

Introduction to
Cognitive Cultural Studies

EDITED BY LISA ZUNSHINE

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What Is Cognitive Cultural Studies?

LISA ZUNSHINE

Introduction

This volume brings together fourteen essays representing the rapidly growing interdisciplinary field of cognitive approaches to literature and culture. Reflecting the explosion of academic and public interest in cognitive science in the last two decades, it features work that combines literary and cultural analysis with insights from neuroscience, discursive psychology, cognitive evolutionary psychology and anthropology, cognitive linguistics, and philosophy of mind. That readers, both specialist and nonspecialist, are eager for an informed and sustained conversation about literature, culture, and cognition is apparent from the stream of conferences, essays, monographs, and World Wide Web discussions on the subject. To mention just one example that demonstrates the interest it elicits, the membership in the MLA official discussion group on cognitive approaches to literature has grown from 250 in 1999, the year it was organized, to over 1,221 in 2009.

The present volume seeks to build on that interest and to shape the field for the coming decade. Oriented toward students in a broad variety of literature and cultural studies courses, *Introduction to Cognitive Cultural Studies* works simultaneously on three levels. First, it provides its readers with grounding in several major areas of cognitive science. Second, it presents new interpretations resulting from applying insights from cognitive science to cultural representations. Third, it considers these new interpretations in the context of the commitment of those who have adopted cognitive approaches to seeking common ground with existing literary-theoretical paradigms, a development that marks decisively the field's entrance into mainstream literary and cultural studies. Writing in 2001, cognitive literary theorist F. Elizabeth Hart noted that a position "of inclusiveness

toward a full array of contemporary literary approaches" is "productive" ("Epistemology," 329) yet uncommon among cognitive literary critics; today this position has become one of the key features of the field.

The wide range of approaches represented by the collection underscores both the theoretical coherence and methodological eclecticism of cognitive cultural studies. The authors share the crucial theoretical assumption that the contemporary sciences of the mind destabilize the old division between "nature" and "nurture" and open new venues for investigating the role of universally shared features of human cognition in historically specific forms of cultural production. As one of the contributors to the present volume, Ellen Spolsky, puts it in the preface to *The Work of Fiction* (2004), an important earlier collection of essays representing the field:

Cognitive literary theory is . . . well positioned to provide insights into a question that has been occluded by the well-deserved successes of the reemergent historical and multifaceted cultural studies that have proliferated after the New Criticism in the twentieth century.

That question is this: how does the evolved architecture that grounds human cognitive processing, especially as it manifests itself in the universality of storytelling and the production of visual art, interact with the apparently open-ended set of cultural and historical contexts in which humans find themselves, so as to produce the variety of social constructions that are historically distinctive, yet also often translatable across the boundaries of time and place? It is the job [of cognitive literary theory] to begin to chart the emergence, manifestation, and readability of these only temporarily stable relationships between the humanly universal and the culturally and individually specific, as coded and recorded in cultural artifacts. (viii)

Moreover, because the relationships between the humanly universal and the culturally specific are only "temporarily stable," the investigation of these relationships is itself open ended on several counts. First, we don't know a priori what form of cognitive-cultural interplay we will uncover as a result of our analysis. Second, we are not constrained in choice of methodology by a consideration of boundaries between different subfields. The same cultural phenomenon can be approached from a

variety of cognitive-theoretical perspectives; sometimes the best strategy is a combination of methodologies.

The fuzziness of boundaries is, in fact, an important feature of cognitive cultural studies. The present volume is organized around several distinct rubrics, including cognitive historicism, cognitive narratology, cognitive ecocriticism, literary universals, and so forth, yet this categorization is more a matter of editorial convenience than evidence of fault lines dividing the field. For example, an essay on cognitive ecocriticism would also fit comfortably in the section on cognitive historicism; an essay on cognition and emotion in literature and film could easily fall under the rubric of cognitive narratology or aesthetics. This compatibility stems directly from the goal of the cognitive cultural project, which is to understand the evolving relationship between two immensely complex, historically situated systems—the human mind and cultural artifacts, such as novels, poems, or paintings—and not to merely use such artifacts to illustrate a particular scientific hypothesis about one particular feature of human cognition.

A student of cognitive cultural studies would thus do well to think of herself as a *bricoleur* who reaches out for the best mix of insights that cognitive theory as a whole has to offer without worrying about blurring lines between its various domains. Cognitive scientists themselves cross disciplinary boundaries daily, attracting new academic fields into their orbit. If the traditional cognitive sciences drew on neuroscience, philosophy of mind, artificial intelligence, linguistics, evolutionary anthropology, and cognitive, developmental, and clinical psychology, today this list has expanded to include work done in comparative psychology (i.e., study of nonhuman animals), law, economics, music, engineering, and political science. For instance, a conference organized by the cognitive science program at Yale University, entitled "The Evolution of Social Psychology" (7–9 November 2008), brought together psychologists studying non-human primates with scholars from philosophy, computer science, law, and behavioral economics. Until recently, these fields would have been thought of as having nothing in common with comparative psychology, yet today they are engaged in the common project of understanding how the mind works.

Note, too, that, while participating in this project and thus becoming,

in effect, cognitive sciences in their own right, philosophy, law, computer science, and other disciplines do not risk losing their autonomy by being subsumed by psychology. Clearly, scholars working in some areas within these disciplines benefit from this kind of conceptual integration, while for other areas it is irrelevant. The situation is similar in our own field of literary and cultural studies. Some domains of literary criticism develop in exciting new directions by integrating work from cognitive psychology with our long-standing interest in how the mind works (for we, too, have been grappling with this issue, using variously the framework of psychoanalysis, phenomenology, deconstruction, and cultural studies). Others don't need it (the thriving field of contextual historicism being one immediate example¹).

The boundaries between various subfields of cognitive cultural studies thus remain fluid as a function of the opportunistic nature of cognitive science, that is, of its tendency to grow and change by complementing and enhancing various aspects of other disciplines. To foreground this fluidity, the concluding part of this introduction maps out connections between individual essays across several subfields (brief overviews of these subfields are left to headnotes preceding each section in the body of the volume). Similarly, the suggestions for further reading that conclude this introduction are organized alphabetically rather than by category since very few books and essays on this list fall naturally into any one discrete category.

Finally, because our goal is to offer the reader an introduction to cognitive approaches to literature with an emphasis on cultural studies, this volume does not feature work on other aspects of cognitive literary studies, such as conceptual blending theory, cognitive poetics, and empirical studies of literature. An overview of these important areas of research can be found in Alan Richardson's "Studies in Literature and Cognition: A Field Map" (2004); foundational texts include Mark Turner's *The Literary Mind* (1996), Rueven Tsur's *Toward a Theory of Cognitive Poetics* (1992), and David Miall's *Literary Reading: Empirical and Theoretical Studies* (2006).

Cognitive Cultural Studies: Definition and Legacy of the Term

The term "cultural studies" has a long and complicated history, referring to both a particular school of thought (or several related schools) and an ever-expanding set of academic research programs. "Cognitive cultural studies" most commonly evokes the second, broad meaning of the term, thus connoting the incorporation of insights from cognitive science into the study of cultural practices. Yet the first, more specific, meaning turns out to be also directly relevant, in fact, crucially so, as the field of cognitive cultural studies seeks to position itself inside mainstream cultural theory. For, even though only one essay in the present collection, Bruce McConachie's "Toward a Cognitive Cultural Hegemony," explicitly revisits the work of a founder of cultural studies, Raymond Williams, the volume as a whole is compatible with Williams's original vision of cultural studies, articulated in *The Long Revolution* as exploring the relationship between the "evolution of the human brain [and] the particular interpretation carried by particular cultures" (18).

The legacy of Williams's work and its relation to the project of cognitive cultural studies is worth discussing at length here, for there is a misconception that still haunts cognitive approaches to literature and culture, although it has become less widespread during the past several years. According to this view, by making a "cognitive turn," a literary critic abandons the traditional paradigms of her own field, be it gender studies, feminist criticism, postcolonial theory, poststructuralism, performance theory, psychoanalysis, or cultural studies. In reality, there is neither reason nor obligation for her to abandon them; no more than there is reason or obligation for a scholar who develops interest in media studies to give up her commitment to feminist or postcolonial theory.

In fact, just as in the case of other interdisciplinary fields, some of the most exciting research in cognitive approaches to literature and culture comes from scholars who develop interfaces between cognitive science and more established literary and cultural theories. Nor should that be surprising. Given that the "human mind in its numerous complex environments has been the object of study of literary critics for longer than it has been the object of study of cognitive scientists," we should expect and welcome cognitive readings that resonate with existing literary and

cultural theory.² Several essays in this volume, such as Spolsky's "Darwin and Derrida: Cognitive Literary Theory as a Species of Post-structuralism," argue that there is a good deal of consonance between cognitive approaches and various aspects of traditional literary theory.

Consider the opening argument of Williams's *The Long Revolution*:

The central fact of [the] new account of the activity of our brains is that each one of us *has to learn to see*. . . . There is no reality of familiar shapes, colours, and sounds, to which we merely open our eyes.

The information that we receive through our senses from the material world around us has to be interpreted, according to certain human rules, before what we ordinarily call "reality" forms. The human brain has to perform this "creative" activity before we can, as normal human beings, see at all.

. . . [Reality] as we experience it in this sense is a human creation; . . . all our experience is a human version of the world we inhabit. This version has two main sources: the human brain as it has evolved, and the interpretations carried by our cultures. Man's version of the world he inhabits has a central biological function: it is a form of interaction with his environment which allows him to maintain his life and to achieve greater control over the environment in which this must be done. We "see" in certain ways—that is, we interpret sensory information according to certain rules—as a way of living. But these ways—these rules and interpretations—are, as a whole, neither fixed nor constant. We can learn new rules and new interpretations, as a result of which we shall literally see in new ways. There are thus two senses in which we can speak of this activity as "creative." The evolution of the human brain, and then the particular interpretation carried by particular cultures, give us certain "rules" or "models," without which no human being can "see" in the ordinary sense at all. In each individual, the learning of these rules, through inheritance and culture, is a kind of creation, in that the distinctively human world, the ordinary "reality" that his culture defines, forms only as the rules are learned. Particular cultures carry particular versions of reality, which they can be said to create, in the sense that cultures carrying different rules (though on a common basis of the evolved human brain) create their own worlds which their bearers ordinarily experience. But,

further, there is not only variation between cultures, but the individuals who bear these particular cultural rules are capable of altering and extending them, bringing in new or modified rules by which an extended or different reality can be experienced. Thus, new areas of reality can be "revealed" or "created," and these need not be limited to any one individual, but can, in certain interesting ways, be communicated, thus adding to the set of rules carried by the particular culture.

The effect of the new knowledge seems to me to be of the greatest importance, but I know from my own attempts to absorb it that it is so difficult to grasp, in any substantial sense, that its application must meet with all kinds of resistance and confusion. (18)

Writing in 1961, Williams expected that attempts to integrate the science of the "evolved human brain" with cultural interpretations would meet with "resistance and confusion." His expectation has been confirmed insofar as ignoring a difficult concept constitutes a form of resistance to it. During the last forty years, cultural studies has thrived and expanded, but its explicit cognitive-evolutionary component, as articulated by Williams, has been ignored.

It is significant, for example, that when cultural studies is defined today, in its broadest incarnation, as "an unstable meeting point for various combinations of critics and specialists," the list of its affiliate approaches includes "Marxist theory and criticism, feminist theory and criticism, literary and media studies, postmodernism, anthropological theory and criticism, social semiotics, postcolonial cultural studies, rhetoric, race and ethnicity, visual culture, gender theory and criticism and body theory, and the sociology and history of culture and science" but not cognitive science.³ It is also significant that when a cultural theorist, such as Cary Nelson, wants to counterbalance "the widespread belief that cultural studies [is] anything that an intellectual happened to be investigating" and thus calls for a reengagement with the work of Williams, cognitive science is absent from his conceptual horizon. Attempting to define "what cultural studies is and what it is not," Nelson lists fourteen points, ranging from cultural studies' grounding in "contemporary life and current politics" to its resistance to unreflexive historicizing, but there are no references of any kind to the human mind or brain.⁴

Such omissions are striking because they obscure the theoretical foundation of the project of cultural studies as formulated by Williams. Crucial precepts of the field—its resistance to a narrow understanding of culture and art and hence its radical broadening of the range of objects of critical analysis—are grounded in Williams's cognitive-evolutionary take on human creativity.

But it wouldn't do merely to acknowledge that the "new account of the activity of our brains" constitutes an original conceptual mainstay of cultural studies. Williams's prescient argument also reminds us that when literary theorists today turn to cognitive science they in fact commit themselves to a more integrated cultural and historical analysis. Just as he needed studies of "a common basis of the evolved human brain" to develop his theory of individual and cultural change, so do contemporary critics need such studies, enriched, of course, by the new work done in the intervening years, to analyze specific cultural formations in their specific historical moments.

And this is why cognitive cultural studies is cultural studies as originally conceptualized by Williams. It is an interdisciplinary field that studies the relationship between the "evolved human brain" and "the particular interpretations carried by particular cultures." The reason that now we must call it *cognitive* cultural studies is to underline the cognitive-evolutionary aspect that for the last forty years has remained dormant. One hopes that the publication of the present volume will hasten the day when the qualifier "cognitive" can be dropped again—that once cognitive approaches are no longer excluded from cultural studies, the cultural will simply be understood as being in part constituted by the cognitive. For just as the concept of the human brain becomes meaningless once we attempt to separate it from the culture in which it develops, so the concept of human culture becomes meaningless once we try to extract the human brain from it.

Cognitive Foundations of the View of Culture as a "Whole Way of Life"

Among Williams's lasting contributions to contemporary critical thought is his view of culture as "a whole way of life" (*Long Revolution*, 40) and of art as not separate from but continuous with our social institutions

and everyday practices. Today these are founding principles of cultural studies, yet nobody seems to remember that these insights grew out of Williams's belief that the new "work on perception, as a process of the brain and the nervous system," finally allowed cultural critics to "take a decisive step forward" in clarifying what art entails and what the word "creative" really means (*Long Revolution*, 16). In what follows, I consider Williams's arguments in the first chapter of *The Long Revolution* that lead up to his assertion that "we are in a position to reconcile the meanings of culture as 'creative activity' and 'a whole way of life'" and then compare these arguments with those developed by Spolsky, a leading theorist of contemporary cognitive cultural criticism. My goal here is not so much to establish Williams as one of the early cognitive critics (although it begins to feel strange *not* to consider him one) as to articulate the grounds for the claim that recent cognitive cultural theory is continuous with the original cultural studies.

Williams opens the first chapter of *The Long Revolution*, tellingly named "The Creative Mind," with a critique of dualism that informs our attitude toward art. "Plato or a Puritan or a modern Practical Man can dismiss art as inferior. Aristotle or a Renaissance theorist or a modern Romantic or aesthete can praise art as superior" (22). What underlies these seemingly disparate positions, however, is the same "assumed duality: the separation of art and reality, or of man and the world he observes" (22).

Building on the work of neurobiologists, such as Sir Russell Brain, and neurophysiologists, such as John Zachary Young, Williams then suggests that "what we now know about perception . . . opens the way to ending this duality, and thus transforming our thinking about art" and creativity (22). We begin to realize that it is "man's nature, and the history of his evolution, to be continually learning" (22) to see the world and by learning to see it, to transform himself. Moreover, since "this continuing organization and reorganization of consciousness is, for man, the organization and reorganization of reality—consciousness as a way of learning to control his environment—it is clear that there is a real sense in which man can be called a creator" (22).

And the reason that "man" (to stay with Williams's antiquated gendering of his subjects) can be considered truly creative is that the process of human learning and self-reorganization is profoundly communicative:

All living forms have communication systems of a kind, but again, in man, the process of learning and relearning, which is made possible by social organization and tradition, has led to a number of communication-systems of great complexity and power. Gesture, language, music, mathematics are all systems of this kind. We can think of them as separate systems, yet to understand their nature in any depth, we must see them in their context of the whole process of social learning.

(22)

Hence, instead of being treated as a separate system, art becomes a form of communication:

The artist shares with other men what is usually called "the creative imagination": that is to say, the capacity to find and organize new descriptions of experience. Other men share with the artist the capacity to transmit these descriptions, which are only in the full sense descriptions when they are in a communicable form. The special nature of the artist's work is his use of a learned skill in a particular kind of a transmission of experience.

(26)⁵

And just as the success of any act of communication is judged by its effects—did what you learned yesterday transform your personal organization, your experience, of the world?—so the success of art is judged by its ability to transform its recipients. In fact, the word "recipient" is misleading because it does not convey the deeply participatory nature of the interaction between the artist and his audience. For to "succeed in art is to convey an experience to others in such a form that the experience is actively re-created—not 'contemplated,' not 'examined,' not passively received, but by response to the means, actually lived through, by those to whom it is offered" (34).

Thinking of art as a form of communication predicated on the living organism's need to adapt to its constantly changing environment or to find a way to modify that environment—given that our species' environment is most and foremost *other minds*—has two immediate implications. First, we cannot continue to see art as qualitatively special and thus discontinuous with everyday practices, a perspective that has historically led to either extolling art as a superior version of reality or demigrating it as its inferior imitation. Thus Williams:

The abstraction of art has been its promotion or relegation to an area of special experience (emotion, beauty, phantasy, the imagination, the unconscious), which art in practice has never confined itself to, ranging in fact from the most ordinary daily activities to exceptional crises and intensities, and using a range of means from the words of the street and common popular stories to strange systems and images which it has yet been able to make common property.

(39)

Second, we can now link individual cognitive development with the functioning of social institutions, for, viewed from a cognitive perspective, an institution can be sustained only as long as it successfully communicates, that is, changes the way people see the world. As Williams puts it, "If people have lived together, and come to share a certain kind of organization by which their minds have been trained to activity, we shall find that the processes of organization are in fact institutions, of which art is usually one" (31).⁶

We are now nearing the concluding point of Williams's opening chapter: his view of culture as "a whole way of life." If art is one of the institutions that emerge out of a shared cognitive entraining of people who live together, then there is no neat separation between art and other forms of communication that sustain a given society. "The fatally wrong approach" to art thus stems "from the assumption of separate orders, as when we ordinarily assume that political institutions and conventions are of a different and separate order from artistic institutions and conventions" (39). By contrast, once we posit "learning to see" as the condition of our being in the world, and once we consider art as an innovative way of seeing that has to be communicated, and once we envision our society as a network of institutions that facilitate all kinds of communication, we "are in the position to reconcile the meanings of culture as 'creative activity' and 'a whole way of life,' and this reconciliation is then a real extension of our powers to understand ourselves and our societies" (40).⁷

Thus Williams in 1961. When we look for work in cultural studies done between then and now that builds on his remarkable endeavor to factor the "evolved human brain" into cultural critique, we do not find anything. But if we look at contemporary cognitive literary theory—particularly those subfields within it that integrate insights from poststructuralism, cultural historicism, feminism, and performance studies—we

discover a striking compatibility between their and Williams's conceptual frameworks. What it means is not just that the original project of cultural studies might be carried on today by cognitive cultural critics but that insights from cognitive evolutionary science might be a necessary component—it was so in 1961 and remains so in 2009—of cultural critique that is self-aware—aware, that is, of its goals, methodology, and ideology. To put it differently, we may not need cognitive science for every bit of cultural analysis we perform, but if we want to be aware of the epistemological foundations of what we do, we have to go back, or forward, to the “evolved human brain.”

Consider again the work of Spolsky, whose pioneering books, *Gaps in Nature* (1993), *Satisfying Skepticism* (2001), and *Word vs. Image* (2007) exemplify cognitive approaches to literature that are fully engaged both with cognitive science and contemporary critical theory. Like Williams, Spolsky views art as a cognitive tool integrated with other systems of communication. Williams observes that “the artist shares with other men . . . the capacity to find and organize new descriptions of experience” and that for “members of the audience, as for artists, communication is a way of living: to receive and live an artist's experience is no casual activity, but an actual living change” (35). Spolsky makes a similar case in one of her essays in the present volume, “Making ‘Quite Anew’: Brain Modularity and Creativity” (chap. 3):

Human cultures are not inert but dynamic; they aren't marble-chambered museums through which intimidated neophytes walk silently, receiving impressions. A culture is more like a force field with no shelter from challenge, no permit for passivity. Like the rest of us, artists have no choice but to be engaged in our shared space. But, also like the rest of us, they have the chance to be active tool makers. Particularly successful works of art, like other enabling innovations, are engines, not reflections, of culture. The most successful of them have the potential to bring audiences to new understanding.

Spolsky also shares Williams's belief in the reconciliation “between the meanings of culture as ‘creative activity’ and ‘a whole way of life.’” As she puts it, “Seeing stories and paintings as artifacts on a par with arrowheads and antibiotics rather than as messengers from a privileged if use-less aesthetic realm prompts us to investigate the hypothesis that the work

of artists has work to do.” And that work consists in enabling “audiences to recognize and understand something new and then use that new understanding, at least occasionally, to renew the world around them.” Such an argument is congenial to Williams's assertion that we constantly need to “learn new rules and new interpretations, as a result of which we shall literally see in new ways.”⁸

The confluence between Williams's and Spolsky's views would not be interesting if it were simply a result of intellectual influence—for example, Spolsky reading Williams and taking his insights to heart. Spolsky, however, arrived at her concept of creativity via a completely different route: building on studies of relationships between literary and oral narratives, on cognitive philosopher Andy Clark's exploration of “representationally hungry” cultural problems, and, most centrally, on recent research in cognitive modularity. According to Spolsky, “human cognition is enabled by a collection of specialist sensory intake modules, each of which does a different job, each of which is responsive to a different kind of energy” in one's environment. Since these modules (the visual system and the language system, for example) speak different languages and yet must communicate with each other if we are to be able to speak about what we see, a modular mind must perforce be a creative mind: modularity itself demands constant translation, constant remapping of communication among modules, an ongoing recategorization and re-representation of experience.

Using Raphael's *Transfiguration* of 1520 as her case study, Spolsky demonstrates how an artist can re-present a counterintuitive idea—“that a man could simultaneously appear as a god”—in a way that makes it easier to accept. The *Transfiguration* may enable its viewers to bridge “the gap between the categories of humanity and divinity,” and in so doing, to quote Williams again, it may help them to “literally see” these categories “in new ways.”

Spolsky's essay seems to illustrate most strikingly the convergence between early cultural studies and recent cognitive theory, but there are other examples of such a convergence throughout this volume. What this demonstrates is that the grounding assumptions of cognitive evolutionary science—its denial of teleology, its emphasis on indeterminacy and on ongoing, mutually goading transformations of individuals and their environments—make this science indispensable to a nonreductive cultural analysis.

For, as feminist philosopher Elizabeth Grosz has shown in *Time Travels: Feminism, Nature, Power* (2005), excluding evolutionary science from cultural theory perpetuates the intellectually and politically crippling dichotomous thinking about nature as “passive, inert, unchanging, ahistorical” (45)—a mere “background” for cultural elaboration (46)—and culture as “changing, the historical, the unpredictable” (49), creatively expanding nature in new directions. Grosz observes that this “nature/culture opposition seems foundational to cultural analysis, which defines itself by excluding the natural from its considerations. If nature is not the other, the opposite, of culture, but its condition, then the relations between them are much more complicated than a binary division implies” (46). And this binary division is what Williams wanted to destabilize by binding “biology” and “ways of seeing” the world into a unified yet open-ended system in which nature necessarily exceeds culture and thus makes it possible.

Consider again Williams’s assertion that our reality is but one possible version of endless realities, constructed to serve our specific survival needs:

The information that we receive through our senses from the material world around us has to be interpreted, according to certain human rules. . . . [Reality] *as we experience it* in this sense a human creation; . . . all our experience is a human version of the world we inhabit. . . . Man’s version of the world he inhabits has a central biological function: it is a form of interaction with his environment which allows him to maintain his life and to achieve greater control over the environment in which this must be done. (18)⁹

To understand what is at stake here, that is, to understand what groundbreaking and underappreciated philosophical assumptions early cultural studies was built on, see how the same argument—that culture limits nature and not vice versa—is rearticulated today by thinkers committed to Darwinian epistemology. Grosz suggests that culture actualizes only a tiny subset of possibilities latent in nature, narrowing it down to make it relevant to the needs of a specific human moment:

If culture does not so much add activity to nature’s passivity, then perhaps we may understand culture as subtractive: culture diminishes,

selects, reduces nature rather than making nature over, or adding to its social relevance, significance, and the capacity for variation. Nature itself may be understood as perpetual variation, and life as the evolutionary playing out of maximal variation or difference, as Darwin’s own understanding of evolutionary processes implies. If biological evolution is the generation of an immensely productive machinery for the creation of maximal difference[.] . . . then culture rather than nature is what impoverishes nature’s capacity for self-variation and becoming, by tying the natural to what culture can render controllable and what it sees as desirable. Perhaps Bergson, following Darwin, is right to claim that our human activities diminish rather than augment the effects of the natural world in order that we can discriminate its features and highlight only those that interest us. Culture is not the magnification of nature and its animation through human effort, but the selection of only some elements or facets of the natural, and the casting of the rest of it into shadow, a kind of diminution of the complexity and openness of the natural order. (48)

See too how Spolsky captures this important reversal of the traditional understanding of the relationship between the cultural and the natural in her *Satisfying Skepticism*, when she suggests that the “theoretically infinite number of creative possibilities will in practice always be channeled and restricted by the cultural surround” even if “those restrictions are themselves often negotiable” (4).

This is what it means, then, to say that a cognitive-evolutionary perspective commits cultural critics to a more rigorous historicizing than a perspective that ignores human evolved cognition. Williams argued that “we interpret sensory information according to certain rules—as a way of living” but that “these rules and interpretations” are “neither fixed nor constant,” which means that we can both learn and invent “new rules and new interpretations, as a result of which we shall literally see in new ways.” As one of many systems that enable new ways of seeing, art is thus profoundly historically contingent. To understand why a certain new interpretation of “sensory information,” say a movie about Prohibition-era gangsters made in the 1990s, becomes, or does not become, particularly relevant and appealing (or, as Williams would say, communicable), we have to situate it in its rich historical context. We have to ask

what specific challenges of this moment—economic, theological, sexual, political, emotional, linguistic, ecological, personal (and so forth: ways of framing these challenges are infinite)—this way of seeing the world engages. But at the same time we also have to ask how it engages them so as to be relevant (again: communicable) to specifically human cognition; for example, how it interacts with our theory of mind, with our tendency to engage in analogical thinking, with our embodied perception of the world, with particularities of our emotional response to representations and how it forges (or severs) connections between our sensory modules. This volume builds on research into these and other aspects of cognition that were not available to Williams in his day. Still, his insistence on seeing “art as a particular process in the general human process of creative discovery and communication” and culture as “a whole way of life” offers an expanded and enriched conceptual framework for scholars in the humanities interested in cognitive science and thus allows them to reclaim early cultural studies as cognitive cultural studies.

Volume Overview

Patrick Colm Hogan’s classic essay “Literary Universals” (1997) (chap. 1) sets the overall tenor for the volume by arguing that a study of universals (a term that can be extended, in the case of other essays, to aspects of cognition ranging from the capacity for attributing mental states to analogical thinking) does not foreclose responsible historicist analysis but rather makes it possible. As Hogan puts it:

The proponents of cultural and historical study are mistaken . . . in seeing the study of universals as somehow opposed to or contradictory of cultural study, in believing that the examination of universals somehow precludes historical research. . . . [The] study of universals and the study of cultural and historical particularity are mutually necessary. Like laws of nature, cultural universals are instantiated variously, particularized in specific circumstances.

An antiuniversalist stance handicaps the cultural critic (that is, if she actually follows it through instead of merely paying lip service to it). If a student of Sanskrit literature does not consider allusion a literary universal, she will not look for it in *Ramayana*, will fail to recognize its impor-

tance in that text, and thus will be “unlikely to advance a culturalist or interpretive project.” Moreover, one should differentiate between “empirical universalism (the isolation of genuine cross-cultural invariants) and normative absolutism (the cross-cultural imposition of a culturally non-universal idea of practice).”¹⁰ The latter represents pseudouniversalism: a creed that “derive[s] from and seek[s] to further colonial, patriarchal, or other ideologies supporting unjust domination.” By contrast,

no racist ever justified the enslavement of Africans or colonial rule in India on the basis of a claim that whites and nonwhites share universal human properties. Rather, they based their justification on presumed differences among Europeans, Africans, and Indians, usually biological differences, but often cultural differences as well. Indeed, “[l]iberal” racism and colonialism—with their paternalistic emphasis on leading the native out of primitive ways and into civilization—were always based on specifically culturalist differentialism. . . . A universalist program that succeeds in uncovering genuinely universal principles of human thought and human society, principles that are not relative to race and culture, necessarily runs contrary to racism and ethnocentrism.

In discussing such cross-culturally recurring features of literary texts as symbolism, imagery, assonance, foreshadowing, plot circularity, and image patterns, Hogan confronts two common misconceptions about literary universals. The first is that they must be present in *all* literary works and the second is that they should take the same forms across different cultures. But to count as universals they merely have to appear “with greater frequency than would be predicted by chance alone,” and the forms that they take are always specific to their environments.

Hogan’s second essay in the volume, “On Being Moved: Cognition and Emotion in Literature and Film” (chap. 11), takes up the difficult issue of our strong yet peculiarly limited emotional engagement with fictional representations. What cognitive factors, asks Hogan, inhibit “our actional response to fictionally or imaginatively produced emotions”? Why, for example, when we read about a rapidly approaching lion, do we not put down the book and start running away? His answer is that what checks this fight-or-flight response to fictional scenarios is “our direct engagement with critically proximate egocentric space.” We constantly

recalibrate our actual physical position "in relation to [the] subjectively fixed space" of a movie or a book.

Hogan's discussion of emotions builds on his argument in "Literary Universals," emphasizing the crucial difference between the project of studying cross-cultural emotional patterns and assuming "a high degree of uniformity within cultures, particularly within foreign cultures." Focusing on a set of our innate sensitivities "to other people's emotion expressions," Hogan suggests that cultural differences in representing such "consequential" phenomena as human emotions "will be largely a matter of variations within parametric or other constraints," variations deriving "from accidents of history, group dynamics, physical environment, and related factors." His case study, Hindi film *Yaabharth* (*The Truth*), depicts a little girl whose particular circumstances prompt her to dance with joy every time a funeral procession approaches the place where she lives. She responds to corpses with joy because her father, an untouchable, can provide food for her only when somebody dies and he receives payment for cremation. The girl's reaction thus suggests the plasticity of human emotions and their dependence on specific personal histories and cultural contexts. But the movie also exploits our perennial fascination with mental states as performed and betrayed by the body—we follow eagerly both the spectacle of the little girl's incongruous jubilation and of other villagers' shocked reaction to it. Moreover, for viewers immersed in Hindi culture, this fascination will be further layered by the awareness that the little girl's dance is unmistakably reminiscent of the dance performed by the goddess Kali on the cremation grounds.

What Hogan calls our innate sensitivity to "facial expressions, tones of voice, postures, and so forth" is further explored in the essays by Alan Richardson, Alan Palmer, Blakey Vermeule, and Lisa Zunshine. They consider the implications for literary and cultural studies of the work on theory of mind, the term used by psychologists to describe "our awareness of the existence of other minds, our knowledge of how to interpret other people's thought processes, our mind-reading abilities in the real world" (Palmer, "Storyworlds and Groups" [chap. 8]). Zunshine's "Theory of Mind and Experimental Representations of Fictional Consciousness" (chap. 9) draws on the work of cognitive evolutionary psychologist Simon Baron-Cohen to suggest that fiction engages, teases, and pushes to its tentative limits our mind-reading capacity. Building further on the

recent research of Robin Dunbar and his colleagues, she considers a passage from Woolf's *Mrs. Dalloway* as an example of spectacular literary experimentation with our theory of mind.

The starting point of Palmer's essay is that any fictional narrative is the "description of fictional mental functioning" and hence that spaces and objects evoked by a given story "usually only have significance in so far as they affect the mental functioning of the characters in the story-world." Moreover, specific fictional characters are not the only ones whose thoughts, beliefs, and desires drive the plot: "Just as in real life, where much of our thinking is done in groups, a good deal of fictional thinking is done by large organizations, small groups, families, couples, friends, and other *intermental units*." Hence fictional towns can be shown to have mental states, although different genres use very different representational techniques to portray towns as intermental units. Novels, such as *Middlemarch*, explored by Palmer in detail elsewhere, construct the minds of their towns quite differently from musicals, such as *Chicago*, or anime movies, such as *Metropolis*. (Note that these examples, *Chicago* and *Metropolis*, come not from Palmer's essay, but from discussions, inspired by his work, in graduate seminars.¹¹ For it turns out that Palmer's concept of intermental thinking applies to moving images as well; a city's current state of mind can be represented via close-ups of newspaper headlines: "Roxie Rocks Chicago!"¹²)

To show how a town can function as an intermental unit—that is, how it can have a mind of its own—Palmer turns to a passage Evelyn Waugh's *Men at Arms*. We learn on the first pages of that novel that Santa Dulcina, a small city in Italy, considers simpatico, that is, likes, many of its inhabitants, be they bores, gross vulgarians, or even criminals. Surprisingly, one person whom the town does not consider simpatico is the educated, open-handed, and upright protagonist, Guy Crouchback. As Palmer demonstrates, representing the town as having a broad array of mental states—capable of liking some people but not others, of grieving and rejoicing with some of them, of gleefully observing them, and so forth—is an important rhetorical move on the part of the author. For the passage Palmer analyzes is "not just about the intramental functioning of one individual and not just about the intermental functioning of the town: it is about the complex, dialogical relationship between the two." What the town thinks about Guy, and how it came to think it, is crucial for our

understanding of the psychological dynamic of the story. Although not all works of fiction cultivate intermental units, those that do use them in striking and specific ways, and now with the benefit of Palmer's insights we can begin to trace the effects of intermental thinking in a broad variety of texts.

Vermuele's essay, "Machiavellian Narratives" (chap. 10), builds on cognitive evolutionary research in theory of mind to reengage a question that has preoccupied literary theorists since Plato, namely, "why literary experience feels so rich and vivid." Vermuele's answer is that "moments that we consider especially literary, and that therefore have attracted intense critical scrutiny, tend to reflect a special—and especially intense—kind of reasoning." This reasoning, which she calls Machiavellian, "is especially intense because it engages something we care about most—the extremely complicated dynamics of social interactions." Redefining in cognitive terms our traditional intuition that some fictional characters are flatter than others—as she sees it, flat characters are those less capable of complex, reflexive states of mind—Vermuele offers the following socio-cognitive account of scenes experienced by readers as "especially literary":

When flat characters interact with round characters, they mine a rich vein of theory of mind. In literary narratives from ancient to modern times, some version of the following pattern repeats itself over and over again: a flat or minor character provokes a fit of reflection in a round or major character. The fit of reflection enlarges the scene and the minds of the people in it, who engage in elaborate rituals of shared attention and eye contact. The scene itself becomes soaked in mindfulness, increasing the sense of self-consciousness all around.

Using examples that range from Virgil's the *Aeneid* and Spenser's *The Faerie Queene* to Thackeray's *Vanity Fair*, Poe's "The Purloined Letter," and Thomas Mann's *The Magic Mountain*, Vermuele shows that "round" or "Machiavellian" narratives typically feature complex interplays of mental states while also exploiting a series of tropes, such as chess, tennis, gambling, games of chance, and labyrinths, that signal "the presence of high narrative reflexivity."

Vermuele's overarching argument, that the attraction of fictional cognitive complexity is directly related to our unquenchable fascination with social complexity, complements David Herman's emphasis on the socially

situated mind. In his essay, "Narrative Theory after the Second Cognitive Revolution" (chap. 7), Herman introduces the field of cognitive narratology, defining it as an approach that builds on the work of classical narratologists by supplementing it with discursive-psychological research—"research premised on the idea that minds are always already grounded in discourse." Herman's essay develops a compelling model of interdisciplinary exchange, showing how by integrating insights from the "second cognitive revolution," narrative theory can in turn influence social psychology. In particular, Herman demonstrates that fictional "scenes of talk"—when readers are called on to engage with sparsely annotated dialogue—"bear importantly on the tradition(s) of research that locate cognitive processes not in the heads of solitary thinkers but rather in socio-communicative processes unfolding within richly material settings."

Herman begins with an exposition of earlier conceptions of the mind, grounded in Cartesianism, introspectionism, behaviorism, and the first cognitive revolution. He then contrasts them with discursive psychology's emphasis on the mind that "does not preexist discourse" but, as an "on-going construction," emerges and changes along with it. Using as his case study Hemingway's short story "Hills Like White Elephants," Herman shows that "cognitive processes can be lodged not just in reports about characters' behaviors, utterances, and experiences but also in modes of narration, types of perspective, and details about the spatial and temporal contexts of narrated situations and events."

Note too how Herman's view of a fictional mind in progress, a mind as constructed via specific communicative and material contexts, amplifies Williams's earlier insight that we create the world by learning new ways of seeing it. Hemingway's story, Herman demonstrates, constitutes its two protagonists as embodied by implying the physical situatedness of their views of the white "hills across the valley" and of each other. As Herman puts it,

Not only does "Hills" suggest that what can be seen, what is known about the world, alters with the spatial coordinates of the embodied self that is doing the looking; more than this, it suggests that a self is in part constituted by what it sees and by when and where it sees it—with narrative being one of the principal means for tracing this perceptual flux.

Hence it is not just that the construction of fictional worlds is contiguous with our ongoing construction of reality (which supports Williams's view of "art as a particular process in the general human process of creative discovery and communication"). It might also be that our constructions of reality—our "ways of seeing"—are actualized through the processes best captured by cognitive narratologists when they discuss "modes of narration, types of perspective, and details about the spatial and temporal contexts." Newly refocused on the social mind, narrative theory can indeed "inform discursive-psychological research," making communication between literary critics and cognitive psychologists a two-way street.

The social mind remains the focus in Nancy Easterlin's essay, "Cognitive Ecocriticism: Human Wayfinding, Sociality, and Literary Interpretation" (chap. 12), which introduces the field of cognitive ecocriticism, with a particular emphasis on gender and social cognition. Easterlin begins her discussion of the relationship between cognitive evolutionary psychology and ecocriticism by observing that by excluding evolutionary science, conventional ecocritical thinking encourages us to "conceptualize 'nature' or 'environment' as fixed and bounded entities excluding humanity." Conventional ecocriticism is thus teleological, despite its invocation of process; its desire to posit the existence of a benign interrelationship among "all elements of the natural order" leads it to gloss over such uncomfortable facts as "the operation of chance" and the "incredible variety" and "frequently conflicting interests normal science continues to discover in nature."

Taking as her starting point the importance of wayfinding for our "knowledge-seeking species," Easterlin then demonstrates that environment is always constructed via networks of social and emotional relevance (a "specifically human version of the environment," as Williams would put it, or the "selection" of only those features that "interest us," as Grosz would).¹² Our wayfinding abilities, Easterlin argues, "depend on an emotional connection to the environment, for it is such a connection that promotes interest." Moreover, the "affective charges" connected in our evolutionary past to "specific environmental features still resonate with humans today, whether or not we have any conscious knowledge of the evolved basis of our predilections (for mountains, for instance, from which visual advantage could be secured) or aversions."

The notion of "specifically human" relevance does not imply normativity in representations of nature, such as the privileging of specific genres or perspectives. Like Williams and Spolsky (and Herman in "Stories as a Tool for Thinking"), Easterlin considers art a "way of knowing and coping with the world—of exercising problem-solving skills, of imagining alternatives." In this view, the ecocritical predilection for literary modes and genres that manifest environmental correctness is fundamentally misguided: "Realism in this perspective is neither good nor bad; it is one mode of response, and not necessarily one that will establish an affective connection between the reader and the nonhuman natural world; it is in any case a human fashioning of perceived actuality, since an evolutionary perspective renders obsolete the infatuation with grasping the thing-in-itself."

Easterlin's take on literary realism in the context of ecocriticism dovetails with that of Alan Richardson in his recent comprehensive review "Studies in Literature and Cognition" and that of Suzanne Keen in her groundbreaking study *Empathy and the Novel* (2007). Discussing the work of scholars who use evolutionary epistemology to posit the superiority of a "direct correlation between literary representation and patterns of behavior in the lived world," Richardson emphasizes that cognitive literary criticism rejects this kind of "naïve realism" and keeps sight of "the fantastic or 'off-line' character of fictional representations" (12). Similarly, Keen's view of character identification "runs counter to common assumptions" that "complex or realistic characterization" is necessary to eliciting readers' empathy (69). Hence the case studies used by Easterlin to show how fictional narratives build on the excitement and anxiety attendant on human wayfinding span a variety of genres and representational traditions, from nature writing in prose and poetry and chronicles of sci-fi journeys to stories of physical and mental confinement in novels and on stage.

For Easterlin, gender often comes to the forefront of "literary depictions of wayfinders in a democratized, industrialized world." As her ecofeminist analysis shows, such narratives as Charlotte Brontë's *Jane Eyre*, Katherine Mansfield's "The Little Governess," Alice Munro's "Wild Swans," and Henry James's *Daisy Miller* use female protagonists to embody the clash between wayfinding and social knowledge. Women who travel alone (and are assumed to have led a sheltered existence prior) might be thrilled by

"physical movement and discovery," yet they are dangerously lacking in social competency and struggle and often fail to make inferences about various people they encounter "based on knowledge of behavior." (Note, too, that large and small breakdowns in communication have long been a subject of particular interest to cognitive literary critics: as Spolsky puts it elsewhere, "failures are more tellable.")¹³

Bruce McConachie's essay, "Toward a Cognitive Cultural Hegemony" (chap. 6), works toward reconciling Williams's rethinking of Antonio Gramsci's concept of cultural hegemony with a notion of embodied cognition as developed by cognitive linguist George Lakoff and philosopher Mark Johnson. To show "how external cultural practices get processed and reproduced in the internal workings of the mind/brain," McConachie begins by revisiting Williams's suggestive but underappreciated term "structure of feeling," arguing that recent work in cognitive linguistics and cognitive anthropology allows us to finally tackle the difficult issue of the relationship between culture and cognition that Williams wanted to capture with that term. According to McConachie, when Williams first introduced the phrase in the 1950s, he used it "to correlate the form and emotional power of an artistic product with the general psychology of a culture" in an attempt to work out a conceptual framework that would clarify how culture gets below what he called the "top of our minds." Subsequently, however, he narrowed the meaning of the term "to refer primarily to the innovative forms and new psychology of emergent cultures of opposition," and later yet, he stopped using it altogether.

What McConachie suggests is that the work of contemporary cognitive anthropologists that investigates how "external culture" gets linked to "internal minding" allows us not only to revisit and elaborate Williams's "structure of feeling" but also to clarify its connections with the concept of cultural hegemony. Fusing cognitive anthropologist Bradd Shore's insights with those of Lakoff and Johnson, McConachie argues that over time individuals in a given culture build up "a large stock of conventional schemas"—for example, spatial and social schemas involved in understanding a baseball game—that get invested with a variety of emotions and can then be "drawn on to understand unfamiliar events." A dominant culture (to come back to Gramsci's discussion of cultural hegemony) thus "reproduces itself, in part, by analogically transferring concepts and

schemas to a network of cultural practices." As in McConachie's baseball example, some of the "same internal concepts will be brought into consciousness when the individual wants to recall a certain game or decides to project an idea of baseball onto another area of life through metaphor. 'He pitched me that sale, but I wasn't swinging.'"

But this process of transferal also opens up opportunities for challenging a dominant culture: representatives of oppositional groups can reframe old metaphors and project various established schemas onto "historically new fields." McConachie's example of a body-based conceptual metaphor that informed the perpetuation of a specific political paradigm is containment: a figure involving "necessary relations among an inside, an outside, and a boundary between them." McConachie demonstrates that as an embodied spatial concept, containment "structured much of the dominant culture" of the Cold War era. It shaped not only political endeavors, such as the passing of the National Security Act of 1947, but also aspects of popular psychology (such as the anxiety about the effects of advertising) and theater productions (for example, "all of Rodgers and Hammerstein's Asian musicals"). At the same time, oppositional playwrights, such as Tennessee Williams in *Cat on a Hot Tin Roof* and Lorraine Hansberry in *A Raisin in the Sun*, intuitively exploited the fact that "the cognitive logic of containment required an outside Other to delimit an inside Same," their plays giving voice to "abject Others" often silenced by dominant cultural discourse.

Lakoff and Johnson's work on embodied cognition also constitutes the starting point of Mary Thomas Crane's essay, "Analogy, Metaphor, and the New Science: Cognitive Science and Early Modern Epistemology" (chap. 4). Crane uses cognitive studies of analogy to challenge the currently accepted narrative of the epistemological shift that "accompanied, and made possible, the 'scientific revolution' of the seventeenth century." According to this narrative, analogy functioned "as the central structuring mechanism of the old epistemological system but was replaced, in the seventeenth century, by variously, 'identity,' 'difference,' or 'mechanism,' depending on who is telling the story." However, Crane suggests, if, "as Lakoff and Johnson have argued, all human thought is built up metaphorically from the basic kinesthetic experiences of living in a body, no scientific system could dispense completely with analogy." Instead, analogi-

cal thinking would take different forms and structure different systems of relationships. To uncover this process we need to look at a broad spectrum of contemporary cultural representations and social institutions.

And so analogical thinking was not abandoned during the Renaissance—it was transformed. In traditional Aristotelian philosophy, Crane demonstrates, analogy was equated with identity. For example, the “alchemical symbol for gold . . . was a circle, because both the circle and the gold were considered to be perfect: the perfection of the symbol was thought to reflect in essence the perfection of its referent.” In contrast, in the new science, analogy indicated a structural relationship between two entities. The idea of such a structural relationship made it possible to imagine a larger system within which these two entities interacted with each other and other phenomena.

Moreover, by sponsoring alternative ways of conceiving of the natural world, analogical reasoning also opened new venues for poetic imagery. Hence John Donne’s poem “A Valediction: Forbidding Mourning.” Donne speaks of the separated lovers’ souls as the connected feet of a compass (one moves when the other does), but he does not, as some scholars have suggested, posit “an essential similarity” between the two unlike things, a pair of human souls and a mathematical instrument. Instead, influenced by the new style of analogical thinking, he envisions a “structural relationship between two joined yet divided poles”—a more complex “concept of circular perfection” than the one enabled by the classical Aristotelian use of analogy. In other words, as Crane argues compellingly, poetry participated in the new epistemology, but to become aware of this dynamic interaction between poetic images and natural philosophy, we need both cognitive and historical perspectives.

The essays by Crane, McConachie, Richardson, Spolsky, and Zunshine exemplify a subfield of cognitive cultural studies known as cognitive historicism. As Richardson explains in his essay, “Facial Expression Theory from Romanticism to the Present and Beyond” (chap. 2),

Cognitive historicism retains the emphasis on specific sociocultural environments, on common discursive strategies linking, say, the poetry of an earlier era with its jurisprudence and its botany, and the acknowledgment of the impossibility of any objective, transcendent

historical perspective that marks other “new” literary historicisms. In addition, however, it recruits and selectively adapts theories, methods, and findings from the sciences of mind and brain, partly in the hope these will provide suggestive (though, it is understood, necessarily imperfect) analogies with past models and partly in hope that cultural and historical differences will emerge *more* clearly and cleanly when set against what appear to be stable and invariant aspects of human cognition and behavior.

Richardson’s essay brings together studies of the universal human capacity for “gauging the emotions and intentions of others through reading their faces” with the investigation of cultural representations and institutions that were informed by and in turn gave form to this capacity in the Romantic era. His larger argument is that “the study of human expression has played a key role both in the development of a cognitive neuroscience of human behavior and in the resurgence of intellectual interest in stable and universal aspects of human nature.” An important early nineteenth-century specimen of the neurological approach to the study of emotions is Charles Bell’s *Anatomy and Philosophy of the Emotions in Man and Animals* (1872) and, in some respects, “more forward looking” than the later treatise. For instance, Bell emphasized the “communicative role of facial expressions,” a concept crucial for our contemporary “neurocultural” perspective but one that was underplayed by Darwin. It is not accidental, then, that to underscore the role of expressions in social communication, Bell turned to theater, using, for example, Sarah Siddons’s performance of Shakespeare for his neurological analysis.

Taking as his starting point Bell’s interest in the “multimedia art of theater,” Richardson demonstrates that “the science of facial expression has been bound up with literature all along.” For instance, Bell’s contemporary, Johanna Baillie, a poet and playwright, explored various developmental aspects of the “universal fascination with human expression” in the “Introductory Discourse” to her *Plays on the Passions* (1798). Richardson’s other examples range from Baillie’s *Count Basil* and Keats’s *Isabella* to Austen’s *Emma*, as he shows that a “keen interest in how the body manifests emotions and intentions—and in how a given human

mind attempts to extrapolate from these manifestations the mental dispositions, conscious or not, of others—made for a central rather than peripheral aspect of Romantic-era literary life.”

Zunshine's essay, “Lying Bodies of the Enlightenment: Theory of Mind and Cultural Historicism” (chap. 5), shares with Richardson's its emphasis on specific cultural forms assumed by our “fascination with human expression,” although she mainly focuses on the period between the 1720 and 1790. She suggests that there is an important overlap between the fields of inquiry of cultural studies and cognitive evolutionary psychology—both want to know why and how bodies “perform” minds—and that this overlapping interest provides the ground for a long-term dialogue between the two disciplines.

Zunshine begins by registering a paradoxical position occupied by the body in eighteenth-century discourse, which treated body language (including facial expressions) as simultaneously a highly valuable and quite unreliable source of information about a person's mind. She then uses research on theory of mind to explain this double view of the body in novels ranging from Eliza Haywood's *Love in Excess* and Samuel Richardson's *Clarissa* to Henry Fielding's *Tom Jones* and Thomas Holcroft's *Hugh Trevor*. Like Alan Richardson, Zunshine is interested in using cognitive theory to trace new connections between different cultural discourses of the period. Moving backward from Henry Siddons's *Practical Illustrations of Rhetorical Gesture and Action* (1807) to eighteenth-century acting manuals and novels, she explores the double perspective of the body in the Enlightenment's obsession with measuring gaps between people's body language and their actual feelings on stage and in print.

Like Spolsky, who draws on cognitive neuroscience in her analysis of visual representations, Gabrielle Starr (“Multisensory Imagery” [chap. 13]) believes that “the architecture of the mind . . . has much to say about the architecture of art.” Her focus, however, is on “cognitive principles governing nonvisual mental imagery.” Starr opens her essay by suggesting that poets from Horace on evoke not merely different kinds of sensory imagery, including olfactory, haptic, motor, and gustatory, but “multisensory imagery, fundamentally,” thus making available to us the “subjective experience of sensation without corresponding sensory input.” Traditionally, studies of such an experience dealt with visual images, reflecting the crucial role of the human visual system, but the situation is changing

now as “an increasing amount of research addresses imagery from the other senses.” Starr's focus is on these other senses as engaged by poetry (particularly motor images), her case studies ranging from Bishop's “At the Fishhouses” and Hopkins's “Pied Beauty” to Dryden's “Alexander's Feast” and Keats's “The Eve of St. Agnes.”

After considering possible neural bases for motor, auditory, olfactory, and gustatory imagery as well as for imagery of touch, grasping, and feeling, Starr suggests that poetry forges “new connections between the senses, which push beyond the mimesis of the natural world” and thus induce aesthetic pleasure in listeners and readers. For example,

Work on memory has demonstrated . . . [that] people tend to remember a tone and image presented together much better than either alone; more than this, when data from one sense is presented, the entire multisensory image is triggered. The connections that multisensory imagery can form are rapid and strong. A cognitive approach to multisensory imagery may give us a window on aesthetics as the study not just of sensation (*aesthesis*) but also of imagined sensation. . . . I believe that motor imagery, in part because it is peculiarly multisensory, may have the most powerful potential for evoking and structuring aesthetic pleasures.

Starr further demonstrates that as a poem develops, it may reorder and recombine sensory modes that it has originally evoked and, in doing so, literally inhabit and change the body of the reader. For instance, an evoked motion may emerge “not just as . . . described” but as experienced “in mind, or hands, or tongue.”

That the pleasure of reading poetry is an embodied pleasure rings intuitively true to literary critics and cultural historians. Indeed, Williams saw rhythm as “a way of transmitting a description of experience, in such a way that the experience is re-created in the person receiving it, not merely as an ‘abstraction’ or an ‘emotion’ but as physical effect on the organism—on the blood, on the breathing, on the physical patterns of the brain” (*Long Revolution*, 24). What Starr demonstrates, however, is that we need research in cognitive neuroscience to see how what Williams called the “physical effect”—the embodied experience of poetry—is made possible by our neural architecture. Moreover, although Starr's tour-de-force analysis of multisensory imagery centers on poetry, class-

room practice shows that her conceptual framework can be productively extended to the study of prose fiction. For instance, it turns out writers such as Joyce cultivated images that forcefully juxtaposed different sensory modes, making the evolution of such images throughout the narrative into a story in its own right.¹⁴

Concluding the volume is Spolsky's essay "Darwin and Derrida: Cognitive Literary Theory as a Species of Post-structuralism" (chap. 14), an early articulation of the view that "the assumptions that emerge from the study of evolved human brains in their successive contexts, far from being inconsistent with post-structuralist thought, actually extend and enrich it." According to F. Elizabeth Hart, Spolsky's essay demonstrates that "the materialist ontology of Charles Darwin is every bit as relevant to understanding postmodernism as are the materialist epistemologies of Jacques Derrida, Jacques Lacan, or other of the thinkers at the foundations of literary poststructuralism" ("Embodied Literature," 88).

Using as her theoretical mainstay the modular theory of cognition, Spolsky shows how an evolutionary framework affirms and regrounds the poststructuralist insight that the "functioning of human language depends on both its iterability *and* its instability." As she puts it:

Precisely because the human species and its ways of knowing are evolved by the accumulation of random mutations, in interactions with changing environments, rather than genetically engineered for the task of knowing, it is not at all surprising that they are unstable. They were not purpose designed and are always vulnerable to further environmental change. It is just this instability, however, that provides the possibility for advantageous flexibility. People, then, and their ways of knowing, and their languages, are *responsive* (a word that doesn't have the negative connotation of *unreliable* or *unstable*), that is, adaptable within a changing environment.

Thus, in Spolsky's view, "nothing could be more adaptationist, more Darwinian, than deconstruction and post-structuralism, since both understand structuration—the production of structures (and this is the same thing as the production of theories of structures, ad infinitum)—as an activity that happens within and in response to a specific environment." In fact, Spolsky argues that a number of twentieth-century influential theoretical frameworks, from Wittgenstein's "model of language games"

to Stephen Greenblatt's "view of the circulation of social energy in a dynamic of challenge and containment," are Darwinian because they seek to "account for systematicity—that is, for stability and predictability—while allowing for the possibility of adaptive change."

Suggestions for Further Reading

The list below includes only works of cognitive literary/cultural criticism. The references to foundational studies in respective parent fields of cognitive science, such as discourse psychology, cognitive linguistics, cognitive neuroscience, and evolutionary psychology, can be found in the essays themselves and in the list of works cited at the end of the volume.

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