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EPISTEMIC COGNITION IN LITERARY REASONING

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Epistemic cognition in literary reasoning refers to how people and communities of readers go about understanding literary texts. It encompasses the nature of knowledge conveyed in and knowable from literature and the processes of ascertaining knowledge conveyed in literature, i.e. the reasoning processes, beliefs, and values that enter into interpretation of the knowledge conveyed in and knowable from any specific literary work. There are several challenges associated with explicating epistemic cognition in literary reasoning, not the least of which is defining what constitutes literature. A second challenge is that diverse disciplines contribute theoretically and empirically to the nature of epistemic cognition in literary reasoning. In this chapter we first take up the issue of what defines a literary work and the nature of the knowledge conveyed or knowable from it. We then discuss the applicability to literary reasoning of a framework on epistemic cognition articulated by Chinn et al. (2011). We use the dimensions of epistemic cognition in that framework to organize our discussion of epistemic cognition in literary reasoning as informed by theoretical and empirical traditions in literary theory and criticism, language processing, reading comprehension, and psychological research on narrative and social cognition.

WHAT IS A LITERARY WORK?

Defining what constitutes literature is no simple task. Some researchers characterize literary works as having both literal and parallel, deeper meanings or subtexts (Schraw 1997), but this is arguably true of other forms of discourse as well (Claassen 2012; R. A. Zwaan 1994). Literary works encompass a variety of genres—most traditionally, fiction, poetry, and plays—that invite the reader into an imaginary world through written text that activates an emotional response. They invite the reader into the text through literary artifices, by which we mean the intentional manipulation of language and structure to induce a reader into entering a fictional subjunctive world as though it objectively existed. Examples of literary artifices are rhetorical tools and patterns in ways of using language (e.g. metaphor, symbolism, irony, satire) or in plot structures (e.g. shifts in point of view, inverted chronologies), and archetypal character tropes

(e.g. tragic hero, the mythic hero). These artifices appear pervasively in literary texts across historical time. They constitute a systemic interpretive “space,” or set of normative conventions, that literary communities of readers and writers share.

There are certainly other genres frequently included in standard literature anthologies (e.g. essays, letters, biography, and political speeches). Typically these nonfiction works contribute to our understanding of literary movements, help us contextualize fictional works, and provide data that are often drawn upon to warrant claims about literary texts. We intentionally focus in this chapter on printed, fictional prose and poetry because literary artifices are most concentrated in such works.

THE NATURE OF EPISTEMIC COGNITION IN LITERARY REASONING

Literary reasoning entails ill-structured problem solving (Simon 1977); that is, literary works, especially in their greatest complexity, pose problems for which there are not simple, straightforward pathways for solution. Nor is there agreement that there are single solutions with regard to meanings. This problem-solving process is guided by readers’ epistemic cognition in literary reasoning. As noted earlier, epistemic cognition in literary reasoning encompasses the nature of knowledge conveyed in literature (or knowable from literature) along with the processes, beliefs, and values brought to bear in interpreting what any specific literary work conveys. The focus on the nature of knowledge and processes of coming to know derives from the Hofer and Pintrich (1997) and Hofer (2000) formulations of personal epistemologies that could differ by domain. We argue that the nature of knowledge in literary reasoning is not singular in its scope but concerns both aesthetics (e.g. how we define that which is deemed beautiful and its impact on us) as well as the nature of the human condition (e.g. values, beliefs, or expectations regarding morality, ethics, and motivated action). To understand what is being conveyed about the nature of the human condition, readers need to pay attention to the aesthetics of how authors have crafted language and structure. The emphasis on the *how* as well as the *what* differentiates knowledge in literary reasoning from empirical knowledge that is the object, for example, of epistemic cognition in science. Differences between reasoning aimed at arguing for aesthetic or ethical knowledge claims and claims of empirical knowledge rest on the nature of what constitutes evidence and what constitutes reliable and accepted warrants to justify claims. We have found that the Chinn et al. (2011) formulation of epistemic cognition as a multidimensional construct with five components provides explanatory pathways for understanding the complexities of epistemic cognition entailed in literary reasoning.

Chinn et al. (2011) offer five components of epistemic cognition: (1) epistemic aims and values (e.g. the goals people pursue in inquiry and the worth they place on achieving these goals); (2) structure of knowledge (e.g. the structure of knowledge and the dimensions of knowledge that are valued); (3) sources and justifications of knowledge (e.g. sources people draw from to justify knowledge claims and what kinds of evidence count); (4) epistemic virtues and vices (e.g. dispositions that help or hinder accomplishing one’s epistemic aims); (5) reliable and unreliable processes for achieving epistemic aims (e.g. cognitive and social processes as well as methods used to achieve epistemic aims).

In Table 11.1, we map how each of the five components of their multidimensional model can look in literary reasoning. In the sections that follow, we explore each component as they relate to literary reasoning. We draw on four major bodies of work that inform their instantiation in literary reasoning: theoretical and empirical traditions in literary theory and criticism, language processing, reading comprehension, and psychological research on narrative, social cognition, and metaphoric reasoning.

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Table 11.1. Epistemic Cognition in Literary Reasoning

Components of Epistemic Cognition	Instantiations in Literary Reasoning
Epistemic aims and epistemic values	<ul style="list-style-type: none"> - Interrogate conundrums of the human experience - Examine relationships between content and form - Examine relations across texts
Structure of knowledge	<ul style="list-style-type: none"> - Literary theorizing rarely assumes simplicity <ul style="list-style-type: none"> • Multidimensional • Contextual • Probabilistic
Sources and justifications of knowledge	<ul style="list-style-type: none"> - Personal knowledge and beliefs - Literary conventions - Language conventions - Literary traditions - Other texts—literary and nonliterary - Knowledge of authors - Philosophical, religious, political systems of thought
Epistemic virtues and vices	<ul style="list-style-type: none"> - Appreciation of literary texts as open to multiple interpretations - Dispositions to attend to nuances of language choice, language play, and text structure - Disposition to deal with uncertainty and ambiguity - Ideas about epistemic vices are not central to the field and where exist are rooted in debates over the nature of interpretation
Reliable and unreliable processes for achieving epistemic aims	Reliable processes include: <ul style="list-style-type: none"> - Close reading - Argumentation - Consideration of multiple interpretations - Looking for patterns

DIMENSIONS OF EPISTEMIC COGNITION IN LITERARY REASONING INFORMED BY LITERARY THEORY AND CRITICISM

Epistemic cognition in literary reasoning has to embody a range of approaches to literary analyses and this range makes disputes over these approaches inevitable (Tompkins 1980). Indeed, contestation is an epistemic virtue in literary reasoning, in part because written language is the medium being examined by readers (Fish 1980). Language is the means by which readers are invited into imaginary worlds and it is open to multiple interpretations. Openness of possible meanings creates multiple pathways by which readers can enter literary texts. The most persistent debates in the field of literary theory and criticism involve weighing the affordances and constraints of different pathways for making meaning that individuals and communities of readers construe, within particular cultural contexts and across time (Jacquenod 1987). Thus, literary criticism places high value on contesting what language means, what it signifies. This implies that to interrogate dilemmas of the human experience readers need to appreciate the relationship between language content and form, that texts are open to multiple interpretations, and that it is important to pay attention to nuances of language choice, language play, and text structure.

With respect to the structure of knowledge, the history of literary criticism and theorizing reflects the full range from certainty and simplicity to complexity and ambiguity. Where on this continuum a particular critical method or theory lies can be contextualized by the historical time periods in which such methods and theories emerged. For example, critical methods and theory that privilege a systematic, almost scientific

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approach to the internal structure of texts (e.g. New Criticism and Structuralism) come alongside paradigm shifts in the history of science in the early twentieth century (Culler 1975; Ransom 1941; Thompson 1971). Critical methods and theory that privilege the idea that literary structures are inherently unstable (e.g. Post-Structuralism, Deconstructionism) emerge alongside paradigm shifts in the history of science toward dynamic systems (Bloom et al. 1987). Critical methods and theory that privilege how issues of power are grappled with and that privilege the reader as a critical interrogator (e.g. Post Colonial theory, Black Aesthetic, Marxist, Feminist theories of criticism) emerge alongside historical power struggles over colonialism, anti-racism, and gender and sexual identities (Donovan 1975; Hughes 1926).

Regardless of the school of literary thought, none view interpretation as involving simplistic knowledge. Paradigms privileging meaning as internal to the text are more likely to favor the idea of unity within the text that is knowable through close internal textual examination, warranting claims by appeals to an established body of literary conventions that are employed within the text itself (Richards 2003). Paradigms privileging meaning as emerging dynamically among the reader, the author, and the historical context of the plot or the production of the text, including the sociocultural and political aspects of the historical contexts, are more likely to favor the following ideas: meanings are not fixed and are therefore uncertain; the sources of justification for claims cannot be limited to the text; and literary conventions themselves are contestable (Eagleton 1996; Peer 1991). These debates make articulating a coherent epistemology of literary reasoning complicated.

Epistemic virtues (and vices) are for Chinn et al. (2011) “stable dispositions” that contribute to or impede achieving epistemic aims. Our concern is in understanding the range of knowledge and dispositions that novices need to learn in order to enter into literary debates: interpretive capacities to go beyond literal recall, the ability to wrestle with complexities that characterize the conundrums of the human condition. From an educational perspective, epistemic cognition in literary reasoning must be able to encompass knowledge and dispositions that allow the reader to take on any of the approaches to literary texts that are out there in the world, and even to develop new approaches and conventions (e.g. interpreting texts through the lens of hip hop in the current generation) (Lee 2011). Indeed, it is this disposition to interrogate literary texts through critical lenses that the reader and communities of readers bring that has made possible Toni Morrison’s (1992) interpretation in *Playing in the Dark* of Melville’s *Moby Dick* arguing that under the political constraints of his time Melville allegorized the construct of white supremacy in the figure of the white whale, as terrorizing and elusive.

Different schools of literary theory and criticism privilege different sources and justifications of knowledge. Sources of knowledge according to Chinn et al. (2011) include “where knowledge originates” (p. 142) and “justification refers to people’s reasons for their beliefs” (p. 142). New Critics beginning in the mid-twentieth century saw interpretation as requiring empirical methods and not subjective responses (Ransom 1941). The language and structure of the text are viewed as the justifiable sources of data from which to construct claims rather than what the reader knows about the author or the historical context. Texts are presumed to reflect an internal unity (or not) based on the relationships among their parts. Structuralism offers a related focus of attention, using terminology like the “grammar” of narrative (Todorov 1977) and “the grammar of poetry,” as noted by Jakobson (1968). Structuralism evolved beyond the

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intra-textual focus of New Criticism to include structural relationships among texts, the range of potential social meanings entailed in language, and the functions of cultural meanings beyond the text to inform the possibilities that configurations of structures within the text may represent (Barthes 1988; Culler 1975).

Reflecting ongoing debates in the field, others expanded the sources of knowledge on which the reader should draw. Northrop Frye (1957) asked, “What if criticism is a science as well as an art?” (p. 7). Frye argued that literary texts invite what he called a “centripetal” focus (e.g. on the way in which the texts works aesthetically) as well as a “centrifugal” focus (e.g. on how literature functions in the social and cultural world).

At the other end of the spectrum are theories and critical methods that privilege the reader, that empower the reader to use lenses of personal experience and political and ideological beliefs to interrogate the choices that authors make (Said 1983, 1993). These include Post-Structuralism, Post-Colonialism, Deconstructionism, Marxist, Black Aesthetic, and Feminist approaches, among others, and the broad category of Reader Response Theory (see Eagleton, 1996, for a review).

Thus, over the history of the field are differing articulations of *epistemic aims* (e.g. understanding authorial intent versus reader response), the *structure of knowledge* (structures internal to the text versus inter-textual structures), *sources and justifications of knowledge* (the text as the source versus the reader and ideological/philosophical community norms and resources), *epistemic virtues* (valuing the internal presumed logic of the text versus pursuing instabilities and contradictions within and across texts), and commitments with regard to *reliable processes* for achieving interpretations (e.g. examining language and structure for internal unity versus examining language and structure within a text and their relations to reader’s individual worldviews or broader cultural, moral, and political ecologies). These shifts do not represent revolutions in the sense that Kuhn (1970) talks about scientific revolutions where one paradigm takes precedence over the other. Rather, just as Newtonian physics remains useful for building bridges, but not exploring the inner workings of the micro-leveled world, so the evolution of literary paradigms each offer different explanatory power and enable communities of readers to tackle different questions (Stokes 1997).

SOURCES OF JUSTIFICATION: CONTRIBUTIONS FROM STUDIES OF LANGUAGE PROCESSING

Linguistics ranges from a focus on internal structures of language (e.g. phonology, morphology, syntax, and semantics) to fields that focus on relations between internal linguistic structures and the cultural, social, and historical contexts of how language is used and understood (e.g. pragmatics, stylistics, semiotics; the broad field of sociolinguistics and discourse analyses) (Fasold & Connor-Linton 2006; Gumperz & Hymes 1972; D. Lee 2001).

Attention to internal structure and form in linguistics has influenced schools of literary criticism that privilege internal structure and form in literary texts: Russian and French formalism, Structuralism, and New Criticism. On the other hand, attention to processes of social interaction in meaning making through language has contributed to schools of literary criticism that privilege interactions between the reader and the text: Reader Response Theory, Post-Structuralism, and Critical Literacies. (See Fabb [1997] and Schogt [1988] for overviews.)

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For example, speech act theory (Austin 1975; Searle 1969; Searle et al. 1980) has been used to examine relationships between reader and text, taking up the problem of how humans can understand that which is implied. For example, the sentence “How are you?” can be interpreted literally as a speaker’s request about the health of the listener—a direct speech act. That same sentence, however, could in a different context be understood as a cursory greeting or as an attempt to establish a positive relationship. This attention to indirection and the possibilities of multiple meanings of utterances (e.g. polysemy) invites a theoretical framework for interrogating the social, cultural, and political spaces that influence how utterances are produced and taken up, both in oral discourse as well as literary texts. A broad family of linguistic traditions examine implicature both in everyday language and in highly stylized ways in literary texts, including Bakhtin’s (1981, 1986) focus on dialogicality (e.g. the idea that novels are in dialogue with one another and therefore meanings are inherently intertextual, albeit indirectly so), Altieri’s (1981) focus on the stylistic choices of authors to present through indirection their own points of view, and Judith Butler’s (2011) attention to how gender or Henry Louis Gates’ (1984) attention to how race may be implicated in literary works through language choices. These traditions constitute exemplary contributions in the sociolinguistic tradition to literary criticism and theorizing (Pratt 1977).

These extrapolations from sociolinguistics influence each of the components of epistemic cognition outlined by Chinn and colleagues (2011), but in particular the sources of knowledge are now rooted in multidimensional approaches to understanding how language meanings are co-constructed among interlocutors within particular local and broader cultural contexts.

RELIABLE AND UNRELIABLE PROCESSES FOR ACHIEVING EPISTEMIC AIMS: CONTRIBUTIONS FROM RESEARCH ON COMPREHENSION

Reading comprehension research on print-based and nonprint narratives (e.g. film, music lyrics, visual narratives, oral texts) helps us understand some dimensions of epistemic cognition relevant to literary reasoning. While our focus here is on print narratives, some of the rhetorical and structural choices made by authors of fictional works in print can also be seen in non-text based narratives.

Reading comprehension entails top-down and bottom-up processes (McNamara & Magliano 2009; Rapp & Taylor 2004; Spiro 1980): readers draw on knowledge already stored in long-term memory (e.g. top down) and from attempts to examine specific details in the material being read (e.g. bottom up). Readers draw on multiple kinds of prior knowledge, including linguistic knowledge (e.g. word and sentence structures), semantic and propositional knowledge (e.g. the possible range of meaning of words and phrases), text knowledge (e.g. structure and functions of different ways of organizing information), and schema (e.g. content and affective knowledge, schemata for events, goal-plan structures) as well as knowledge of strategies for using this range of prior knowledge (Goldman 1997; Kintsch 1994; RAND Reading Study Group 2002). These processes are interactive and dynamic, depending on the demands of the text, the nature of the task as the reader perceives it, and the resources the reader (individually or in interaction with others) brings to the act of making sense of the text (Goldman & Lee 2014). The levels and specificity of these kinds of knowledge on which

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readers draw can explain differences between surface level interpretations of plot and interpretations of theme and structure in literature. For example, one can be competent in comprehending the plot of a story with simple language (e.g. Alice Walker's *The Flowers*), but not able or disposed to interrogate broader themes or the author's uses of language and structure to convey meaning in this same seemingly simple story (C. D. Lee 2006). Overall, the research on reading comprehension suggests that literary comprehension demands a disposition to make meaning, to connect the reader's knowledge with the text, and to be open rather than fixed in one's orientation to making meaning. What ends such openness should be directed toward are informed by the broad communities of literary theorizing and criticism addressed in this chapter.

In addition to the kinds of knowledge investigated by researchers of basic reading comprehension processes, there are additional foundational knowledge resources for engaging in complex literary epistemological orientations and dispositions including figurative language, themes, rhetorical strategies, literary text structures, character types, and what Rabinowitz (1987) calls Rules of Notice (knowledge of a range of literary moves authors often make to guide the reader's attention) and Rules of Signification (e.g. knowledge on which readers often draw to impose significance or meaning to what they have deemed salient).

RELIABLE AND UNRELIABLE PROCESSING: CONTRIBUTIONS FROM PSYCHOLOGICAL RESEARCH

Relevant research in psychology has addressed narrative as a sense-making process, social cognition (e.g. processes entailed in reading the internal states of others), studies of metaphor and visualization in cognitive processing, and the role of cultural schemata.

A foundational warrant addresses the role of narrative in how humans make sense of experience in the world. Bruner (1990), Pinker (1994), Sugiyama (2001), and others have analyzed how human beings in attributing significance to their experiences in the social world represent those salient experiences in narrative structures in long-term memory (J. Mandler 1978; J. M. Mandler & Johnson 1977; Schank & Abelson 1977). For example, seeing a picture of a pleasurable object in a household room from your childhood can lead you to remember the people who were there, what happened, why it happened, and how you felt. Story grammar research shows that without explicit instruction, children focus on characters; their goals and motivations; events, their sequence, and logical relations; and on what is called the coda, or "So what?" (Goldman et al. 1984; Johnson & Goldman 1987; Stein & Glenn 1979; Trabasso & Sperry 1985; Trabasso & van den Broek 1985). These are the building blocks of everyday and literary narratives, and thus one foundational disposition in literary reasoning is to seek to understand these elements. What we learn from literary theory and criticism is how these elements can be complexified in literature. These complexities distinguish novice from expert in terms of what knowledge, strategies, and dispositions are required to interrogate the most complex representations of character, plot, and theme. Characters can be psychologically simple or complex, stable or changing; they can range from more human-like to more god-like, from having tragic flaws to extraordinary powers. Plots can be linear or inverted, and can be single or multiple within the same text; the same event can be represented through multiple points of view; narrators can be trustworthy or unreliable; and narrators can be single or multiple within the same text.

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Story themes can reflect a well-accepted maxim or interrogate a conundrum of the human experience for which there is no single, straightforward resolution; these are often captured in archetypal themes that cross historical time frames and may be interrogated in very different ways in different cultural and historical communities.

Another warrant in the psychological realm comes from the field of social cognition (Flavell & Miller 1998; Kunda 1999; Meltzoff & Decety 2003) and the emerging field of social neuroscience (J.T. Cacioppo, 2002; J.T. Cacioppo, Visser, & Pickett, 2005). Social neuroscience examines the neural substrates of social cognition, that is, the disposition of human beings from birth across the life span to learn to read and construct inferences about the internal states of other human beings. In terms of a comprehensive conception of epistemological dispositions in literary reasoning, certainly the disposition to try to figure out what makes characters tick is central, and the drive to construct such understandings of the internal states of fictional characters is greatly impacted by the reader's emotional response to the people and what they do. From the perspective of literary theory and criticism, literary knowledge (of rhetoric, plot structures, figuration, themes, character types, etc.) serves as one foundation on which readers draw in order to carry out this basic, even everyday goal of needing to understand what makes characters tick. In this case, characters can operate in worlds that, at least on the surface, appear quite different or unusual from the everyday world of the reader. The potential distance of the fictive world from the reader's experience of the "real" world can make the task of inferring the internal states and motivations of literary characters more complex.

Additionally, dual processing perspectives of information processing (Louwerse 2008; Louwerse & Zwaan 2009; A. Paivio 1971; A. Paivio 1986; Sadoski & Paivio 2000) and research on the role of cultural schemata in the processing metaphor are relevant. Dual processing perspectives claim two sets of knowledge systems support meaning making: one operates on linguistic symbols and another operates on grounded symbols (i.e. perceptual-motor representations). Linguistic symbols are implicated in processing the language used in a work of literature, whereas grounded systems can support meaning making via a process of simulation that reflects how events unfold in a fictive world (Louwerse 2008; Louwerse & Zwaan 2009; Rolf A. Zwaan 2014). Consider the following sentence from Gary Soto's short story, *The Jacket* (Soto 2000):

The next day when I got home from school, I discovered draped on my bedpost a jacket the color of day-old guacamole.

Linguistic knowledge systems support lexical access to word meaning, syntactic parsing, and the propositional representation that reflects the gist of the sentence content. Grounded systems give rise to a simulation that uses a subset of the same perceptual systems involved in actually seeing similarly arranged objects (Barsalou 1999; Stanfield & Zwaan 2001), and *could* be experienced as mental imagery of the described scene. This simulation could also reflect the color of the jacket, which is not deemed desirable by the protagonist. Perhaps the ability to create such a simulation allows the reader to appreciate the character's sense of disgust at the jacket's color.

There are interesting theoretical connections between dual processing perspectives focusing on relationships between the visual and the linguistic in how we make sense of phenomenon and Lakoff and Johnson's (1980) discussion of what they call conceptual metaphors. Lakoff and Johnson claim that in everyday life, across cultures,

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humans operate with conceptual metaphors that embody foundational propositions (e.g. the metaphor of ideas as plants, as in “His ideas have finally come to fruition,” or “That’s a budding theory” [p. 126]). They argue these everyday conceptual metaphors are typically rooted in visualizations and evolve from the primacy of physical navigation in the material world (e.g. early physical movements of up as not merely learning to stand up, but psychologically to move up, to grow up, to get better). These conceptual links between metaphor and the visual are commonplace in rhetorical choices literary authors make to guide the reader’s attention and invite abstract associations that we may construe as helping us understand themes. Lakoff and Turner (2009) illustrate such conceptual metaphors in poetry. These dispositions in literary reasoning to attend to plot, figurative language, characters and their internal states, and ways that authors work to help readers visualize settings, are essential to understanding epistemic cognition in literary reasoning. That there may be an evolutionary, biological substrate to such dispositions (e.g. metaphorical reasoning, visualization) may warrant their importance and the ubiquitous nature of these dispositions across works of literature (Hogan 1997).

These and other examples from the study of metaphor (Ortony 1979; Ricoeur 1978; Sweetser 1995), visualization, narrative sense-making, social cognition, and social neuroscience lead us to hypothesize that reasoning about literature involves sense-making that is central to what it means to be human, with antecedents in the evolution of our species. It is perhaps one reason why literature—in all its variations across time and space—can be found in all cultures, and serves a hermeneutic function (e.g. examining deeper meanings) in all cultures in terms of how human beings understand themselves and their environments. Indeed there is an emerging trend in cognitively oriented literary studies to consider how human evolution and the dynamic relations among mind, body, and the environment offer explanatory paths for understanding poetics, our interpretations of the figurative, of archetypal themes as these are represented in literature (Hart 2001; Miall & Kuiken 2002). The underlying idea is that literary production and interpretation fulfill foundational needs of human functioning. One example is represented in the prevalence of universal archetypal themes (e.g. mating, sustaining social relationships, understanding the life cycle of birth and death, motivations for and consequence of violence) that human beings wrestle with by virtue of their basic needs for survival (Hart 2001).

While these dispositions are central to human sense-making activity, their specificity differs substantively across cultural communities. Anderson and colleagues have documented the influence of cultural schemata (Bartlett 1932) in how readers make sense of texts (Anderson 2004; Reynolds et al. 1982; Steffensen et al. 1979). Schemata are scripts (Rumelhart 1980; Schank & Abelson 1977) we internalize from experience in the world about the central and minimal essential features that help us recognize particular constructs (e.g. a horse as a four-legged animal taxonomically related to other four-legged creatures) and events (e.g. a script for eating out at a restaurant). We use and update schemata to organize information in long-term memory and to make and test predictions about what we understand about new experiences in the world. For example, Steffensen et al. (1979) found that when reading stories with minimal descriptions of an event like a wedding, readers from different cultural backgrounds made inferential elaborations based on their cultural schemata for what was entailed in a wedding. In literary texts, sometimes authors will draw on specific cultural knowledge and traditions that may also be specific to particular historical periods in

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the construction of plot, character, and potential warrantable themes. For example, the cultural schemata entailed in understanding why religious leaders and ordinary people in Salem would crucify Hester Prynne in Nathaniel Hawthorne's *A Scarlet Letter* would be quite different for those reading at the time the book was published compared to contemporary readers in the Western world or to readers in conservative Hassidic, Christian, or Muslim communities today.

FROM THEORY TO REAL READERS: CONNECTIONS TO NOVICE/ EXPERT EMPIRICAL STUDIES

We have thus far illustrated theoretical foundations informing epistemic cognition in literary reasoning. We now offer examples from empirical studies of differences in how novices and experts solve problems. In these studies, experts are typically teachers or professors formally trained in the study of literature. Novices are typically high school students or undergraduates who do not have much formal training in the field. The unifying idea here has to do with the level of training in the field and the degree to which reading literature is commonplace. The parallels in what we find in the theoretical literature and in the empirical studies of novice and expert practices offer a strong warrant for the conceptualization of literary epistemic cognition we put forth.

Empirical studies of literary understanding of both prose and poetry suggest that experts have a general epistemological orientation to literature as an art form that expresses ideas about human nature (Dorfman 1996; Galda & Liang 2003; Peskin 2007), and assume a purposeful author who crafts literary language to create particular effects (Graves & Frederiksen 1991). In contrast, in a study of 150 novice literary readers by Vipond and Hunt (1984), only about 5 percent were aware “that it might be possible to impute motives to an intentional author” (p. 26).

Studies of concurrent and retrospective responses to literary texts suggest that experienced readers construct thematic interpretations and organize a text figuratively as well as literally (Graves & Frederiksen 1996; Peskin 1998; Zeitz 1994). They are also more likely to believe that complicated or postmodern stories have no “points” (Dorfman 1996) and to revise interpretations as they reread and reexamine the text. Expert readers are more likely to attend to literary devices and thematic tensions (Peskin 1998) and to violations in convention in terms of plot or language (Peer et al. 2007).

Experienced readers' skills and practices can affect how literature influences their beliefs beyond the world of the text. In one study, experts and novices read two versions of a literary passage about struggles of immigrant life—the first in its original state and the second stripped of its literary language. When queried about difficulties of immigrant life, experienced readers of the literary version had more sympathetic responses, whereas inexperienced readers did not (Hakemulder 2004). In this case, experts and novices had vastly different experiences in reading literature.

Research suggests that most readers, regardless of experience, are aware of and find literary language and other rules of notice—e.g. metaphors, rich imagery, juxtapositions, unusual language—to be especially salient to their reading of both poetry and literary prose. For example, Miall and Kuiken (1994a, 1994b, 1995, 1998, 2002) assert that awareness of and attention to such literary language is “psychobiological” in nature, and specifically affect-related. For example, in one study, undergraduate inexperienced literary readers found some noun phrases to elicit more affective responses when read as part of a poem than not, and passages rich in literary devices elicited

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more affective responses than other passages (Miall & Kuiken 1994a, 1998). Similarly, other studies show that inexperienced readers find literary language to be especially “striking” (Peer et al. 2007) and that figurative language is highly correlated with readers’ general emotional responses (Goetz et al. 1992). Other evidence shows that authors may use more literary devices, such as rich imagery, to communicate feelings within texts; specifically characters’ emotional states are often depicted through image-rich descriptions of physical appearance (Dijkstra et al. 1995).

Overall these studies demonstrate that in comparison to novices, experts attend to relationships of structure and meaning and to how these relations inform themes about the human condition.

IMPLICATIONS FOR CONCEPTUALIZING EPISTEMIC COGNITION IN LITERARY REASONING

Chinn et al. (2011) call for expanding the domains from which research on epistemic cognition draws to include not only psychology but also philosophy. We argue in this chapter that literary reasoning as a domain is essentially interdisciplinary in nature, informed by literary theory and criticism, language processing, reading comprehension, as well as basic psychological sense-making processes. As such, it may conceptually sit at the other end of the spectrum from epistemological research on science, with research on processes of inquiry in history and the social sciences in between them. Epistemic aims in science—at least in terms of the community of scientists—are about maximizing the probability of the truth value of claims based on how well the theoretical model that the claims aim to support is justified by the data and the conditions under which the data were collected and analyzed (National Research Council 2012). Epistemic aims in history are about probability based on how well the data fit with the accepted historical record, and how well the model or explanation takes into account the contexts under which the data were generated and possible biases entailed in the production of the data or documents from which the data are generated (Wineburg 1991). In history as well as science, there are domain-specific explanatory models within the disciplines (e.g. interactions, energy, and dynamics in ecosystems in science; models of economic systems and political systems in history) that provide the foundations on which investigations draw. In literature, the terrain is essentially contested territory as we have attempted to illustrate in our discussion of the influences of theories of language processing and theoretical traditions of literary criticism. And even though there are, for example, contested theories of political systems (e.g. pathways for wrestling with relations between the rights of individuals and the powers of the levels of government in a democratic federal system) used to explain the motivations and actions of nation states, there is a sense of a truth value that debates over such theories must address, that is, how these systems operate in the real world. Because the meaning making of readers of literature is largely personal, social, and cultural, much of the claims in the psychological research about epistemic cognition connect to literary reasoning in very different ways than in other disciplines. If we use literary reasoning as an example, the hybridity of the enterprise itself, the fact that so many domains are invoked in its problem solving (language processing, cultural construals of people’s internal states, features of texts, schemata for everyday and unusual human events, etc.) suggests that further examination of literary epistemic cognition requires digging deep into all the relevant domains that contribute to knowledge in this discipline.

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Literary reasoning—as we are addressing it in this chapter—is text based and consistent with expanded attention to epistemic cognition as situated in social contexts and not just conceived as traits or kinds of knowledge and dispositions of individuals (Muis & Duffy 2013). Attention to emerging conceptions of text comprehension that address dynamic relationships between the demands of the text, the nature of the task, what the reader brings, and the contexts under which such problem solving occurs is useful.

INSTRUCTIONAL IMPLICATIONS: TEXT, TASK, READER, AND CONTEXT

AQ:2 Chinn et al. (2011) argued for an expanded definition of epistemic cognition that includes epistemic aims and value; the structure of knowledge; sources and justification of knowledge, including epistemic stances; what they call epistemic virtues and vices (e.g. intellectual courage and open-mindedness that can contribute to achieving particular goals); and reliable and unreliable processes for achieving epistemic aims (p. 142). The complexity of literary reasoning—using the range of expert communities of practice within this field—is that every component that Chinn and colleagues identify is contested territory. This contestation is what we have attempted to illustrate in the discussion of the broad array of work in literary theory and criticism. Thus, one could argue, that rather than thinking of epistemic cognition in literary reasoning as a coherent whole, it may be more useful to think about what epistemic cognition must embody. Rather than preparing novices to take on one perspective or orientation to literature, we argue that it would be more fruitful to expose them to the range of epistemic stances with regard to literature.

Discussions about the social dimensions of epistemic cognition invite not only investigations about how social contexts of problem solving are organized, but particularly with respect to literary reasoning, invoke a multitude of cultural dimensions. Specifically, we discussed how foundational research in sociolinguistics and cognitive linguistics have influenced critical traditions in literary response. This means, for example, that readers who speak nonstandard dialects of English or multiple languages may bring unique linguistic resources for interrogating metaphorical language in literary texts. Lee's research in *Cultural Modeling* (Lee 1995, 2007), for example, demonstrates that everyday tacit knowledge and dispositions—specifically, speakers of African American English valuing figuration in everyday talk—can be scaffolded to become explicit and transferable to literary analyses. Gee (1989) and Champion et al. (1995) have documented connections between structures of literary narratives and narrative structures employed in African American English speech communities. Research on cultural displays in instructional discourse can expand opportunities for participation in literature classrooms as well as in other disciplines (Gutierrez et al. 1999; C. D. Lee 2005; Orellana 2009). Muis and Duffy (2013) discuss what they call epistemic climate. Such climates aim to expand epistemic changes in beliefs about problem solving. Facilitating such changes likely requires more than a generic focus on constructivist principles of instruction. Such changes require specialized foci on the nature of the cultural resources that learners bring to epistemic tasks and how these cultural resources are connected to the nature of the disciplines in which these tasks reside (C. D. Lee 2010).

To the extent that instructional climate can provide a medium to support epistemic changes among novice learners, how we understand the ways that epistemic cognition

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can be influenced by the nature of the social context also invites attention to broader ecological contexts that can influence the perceptions that learners bring to the tasks at hand. Chinn et al. (2011) discuss this as the social aspects of epistemic cognition. These ecological contexts can include learners' histories of participation in related practices, such as entering high school where literature classrooms have focused primarily on literal understandings of plot and character with assumptions about a "right" interpretation that is offered and/or validated by the teacher; macro-level institutional practices and belief systems that position the learner as deficit based on race, ethnicity, language practices, and class; or long-term placement in schools where resources in terms of teacher quality, range of texts available, etc., constrain what learners think is possible (C.D. Lee 2009). While these broader ecological processes apply regardless of the domain or discipline, they play unique roles with regard to literary reasoning, precisely because literature is rooted in wrestling with conundrums of the human experience. The fact that such conundrums are never fully resolvable invites interrogating issues connected to identity and resilience. For example, literary texts can invite novice readers to wrestle with such dilemmas as how public standards of beauty position them, and with what is entailed in wrestling with evil and tragedy in one's life, life challenges that can be inherently destabilizing and personally challenging (Spencer et al. 1997).

Current research on text–task–reader–context relationships (Snow 2002)—considered here as a fundamental challenge of school-based disciplinary learning for which conceptions of epistemic cognition are essential—poses significant challenges to reading in the disciplines, especially for middle and high school (Goldman & Lee 2014; Valencia et al. 2014). In literature, we have described dimensions of epistemic cognition that inform how we understand sources of complexity in literary texts, the attributes of tasks that are valued in the discipline, the kinds of knowledge and dispositions that such reasoning requires, and illustrations of how historical contexts and peoples' participation in everyday practices shape the epistemic work. We argue that understanding these epistemic dimensions of knowledge in literature is the foundation for examining text–task–reader–context relationships in reading. We will focus here on its challenges for reading and interpreting literature.

In the discussion of literary theory and criticism as a source of knowledge in literary reasoning, we identified the contested ways in which the structure of texts (e.g. uses of language, genres or structures of texts, deployment of rhetorical strategies) and the role of authorial intent play out. However, despite the historical and contemporary debates, it is clear that attention to structure and rhetoric are important problem-solving resources, even if the reader is disposed to reject or assume lack of a unified structure in literary texts. As a consequence, text and task demands in literary reasoning require developing both the disposition and a range of skill sets to interrogate structure and rhetoric. Common Core State Standards (National Governors Association 2010) at this writing are the most recent articulation of standards for reading comprehension in the disciplines, but little in these standards articulates the nature of these structural and rhetorical knowledge demands, let alone how to design learning environments for novices that would support such knowledge and dispositions (C. D. Lee & Spratley 2009).

In middle and high schools, particularly those in low-income communities, we do not sufficiently examine the complexities of literary texts, as we do not utilize the processes entailed in interrogating such texts in ways that provide novices with multiple pathways for interpreting. We do not typically structure tasks or contexts through

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which novices learn and show competence that reflect the epistemic aims of literary analysis, again especially for students in low-income schools. And we do not sufficiently design instruction in ways that take into account and build on the repertoires of practice (Gutierrez & Rogoff 2003) that students from diverse backgrounds bring to the enterprise.

We describe two pedagogical designs for the teaching of literary reasoning that explicitly address the development of the knowledge and dispositions we have attributed to epistemic cognition in literary reasoning. First, Hillocks (Hillocks & Ludlow 1984) has empirically validated a hierarchy of text comprehension questions or tasks for literature. The two most rigorous interpretive tasks are what he calls author generalizations (AG), or what is typically referred to as theme, and structural generalizations (SG). SG tasks require the reader to examine the structural and rhetorical choices made by authors and how these choices operate to convey meaning. This task does not assume a singular meaning, nor does it constrain the sources of knowledge on which the reader can draw to warrant the textual evidence linked to claims. Using a Toulmin model (Toulmin et al. 1984), the validity of such arguments depends in part on the audience to whom the argument is addressed. In Hillocks research, AG tasks around theme and character invite the articulation of criteria for making judgments (e.g. on what criteria does the reader evaluate actions as courageous or a character as tragic, or a narrator as unreliable). In line with constructivist principles of learning, Hillocks calls for the design of *gateway activities* (e.g. scenarios, surveys, opinionaires that invite contrastive cases) that students examine in order to generate, through social interaction, criteria they can use in making such arguments of judgment.

Lee's Cultural Modeling Framework (1995, 2007) calls for the use of *cultural data sets*. Cultural data sets are narrative "texts" broadly speaking (examples of everyday talk such as signifying dialogues, song lyrics, film clips) that require the ability to detect and examine an interpretive problem (e.g. problems such as symbolism, satire, irony, and unreliable narration that influence both the structure and rhetorical choices of authors) employing Rabinowitz's (1987) Rules of Notice and Rules of Signification. Cultural data sets must embody the same structural and rhetorical problems as the canonical texts that students are being prepared to tackle *and* students must be able to tackle the complexity of these everyday narrative texts with minimal assistance from teachers. Through scaffolded discussion, students themselves articulate strategies they use to detect and impute meaning to these classic interpretive problems. With both the use of gateway activities and cultural data sets, the aim is to socialize knowledge, dispositions, and goals that are central to problems of literary reasoning (in other words, to socialize epistemic cognition in literary reasoning). They are sufficiently open that teachers and curriculum designers can draw on the range of cultural resources that students from across diverse backgrounds can bring to the table and thereby open opportunities for students to explore different approaches to literary text analyses (e.g. a feminist reading, a structural reading, a Black Aesthetic reading).

Among the challenges of designing instructional climates to influence students' epistemic cognition is understanding what beliefs they already hold with regard to the epistemic demands of the discipline. While scales for measuring such knowledge have been developed in history and science, work is just beginning with regard to literary epistemic knowledge and beliefs. Yukhymenko-Lescroart et al. (in preparation) developed an instrument for measuring adolescents' epistemological beliefs about literary reasoning around three factors: value placed on multiple readings, the idea that

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literary texts can have multiple meanings, and beliefs with regard to how and whether literature can support social functioning. Early results show that students who like reading and read frequently outside of class tend to believe that literature is more open to interpretation, multiple readings enhanced the experience of literature, and there is a social value in reading literature rather than that the meaning of literature is fixed, only a single reading of a literary work is necessary, and that literature tells us little about the everyday world.

CONCLUSION

In arguing that epistemic cognition is inherently multidimensional, Chinn et al. (2011) call for additional research that examines with fine-grained analyses the specifics and contextual nature of such cognition, including discipline and contextual differences. The epistemic demands of literary reasoning invoke knowledge and dispositions from across multiple disciplines and can be complicated by the fact that many of the substrates of such reasoning are ontologically connected to our meaning-making processes as human beings. Yet, such processes become complicated in technical and cultural ways in the praxis of literary authors. Still, the value of unpacking such cognition with literary texts is extraordinarily important because of the ways that literature opens up new possibilities for wrestling with what it means to be human.

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