

# **Performance and Cognition**

Theatre studies and the cognitive turn

*Edited by*

**Bruce McConachie and  
F. Elizabeth Hart**

Routledge Advances in Theatre and Performance Studies

# Performance and Cognition

Cognitive scientists working in neuroscience, psychology, linguistics, philosophy, and other fields have made rapid strides in the past 20 years in understanding perception, empathy, spatiality, emotions, meaning-making, and many other cognitive areas that are crucial to producing, enacting, and responding to performances on stage. Surprisingly, however, scholars in theatre and performance studies are just beginning to apply these findings to their field. This book invites theatre and performance scholars to incorporate many of the insights of cognitive science into their work and to begin considering all of their research projects from the perspective of cognitive studies.

As well as including a comprehensive introduction to the challenges of cognitive studies for theatre and performance scholarship, the volume features essays in all of the major areas of theatre and performance. Several of the essays use cognitive studies to challenge some of the key scholarly and practical orientations in theatre and performance studies. The experimentally based insights of cognitive science are shown to be at odds with Saussurean semiotics, psychoanalysis, and aspects of deconstruction, New Historicism, and Foucauldian discourse theory. The contributors also apply ideas from cognitive studies to open up the possible meanings of plays to readers, and to illuminate the process of acting through the work of the cognitive neuroscientist Antonio Damasio. Theatrical response is examined with an essay focusing on the general dynamics of perception, and another explaining the riots that greeted the 1907 production of *The Playboy of the Western World* through cognitive stereotyping.

*Performance and Cognition* opens up fresh perspectives on theatre studies – with applications for dramatic criticism, performance analysis, acting practice, audience response, theatre history, and other important areas – and sets the agenda for future work, helping to map the emergence of this new approach.

**Bruce McConachie** is Professor of Theatre at the University of Pittsburgh, USA, and specializes in theatre history, theatre historiography and cognitive approaches to theatre. **F. Elizabeth Hart** is Associate Professor of English at the University of Connecticut, Storrs, USA, where she teaches Renaissance studies, Shakespeare, and cognitive approaches to literature.

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# Preface

*Bruce McConachie*

Our general goals for *Performance and Cognition* are to invite theatre and performance scholars to incorporate many of the insights of cognitive science into their work and to begin considering all of their research projects from the perspective of cognitive studies. These goals rest on a loose distinction between cognitive science and the more general category of cognitive studies. Cognitive scientists in psychology, linguistics, neuroscience, and other areas do empirically based tests to advance our knowledge of the mind/brain. The field of cognitive studies includes such scientific investigation but also encompasses philosophers, anthropologists, humanists, and other scholars who base many of their ideas and theories on cognitive science.

Among its several tasks, *Performance and Cognition* will demonstrate that cognitive studies provides a valid framework for understanding the potential truth value of many theories and practices that we presently deploy in theatre and performance studies. Indeed, the insights of cognitive science challenge some of the theoretical approaches now widely practiced, including Saussurean semiotics, Lacanian psychoanalysis, and aspects of deconstruction, New Historicism, and Foucauldian discourse theory. While notions of the “embodied mind,” the “cognitive unconscious,” “empathetic projection,” “basic-level categories,” “primary metaphors,” and other foundational concepts at play in cognitive studies share some common ground with phenomenology, post-structuralist anthropology, and Marxist materialism, they also depart from several of the assumptions and methods of these approaches and bear the potential to qualify them productively. Similarly, these same cognitive concepts underlie several physically based performance techniques, challenge Brechtian ideas, and can enrich Stanislavskian approaches to acting. In general, cognitive studies finds substantial common ground between “theatre” and “performance,” as they are usually defined. For this reason, the cognitive turn may help to heal our institutional divisions.

Why should we turn to cognitive studies for epistemological justification? Isn't this framework just as good as any other as a road to truth? We argue that it is better. The validity of cognitive studies rests on the

empirical assumptions and self-correcting procedures of cognitive science. Like other sciences, the sciences of the mind and brain offer conclusions that are based on years of experimentation and research. Indeed, many cognitive scientists have changed their initial assumptions about how the mind/brain works. First-generation cognitive science generally assumed that the digital computer provided a good model for the mind/brain. For the past 25 years, as we will see in more detail, a “connectionist” model, which understands mental processing more analogically as a web of possible neuronal connections, has gained many adherents. (Francisco Varela and others have already posited a third major paradigm, which he terms “enactive” cognitive science (Varela *et al.* 1991: 207–13).) As this ongoing controversy demonstrates, no science produces final truth, and cognitive science, like biology and chemistry, remains open to future revision. Nonetheless, much is already known about the mind/brain that will very likely remain valid knowledge regardless of future models and modifications.

Cognitive science can offer empirically tested insights that are directly relevant to many of the abiding concerns of theatre and performance studies, including theatricality, audience reception, meaning making, identity formation, the construction of culture, and processes of historical change. The key terms here – and ones that differentiate *Performance and Cognition* from nearly all other books about theory and practice in our field – are “science” and “empirically tested.” We recognize that theatre and performance artists and scholars, like most academics in other humanities departments, have not usually turned to the empirical sciences for help with their research and practice. At least since the 1940s, when C.P. Snow deplored the existence of “two cultures” in the academy, many humanists and scientists have tended to regard their academic “Other” with a mixture of bewilderment, skepticism, and scorn. To this cauldron of misperception must be added the envy of many humanists, because, as we all know, the two-cultures division has never been an equal one in prestige and funding. Envy aside, however, humanists have many reasons to question the practices of Big Science in the academy – socializing students to link their research to corporate expectations, isolating their methods and procedures from ethical concerns, arranging contracts that tie their innovations at public universities to private profits, and using their cultural authority to inhibit the democratic regulation of scientific “progress,” to name just a few. Many individual scientists deplore these practices, of course, as do we.

These institutional problems, however, do not necessarily compromise the truth claims of academic science and of cognitive science in particular. Perhaps the biggest difficulty in this regard – and one immediately relevant to humanists eager for an exchange of knowledge with scientists – is scientific objectivism. If scientists come to the table with the certainty that their methods ensure objective knowledge, humanists have little incentive to take a seat and begin the conversation. In his essay “The Challenge of Science,” Andrew Ross seconds the conclusions of other cultural studies scholars on

the vexed question of objectivity: “[These] studies, identifying the role played by social interests in every aspect of research, demonstrated that scientific research is not given by the natural world but is produced or constructed through social interactions between/among scientists and their instruments . . .” (Ross 1999: 296). Ross approvingly quotes science critic Donna Haraway for pushing scientists to abandon their usual objectivist, God’s-eye-view of the natural world and adopt instead a position of “situated knowledge” based on “embodied” perspectives of nature (Ibid.: 303). Similarly, in *Hermes: Literature, Science, Philosophy*, Michel Serres has noted that the problematics of human observation provide a “rare and narrow passage” that can link the sciences and the humanities (Serres 1982: 18).<sup>1</sup> The conviction among many scientists that they can achieve objective knowledge cuts short the possibility of a productive conversation between scientists and humanists.

Although no current poll indicates the percentage of cognitive scientists who hold strong positions on the question of scientific objectivity, significant members of this scientific community and others in cognitive studies have retreated from this claim. Cognitive linguist George Lakoff and cognitive philosopher Mark Johnson, for example, adopt an epistemological position of “embodied realism” close indeed to the “embodied” perspective called for by Haraway. In this, they reject both objectivist and relativist epistemologies for a qualified form of realism. Recognizing that the structures and operations of the mind/brain shape all human conclusions about nature, Lakoff and Johnson hold cognitive science to the same limitation. This renders a God’s-eye-view of nature fundamentally impossible. Nor do Lakoff and Johnson accept the objectivist procedures of classical empiricism; for Lakoff and Johnson, assumption-free observations are not possible, and there is no one logic that will guarantee the correct construction of scientific laws from observable data. This does not mean, they insist, “that there is no reliable or stable science at all and that there can be no lasting scientific results. . . . Much of what we have learned about the brain and the mind is now stable knowledge” (Lakoff and Johnson 1999: 87).<sup>2</sup> They base their confidence on the wide variety of experiments conducted over the past 30 years and on the mutually reinforcing conclusions that have emerged from different approaches to the subject. Grounded in an impressive amount of convergent evidence over time, the knowledge of cognitive science cannot be dismissed as simply another theoretical narrative with no more legitimate claim to truth than other points of view. As Lakoff and Johnson explain, embodied realism is an “empirically responsible” philosophy (Ibid.: 79).

Can the same be said of theatre and performance studies? This is not to require that we begin arranging for empirical tests to validate all of our insights. But it would mean altering many of our assumptions about perception, creativity, imagination, identity, representation, and a host of other processes that scientists, philosophers, and others in cognitive studies have been redefining in empirically responsible ways for several decades. To put it

another way, can we continue to rely on our business-as-usual theories and orientations for responsible epistemologies? The foundational shortcomings of formalist aesthetics, structuralism, psychoanalysis, and totalizing Marxisms have been exposed as partial and/or misleading, and analytic philosophy (along with cognitive studies) continues to undermine the credibility of deconstruction and other derivatives of the Continental philosophical tradition. Further, as we will see, the conclusions of many in cognitive studies significantly qualify the relativism at the heart of historicism and place empirical limits on the kinds of insights to be gleaned from phenomenology.

In the past, the academy viewed several of our current approaches to knowledge as scientific. Psychologists spoke confidently of the science of Freudian psychoanalysis in the 1950s, and many European semioticians indebted to Saussure referred to their trade as scientific in the 1970s. (Despite the two-cultures divide, we have often depended on the science of strangers.) While these and other questionable methods may still yield some valuable insights, we believe it is time to recognize that psychoanalysis and semiology are both based in scientifically outmoded assumptions.

Several of the essays in this volume will demonstrate that many of the current truth claims of theatre and performance scholarship are built upon unstable foundations. This does not make them wrong, necessarily, but it will render them vulnerable to irrelevance in the coming decades. Recognizing the shallowness of our epistemological grounding is especially crucial because, like many of our colleagues in the rest of the field, we believe that many theatre and performance events have had, and will continue to reflect and embody, profound political and ethical ramifications for the many people whose lives they shape. Performance matters, and cognitive studies can help to show how and why this is so. It is clear, however, that scholarship oriented toward a politics and ethics based on untenable assumptions about the nature and efficacy of theatre and performance can only lead to foolish dreams or cynical despair.

In light of the epistemological difficulties of the field, cognitive studies offers a breath of fresh air. Further, the modest claims of scientists and others committed to embodied realism and similar positions offer humanists an opening for genuine conversation. Indeed, it should come as no surprise that several humanists and cognitive scientists have been working together toward a variety of common goals for over a decade. Pursuing their mutual interest in metaphorical thinking, Lakoff published a book with literary studies professor Mark Turner in 1989, *More Than Cool Reason: A Field Guide to Poetic Metaphor*. Turner published several outstanding books on his own (most notably, perhaps, *The Literary Mind* (1996)) and went on to work with cognitive scientist Gilles Fauconnier. Both developed “conceptual blending” theory, a model of thought processes that many neuroscientists find useful, which they recently summarized in *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities* (2002). *The Way We Think* uses theatrical

production as a key example to understand mental processing. Several other cognitive scientists and philosophers rely on examples from performance to explain and expand their findings. These include Gerald Edelman, who speaks of “scenes” of mental representation; Robert M. Gordon, who writes persuasively on the ubiquity of empathy in social interaction and knowledge formation; Antonio Damasio, who has several books on human emotion; Owen Flanagan, who is interested in the importance of narrative processing for ethical understanding; and Raymond Gibbs, who (like Lakoff) emphasizes the metaphorical creativity of conceptualization and language.

Among social scientists and humanists, academics in anthropology, economics, film studies, philosophy, history, music, literary studies, and several other fields have already joined in this interdisciplinary conversation. These include Joseph D. Anderson, *The Reality of Illusion: An Ecological Approach to Cognitive Film Theory* (1996); Roy D'Andrade, *The Development of Cognitive Anthropology* (1995); Gregory Currie, *Image and Mind: Film, Philosophy and Cognitive Science* (1995); Susan Feagin, *Reading with Feeling: The Aesthetics of Appreciation* (1996); and Bradd Shore, *Culture in Mind: Cognition, Culture, and the Problem of Meaning* (1996). Two recent books point to significant breakthroughs in cooperation between literary and cognitive scholars: *Narrative and Consciousness: Literature, Psychology, and the Brain*, edited by Gary D. Fireman, Ted E. McVay, and Owen Flanagan (2003) and *On Our Mind: Salience, Context, and Figurative Language* (2003), by Rachel Giora. Our colleagues in the Modern Language Association have put together a Discussion Group on Cognitive Approaches to Literature ([www2.bc.edu/~richarad/lcb/fea/pet.html](http://www2.bc.edu/~richarad/lcb/fea/pet.html)) that has organized many conference sessions and helped to launch several books in the past six years.

A few scholars in dramatic literature, theatre, and performance studies are also encouraging this scholarly exchange. In *Shakespeare's Brain: Reading with Cognitive Theory* (2000), Mary Thomas Crane has identified significant cognitive traces of Shakespearean authorship in his plays that alter the usual scholarly emphasis on cultural and historical construction. My co-author F. Elizabeth Hart, in addition to her several essays on cognition and materialism, has taken a new look at the theory of genre as it applies to Shakespearean tragedy. To judge from several recent books and articles, some practitioners are beginning to apply cognitive science to problems of teaching and training actors. These include Elly Konijin, Phillip Zarrilli, and John Emigh. Jennifer Pierce and Rhonda Blair, represented in our anthology, have demonstrated the usefulness of the physical actor on stage to rethink cognitive notions of representation (Pierce), and of cognitive conceptions of emotion for reconsidering many of the practices of Stanislavsky-based acting (Blair). Howard Mancing, also in this book, has two recent essays proposing cognitive science as an alternative to Lacanian theory and Saussurian semiotics. For over a decade, Tobin Nellhaus, published here too, has underlined the many epistemological advantages of a philosophy of critical realism, which will allow theatre and performance historians to

synthesize relevant communication and cognitive theory for understanding theatre history. I have authored several articles on theatre history and cognitive studies and recently published a book on Cold War American theatre that uses the ideas of Lakoff and Johnson to probe the culture of containment.

Although the conversation between humanists and cognitive scientists has been going on for a couple of decades now, there are advantages for theatre and performance academics in our joining this discussion late. Many of our colleagues in other fields have already benefited from the conclusions of cognitive studies to establish a better epistemological grounding for their truth claims and to explore new areas of their disciplines. We can learn from their mistakes and borrow productively from their successes. Theatre and performance scholars have always been magpies, stealing from others to build their own nests of theory and method. Knowing what approaches and conclusions from cognitive science have worked in other fields will enable us to become more efficient borrowers.

This does not mean, of course, that we must turn ourselves into cognitive scientists. While the goal of science is reliable and generalizable prediction, our goal will necessarily remain the interpretation and explanation of relatively unique events – acting a role, producing a play, responding to a performance, etc. Science can help us to define what performance is and to describe the cognitive systems that allow for certain kinds of artistry to flourish, but it cannot predict the emergence of discrete performances – there will always be too many variables. Dialogue with the scientists of brain and mind, moreover, will also enable significant numbers in our field to join the loose coalition of scholars working in the interdisciplinary field of cognitive studies. Several of us, as noted above, are already a part of this widening field.

Although the conversation between theatre and performance academics and cognitive scientists is just beginning, we have high hopes for its future. Short term, we believe that the immediate problem for our field is not the science of cognitive studies, *per se*, but the application of its major conclusions to the scholarly concerns of our work. If other fields are any guide in this regard, it is unlikely that there will ever be a single method that will guarantee the direct and smooth application of conclusions in cognitive neuroscience, linguistics, and psychology to understanding acting, spectatorship, theatre history, performance in everyday life, and the other areas that interest us. The essays in this anthology, however, make a good start at exploring methods for this transfer of knowledge to occur. Long term, it is already clear that theatre and performance scholars will not always be magpies in this relationship. A few cognitive scientists already recognize that performance as a phenomenon offers a rich body of evidence with which to test and elaborate their theories. More scientists and many more in the general field of cognitive studies will follow. Our goal is a friendly symbiosis with cognitive science, and consequently the incorporation of many areas of theatre and performance scholarship within the expanding field of cognitive studies.

## Notes

- 1 See also the issue on "Postmodern Science" in Smith and Froemke (2004).
- 2 For their full discussion of embodied realism, see Lakoff and Johnson 1999: 74–117.

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# Introduction

*Bruce McConachie and F. Elizabeth Hart*

We have divided our Introduction into three parts. The first part, which picks up where our Preface left off, introduces the major challenges that the cognitive turn poses for several of our current approaches to the study of theatre and performance. We will also discuss those theoretical orientations that are generally congruent with the conclusions of cognitive science. While we hope that this section will provide a “dramatic hook” for most of our readers, we also recognize that it will be frustrating for some because we will not pause for extensive explanation of the cognitive neuroscience, psychology, and linguistics that underlie this overview. More detail concerning the cognitive side of these comparisons and contrasts will be available in several of the essays. In the second section, we will discuss the organization of our anthology, introduce the essays that follow, and suggest the relevance of the essays to the challenges and congruencies we have already noted. The third and final section examines several recent scientific investigations that hold significant promise for the future interdisciplinary mix of cognitive studies and theatre and performance scholarship.

We must emphasize at the outset, however, that this Introduction (and indeed the anthology as a whole) can only provide readers with an initial look at this new field. *Performance and Cognition* is intended to open a door to cognitive studies for theatre and performance scholars who are largely ignorant of the garden of possibilities that awaits them on the other side. We cannot fully describe the many plants and animals that populate this garden; nor can we take you down all of the paths that will allow you to explore its entirety. Further (to continue the metaphor), this garden is evolving quickly; new species and short cuts will soon invite fresh investigations. We do hope, however, that your initial stroll will arouse your curiosity and prompt return visits.

## **The challenges of cognitive science for theatre and performance studies**

Many cognitive scientists begin with some concept of mind/brain embodiment. It is clear that the mind/brain evolved to help the body survive and

that the operations of minding with regard to performance are necessarily linked to what our bodies do every day. According to the “embodied realism” of George Lakoff and Mark Johnson, for example, mental concepts arise, fundamentally, from the experience of the body in the world. As “neural beings,” humans must make meaning within certain “spatial-relations” and “bodily action” schemas along with other mental constructs arising from the interplay of experience and patterning in the brain. “Primary metaphors” flesh out the skeletal possibilities of many of these foundational schemas. Regarding spatial-relations concepts, for instance, the “source–path–goal” schema, which humans learn at an early age by crawling from a starting point to an end point, undergirds numerous metaphors that organize certain events in our lives as narratives with a beginning, a middle, and an end. “Balance,” a bodily action schema, provides many metaphors for mental health, ethical behavior, and public justice. For Lakoff and Johnson, these primary metaphors are “creative” in the sense that they create an analogy linking two phenomena through similarity. The cognitive linguists do not assume that humans can recognize an inherent, objective similarity between two phenomena, however, because embodied realism (like other philosophical realisms) argues that such objective knowledge is humanly impossible (see Lakoff and Johnson 1999: 16–60).

According to Lakoff and Johnson, these submerged schemas and their metaphorical extensions are nearly universal to human experience: “Much of a person’s conceptual system is either universal or widespread across languages and cultures. Our conceptual systems are not totally relative and not merely a matter of historical contingency, even though a degree of conceptual relativity does exist and even though historical contingency does matter very much” (Ibid.: 6). Within embodied realism, cultural relativity and the historicity of experience occur in two ways. Lakoff and Johnson note that cultures typically differ in their “worldviews,” which they define as a “consistent constellation” of foundational concepts and primary metaphors over one or more cultural domains, such as politics, morality, psychology, etc.” (Ibid.: 511). Certain basic schemas and metaphors, in other words, organize significant areas of a culture. Secondly, new “complex metaphors and other conceptual blends” can arise that facilitate shifts in thinking and historical change (Ibid.: 97). The complex metaphor *time is money*, for instance, helped to structure the rise of capitalism in the West – a metaphor largely absent from cultures with less quantifiable conceptions of time.

Metaphors also structure our sense of selves. In *Philosophy in the Flesh*, Lakoff and Johnson describe four primary metaphors that construct how “subjects” understand their “selves” – the physical object self, the locational self, the social self, and the multiple-selves metaphor. These notions of the self are largely unconscious but may be brought to the surface by reflection and analysis. The cognitive unconscious for Lakoff and Johnson is not the Freudian home of sexual desire and repression but simply the level of mind/brain operations that usually works below conscious awareness.

Nonetheless, nearly all human behavior, including rational thought, derives from this level. “It is the rule of thumb among cognitive scientists that unconscious thought is 95 percent of all thought – and that may be a serious underestimate,” state Lakoff and Johnson (Ibid.: 13).

Saussurian semiotics ignores the link between language use and the cognitive unconscious. Ferdinand de Saussure developed his conception of language, which forms the basis of most semiotics and much of deconstruction, before the First World War, when science knew very little about the relation between cognition and linguistics. Saussure believed that “our thought – apart from its expression in words – is only a shapeless and indistinct mass” and that “there are no pre-existing ideas, and nothing is distinct before the appearance of language” (de Saussure 1974: 111–12). This belief flatly contradicts the findings of cognitive neuroscience and linguistics over the past 30 years and calls into question approaches to theatre and performance studies that are based primarily on Saussurian semiotics. This is not to deny that semiotic critics can analyze performances on the basis of signs and sign systems; indeed, cognitive linguists can tell semioticians how the mind/brain is able to do this. But it is to conclude that semiotic theories of human meaning-making are seriously awry. Most cognitive scientists would agree that language has a role to play in the construction of thought, but its role derives from the embeddedness of language in the workings of the mind/brain, which is not at all “shapeless and indistinct” when it comes to making meaning. Cognitive scientist Jean Mandler joins Lakoff, Johnson, and others in identifying “image schemas” as processes in the mind/brain that are prior to language (Mandler 1992: 587–604). In addition, the psychologist Eleanor Rosch has identified “basic-level categories” as the default level of generalizability at which the mind/brain operates with regard to objects – a level widely accepted by other scientists (Rosch and Lloyd 1978).<sup>1</sup> These images and categories in the mind/brain are not available directly as language, but they do underlie and motivate the production of all human sign systems, including language.

Predating cognitive linguistics, Jacques Derrida turned the structuralism of Saussurian semiotics against itself to propose the free play of signification, the inevitable slippage of meaning, and a notion of textuality that pervades all human behavior. From a cognitive point of view, it is probably fair to say that Derridean deconstruction argued from incorrect premises to arrive at some insightful conclusions. Regarding his assumptions, Lakoff and Johnson note that the following claims about the nature of language are “empirically incorrect”:

- (1) The complete arbitrariness of the sign; that is, the utter arbitrariness of the pairing between signifiers (signs) and signifieds (concepts); (2) the locus of meanings in systems of binary oppositions among free-floating signifiers (*différance*); (3) the purely historical contingency of meaning; [and] (4) the strong relativity of concepts.

(Lakoff and Johnson 1999: 463–4)<sup>2</sup>

Cognitive science undercuts the major assumptions upon which Derrida built deconstruction. Ironically, though, most cognitive scientists would agree with conclusions deriving from modifications of Derrida's insights. While the attribution of meaning to a text or performance is not cognitively free, the enormous flexibility of the mind/brain does make it impossible for even a single reader or spectator to pin down any fixed or final meaning. Further, Derrida's idea of "arche-writing" coupled with his (in)famous belief that "there is nothing outside the text" may sound eerily familiar to cognitive scientists and philosophers interested in the evolution of cognition and the limits of human knowledge. Substitute "cognition" for "text" in Derrida's claim, and we arrive at a point of view about the biological basis of epistemology that has affinities with the "qualified realism" espoused by neuroscientists Gerald Edelman and Giulio Tononi. According to them, humans can only know what their "concepts" in the mind/brain will allow them to know. As they explain, "concepts are not propositions in a language (the common usage of this term); rather, they are constructs the brain develops by mapping its own responses prior to language. . . . Concepts, in our view, precede language, which develops by epigenetic means to further enhance our conceptual and emotional exchanges" (Edelman and Tononi 2000: 215–16).<sup>3</sup> Edelman and Tononi's "concepts" are akin to Derrida's "arche-writing," except that these neuroscientists can generalize about all human cognition to arrive at an epistemology of qualified realism which improves upon Derrida's language-limited relativism.

Skinnerian and Freudian notions of psychology also run counter to most cognitive science. Cognitive approaches to psychology began to replace Skinnerian ones in the 1950s because it was clear that humans had meta-cognitive abilities lacking in maze-trained rats. For all of its philosophical subtlety, the understanding of behavior at the root of Judith Butler's notion of "performativity" is finally closer to Skinnerian conditioned response – i.e., reward people for playing certain roles and they will continue to perform them – than to conceptions of behavior based in cognitive research. Butler also bases some of her thinking on a Lacanian notion of the unconscious that derives from Freud. Although Freudian psychology had a significant impact on Western science early in the twentieth century, cognitive psychologists have largely rejected the Freudian model, in part because it is untestable by empirical means (Bucci 1997: 9–10). Not only does Lacanian psychoanalysis suffer from the same difficulty, it also relies on a notion of language that derives from semiology. Plus, it builds upon a binary of Self and Other to understand identity, mental processing, and a person's relation to the world. Most cognitive psychology, like Lakoff and Johnson's understanding of the several "selves" inherent in our self-conceptions, involves a more fluid sense of identity than Freudian or Lacanian theory allows. Further, instead of a monolithic Other, cognitivists have found a variety of embodied and contextualized others in our lives.

Notions of the spectator as reader, which generally derive from language-

based theories of performance, have limited our understanding of audience response. Cognitive science suggests that empathy and emotional response are more crucial to a spectator's experience than the kind of decoding that most semioticians imagine. Recent psychological and philosophical investigations have altered and broadened the conventional definition of empathy. Although empathy still involves seeing the world "through another person's eyes," many in cognitive studies have decoupled empathic projection from emotional identification to craft a Theory of Mind (ToM) approach to epistemology. ToM advocates now understand simulation, the basic psychological mechanism that deploys empathy, as the major means of interpreting and predicting human behavior and as more important than rational approaches to understanding others. Anthropologist Georg Vielmetter, for example, recommends that we hone our natural ability to empathize with others into "empathetic observation" to gather information and form tentative conclusions about the emotions, behaviors, and beliefs of cultural others (Vielmetter 2000: 95). Vielmetter bases his assumptions on the work of cognitive philosopher Robert Gordon, who uses the conclusions of cognitive psychology to argue that empathy can move spectators beyond the problematics of "othering" those who are looked at (Gordon 1996a: 62–82; 1996b: 165–80). Following Gordon and Vielmetter, it is evident that most spectators engage in empathetic observation as soon as a performance begins, watching facial expressions and body language in human exchanges to figure out what is going on. This is not the same as reading the body as a sign. Rather, it is a mode of cognitive engagement involving mirror neurons in the mind/brain that allow spectators to replicate the emotions of a performer's physical state without experiencing that physical state directly.

Indeed, ToM is also helping us to understand how our unconscious propensity to ascribe feelings, intentions, calculations, etc., to others governs the ways in which readers can interpret the "minds" of fictional characters in print. Lisa Zunshine, for example, has applied ToM to textual representations of fictional consciousness. In an essay on Samuel Richardson's *Clarissa*, Zunshine extends this investigation by asking, "How do different cultural-historical milieux encourage different literary explorations of this capacity?" (Zunshine 2004: 128). Work by other literary critics and historians, including Alan Palmer (2004) and Blakey Vermule (in progress), is also exploring the intersection of ToM and readers' perceptions. Ongoing experiments in the cognitive sciences underlying ToM will likely continue to provide literary and performance scholars with new insights about the experiences of reading and spectating.

Empathizing often leads to emotional involvement, and cognitive psychologists affirm that our emotions are central to the construction of meaning, not just a welcome or intrusive addition to theatre- and performance-going. Cognitive philosopher Daniel Dennett and psychologist Antonio Damasio have demonstrated that the old Cartesian separation of mind and body is empirically invalid (Dennett 1991; Damasio 1999 and

2003). Because the mind/brain is a part of the body – and because emotions and feelings (which are emotions brought into consciousness) produce physio-chemical responses – affective responses become an ongoing part of the feedback loop of spectating. In effect, the body's pro-active bio-chemistry shapes each percept and “tells” the mind/brain what is important, enabling the spectator to “pay more attention” to moments in a performance that are more emotionally charged than others. Spectating is not an unusual human activity in this regard. Damasio makes it clear that emotional engagement is even a part of solving a math problem. Moreover, perceptions of beauty, humor, and general aesthetic as well as cognitive enjoyment may depend on what cognitive philosopher Paul Thagard calls “emotional coherence” (Thagard 2000: 165–221).

With its emphasis on empathic and emotional engagement, a cognitive approach to spectating and the making of meaning have much in common with phenomenology. If, as Maurice Merleau-Ponty writes, perception involves “lived bodiliness” and that “to perceive is to render oneself present to something through the body,” then phenomenology and a cognitive approach to human minding begin at much the same place (quoted in Garner 1994: 27, 28). They also share a mutual interest in intentionality, memory, the gestalt nature of perception, and the human ability to bracket off some phenomena to better understand others. However, when critic and theorist Stanton Garner notes that the phenomenological orientation “offers both a return of experience and subjectivity (the cornerstones of givenness) to the theoretical field” (Ibid.: 13), cognitivists would be likely to take him up on only half of his offer. Epistemologically, cognitive science tends toward realism; like other sciences, it has no use for an epistemology of total subjectivism and/or relativism. Compared to empirical research, the phenomenologist's attentiveness to consciousness is ill equipped to reveal the operations of the cognitive *unconscious*. Nonetheless, phenomenological insights, impressionistic though they are, can open up important questions for a rigorous cognitive approach to performance.

Theatre and performance cognitivists also have much in common with philosophical materialists owing to the fact, of course, that cognitive science is itself materialist. It begins with a brain in a body – both material substances – and tries to understand how the embodied mind of this brain responds to the world, which includes other material human bodies with minds/brains and the rest of material existence.

Secondarily, at the cultural-historical level, cognitive studies examines the material results of the projections of minds/brains – which includes texts and performances – and the material responses of other minds/brains to those material projections. Cognitive materialism, however, has a broader understanding of agency than those Marxists who tend to reduce agency to resisting dominant practices and ideologies. Unlike many Marxists, cognitivists define agency as an image schema in the mind that allows a subject to intend and cause a material change in the world. In this sense, both lifting a

bag of groceries and running for president involve agency. As these examples suggest, cognitive science does not attempt to predict a relationship between individual or collective agents and the course of history. Cognitive studies has nothing to say about modes of production, class relations, or economic determination "in the last instance." There is no single theory of history or practice of historiography that necessarily follows from cognitive materialism. This open-ended quality will no doubt appear limiting to some materialists and liberating to others.

The absence of determinism aside, the conclusions of cognitive studies suggest some productive modifications of several cultural and historical materialist approaches. If the material results of certain image schemas and other specific mental processes distinguish one culture from another, materialist anthropology can use cognitive science to describe the conditions of consciousness and behavior that structure a culture. Anthropologist Roy D'Andrade and others have been practicing this approach to anthropology for several years (D'Andrade 1995).<sup>4</sup> Deploying an understanding of culture that includes human cognition, the theorist may redefine Raymond Williams' concept of a "dominant culture" as the material manifestations of the primary image schemas and their accompanying metaphors that legitimate the power of certain groups and classes.<sup>5</sup> Similarly, Pierre Bourdieu's "habitus," the aptitudes, routines, and body language of a social group, can be grounded in the mind/brain. Edward Said's "Orientalism," too, may be linked to certain mental operations and primary metaphors dominant in the West during the centuries of imperialism. Close attention to the cultural "circulation" of certain tropes and metaphors, a concern of Stephen Greenblatt and other New Historicists, is also generally congruent with cognitive understandings of culture and history.

As a general approach to historical knowledge, however, New Historicism is open to the charge of relativism. Following J.G. Herder, the founder of historicism, and Nietzsche, New Historicists generally agree that the historian can never fully escape from her or his historical past to make valid judgments about the history of another people with different values and traditions. For many historicists, culturally specific mentalities share too few common qualities upon which to ground a comparison; they are incommensurable. Cognitivists, however, must disagree. Most people, it is true, are conditioned to arrive at a very narrow conception of other cultures and other times. But cognitive science has found nothing in the mind/brain that makes this inevitable. Rather, the comparativist work of cognitive linguistics has concluded that people in all cultures probably use many of the same image schemas and basic-level categories to structure their languages.<sup>6</sup> Because the human species shares minds/brains that are fundamentally alike, different belief systems are not incommensurable; historians can assume some common mental processes for all people over time when they generate cultural-historical knowledge. This is good news for historians of performance, of course, but it does pose a problem for New Historicism.



Much of the approach and epistemology of New Historicism derives from the work of Michel Foucault. Distrusting origins, Foucault famously reduced authorship to a function of discourse. As Renaissance scholar and cognitive literary critic Mary Thomas Crane has pointed out, however, this epistemological strategy is problematic for cognitive materialists because it effectively removes the body and the mind/brain of the writer from discussion and exploration. In *Shakespeare's Brain*, Crane disagrees with the materialists who have followed Foucault down this path because it occludes "Shakespeare's material existence in time and space" (Crane 2001: 4). The general failure of materialists to think about the brain, says Crane, "prevents most contemporary accounts of subject formation in the body from noting that just as surely as discourse shapes bodily experience and social interactions shape the material structures of the brain, the embodied brain shapes discourse" (Ibid.: 7). Note that Crane, following other cognitivists, grants substantial power to discursive practices; yet she also insists that authorship be recognized for the cognitive traces it leaves as well as for its manifestation of institutional power.

Foucauldian notions of the power of discourse have provided crucial epistemological support for several theories of post-colonialism and queer studies (e.g., Homi Bhabha, Trinh T. Minh-Ha, Marjorie Garber, Jonathan Goldberg). It remains to be seen how these theories will fare when the embodied minds/brains of imperialized and queer bodies are figured into their economies of discourse. For theatre and performance theorists and historians, of course, these concerns are relevant to understanding every step in the ongoing circuitry of production and reception, from playwriting through directing, design, and acting, to spectatorship and the cultural feedback loop that this process serves.

### **The organization of the anthology**

The three essays that comprise our first section explore the theoretical underpinnings of a cognitive approach to theatre and performance. The essays by Hart, McConachie, and Nellhaus invest similarly in the cognitive concept of "mind-embodiment," the idea that many if not most of the mind's structures for thought and expression arise through the embeddedness of the brain within the human body, a body that, in turn, is embedded within deterministic physical and social environments. The biological and thus transhistorical condition of having a human body guarantees that people's minds will produce a certain number of unchanging, cross-cultural, perhaps even universal structures. However, the varying historical contingencies that situate all human bodies within specific contexts ensure that the structures of people's minds *also* reflect the culturally specific conditions of their given moments and places. Thus, mind-embodiment operates as a kind of mediator between essentialist and relativistic ontologies and epistemologies, revealing that philosophical questions about being and knowing *must*

take into account the mind–brain–body nexus. In fact, the important epistemological position that mind-embodiment gives rise to has been labeled “embodied realism” and is a key perspective adopted by the three essayists in our first section, particularly McConachie and Nellhaus.

F. Elizabeth Hart’s essay “Performance, Phenomenology, and the Cognitive Turn” explores one aspect of the origins of mind-embodiment theory within the philosophy of Maurice Merleau-Ponty. Merleau-Ponty’s phenomenology of the “embodied consciousness” has been suggested by theatre and performance critics in the recent past as an antidote to the abstractions of semiotics as a basis for criticism. Hart supports this turn toward Merleau-Ponty and further demonstrates the relevance of his ideas to contemporary cognitive science. But she also encourages a shift in the terms of debate toward a view that finds common ground – literally, within the human body – between phenomenological and semiotic approaches, insofar as the “semiotic” is restricted to language rather than encompassing all other modes of theatrical communication (i.e., criticism has tended to reduce all language to the play of signs). If, as cognitive linguists assert, language emerges from structures within the embodied mind, taking its forms from the constraints of the mind–brain–body nexus, then what we are really looking at are not philosophical opposites but two aspects of the same set of determinants. This reconfiguration bears implications for performance theories, Hart argues, such as Butler’s concept of “performativity,” which misleadingly credits the realm of the discursive with sole powers of embodiment. To demonstrate a more complex, inclusive model of theatrical embodiment – one that takes mind-embodiment as a ground for theatrical reception – Hart examines the cognitive-discursive dynamics of the performance space within two examples: Shakespeare’s opening Chorus of *Henry V* and a performance of the contemporary British play *After Mrs. Rochester*.

The next two essays in this section extend the epistemology of mind-embodiment and its corollary, embodied realism, into theatre history, recognizing that historical methodologies are dependent on valid epistemologies and finding in embodied realism the most “robust” (as McConachie phrases it) among the various options and particularly as compared with psychoanalysis. In his “Cognitive Studies and Epistemic Competence in Cultural History: Moving Beyond Freud and Lacan,” Bruce McConachie examines both Freudian and Lacanian forms of psychoanalysis in light of recent philosophers’ and historiographers’ mandates regarding epistemological guidelines for historical theory, arguing that psychoanalysis has failed to meet these guidelines. The better paradigm, McConachie asserts, is cognitive studies, which, owing to the mediating effects of embodied realism, meets such standards as empirical falsifiability, historical specificity, methodological diversity (e.g., the use of speculation and simulation), and less dependence on its own models and more on actual data gained from empirical evidence. To demonstrate both how psychoanalysis fails to meet the standards of a “robust” epistemology and how a cognitive critique more