Cognitive Criticism

As the site of convergence between the reader and the text, theories of reading as well as the novel have always dealt with the brain. Reading exists as a particular yet powerful cognitive function. The relatively recent application of cognitive science to literature represents the unified interests of science and the humanities to understand the cognitive effects that occur while reading, results which pertain to science as well as theories on identity, consciousness, and the relation between the mind and body. From this understanding, cognitive literary criticism reveals scientific insights regarding the reader and text that most other schools of criticism fail to capture—such as the reader’s actual brain reactions as he or she engages with the text. Characterized as a rich portrayal of characters’ interwoven consciousnesses and meant to create a certain illusionary reality for the mentally engaged reader, the novel genre seems of utmost interest when discussing literature and cognitive science. As we begin to discover cognitive effects specific to the novel genre, we define this genre more rigorously and understand its appeal as a specific narrative and structural technique that interacts with readers’ brain functionality.

Fictitious Realities

The paradoxical relationship between fiction and reality regarding the reader’s engagement with literature prefaces cognitive science’s intervention in the field of literary studies. In Jorge Luis Borges’s short story “The Circular Ruins,” a wizard creates an illusionary man with his mind only to eventually understand his own fictitious reality when he discovers “with relief, with humiliation, with terror. . . he
also was an illusion, that someone else was dreaming him” (Borges). Here, Borges’s wizard embodies the reader as he or she begins to understand how text and literature influence the world, more specifically the self. Fiction contains the potential to transform and even determine reality. Cognitive science in its application to literature seems to address this very tension—once the brain engages with the text the demarcation dissolves between fiction and reality, at least temporarily, as the reader gives life to the text in his or her head via reading. Yet even after the opposition between fiction and reality becomes reestablished, the reader still engages with fictional elements of the text as it shapes his or her reality through specific emotional responses brought about by the text. As Catherine Gallagher notes in “The Rise of Fictionality,” text, most notably the novel genre, draws the reader in through different layers of textual subjectivity (as well as that of the reader) in order to convince the reader temporarily of its fictional reality. Despite fictional characters’ existence as “discontinuous pieces of language” in a text, a reader “must concentrate more intensely on their internal dynamic relations . . . to make conjectures about the unexpressed thoughts of persons” (359). This allows readers’ agency to empathize with characters as if they were family as well as personally correct their actions in order to make them more “realistic.” Gallagher comments that as readers “we seek in and through characters . . . not surrogate selves but the contradictory sensations of not being a character” (361). Gallagher’s insight reveals how reading fiction enacts the very real yet paradoxical cognitive capabilities that allow for text to shape a reader, and only through this process does one begin to understand the importance of cognitive literary criticism.

Reading as Cognition

Cognitive criticism focuses on the reader’s experience of a text through the actual yet subtle
reactions that occur in the brain while reading rather than other forms of theoretical analyses that illuminate parts or the entirety of a text. In “Cognitive Science and the History of Reading,” Andrew Elfenbein articulates how cognitive critics seem most concerned with the reader and his or her experience of a text, much like reader-response critics, but they do not limit themselves to just this. Cognitive criticism and reader response criticism both describe the reader’s reaction to a text similarly, but cognitive science creates scientific evidence to validate its theory through its examination of the brain’s functions rather than derivatives of these function, such as emotional and rational responses. According to Elfenbein, “cognitive psychologists . . . typically work not with epics, novels, or lyric poems but with much simpler texts” because of their focus on “the microprocesses of reading” (484) rather than the work’s artistic substance. Despite their focus on smaller texts, since these critics namely study reading, their discoveries often apply to readers of any genre. Elfenbein’s insight into the focus of cognitive science when applied to literature counters the traditional values of literary critics who “prize the complexity of the reading experience” (486) and “who value the ability to find interpretive significance in a full range of textual and contextual detail” (487). Yet cognitive criticism does not aim to devalue these approaches relevant to reader response criticism. Rather, it reveals that this form criticism overlooks the most basic aspects of the reading experience, which is more “routine, automatic, and quasi mechanical” (486) than these critics would like to admit. By understanding these microprocesses, critics more rigorously analyze literature. In fact, an understanding of this very process allows us to better understand a work of literature in its entirety because we more fully understand how text interacts with the reader through terms grounded in the actual reactions manifesting in the reader’s brain.

Cognitive scientists view reading as the active convergence between the mind and the text,
neurological experiments allow for us to more specifically discuss the reading process. The cognitive scientist Stanislas Dehaene broke reading up into four distinct parts that seem very separate but comprise the reading experience. The first form, synchronic reading, describes “neural equipment shared by all humans, regardless of culture”; the second, “how children acquire language and reading skills as they move through . . . stages”; the third as “what happens physiologically during an act of reading (which parts of the brain active, how our eyes move)”; and finally, “how our ability to read might fit within broader context of our evolutionary history” (Ty, 211). All of these stages create distinct forms of reading that allow for critics to further discuss literature’s influence as the reader neurologically comprehends it. Through the ability to discuss such specific forms of reading, critics more rigorously understand the effectiveness of an author’s artistic method. Another cognitive study on reading span reveals that memory capacity acts as secondary to attention span during reading and “the more attention that is engaged with one process, the less that is available for others” (Elfenbein, 487). In other words, a reader only understands the text as an incomplete entity at any given moment in time while reading. The immediacy of the engagement with the text shares a balance with the reader’s broader understanding of the text itself, like its historical context. Reading evokes a certain fantasy world that the reader truly believes through the dominance of attention span over memory, which also composes part of the reader’s identity

Metaphor and the Brain

The study of metaphor and paradoxical processes in reading further allow cognitive critics to make insights into the brain. In “Metaphors We Live By,” George Lakoff and Mark Johnson describe how our metaphor structures our subconscious to determine how we act, think, and communicate. They
go through multiple examples to reveal metaphor’s influence, such as “argument is war” where we either attack or defend ourselves to win or lose (124). Cognitive studies further illuminate these insights to show the importance of metaphor while reading. One study reveals how when a reader engages with metaphor in text it neurologically activates the hormone oxytocin, “a hormone that has been associated with the sexual functions of orgasm and lactation. Oxytocin is also thought to facilitate learning by loosening the synaptic connections in which prior knowledge is held” (Ty, 210). With an understanding of metaphor’s relationship to sexual excitement, former knowledge, and learning, we precisely understand the power of metaphor as a literary tool to convince or show a reader a “reality” of the text. Similar to attention span in memory, when readers engage with metaphor their former understandings of the world become loosened as well as suspended—perhaps even partially dissolved—which allows for a text to reshape readers’ perceptions even just temporarily. But perhaps more importantly, the results of this study potentially allow for authors to better use metaphor to attract the reader’s attention and convey a particular point.

**Mirror Neurons**

The discovery of mirror neurons further enforces previous literary theory with scientific evidence in order to clarify abstract concepts such as how the text enters the reader. In *Wuthering Heights*, Lockwood picks up the deceased Catherine Earnshaw’s journal and begins to read the constant repetition of her name with different surnames ranging for Linton to Heathcliff. As he reads on, her apparition appears to signify a particular power of the text as it enters Lockwood. This phantasmal quality of text, although theorized and turned into stories, actually stems from the activity of mirror neurons. Mirror neurons perform the same activity in the brain when one observes as well as
participates in an action—as one reads, these neurons react like the reader were performing such acts to different degrees depending on the substance of the text. The cognitive scientist Olaf Hauk describes mirror neurons significant role in reading:

> Reading words associated with actions of the foot, hand, or mouth (“kick” and “lick” are choice examples) engages motor areas of the brain that overlap or are adjacent to the same spots activated when one is actually in the throes of action. Here, we find the suggestion that words have life beyond the page. (Ty, 206)

Hauk’s insight validates previous theories with scientific evidence while also providing a platform for both theoretical and scientific expansion. Reading becomes much more complex yet clear. Perhaps the conclusion that words have life seems a bit strong, yet the function of mirror neurons establishes that reading seems analogous neurologically to actions in reality, thereby, words do contain a certain phantasmal quality. The novel genre notoriously enthralls readers as it utilizes these neurological reactions. One could argue this led to the immense popularity of the genre that currently dominates other forms of literature. Other theorists discuss this issue in great length through describing the reader/text relationship in abstract terms, as previously mentioned, cognitive critics define the specific brain activity activated by the text. Some critics even claim that mirror neurons “may be a site of convergence for perception and action, and self and other” (Ty, 206). Here, a cognitive critique of literature raises existential questions that partially explain the effect of the novel on its readers. Mirror neurons blur the boundary between the self and the other to allow for mimicry—like the novel genre—as well as observation—or reading—to exist in the same realm as someone’s personal reality. Through these neurons the reader’s own cognition becomes partially that of somebody else, a certain ghost that seems both real and fiction.

The literary critic Lisa Zunshine utilizes mirror neurons’ cognitive effects to address how the
form of narration specific to the novel appeals to readers. In her article, “Why Jane Austen Was Different, And Why We May Need Cognitive Science to See It,” she argues that cognitive criticism reveals the different levels of mental embedment in Austen’s omniscient narration. Zunshine discusses how because of mirror neurons “at least on some level, your brain does not seem to distinguish between your actions and a person you observe doing them” (277), which leads her to conclude that we all function like “greedy mind-readers” as we infer what other people think and feel based on their physical actions. Aware of this reality but of course without the scientific evidence to support it at the time, Austen leads her readers through multiple levels of mental embedment often difficult for our minds to comprehend. The fourth level, which Austen often uses, put in one of its most simple forms still tangles our mind: “I know that I know that you know that I know” (295), for example. This deep mental embedment in text essentially defines the novel genre, yet as she mentions, it often goes overlooked because of its popularity since Austen first initiated it. After using canonized texts in cognitive science to illustrate her point, Zunshine advises authors who wish “to facilitate their audiences’ comprehension of deeply intersubjective scenes” to “significantly raise the stakes for the protagonist and thus ratchet up our emotional involvement with their cognitions” (293). Through her cognitive approach, Zunshine crafts an ideal form of writing that would most appeal to the reader’s cognition, which she expands upon in her other article “What to Expect When You Pick Up a Graphic Novel.” In this essay, Zunshine describes the transformation of textual presentation as she studies graphic novel’s new narrative medium that produces similar cognitive effects for the reader as if they were reading an ordinary novel. She reveals how the graphic novel interacts with the reader and changes the reading experience while still utilizing levels of mental embedment that often seem more simple but also sometimes rival those of Austen, like
the complex fourth level. She writes, “graphic narratives cater to our appetite by exploring medium-specific ways of portraying sociocognitive complexity” (133) through its use of text in speech and thought bubbles as well as other forms of representation only made possible through its particular cartoon medium’s interaction with mirror neurons.

**The Future of Art and Literature**

Cognitive criticism contains the potential to universally transform the organization of text and how people read. Through focusing on the brain and locating a convergence between text and the self, cognitive criticism most aptly describes the reader’s experience of a text as different parts of the brain become active or dormant—through this scientific specificity cognitive criticism understands how readers absorb different textual structures. Elizabeth Hart notes in “The Epistemology of Cognitive Literary Studies,”

An interest in the cognitive, from a literary perspective, is an interest in exploring how both the architecture and the contents of the human brain/mind. . . may contribute structurally to the writing, reading, and interpretation of texts. If it appears that indeed the architecture and contents of the brain/mind do contribute to the forms that writing, reading, and interpretation take, then a cognitive literary exploration becomes, as well, a venture into the territory of epistemology, in which the presence of the brain/mind as a tool—a process-facilitator—must be crossfertilized into all our accounts of what constitutes literary knowledge and knowing. (319)

As her insight reveals and as previous examples show, the notion that structure of text is analogous to that of the brain contains serious implications for the field of literary studies. As cognitive science continues to reveal neurologically effective literary tools, like metaphor, the process of writing may transform to better suit the needs of the reader. Here, a text’s structure and syntax become important as “process-facilitator[s]” for the brain/mind. Omniscient narration utilizes syntax for readers to fluidly enter
and exit the minds of characters, and most people praise this style of narration for its effectiveness in drawing the reader in. In cognitive terms, this style’s effectiveness stems from its similar relationship to consciousness and the mind, and its popularity only further enforces a certain theory on the brain’s functionality. We think more similarly to omniscient narration than other forms of less popular narrative devices, and perhaps even more like the graphic novel.

Beyond literary criticism, cognitive criticism applies to all forms of art, and as we begin to understand art from a strictly cognitive viewpoint, our understanding of the effects art produces on its audience become more universal and much less personal. Neuroaesthetics exists as a subsection of cognitive criticism that largely examines paintings and architecture. It aims to “demarcate the limits of what our nervous system is capable of seeing, hearing, and perceiving, and it understands how those limitations influence our affective and cognitive responses to an aesthetic encounter” (Ty, 208). Through this new approach to aesthetics, such as “distinctions between focal and peripheral vision” (Ty, 211), we gain a better and more expansive way of discussing paintings, architecture, and of course literature. Through these new forms of analysis, a more expansive and accurate discussion of reading and how one reads begins to take place.

Despite the major advances in cognitive science over the past 40 years, we still understand little about how the brain functions and even less about how the mind relates to these neurological activities. Elizabeth Hart notes “ambiguity and contestation over the meaning of “cognitive” reflects the still-primitive state of scientists’ knowledge about the human brain/mind and the haphazard lines of demarcation that, if they were straighter, might help distinguish what the brain/mind is and how it functions from its myriad artifacts and effects” (317). Because of this limitation, cognitive literary
criticism still relies heavily on the advances in science to craft a more accurate understanding of literature from the reader’s perspective. It must be noted that even the “realities” that cognitive critics understand may eventually prove false upon future discoveries of the brain, which may even come from future cognitive criticism of reading literature. However, the advances in cognitive science when applied to literature further clarifies philosophical quandaries through its articulation of brain activity, and these brain activities may contain the answer to what we fail to understand about the self, the mind, and the other.