjoyable—and not the other way around. Reversing the metaphor would seem odd to his readers and give them pause. A defamiliarizing tactic of that kind invites readers to revisit the metaphoric relationship and may bring about a change in their cognitive structure, in a process known as *interanimation* (Stockwell 111).

Stephens demonstrates how fruitful the cognitive approach is for ideology criticism in his essay “Schemas and Scripts: Cognitive Instruments and the Representation of Cultural Diversity in Children’s Literature” (2011), a pioneering text that introduced cognitive schema theory into children’s literature studies. Perhaps most fully expounded by Stockwell, schema theory foregrounds the brain’s efficient methods for storing and processing information, notably by means of “the conceptual structure drawn from memory to assist in understanding utterances” (77). Stockwell argues for the usability of schema theory in literary studies, but fails to explain the difference between schemas and scripts, simply noting that “a schema . . . was first called a script” and defining the latter as “a socioculturally defined mental protocol for nego-

tiating a situation” (77), thereby leaving many readers confused. Stephens, for his part, proposes a useful distinction between schemas as static and scripts as dynamic, with the latter “express[ing] how a sequence of events or actions is expected to unfold” (“Schemas” 14). Scripts, in Stephens’s sense, rely on the readers’ ability first to recognize them and then to anticipate their subsequent development. The productivity of scripts for ideology criticism transpires in Stephens’s claim that “the process of connecting apparently deviant or merely unexpected events may involve readers in unfamiliar insights and perceptions, or may even transform the script into another way of understanding the world” (14). In other words, Stephens advances interanimation, which relies on schema accretion, disruption, or refreshment (cf. Stockwell 79–80), as a helpful textual mechanism for ideology criticism.

Even more usefully for children’s literature criticism, cognitive approaches supply tools for examining how texts proffer affordances suitable for readers who have not yet fully matured cognitively and physically. Unlike Keen, Vermeule, Zunshine, and others, scholars of children’s literature are primarily concerned with readers who are not cognitively mature (even though we know that the books must reach out to adult readers as well if they are to prove institutionally, critically, and commercially successful). It should come as no surprise, then, that the flurry of publications with which cognitive criticism entered the field devoted much attention to these maturing readers. Apart from Stephens’s aforementioned essay, these groundbreaking publications include a special issue of *International Research in Children’s Literature* that he edited in 2013, Trites’s 2014 volume discussed earlier, and Nikolajeva’s book *Reading for Learning* (2014), both of the latter issued in the John Benjamins series *Children’s Literature, Culture, and Cognition*.

As noted above, Trites addresses adolescent characters’ development in mental as well as physical terms. Nikolajeva’s study, in contrast, is a comprehensive overview of the field highlighting not only the relevance of cognitive approaches for the study of children’s literature, but also the need to create more nuanced understandings of “the child reader” than previous theories required. Taking into account the “cognitive discrepancy” between children’s books’ authors and their audiences (13), Nikolajeva considers what children learn from reading literature by examining “*the ways literary texts are constructed to . . . optimise reader engagement*” (4; emphasis in orig.). She covers topics relating to readers’ developing cognitive faculties, such as “knowledge of the world” (children’s lack of ability to distinguish “fact” from “fiction”) and “knowledge of people” (both one’s self and others).

When further exploring how to combine cognitive criticism’s varied origins and concepts with the study of children’s literature, we would do well to heed Langacker’s advice to linguists:

Linguists cannot expect to walk into a psychology shop or an AI emporium and find an adequate model sitting on the shelf. They can, however, expect to find

there a great many useful concepts and insights about language behavior and cognitive processes in general, and are well advised to design their own models for maximal compatibility with the findings of cognitive scientists. (6)

Equally, we cannot expect to walk into the cognitive sciences' shop in search of a model that will best serve the needs of children's literature scholars. Piecing together bits from the multifaceted cognitive puzzle for the field's benefit is required, and that is precisely what Stephens, Nikolajeva, Trites, and other pioneers have been doing. The many excellent papers submitted for this special issue attest to the influence of their groundbreaking work.

From the broad array of submissions, we have selected five to represent the diversity of lines of inquiry made possible by cognitive approaches to children's literature. Karen Coats examines how conceptual metaphors related to gender and ethnicity scripts are visualized in picturebooks, and considers the implications in terms of social justice. Coats's article foregrounds the affordances of the images and text in promoting critical ways of thinking. The second article, by Ralf Thiede, examines in more detail how the brain processes information. Like Coats, he mostly uses examples from picturebooks, but focuses more on the textual features such as rhythm and meaning as he scrutinizes the interplay between the child's developing neural pathways while they share a story with a trusted adult. While Thiede assumes the reading child to be neurotypical, Rocío Riestra-Camacho examines the dramatherapeutic potential of portraying neurodivergent characters for neurodivergent readers. Riestra-Camacho explores how the figure of Newt Scamander in the film *Fantastic Beasts and Where to Find Them* can act as a mediator for viewers on the autism spectrum in a dramatherapeutic setting, as engaging with this fictional character in roleplay allows them to safely practice real-life social skills. Margaret Mackey's essay departs from the study of books and film but maintains the focus on young readers by providing a pair of case studies of actual readers. In search of a better understanding of the cognitive relationship between readers and their physical environments, Mackey asked them to create maps showing how they connected the places of their childhood with their early reading. The final article, by Frauke Pauwels, examines the meaning-making processes promoted through nonfiction. In her discussion of a recent award-winning Dutch picturebook about evolution, Pauwels demonstrates how features such as metaphor, address, and focalization, which have long been examined primarily in relation to fiction, also proffer opportunities for enabling children to understand the cognitive process underlying knowledge formation. Through their diversity, we believe that these five articles illuminate cognitive criticism's breadth and potential for expanding the field of children's literature criticism.

## Notes

1. The Whorfian hypothesis, sometimes known as the Sapir-Whorf hypothesis, is a misnomer for a set of beliefs about the relationship between language and cognition that emerged in the mid-twentieth century. Although they never coauthored any papers together, Edward Sapir and Benjamin Lee Whorf proposed that language affects how people perceive the world. Whorf's inaccurate claims about the multiple words for snow in Inuit languages is the best-known example of how language supposedly determines thought. The racist biases of much of the early work on linguistic determinism have been identified, but the basic principle that language and perception are connected is broadly supported.
2. The convention in cognitive criticism is to render conceptual metaphors in small capitals (Stockwell 105).

## Works Cited

- Bleich, David. *Subjective Criticism*. Baltimore: Johns Hopkins UP, 1978.
- Fish, Stanley. *Is There a Text in This Class? The Authority of Interpretive Communities*. Cambridge, MA: Harvard UP, 1980.
- Gibson, James J. "The Theory of Affordances." *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin, 1979. 127–43.
- Iser, Wolfgang. *The Act of Reading: A Theory of Aesthetic Response*. Baltimore: Johns Hopkins UP, 1978.
- \_\_\_\_\_. *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett*. Baltimore: Johns Hopkins UP, 1974.
- Keen, Suzanne. *Empathy and the Novel*. Oxford: Oxford UP, 2007.
- Kokkola, Lydia. "Trauma." *Keywords for Children's Literature*. Ed. Nina Christensen, Philip Nel, and Lissa Paul. New York: New York UP, forthcoming.
- Lakoff, George, and Mark Johnson. *Metaphors We Live By*. 1980. Chicago: Chicago UP, 2003.
- Langacker, Ronald W. *Foundations of Cognitive Grammar*. Stanford, CA: Stanford UP, 1987.
- Mackey, Margaret. *Narrative Pleasures in Young Adult Novels, Films and Video Games*. Basingstoke, UK: Palgrave Macmillan, 2011.
- Nikolajeva, Maria. *Reading for Learning: Cognitive Approaches to Children's Literature*. Amsterdam: John Benjamins, 2014. Children's Literature, Culture, and Cognition.
- Stephens, John. "Editorial: Thinking in Other Ways." Spec. issue on cognition in children's literature. Ed. John Stephens. *International Research in Children's Literature* 6.2 (2013): v–xi.
- \_\_\_\_\_. "Schemas and Scripts: Cognitive Instruments and the Representation of Cultural Diversity in Children's Literature." *Contemporary Children's Literature and Film: Engaging with Theory*. Ed. Kerry Mallan and Clare Bradford. Basingstoke, UK: Palgrave Macmillan, 2011. 12–35.

- Stockwell, Peter. *Cognitive Poetics: An Introduction*. London: Routledge, 2002.
- Tenngart, Paul. "Barnlitteraturens kognitiva värden" [The cognitive values of children's literature]. *Barnlitteraturens värden och värderingar* [Children's Literature's Values and Evaluations]. Ed. Sara Kärrholm and Paul Tenngart. Lund, Swed.: Studentlitteratur, 2012. 23–38.
- Trites, Roberta. *Literary Conceptualizations of Growth: Metaphors and Cognition in Adolescent Literature*. Amsterdam: John Benjamins, 2014. Children's Literature, Culture, and Cognition.
- Turner, Mark. *The Literary Mind: The Origins of Thought and Language*. New York: Oxford UP, 1996.
- Vermeule, Blakey. *Why Do We Care about Literary Characters?* Baltimore: Johns Hopkins UP, 2010.
- Wolf, Maryanne. *Tales of Literacy for the 21st Century*. Oxford: Oxford UP, 2016.
- Young, Damon. *The Art of Reading*. Victoria, Aus.: Scribe, 2017.
- Zunshine, Lisa. *Why We Read Fiction: Theory of Mind and the Novel*. Columbus: Ohio State UP, 2006.