A Cognitive Approach to Ernest Hemingway's Short Fiction
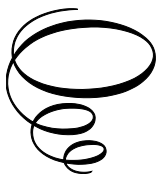
A Cognitive Approach to Ernest Hemingway's Short Fiction

By

Gabriela Tucan

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This book first published 2021

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

In loving memory of my mother.

"In the study of the mind, whatever looks natural
is most suspect"
(*The Literary Mind*, Mark Turner)

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INTRODUCTION

It is something of a commonplace today that natural scientists are only able to judge their work in isolation while humanities research is intended to be understood only by specialists working in their respective academic fields. It is a matter of some debate whether work by practitioners in differing disciplinary areas is expected to remain invisible and intellectually uninteresting for their counterparts. In place of this traditionally sharp division between humanities and natural sciences, the past decades have seen a growing interest in the enriching cross-fertilization between scientific approaches and humanistic investigations. This scientific turn in the study of literature outlines a new paradigm founded on rigorous and reliable knowledge, on methodological discipline and theoretical assumptions. Research in the new field known as the empirical study of literature flourished with the pioneering work published in the *Scientific Study of Literature*, a journal launched in 2010. Defined as a repertoire of cultural artifacts, literature is studied here with scientific stringency to cast new light on literary phenomena and processes. This cutting-edge journal has helped revitalize the declining state of core humanist concerns by welcoming contributions that use scientific methods to explore and validate new hypotheses. One of the most important lines of inquiry in the *Scientific Study of Literature* is that texts are not universal repositories of meaning but "fluid objects that are created in the minds of readers."[1] This shifts the focus on the investigation of the interaction between reader and text.

In 2012, Van Peer et al. edited the volume *Scientific Methods for the Humanities*,[2] which provides a repository of methods and approaches to further promote empirical research in humanities. They argue that the realms of science and humanist disciplines are not divided by an unbridgeable chasm and that the relation between them is complementary rather than one of opposition. What brings them together is their shared concern with questions of how to ascribe meaning to one's life. They hold that such queries have always had a predominant role in culture and so

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[1] Peter Dixon and Marisa Bortolussi, "The Scientific Study of Literature: What Can, Has, and Should be Done," *Scientific Study of Literature* 1, no. 1 (2011): 59–71.
[2] Wille Van Peer, Frank Hakemulder and Sonia Zyngier, eds., *Scientific Methods for the Humanities* (Amsterdam: John Benjamins, 2012).

abolishing them would mean disregarding meaningful cultural phenomena. In their words, reflections on how one grasps meaning show that "we are human and humane, that we maintain a relationship with our surroundings, that we mean something to ourselves and to others."[1] The point is taken further in an argument that stresses that questions involved in meaning processes need to be confronted with "the very best methods we have at our disposal" while relying on a scientific repertoire of methods. In fact, what they propose is consistent with the multifaceted investigation conducted in the *Scientific Study of Literature*: cross-disciplinary dialog and tight collaboration between natural sciences and humanities are premised on the realization that they both need each other so as to know the world better. *Scientific Methods for the Humanities* reminds us of C. P. Snow's high aspiration for bridging the two cultures into a "Third Culture"[2] to narrow the cultural divide. The collaborative ties he advertized in 1959 are still disputed today. For instance, the dichotomy between sciences and arts are at the core of Jonathan Gottshall's publications on the matter.[3] In *Literature, Science, and a New Humanities*, he identifies the origin of the crisis: the failure of literary scholars to produce reliable knowledge, which sets them apart from scientists who operate on theoretically robust assumptions. In stark contrast to scientific inquiry, literary studies pose vital questions in a space of explanation that is too vast. The key to obtaining more reliable results is a systematic "shrinking down" of this broad space of possibility. Gottshall gives the example of science understood as "the most successful method humans have devised for shrinking the space of possible explanation. The work is carried forward by research communities whose members typically focus on little parts of big problems. Through their competitive, cooperative, and cumulative efforts, scientific research communities seek to narrow the range of plausible response to given questions. Sometimes this process is spectacularly successful and possibility space is reduced to a speck."[4] In a similar vein, narrowing down the possibility space in literary studies would enable us to test ideas rigorously. Gottshall hopes that advances in humanities will result from emulating techniques, methods, and theories from allied domains.

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[1] Van Peer, Hakemulder and Zyngieret al., *Scientific Methods for the Humanities,* 6.
[2] His thesis was published in *The Two Cultures and the Scientific Revolution* (Cambridge: Cambridge University Press, 1959).
[3] Jonathan Gottshall, *Literature, Science, and a New Humanities* (New York: Palgrave Macmillan, 2008).
[4] Gottshall, *Literature, Science, and a New Humanities*, 8.

Other seminal work in interdisciplinarity has been done by Slingerland.[1] In his study analyzing what science offers the humanities, he explains that the historically entrenched divide between academic departments originates in the rather old-fashioned metaphysical mind-body dualism. This universal intuition maintains that there are two types of substances in the world: mind and matter. They operate independently and according to their distinct principles. This dualistic model is replicated in the academic debate: humanists study the mind to grasp its mysterious inner workings whilst scientists concern themselves with the properties of matter. The distinction between understanding and explanation has thus become the hallmark of a divided academic world. However, Slingerland's non-dualistic concept argues for "an integrated, 'embodied' approach to the study of human culture."[2] Why does this merit attention? This guiding principle of "an embodied cognition," embraced by research[3] in the interdisciplinary matrix called cognitive sciences, means that all cognitive innovation is constrained by the structure of our bodies and minds. Our unique physical and cognitive architecture and the way we experience the world are fundamental conditions for calling into question the classical mind-body dualism. In Slingerland's words: "By breaching the mind-body divide—by bringing the human mind back into contact with a rich and meaningful world of things— this approach to the humanities starts from an embodied mind that is always in touch with the world, as well as a pragmatic model of truth or verification that takes the body and the physical world seriously."[4]

Cognitively-informed sciences welcome the embodied mind approach, which indeed forms the fundament of their scientific practice. In this sense, psychologists[5] and scholars who study perception[6] argue that the mental

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[1] Edward Slingerland, *What Science Offers the Humanities. Integrating Body and Culture* (Cambridge: Cambridge University Press, 2008).

[2] Slingerland, *What Science Offers the Humanities*, 9.

[3] Raymond W. Gibbs Jr., *Embodiment and Cognitive Science* (Cambridge: Cambridge University Press, 2005). See also: Francisco Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1993 [1991]); Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason* (Chicago/London: University of Chicago Press, 1987).

[4] Slingerland, *What Science Offers the Humanities*, 8.

[5] Ulric Neisser, *Cognitive Psychology* (New York: Psychology Press, 2014). See also: Ulric Neisser, *Cognition and Reality: Principles and Implications of Cognitive Psychology* (San Francisco: W. H. Freeman, 1976).

[6] Diane Pecher and Rolf Zwaan, eds., *Grounding Cognition: The Role of Perception and Action in Memory, Language and Thinking* (Cambridge: Cambridge University Press, 2005); Alva Noë, *Action in Perception* (Cambridge, MA: MIT Press, 2004).

representation of the external world arises from everyday embodied experiences and from a sensory contact with the world. This leads to the conclusion that cognition is "embodied action." Varela et al. explain the term "embodied" by arguing that "cognition depends upon the kinds of experience that come from having a body with various sensorimotor capacities," which are themselves "embedded in a more encompassing biological, psychological, and cultural context."[1] The term "action" emphasizes that "sensory and motor processes, perception and action, are fundamentally inseparable in lived cognition."[2] Overall, current empirical evidence presents an embodied picture of cognition. This view shows that perception does not only occur in the sensory apparatus but is a kinesthetic activity that is able to transform mental images.[3]

Concerned with an empirical investigation of the mind, artificial intelligence[4] (AI) provides evidence against the dualist thesis, suggesting that consciousness is not a mysterious substance but rather a property emerging from matter. The machines built by AI, capable of replicating the mind's physical complexities, strengthen the argument in favor of the physicalist view of consciousness. Similarly, cognitive linguistics[5] focuses on deep cognitive processes to show how understanding and creativity arise from an embodied human experience. Language does not emerge from

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See also: James J. Gibson, *The Ecological Approach to Visual Perception* (New York: Psychology Press, 1986).

[1] Varela, Thompson and Rosch, *Embodied Mind*, 173.

[2] Varela, Thompson and Rosch, *Embodied Mind*, 173.

[3] Gibbs, *Embodiment and Cognitive Science*.

[4] Dana Ballard, "On the Function of Visual Representation," in *Vision and Mind: Selected Readings in the Philosophy of Perception*, eds. Alva Noë and Evan Thompson (Cambridge, MA: MIT Press 2002), 459–479. See also: Dana Ballard, "Animate vision," *Artificial Intelligence* 48 (1991): 57–86; Rodney Brooks, "Intelligence without Representation," *Artificial Intelligence* 47 (1991): 139–159.

[5] Gibbs, *Embodiment and Cognitive Science*. See also: Vittorio Gallese and George Lakoff, "The Brain's Concepts: The Role of the Sensory-motor System in Conceptual Knowledge," *Cognitive Neuropsychology* 22 (2005): 455–479; George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago/London: University of Chicago Press, 2003 [1980]); Leonard Talmy, *Toward a Cognitive Semantics*, 2 vols. (Cambridge, MA/London: MIT Press/Bradford, 2000); Ronald Langacker, *Foundations of Cognitive Grammar. Volume 2: Descriptive Application* (Stanford: Stanford University Press, 1991); Ronald W. Langacker, *Foundations of Cognitive Grammar. Volume 1: Theoretical Prerequisites* (Stanford: Stanford University Press, 1987); Eve Sweetser, *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure* (Cambridge: Cambridge University Press, 1990).

autonomous parts of the brain but from bodily experience.[1] Cognitive linguistics has seen a growing body of evidence claiming that syntactic systems cannot work independently from semantics, while both of them are informed by basic sensorimotor activities. In a helpful survey study, Wilson[2] identifies the major tenets held by linguists: cognition is dynamic, context-dependent, situated, designed for action, and constructed on experience. It is deeply entrenched in the restraints of the body and reflected in the surrounding environment.

There is a common thread that runs through most of the body and practices of research in the affiliated disciplines discussed above that argues that cognitive activity emerges from interactions between the brain, body, and environment. This present volume explores the question of how an engagement with cognitive sciences can change the ways we study literature. How has literary endeavor—an exploration of the powers of imagination, if nothing else—come to be indebted to the rational faculties of cognitive sciences? Is it worthwhile, and perhaps even necessary, to consider the importance and sheer size of the body of the research on mind and brain processes? Might their empirical investigations breathe new life into the intellectual environment of the traditional tenets of literary studies? Turner[3] saw this trend almost thirty years ago, arguing then that cognitive science "requires" the study of literature as a vital product of the human mind, constituted via complex processes of comprehension and production.

Since Turner's discovery, many others[4] have turned to the cognitive study of literature. However, "resistance to unified theories" still informs literary cognitive work, as Zunshine notes in her introductory chapter[5] to *Cognitive Literary Studies*. Despite general interest in establishing a common

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[1] George Lakoff and Mark Johnson, *Philosophy in the Flesh. The Embodied Mind and its Challenge to Western Thought* (New York: Basic Books, 1999).

[2] Margaret Wilson, "Six Views of Embodied Cognition," *Psychonomic Bulletin and Review* 9 (2002): 625–636.

[3] Mark Turner, *Reading Minds: The Study of English in the Age of Cognitive Science* (Princeton, NJ: Princeton University Press, 1991).

[4] Michael Burke and Emily T. Troscianko, eds., *Cognitive Literary Science. Dialogues between Literature and Cognition* (New York: Oxford University Press, 2017); Peter Garratt, ed., *The Cognitive Humanities. Embodied Mind in Literature and Culture* (London: Palgrave MacMillan, 2016); Lisa Zunshine, ed., *The Oxford Handbook of Cognitive Literary Studies* (Oxford: Oxford University Press, 2015); Patrick Colm Hogan, *Cognitive Science, Literature, and the Arts. A Guide for Humanists* (New York/London: Routledge, 2003); Mary Thomas Crane, *Shakespeare's Brain. Reading with Cognitive Theory* (Princeton, NJ/Oxford: Princeton University Press, 2001); Jerry R. Hobbs, *Literature and Cognition* (Stanford, CA: CSLI, 1990).

[5] Zunshine, *Cognitive Literary Studies*.

research background, even scholars[1] attracted by interdisciplinary work often remain critical. Ryan criticizes the fact that the work of literary theorists engaged with heterogeneous methodology creates the impression of "interdisciplinary bricolage."[2] In order to counterbalance criticism, Hartner holds that "cognitive literary studies therefore need to engage in a continued reflection on their concepts, aims, and methods" while the intersection between science and literature demands "a heightened degree of epistemological awareness and conceptual deliberation."[3] In this spirit, numerous studies engage in sound theoretical reflections on the scope of cognitive approaches. Schneider and Hartner,[4] for example, eloquently advocate the literary implications of Fauconnier and Turner's blending theory. In *Why We Read Fiction*, Zunshine[5] conducts a rigorous examination of the theory of mind, and in *Social Minds in the Novel*, Palmer[6] designs analytical tools to investigate "social minds" in action. Spolsky[7] examines the mind's instability arising from cognitive gaps that enables innovation in fictional writing and literary criticism. Richardson[8] uses concepts and recent findings from neuroscience to better understand the relations between literary activity and brain science in the Romantic era in Britain. The collection of forty articles edited by Kreutz and MacNealy,[9] mostly indebted to cognitive psychology, demonstrates how literary effects can be described by means of empirical methods. In the more recent and wide-ranging

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[1] Marie-Laure Ryan, "Narratology and Cognitive Science: A Problematic Relation," *Style* 44, no. 4 (2010): 469–495; Patricia Waugh, "Introduction: Criticism, Theory, and Anti-theory," in *Literary Theory and Criticism: An Oxford* Guide, ed. Patricia Waugh (Oxford: Oxford University Press, 2006), 1–33.

[2] Ryan, "Narratology and Cognitive Science," 476.

[3] Marcus Hartner, "Scientific Concepts in Literary Studies. Towards Criteria for the Meeting of Literature and Cognitive Science," in *Cognitive Literary Science. Dialogues between Literature and Cognition*, ed. Michael Burke and Emily T. Troscianko (New York: Oxford University Press, 2017), 22.

[4] Ralf Schneider and Marcus Hartner, eds., *Blending and the Study of Narrative: Approaches and Applications* (Berlin/Boston: De Gruyter, 2012).

[5] Lisa Zunshine, *Why We Read Fiction: Theory of Mind and the Novel* (Columbus, OH: Ohio State University Press, 2006).

[6] Alan Palmer, *Social Minds in the Novel* (Columbus, OH: Ohio State University Press, 2010).

[7] Ellen Spolsky, *Gaps in Nature: Literary Interpretation and the Modular Mind* (Albany: State University of New York Press, 1993).

[8] Alan Richardson, *British Romanticism and the Science of the Mind* (Cambridge: Cambridge University Press, 2001).

[9] Roger J. Kreuz and Mary Sue MacNealy, eds., *Empirical Approaches to Literature and Aesthetics* (Norwood, NJ: Ablex, 1996).

volume coordinated by Zunshine,[1] the common thread is the contributors' commitment to a variety of theoretical paradigms. They are open to unexpected approaches, perceived as irrelevant to cognitive inquiry a decade ago. For instance, cognitive disability studies spearheaded by Ralph James Savarese radically revises our view of autism[2] as a debilitating condition known to prevent autists from comprehending figurative language. He demonstrates instead that they possess enormous sensitivity to poetic expression. This type of research shows how literature is able to offer benefits back to cognitive science and contribute to cognitive-scientific debates. The ground-breaking research in cognitive postcolonial studies[3] and cognitive queer studies[4] opens other new theoretical perspectives and offers new models for literary studies.

Yet in the process of exploring the vast volume of research that treats the goals of literary, linguistic, and cognitive studies as possibly overlapping or even shared, I aim to apply the advances of cognitive poetics[5] to literary reading. Freeman[6] contends that this new field in literary analysis focuses on general cognitive processes of comprehension. This enables us to discover mental operations happening below the level of conscious awareness. Stockwell emphasizes that such natural phenomena do not appear when one engages in acts of interpretation but rather both in individual readings and in those shared by a group or a community:

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[1] Zunshine, *Cognitive Literary Studies*.
[2] Ralph James Savarese, "What Some Autistics Can Teach Us about Poetry. A Neurocosmopolitan Approach," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Lisa Zunshine (Oxford: Oxford University Press, 2015), 394–417.
[3] Patrick Colm Hogan, "The Psychology of Colonialism and Postcolonialism. Cognitive Approaches to Identity and Empathy," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Lisa Zunshine (Oxford: Oxford University Press, 2015), 329–346; Suzanne Keen, "Human Rights Discourse and Universals of Cognition and Emotion. Postcolonial Fiction," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Lisa Zunshine (Oxford: Oxford University Press, 2015), 347–365.
[4] Keith J. Vincent, "Sex on the Mind: Queer Theory Meets Cognitive Theory," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Lisa Zunshine (Oxford: Oxford University Press, 2015), 199–221.
[5] Joanna Gavins and Gerard Steen, eds., *Cognitive Poetics in Practice* (London/New York: Routledge, 2003). See also: Peter Stockwell, *Cognitive Poetics: An Introduction* (London: Routledge, 2002); Elena Semino and Jonathan Culpeper, *Cognitive Stylistics. Language and Cognition in Text Analysis* (Amsterdam, Philadelphia: John Benjamins, 2002).
[6] Margaret H. Freeman, "Cognitive Mapping in Literary Analysis," *Style* 36, no. 3 (2002): 466–483.

"cognitive poetics offers a means of discussing interpretation whether it is an authorly version of the world or a readerly account, and how those interpretations are made manifest in textuality. In this sense, cognitive poetics is not simply a shift in emphasis but is a radical re-evaluation of the whole process of literary activity."[1] Literary theorists are therefore able to explain readings with reference to general cognitive processes and linguistic dimensions. Viewed as a form of everyday experience, literature can be understood on the basis of our knowledge of the world that arises from our embodied interaction with our surroundings. This is also one of the basic tenets of cognitive linguists, who "assume a close connection between experience, cognition, and language," as Gavins and Steen explain.[2] While cognitive poetics receives cognitive input through linguistics, it is also connected to other research branches, in particular psychology and psycholinguistics.

Since a cognitive poetic analysis offers the opportunity to dive into a detailed awareness of otherwise barely noticeable mental processes, I believe it has advantages when rethinking the reception of short fiction. Before I explain why I have chosen Ernest Hemingway's modernist short stories for analysis, I first need to clarify why I focus on short fiction. I argue that short stories can best be used for explanatory purposes in cognitive poetics. They provide good illustrations of cognitive operations required for building mental representations. How readers are able to arrive at perceived meanings is still largely a mystery and a matter of pure speculation in short story theory. The narrative mystery is even seen as a generic factor, which led Eudora Welty[3] to conclude that "every good story has mystery—not the puzzle kind, but the mystery of allurement. As we understand the story better, it is likely that the mystery does not necessarily decrease; rather it simply grows more beautiful." In his approach to the modernist short story, Head[4] explains that critics have taken refuge in theories of mystery and uncertainty for lack of a better critical approach to deal with ambiguity, paradox, and ellipsis, three fundamental properties of the modernist short story. He goes on to argue that these prevailing features generate a great deal of disunifying effects, contrary to the esthetic unity that critics generally seek to attain. His thesis focuses on "the cultivated disunity of the modernist story," rarely observed in discussions of short fiction. He points

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[1] Stockwell, *Cognitive Poetics*, 5.
[2] Gavins and Steen, *Cognitive Poetics in Practice*, 9.
[3] Eudora Welty, "The Reading and Writing of Short Stories," *Atlantic Monthly* 183 (1949): 46–49.
[4] Dominic Head, *The Modernist Short Story. A Study in Theory and Practice* (Cambridge: Cambridge University Press, 1992).

out that this approach "should lead us away from the search for a unifying authorial presence, and towards a focus on the historical gaps and conflicts in a text, […] [which] inevitably result in an uneven textual surface."[1] Even though such formal disruptions are often recognized, existing short story theories have not discussed them adequately. In line with Head's argument, I stress that a rigorous language is required to theorize the hidden parts of the short text. Basically, this involves intense acts of imagination on the reader's part. They need to transcend intentional absences, cope with fragmentary messages, and compact brevity. All of this means that readers are affected subliminally while their imaginative powers and cognitive abilities are stretched to their limits. It follows, therefore, that the problem of gaps and silences in the story should not be deemed as "mysterious" but accounted for by means of a new esthetic theory. This premise is tested in this book. The chapters that follow are a practical investigation of cognitive poetic principles demonstrated in the work of Ernest Hemingway. His short stories serve as an extended example to substantiate my argument. In fact, I have selected him as my subject because critics have never ceased to offer him attention. Starting with Philip Young's initial studies[2] up until the 1980s, critics offered readers the image of a hypermasculine writer. That was a relatively stable critical filter that stressed his uncompromised masculinity and his code of heroes. However, in the late '70s, Fetterley[3] condemned the masculine comportment in Hemingway's texts as homophobic and misogynistic. With the posthumous publication of *The Garden of Eden* in 1986 and the release of Lynn's revisionary biography,[4] the critical consensus was challenged again in the sense that critics began to address the complications in the author's life. Another turning point in the critical reception was the publication of his collected letters that disclosed some of his life choices and motivations regarding the characters of his fiction. The decades following the volume *The Short Stories of Ernest Hemingway: Critical Essays*,[5] published in 1975, have seen a growth in Hemingway short story criticism. The 1990 *New Critical Approaches to the Short Stories of*

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[1] Head, *The Modernist Short Story*, 20.
[2] Philip Young, *Ernest Hemingway* (New York: Rinehart, 1952); Philip Young, *Ernest Hemingway: A Reconsideration* (University Park: Pennsylvania State University Press, 1966).
[3] Judith Fetterley, *The Resisting Reader: A Feminist Approach to American Fiction* (Bloomington: Indiana University Press, 1978).
[4] Kenneth S. Lynn, *Hemingway* (Cambridge, MA: Harvard University Press, 1987).
[5] Jackson J. Benson, ed., *The Short Stories of Ernest Hemingway: Critical Essays* (Durham, NC: Duke University Press, 1975).

Ernest Hemingway[1] attests to the elation of Hemingway's status and also the improvement in the quality of what had already seemed to be repetitive, sterile criticism in the 1970s. In the new critical climate, scholars have turned their attention to new methodologies and possibilities, questioning long-accepted tenets in Hemingway criticism. For instance, the critical heritage is revalued in the very recent volume edited by Moddelmog and Gizzo,[2] which considers the various contexts that informed the author's life and writing. Throughout the decades, scholars have combined traditional avenues with newer approaches, but very little has been done about what the most natural perspective may be for most of Hemingway's readers. In particular, Hemingway criticism has failed to explain the emotional undercurrent of his short literary works or how readers build and engage with the text. However, I argue that with the benefit of recent discoveries in cognitive sciences, we are able to infer how textual perceptions creep up on the reader's mind.

Among the very few applications of cognitive poetics to Hemingway's fiction, Semino's[3] "Possible Worlds and Mental Spaces in Hemingway's 'A Very Short Story'" develops a cognitive framework of mental space theory[4] to deepen the understanding of Hemingway's text. Mental spaces are formed by means of linguistic features and the reader's knowledge of the world, which help Semino offer a plausible picture of the narrative worlds processed by readers. In a similar vein, the methodological framework in this book relies primarily on the theory of mental space, arguing that all thought, in both its actual and fictional forms, manifests itself by activating mental spaces and cross-mappings between them. However, in my research direction, emphasis falls on the mental life of the created figures as I draw on hypotheses raised by recent research about the transparency of fictional minds. According to Palmer,[5] they become visible in overt actions and behaviors, providing thus transparent access to hidden states of mind. I

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[1] Jackson J. Benson, ed., *New Critical Approaches to the Short Stories of Ernest Hemingway* (Durham, NC: Duke University Press, 1990).
[2] Debra A. Moddelmog and Suzanne del Gizzo, *Ernest Hemingway in Context* (Cambridge: Cambridge University Press, 2013).
[3] Elena Semino, "Possible Worlds and Mental Spaces in Hemingway's 'A Very Short Story,'" in *Cognitive Poetics in Practice*, eds. Joanna Gavins and Gerard Steen (London/New York: Routledge, 2003), 83–98.
[4] Gilles Fauconnier, *Mappings in Thought and Language* (Cambridge: Cambridge University Press, 1997). See also: Gilles Fauconnier. "Mental Spaces," in *The Oxford Handbook of Cognitive Linguistics*, eds. Dirk Geeraerts and Hubert Cuyckens (Oxford: Oxford University Press, 2007), 353–376.
[5] Alan Palmer, *Fictional Minds* (Lincoln: University of Nebraska Press, 2004).

therefore examine the mind in action of Hemingway's characters to prove that there is a degree of transparency even in the case of very opaque minds. The extension of this argument also has evident benefits for the study of actual minds, as recognized by Bernini: "fiction gives access to multiple internal opacities and to the interpretive nature of cognition."[1] In Hemingway's simple, unadorned stories, in which plot is deemphasized and esthetic effects result from calculated repetition and sparse dialogue, there is little description to reveal the depth of the characters' thinking. So, an investigation of the mental spaces created by their wishes, dreams, unrealized hypotheses, and alternatives that are considered but never actualized can disclose the emotional core of the story.

The other theory that called my attention to insights from cognitive poetics is conceptual integration,[2] which promises to shed new light on "the way we think," the title of Fauconnier and Turner's 2002 seminal study. In the 1990s, the two scholars[3] launched a joint project meant to offer an even more convincing view of how the mind is able to set up blended mental spaces from where new meanings emerge. They examine the rapid connections established between conflicting mental spaces that run counter to the present story. Exposed to such potentially distracting information, we still remain unconfused. Turner summarizes the force of this extraordinary feat of imagination as follows: "Running multiple mental spaces, or, more generally, multiple constelled networks of mental spaces, when we should be absorbed by only one, and blending them when they should be kept apart, is at the root of what makes us human."[4] Turner's arguments guide my analysis and help me indicate how blended mental spaces are conceptualized in literature. In particular, Hemingway's stories will be used as case studies

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[1] Marco Bernini, "The Opacity of Fictional Minds: Transparency, Interpretative Cognition and the Exceptionality Thesis," in *The Cognitive Humanities. Embodied Mind in Literature and Culture*, ed. Peter Garratt (Durham: Palgrave Macmillan, 2016), 51.

[2] Fauconnier, *Mappings in Thought and Language*; Mark Turner, "Conceptual Blending and Counterfactual Argument in the Social and Behavioral Sciences," *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives*, eds. Philip E. Tetlock and Aaron Belkin (Princeton, NJ: Princeton University Press, 1996), 291–295.

[3] Gilles Fauconnier and Mark Turner, *The Way We Think. Conceptual Blending and the Mind's Hidden Complexities* (New York: Basic Books, 2002). See also: Gilles Fauconnier and Mark Turner, "Conceptual Integration Networks," *Cognitive Science* 22, no. 2 (1998): 133–187.

[4] Mark Turner, "Conceptual Integration," in *The Oxford Handbook of Cognitive Linguistics*, eds. Dirk Geeraerts and Hubert Cuyckens (Oxford: Oxford University Press, 2007), 378.

underlining that literary texts engage the mind in advanced mental work. One illuminating example is the capacity for conceptual integration. Hemingway's characters are adept at creating mental alternatives that are rapidly blended with other scenarios prompted by actual storyworlds. In sum, they have the extraordinary capacity to operate mentally on the unreal, to run simultaneous mental scenarios, and to perform off-line cognitive simulations. The analyses that follow hold that virtual worlds, produced by characters or narrators and acknowledged by readers, far outnumber the worlds prompted by the factual narrative. Readers must therefore ignite their cognitive abilities that are essential for dealing with virtuality and counterfactuality. I hold that it is here that the knot of cognitive interpretation lies. This argument will be supportive for advancing a model of reading Hemingway's short stories. I will test this theoretical hypothesis within the framework suggested below.

Cognitive scientists have addressed the notion of counterfactual thinking in conjunction with the theory of conceptual integration. Turner's *Conceptual Blending and Counterfactual Argument in Social and Behavioral Sciences*[1] and Fauconnier and Turner's *The Way We Think* are two examples of outstanding research on the implications of counterfactual thinking in diverse areas, such as social and behavioral sciences. In outlining their hypotheses, they have shown that examples of counterfactuals may appear in more common examples, such as the "if/then" conditional form, but they may also take less visible or indirectly stated forms. Narratologist Gerald Prince's famous notion of the "disnarrated"[2] describes counterfactuals as articulated in hypothetical modes. Notable examples may include "all the events that do not happen" but which "are nonetheless referred to (in a negative or hypothetical mode) by the narrative text." In a similar vein, the concept of "hypothetical focalization" developed by cognitive narratologist David Herman[3] rethinks the nature of narrative. He explains that "hypothetical focalization, or HF, is the formal marker of a peculiar epistemic modality, in which […] the expressed world counterfactualizes or virtualizes the reference world of the text."[4] Also of special relevance here is Marie-Laure

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[1] Turner, "Conceptual Blending," 291–295.
[2] Gerald Prince, "The *Disnarrated*," *Style* 22, no. 1 (1988): 1–8.
[3] Notable contributions to the field of cognitive narratology are: David Herman, *Storytelling and the Sciences of Mind* (Cambridge, MA: MIT Press, 2013); David Herman, *Story Logic: Problems and Possibilities of Narrative* (Lincoln: University of Nebraska Press, 2002); Karin Kukkonen, "Navigating Infinite Earths: Readers, Mental Models, and the Multiverse of Superhero Comics," *StoryWorlds: A Journal of Narrative Studies* 2 (2010): 35–58.
[4] Herman, *Story Logic*, 310.

Ryan's theory of possible worlds,[1] which refers to the private and virtual worlds of the characters, which are embedded in the narratorial construction. It is perhaps Hilary Dannenberg's ground-breaking study[2] on counterfactuality that gives the most informed demonstration of how the novel has evolved over time by following the main plot patterns of coincidence and counterfactuality in alternation and at crucial moments.

With the insight from the abovementioned studies on counterfactuality and possible worlds, this volume focuses on less visible mental scenarios prompted by imaginative counterfactuals and hypothetical states. This line of inquiry explains the intense mental activity in the reader who is only guided by Hemingway narrators weary of subjective responses and uninterested in rendering sensations. Instead, the emphasis lies on objective details producing these emotions. This allows readers to infer the suggested emotion and recreate what Cather calls "the inexplicable presence of the thing not named."[3] In his study *Art Matters*, Robert Lamb contends that the representation of the world is so intense in Hemingway that it virtually creates the emotion. The technique of "intensifying the world" is then recognized as vital to his esthetics.[4] Even though emotions are omitted or not expressed directly and metaphors are overtly rejected, one can still grasp the emotional suggestiveness. Lamb explains that this depends on two factors: "the reader's sensitivity" and "the degree of their imaginative and sympathetic involvement in the story."[5] This book examines the sources of the reader's imaginative involvement in a number of short stories that deal with the physical reality of journeys, with movement and mobility. The characters begin on straight roads but seldom fail to reach the destination as the routes multiply. This not only requires a different kind of motion but, invariably, a new locus of the mind. Here is the switch from the physical landscape to the mental terrain of counterfactuality that has already been introduced above. The idea of roads that have not been taken translates into mental possibilities that may never be actualized. My demonstration is

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[1] Marie-Laure Ryan, *Possible Worlds, Artificial Intelligence, and Narrative Theory* (Bloomington: Indiana University Press, 1991).

[2] Hillary P. Dannenberg, *Coincidence and Counterfactuality. Plotting Time and Space in Narrative Fiction* (Lincoln/London: University of Nebraska Press, 2008).

[3] Willa Cather, "The Novel Démeublé," (1922) in *Willa Cather: Stories, Poems, and Other Writings*, ed. Sharon O'Brien (New York: Library of America, 1987), 834–837.

[4] Robert Paul Lamb, *Art Matters. Hemingway, Craft and the Creation of the Modern Short Story* (Baton Rouge: Louisiana State University Press, 2010), 70.

[5] Lamb, *Art Matters*, 72.

based on the theory of conceptual metaphor.[1] For instance, the metaphor LIFE IS A JOURNEY helps me discover the intricate mental connections emerging from mappings between the domain of life and the inferential structures associated with journeys. In the end, this endeavor is meant to conceptualize suppressed emotional turmoil, something that Hemingway readers only used to feel viscerally.

As we shall see, the structure of this volume reflects its multiple goals. They are all united, however, by my interest in exploring the mental processes accompanying the production of meaning in short fiction—in particular, the meaning emerging from non-obvious cognitive activity. The first two chapters present the theoretical foundations. They contextualize the ensuing discussion and investigate the possibilities of dialog between various fields of cognitive science. It shows that the cognitive framework is open to multiple perspectives. In this sense, Chapter 1 offers an outline of the significant developments generated by the cognitive revolution that helped establish the grounds of an empirically-based new science of cognition. This chapter gives a clear sense of the intellectual forays preceding the establishment of cognitive science in the mid-1950s. Chapter 2 briefly introduces two relevant sub-disciplines: cognitive poetics and narratology. While the research methods and terminology employed are more indebted to cognitive poetics, I am aware that in this field, research must cross the borders of other disciplines. This section further explores the embodied mind approach to literary studies alongside reading practices in the cognitive age. In the remainder of the chapter, I seek to narrow down the focus by addressing short fiction directly. Chapter 3 further investigates relevant practices and theory in short fiction reading, using Hemingway's exemplary short stories as illustrations. The largely theoretical considerations ought to be taken as points of departure for a more applied approach to the American short fiction writer. Chapter 3 also introduces the concept of counterfactual thinking and its relevance in short fiction reading practices. Chapters 4 and 5 explore methodological approaches that can be applied to literary investigations. They provide a cognitive analysis of narrative time and space as elements that may affect the framing of conflict in the narrative structure, produced on the virtual terrain of narrative possibilities. Chapter 5 outlines new directions in the study of fictional minds. By the end of this

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[1] In 1980, Lakoff and Johnson started research on the conceptual basis of the metaphor. Other notable related contributions to the study of conceptual metaphors are: Peter Crisps, "Conceptual Metaphors and its Expressions," in *Cognitive Poetics in Practice*, eds. Joanna Gavins and Gerard Steen (London/New York: Routledge, 2003), 99–113; Raymond W. Gibbs Jr., *The Poetics of Mind. Figurative Thought, Language, and Understanding* (Cambridge: Cambridge University Press, 1994).

book, I aim to have given a sense of the immediate positive implications of a closer exploratory relationship between literary studies and cognitive research. This reinforces the idea that can only be a sizeable advantage for both in "an age in which the key intellectual goal is not to celebrate the imagination but to make a science of it."[1]

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[1] Fauconnier and Turner, *The Way We Think*, 89.

CHAPTER ONE

COGNITIVE SCIENCES COME TOGETHER

1.1 Mind, body, and cognition

This chapter provides a brief introduction to the major findings and tenets of cognitive sciences with a view to applying them to literary studies. It grounds them in a cognitive approach to advance new perspectives on the cognitive-literary dialog. As I indicated in the introductory chapter, more and more scholars are adhering to the disciplinary boundaries, seeking new research opportunities in emergent areas of scientific inquiry. Despite irrefutable differences, there are many recurrent methods and principles in the cognitive-literary field. Scholars draw on these research commonalities to offer new viewpoints on literature and, in particular, literary reading. In practice, their concerted efforts concretized in 2013 when the term "cognitive literary studies" (CLS) was coined.[1] Some of the major topics addressed in CLS are embodiment, emotion and empathy, immersion, mental imagery, simulation, enactive perception, and so forth. While this current work does not seem to be particularly unified, there is a consistent interest in reading as a cognitive act. In this context, Burke and Troscianko outline the general guidelines for CLS: "(1) brain structures and neurological processes, (2) mental states and mental processes, and (3) literature as a social and cultural phenomenon."[2] This idea of literature as culture and as a component of the mind adds a new level of analysis to cognitive science.

Before developing the contribution of literary scholars working with cognitive science, an overview of the tenets of the founders of cognitive science is necessary. For one thing, practitioners cover a wide range of distinct disciplines: psychology, linguistics, neuroscience, philosophy, anthropology, and artificial intelligence (AI). Given this high number of individual theoretical agendas, it may often have been difficult to reach a perfectly cohesive view on cognitive science. This interdisciplinarity may explain why scholars prefer the phrase "cognitive sciences." Despite potential

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[1] Burke and Troscianko, *Cognitive Literary Science*, 4–5.
[2] Burke and Troscianko, *Cognitive Literary Science*, 25.

irregularities and the lack of a universally accepted definition, most of the key topics researched by cognitive theoreticians have fallen under one broad category: the nature of the mind, the mind-body problem, and the interaction between the human mind and the physical world. The thinking mind and its place in nature have always intrigued humankind in general and intellectuals in particular since Aristotle. In our daily lives, we struggle to understand how our individual brains work, how they react to the environment, and how they condition our creative processes. We often feel intrigued by situations in which the rapid connections between mental powers and brain activity seem impossible to perceive. The work performed by machines mimicking the mind's inner workings can be equally puzzling. Sometimes we may ask whether only the human being can have a mind or whether machines can too. Can they think? How are we able to perceive the surrounding world or, in cases of mental illnesses, is there something wrong with the brain or with the mind? Such intriguing questions about our complex mental capacities have been systematically posed by cognitive scientists. In light of these existential queries, this chapter offers an overview of major theoretical threads relevant to "the mind's new science," as phrased by Garden in his eponymous study.[1] This intellectual endeavor invites us to reconsider the very nature of the mind and its relation to our physical bodies.

Over the last three centuries, philosophy has attempted to answer two fundamental questions relating to one's existence: What are minds? How does the mind relate and interconnect with the body? In this context, this chapter introduces a brief discussion of the traditional mind-body relation, arguing against a dualistic view. The doctrine of dualism goes back to René Descartes. A Cartesian perspective holds that human beings are distinct from their bodies, meaning that the mind lacks any physical characteristics and should be seen as a purely immaterial substance. In Cartesian dualism, individuals are subjected to this flow of immaterial substance, which enables them to engage in a number of mental states lacking any visible physical characteristics. It is only in the mind that thoughts and feelings manifest themselves, but not in bodies or brains. Bodies and minds are seen as distinct substances: bodies are material substances that are able to develop the attribute of extension in space, whereas minds cannot take the form of material substances, which gives them the contrasting attribute of thought. Dualism purports that bodies alone are incapable of thought creation and processes and are exclusively determined by a set of mechanical laws, and thus incapable of producing any intelligent activity. This line of

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[1] Howard Gardner, *The Mind's New Science. A History of the Cognitive Revolution* (New York: Basic Books, 1984).

inquiry goes as far as to claim that minds can exist without the physical shape of a body and are able to exist even in a disembodied state. Clearly, the view has elicited a series of inevitable objections, such as the possibility that the mental and physical substances, while displaying radically different properties, may mutually effect some degree of influence one upon the other. On this issue, questions are raised, for instance, by Heil: "But if minds and bodies are utterly different kinds of substance, it is hard to see how such causal interaction could occur. Minds or selves […] are immaterial thinking but unextended substances. Material bodies, in contrast, are extended but unthinking. How could entities of such wholly different kinds affect one another causally? How could an event in an immaterial mind bring about a material effect? How could a physical event beget a change in an immaterial mind?"[1]

The fundamental Cartesian thesis was rendered implausible by empirical evidence, such as reports of out-of-body experiences where individuals claim they are able to float away and see themselves out of their physical shells. Strange as they may appear, such abnormal or disputable experiences where individuals seem to be enjoying a state of disembodiment have been put down as resulting from sheer transitory hallucinations, however. Similar reports of attempts to travel in time or reimagining past events differently are also less solid evidence than is necessary to prove that the past can be directly changed. Such acts of sheer imagination are insufficiently reliable to conclude that human beings are able to live outside of the human body.[2]

Dissatisfied with the tenets of the dualist theory, behaviorist philosophers[3] refocused their research questions in the empirical field, where philosophical investigation stemmed from observing behavioral manifestations. They did not wish to address the challenges of introspection and insight into mental operations as mental activity was considered unreliable from a scientific standpoint. It was regarded as unable to explain behavior and predict human acts. In essence, scholars such as Ivan Pavlov, B. F. Skinner, E. L. Thorndike, and John B. Watson advance the claim that it is only the analysis of overt behavior in both verbal and non-verbal forms that can lead to serious

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[1] John Heil, *Philosophy of Mind. A Contemporary Introduction* (New York/London: Routledge, 2004), 22–23.
[2] Jonathan Lowe, *An Introduction to the Philosophy of Mind* (Cambridge: Cambridge University Press, 2004), 12.
[3] See, for instance, the work of the behaviorist psychologists, such as: Clark L. Hull, "The Conflicting Psychologies of Learning – Away out," *Psychological Review* 42 (1935): 491–516; B. F. Skinner, *Science and Human Behavior* (New York: Macmillan, 1953); Edward L. Thorndike, *Human Learning* (New York: Johnson Reprint Corporation, 1931).

research outcomes. They argue that thoroughly controlled environments and objective observations of manifested behavior can collectively answer questions about the workings of our mental life. In his seminal article "Psychology as the Behaviorist Views It," American psychologist John B. Watson established the principles of behaviorism, as follows:

> Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. The behavior of man, with all of its refinement and complexity, forms only a part of the behaviorist's total scheme of investigation.[1]

At the heart of Watson's manifesto is the idea that the science of behavior ought to avoid such complex topics as mental representation, thought processing, and mental constructs. As behaviorists argue that the essence of our human cognitive activity is impossible to explain, they turn their attention to the nature of the environment, which behaviorism believes to be superior to the "mysterious" mental life. Behaviorist scientists then turn to samples of hardly decipherable mental activity by using the language of observable behavior. According to the behaviorist view, Lowe stresses that "the only evidence on whose basis attitudinal and other mental states can be ascribed to subjects is behavioural evidence, that is, publicly available evidence of how people behave in various circumstances."[2] Both psychological and philosophical behaviorism reject the view that external acts emerge from internal mental states. The difference between the two doctrines is that the former is based on empirical research, whereas the latter seeks to define the nature of the mind and the origins of mental states. In Bechtel's words, "philosophical behaviorism is primarily concerned with the semantics of our common mentalistic vocabulary. It seeks to explain the meaning of mental terms like *belief* without having to treat them as referring to some mental substance. The goal is to translate terms that purport to refer to mental activity into terms that speak only of behaviors or propensities to behave in certain ways."[3]

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[1] John B. Watson, "Psychology as the Behaviorist Views It," *Psychological Review* 22, no. 2 (1913): 2.
[2] Lowe, *Introduction to the Philosophy of Mind*, 44.
[3] William Bechtel, *Philosophy of Mind. An Overview for Cognitive Science* (Hillsdale, NJ: Erlbaum, 1988), 89.

What the discipline of philosophical behaviorism was significantly successful in addressing was assembling a mental vocabulary designed to describe behavior. According to philosopher Gilbert Ryle,[1] our mental vocabulary needs to be "reduced" in order to provide an accurate description of behavior, which the philosopher calls "propensities to behave" in certain ways. His guiding idea is that the set of mental idioms we own accurately reflect our mental dispositions to act in particular ways. Ryle illustrates this with the following example: if we believe it is likely to rain, then we are disposed to a series of behavior propensities, such as to change our plans for a picnic, carry an umbrella, stay indoors, etc. Such positions as the one given in the previous example are debatable, however, on the basis that philosophical behaviorists can be seen to account for a reductive analysis of mental states. Many of our mental states and beliefs manifest in other forms, not only in and through overt behavior. A dispositional analysis further avoids addressing the uncertainty over the existence of potentially unlimited behavioral actions or dispositions to behave, all of which are dependent on a wide variety of contextual circumstances. Lowe[2] argues that it is therefore difficult to anticipate the exact type of attitude that might be generated by a particular mental activity. This may not always happen despite the presence of the same mental state, which may not generate a similar behavior on that particular occasion since individual beliefs or desires may slightly affect the situation. In his own words: "So we see that there can in fact be no such thing as behaviour that is uniquely characteristic of someone who possesses an attitudinal state with a given propositional content or a sensational state of a certain type. And consequently it is impossible to explain what it means for someone to possess such a state in terms of his or her supposed behavioural dispositions."[3]

In the early 1950s, a shift in the paradigm appeared that resisted reducing the analysis of mental activity to mere observable behavior. In 1959, Noam Chomsky[4] published "A Review of B. F. Skinner's *Verbal Behavior*," in which he reconsidered the aims of psychology and the theory of mental processes and stated that their object of study was similar and should be shared. He then showed that Skinner's behaviorist model of learning was largely inadequate on the basis that Skinner had attempted to explain linguistic behavior by exploring the same stimulus-response theory and by

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[1] Gilbert Ryle, *The Concept of Mind* (New York: Routledge, 2009 [1949]).

[2] Lowe, *Introduction to the Philosophy of Mind*, 43–44.

[3] Lowe, *Introduction to the Philosophy of Mind*, 44.

[4] Noam Chomsky, "A Review of B. F. Skinner's *Verbal Behavior*," in *Readings in Philosophy of Psychology*, ed. Ned Block (Cambridge, MA: Harvard University Press, 1980 [1959]), 48–64.