

TURNING A COGNITIVE EYE TOWARD COHAN
THEATRE SCHOLARSHIP AT THE INTERSECTION OF
COGNITIVE SCIENCE

A thesis

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ABSTRACT

George M. Cohan reshaped the American theatre and created the modern musical. His success is legendary. How did he develop his theatrical ability? More broadly, how does any actor relate to an audience? Cognitive science has revealed the physiological mechanisms that allow humans to relate to one another: conduits called mirror neurons, so named because they reflect the actions of others within the viewer's brain. Cohan intuitively mapped the mirror neurons of the audience, allowing him to create productions targeted to his specific, early-twentieth-century American audience. He created theatre in harmony with the tastes of American audiences, democratically negotiated between himself and people of his era. Intuitively, by chance or study, Cohan's mirror neurons were particularly attuned to his audiences; as such, cognitive theory provides an effective framework for studying the relationship between the Cohan and his audiences.

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INTRODUCTION

He was known as “The Man Who Owned Broadway.” Eighteen years before the Group Theatre was founded and ten years before the Moscow Art Theatre first toured America George M. Cohan was at the height of his popularity. Cohan’s theatre was defined by its close, even manipulative, relationship between actor and audience. His success with such audience control prompted him, along with George J. Nathan, to write an article for *McClure’s* magazine entitled “The Mechanics of Acting.” The technique described was born of experience; Cohan drew on his extensive practical experience and built up his own concept of what went into a good show. His understanding was broad and evolved from nearly every aspect of the theatre, as Nathan says in his introduction:

It is only a few years since George M. Cohan has been recognized generally as one of the most thoroughly equipped experts in the theatrical world. Playwright, composer, actor, stage-manager, producer, and theater-builder, there is no side of the stage which he has not touched and mastered. Coupled with this has been an unerring perception of the lines of public interest. As a result, he has been able to play upon the emotions of thousands of audiences with an almost wizard-like hand. In the following article he describes in detail a score of largely mechanical devices that are employed to work audiences up to various kinds of emotional pitch.¹

His recognition and manipulation of these “mechanical devices,” amazingly, closely match current scientific understanding of human communication.

Recently, cognitive scientists have uncovered the physiological mechanisms that allow humans to relate to one another: conduits called mirror neurons, so named because they reflect

¹ Cohan and Nathan, “The Mechanics of Emotion,” 69.

the actions of others within the viewer's brain.² Such mimicry allows for prediction of action and recognition of intent as well as forming the basis for empathy. These mirror neurons are what enable us as children to comprehend, mimic, and eventually learn socially appropriate behaviors from our parents and friends.³ They also allow us to recognize emotions in others, helping to detect when a person is angry, happy, sad, and so forth. Cohan, in "The Mechanics of Acting," made observations strikingly similar to those of contemporary neuroscientists through his metaphor of vibrating glass:

The human mind is just as sensitive to tone-valves, just as responsive to outside stimuli, as this delicately constructed vessel. And the "coordinated tone-clashes" that reach an audience's inmost recesses and cause it to collapse into tears, laughter, or horror are just as much a matter of mechanical preparation as the one that reacted upon this goblet. Given the average crowd in a theater, the experienced playwright, in the quiet of his study, can figure out in advance precisely what constituents in his play will produce particular effects.⁴

It is this ability to vibrate to or reflect the emotions of others that allows empathy and plays a major role in human communication such as theatre; it also allows scholars to better understand how certain performers, such as Cohan, could so effectively control their audiences.

This new research finally offers a scientific explanation for what theatre practitioners have long been instinctively utilizing and scholars have been observing and writing about. In the preface to their book *Mirrors in the Brain*, Giacomo Rizzolatti and Corrado Sinigaglia quote Peter Brook's assertion that science is at last discovering something that actors have long known

² Iacoboni, *Mirroring People: The New Science of How We Connect with Others*, entire.

³ Rizzolatti and Sinigaglia, *Mirrors in the Brain: How Our Minds Share Actions, Emotions, and Experience*, entire.

⁴ Cohan and Nathan "The Mechanics of Emotion" 70.

intuitively. The connection with audience was identified by performers through common-sense logic, but now science has begun to reveal its underlying physiology. Therefore, cognitive science necessarily pertains to theatre because it is a ritualized manifestation of the human developmental process. The performance/audience relationship is similar to the parent and child exchange (or loop) which results in the child's socialization.⁵ The interaction of performers and audience members within the theatrical context is an engagement in the process of developing understanding and empathy for others. More simply, without humans' mirror neurons, theatre would not exist.

Cohan intuitively mapped the mirror neurons of the audience, allowing him to create productions targeted to his specific, early-twentieth-century American audience. He created theatre in harmony with the tastes of the majority of American audiences, democratically negotiated between himself and people of his era. His heightened sensitivity to the needs of the audience would outlast his understanding of the types of shows which interested those audiences. Intuitively, by chance or study, Cohan's mirror neurons were particularly attuned to his audiences; as such, cognitive theory provides an effective framework for studying the relationship between the "Prince of the American Theatre" and his loyal audiences.

As the scholarly applications of cognitive science have begun to develop, two theatre scholars eager to embrace the possibilities of such findings have been Bruce McConachie and Rhonda Blair. Each has chosen to focus attention on a separate aspect of the theatre: McConachie is concerned mainly with audience reception, and Blair examines acting techniques.

⁵ McConachie, *Engaging Audiences*, 80.

Both make compelling arguments which support the use of cognitive studies to provide insight into the historical and practical examination of theatre.

McConachie's list of ineffectual approaches to theatre scholarship, as well as scholarship in the theatre more broadly, includes "Saussurean semiotics, Lacanian psychoanalysis, and specific aspects of deconstruction, New Historicism, and Foucauldian discourse theory,"⁶ as well as the literary approach to historical writing in general. Instead, he proposes that historians work as scientists, forming testable hypotheses and providing material proof.⁷ Cognitive theory, according to McConachie, provides the necessary scientific methodology for the theatre historian's research, as he explains in his book *Engaging Audiences*. However, McConachie does not propose the wholesale rejection of the theatre's own scholarly traditions; rather, he believes, the incorporation of both cognitive science and traditional scholarly approaches into theatre scholarship will lead to the most effective research with fewest false theories.

Blair, by contrast, focuses on the applications of cognitive science to actor training: her major interest is in developing the associations between her practical work with the theories of "Stanislavsky and major Stanislavsky-influenced acting masters" and the theories of human interaction emerging from the field of cognitive science. As she further explains in her introduction to her book *The Actor, Image, and Action*, "at bottom, I hope the book sharpens our understanding of the actor's process and provides practical techniques for applying what science has discovered"⁸ – the same process Cohan used so naturally and successfully.

⁶ McConachie and Hart, *Performance and Cognition*, ix.

⁷ McConachie 2008, 13.

⁸ Blair, *The Actor, Image and Action*, xiii.

While McConachie and Blair are two of the most prominent promoters of the use of the cognitive theory of mirror neurons in theatre studies, they are not the only scholars to take advantage of recent insights by neuroscientists. F. Elizabeth Hart, Richard Schechner, Augusto Boal and others have all drawn on this material. However, there has not yet been study of the work of a single practitioner through the lens of cognitive studies. Cohan, due to his popularity and his self-conscious approach to audience engagement, is a good topic for such a study.

CHAPTER 1

Western theatre and science both arose from ancient Greek society. Attending theatrical events was considered an obligation for citizens. The exchange of emotions between citizen and performer was considered to be essential to the development of a shared sense of community. The Greeks valued the development of a citizen's three aspects, the physical, mental and spiritual, but these factors were seen as facets of the whole person.

The exchange and development of societal norms may arise through the shared experience of theatre. Understanding and empathy are key ingredients for a successful democracy, and theatre helps provide these unifying factors. This shared communal experience is part of what leads to what Aristotle says is the goal of theatre: catharsis. Countless attempts to define his concept of catharsis have been proposed, but it seems that however one defines catharsis it is a result of humans engaging in a performance which activates their mirror neurons. These physiological and material aspects when triggered result in emotional response.

While the Western history of cognitive theory commenced in ancient Greece, the most widespread and troublesome concepts the modern theorist must contend with started with Descartes. He imagined an unchanging homogenous Self that existed apart from the body. This particular idea of mind-body separation has been referred to as Cartesian dualism, or, more derisively, "the Ghost in the Machine."⁹ His arguments, though controversial, have shaped the discussion of self since his time. In his own time his work was radically insightful; unsatisfied with the knowledge he had gained through school and the church, as he found much of to be contradictory, Descartes began his *Meditation II* by "...casting aside all that admits of the

⁹ Ryle, *The Concept of Mind*, 22.

slightest doubt, not less than if I had discovered it to be absolutely false.”¹⁰ From this *tabula rasa* Descartes set out to establish a new way of understanding the world – expressed through his iconic quote “... I am, I exist, is necessarily true each time it is expressed by me, or conceived in my mind.”¹¹

Descartes’ revelation of the mind hinges on his denial of the body. Per his described method Descartes cannot claim any aspect of the body as part of himself, because he cannot do so without the risk of error. This divide became a defining concept of modern Western philosophy, but has subsequently been challenged by philosophers such as Daniel Dennett and neuroscientists such as Marco Iacoboni and Vittorio Gallese.

Philosopher Richard Rorty provides some historical insight into how the mind-body concept changed after Descartes¹². He details how Descartes set in motion a shift in the focus of philosophy from the Greek tradition of, “mind-is-reason to mind-as-inner-arena”¹³ and points out, “that in Greek there is no way to divide ‘conscious states’ or ‘states of consciousness’--events in an inner life--from events in an ‘external world.’”¹⁴ The summation Rorty provides highlights that the concept of mind has changed over time and also begins to show how purely subjective mental sensations – qualia – become an issue:

The notion of the “separation between mind and body” means different things, and is approved by different philosophical arguments, before and after Descartes....So the notion of reason as the faculty of grasping universals was not available for use in a

¹⁰ Descartes, “Meditation II” *A Discourse on Method Meditations on the First Philosophy Principles of Philosophy*, 79.

¹¹ Descartes, 80.

¹² Rorty, *Philosophy and the Mirror of Nature*, entire.

¹³ *Ibid.*, 61

¹⁴ *Ibid.*, 47

premise proving the distinctness of the mind from the body. The notion which would define what could “have a distinct existence from the body” was one which would draw a line between the cramps in one's stomach and the associated feeling in one's mind.¹⁵

Contemporary philosophers, however, deny the qualia. Dennett claims that qualia do not exist: “What qualia are, ...are just those complexes of dispositions....You seem to be referring to a private, ineffable something-or-other in your mind’s eye, a private shade of homogenous pink, but this is just how it seems to you, not how it is.” No matter how strong the illusion of subjective qualia, He argues, a concept cannot add anything but unverifiable complexity to the exploration of cognitive theories. He states that, “That ‘quale’ of yours is a character in good standing in the fictional world....”¹⁶

Recent research in neuroscience, including the discovery of mirror neurons, has established the accuracy of Dennett’s view. Cognitive scientist Paula Niedenthal describes the mechanics of the process in her article “Embodying Emotion”:

Put another way, the grounding for knowledge—what it refers to—is the original neural state that occurred when the information was initially acquired. If this is true, then using knowledge is a lot like reliving past experience in at least some (and sometimes all) of its sensory, motor, and affective modalities: The brain captures modality-specific states during perception, action, and interoception and then reinstantiates parts of the same states to represent knowledge when needed.¹⁷

In other words, recognizing the physical gestures of emotions allows humans to relieve their own, similar experiences of feelings. Thus, through the use of our mirror neurons, as an

¹⁵ Rorty, 1979, 62.

¹⁶ Dennett, *Consciousness Explained*, 389.

¹⁷ Niedenthal, "Embodying Emotion." *Science*, 1003.

audience, we are able to comprehend and empathize with performers portraying certain human emotions and experiences. Likewise, performers utilize their mirror neurons to accurately capture and reenact emotions and experiences, and also to sense or detect an audience's reaction, modifying their performance if appropriate. One of the defining aspects of the mirror neuron system, however, is that it engages with data displayed on the surface of the body and integrally interwoven with the action-awareness and instigation portion of the brain; mind and body act simultaneously to give and receive information.

Current experimental evidence supports the integrationist view of the self, which derives from the evidence provided by the mirror neuron studies, rather than a privacy view, in which the first person subjectivity of a Cartesian mind initiates all action. For example, in a recent experiment a team of scientists led by Andreas Wohlschlagler set out to test subjects' reactions to a simple action performed by themselves, another person, or a machine to test if the mirror neurons would provide an advantage to the human estimation of another human's action. In the resulting article, "The Perceived Onset Time of Self – and Other Generated Actions" the scientists revealed:

Our results point toward the surprising conclusion that the time course of people's awareness of their own actions resembles their awareness of the actions of others...the integrationist hypothesis was strongly supported, whereas the privacy hypothesis received little or no support. This suggests that people's conscious awareness of intentions and related mental states does not arise from a private source within their own minds.¹⁸

The Wohlschlagler project focuses on a single, simple action – pulling a lever – but other researchers have worked on applying such observations to broader theories of social interaction.

¹⁸ Wohlschlagler, et al. "The perceived onset time of self- and other-generated actions", *Psychological Science*, 1.

Vittorio Gallese in particular has identified the roots of social understanding and empathy in the ability to perceive the sensorimotor actions of others. Gallese, in addition to being involved in the team that discovered mirror neurons, has also worked to refute Cartesian dualism in models of human communication:

According to my model, when we witness the intentional behavior of others, embodied simulation generates a specific phenomenal state of “intentional attunement.” This phenomenal state in turn generates a peculiar quality of identification with other individuals, produced by establishing a dynamic relation of reciprocity between the “I” and the “Thou.” By means of embodied simulation we do not just “see” an action, an emotion, or a sensation. Side by side with the sensory description of the observed social stimuli, internal representations of the body states associated with these actions, emotions, and sensations are evoked in the observer, “as if” he or she were doing a similar action or experiencing a similar emotion or sensation. That enables our social identification with others. To see others’ behavior as an “action” or as an experienced emotion or sensation specifically requires such behaviors to be mapped according to an isomorphic format. Such mapping is embodied simulation.¹⁹

The “as if” in this quote will catch the eye of any student of Stanislavski and was indeed discussed by Blair in regard to the actor’s approach to performance. It is important to note that “as if” does not require that the actor internally experience such emotions, but the actions must appear sincere and will evoke the appropriate response in the observer. Stanislavski’s approach to this system paralleled Cohan’s approach in that the action taken should appear as if it was real to the actor. This view, that people understand others’ actions through their own embodied

¹⁹ Gallese, “Mirror Neurons, Embodied Simulation, and the Neural Basis of Social Identification.” *Psychoanalytic Dialogues*, 527.

experience, reshapes our understanding of the reciprocal artist-audience relationship; as Gallese says, “it sheds new light on the intimate relationship between language and the embodied experience we make of the world, thus offering new clues on the narrative identity of selves.”²⁰ Scholars in the fields of humanities and the arts are making use of these new clues to the identity of self in current research.

Working for the humanities side of the equation in a similar fashion as Gallese does from the scientific community, there are scholars from numerous disciplines. Scholars Katie Overy and Istvan Molner-Szakacs have published articles utilizing the developing theories from neuroscience to illuminate the field of musicology. Likewise scholars such as J. Alexander Dale, Janyce Hyatt, and Jeff Hollerman have recognized the value of the discovery of the mirror neuron systems involvement with physical action in dance, and have begun, as McConachie and Blair in the field of theatre research, to lay out possible methods for future research in an attempt to encourage others join them. Finally, McConachie and Blair, among others in the field of theatre studies, have embraced cognitive studies as a new toolbox for understanding the nature of performance.

Overy, professor of music at the University of Edinburgh, and neuroscientist Istvan Molnar-Szakacs use the mirror neuron system to understand the sense of community created through music. Overy and Molnar-Szakacs, working from the observation that the act of performing and listening to music creates a social bond, conclude:

Music is clearly not just a passive, auditory stimulus; it is an engaging, multisensory social *activity*. All musical sounds are created by movements of the human body (singing, clapping, hitting, blowing, plucking)...and in turn seem to encourage other bodies to move (clapping, tapping, marching, dancing). Music-making usually occurs in

²⁰ Gallese, 533.

groups (dyads, circles, ensembles), and involves the synchronization of physical actions with extraordinary temporal accuracy *and* flexibility.²¹

As a result, musical behavior can be effectively and beneficially mapped using the mirror neuron model, as Overy and Molnar-Szakacs are doing in their continuing project.

In the field of dance cognitive science has been brought to bear for a different purpose. Award-winning dance professor Janyce Hyatt in her work with neuroscientists J. Alexander Dale and Jeff Hollerman has embraced neuroscience as a method of understanding the process of creation. Their project is a fundamental redefinition of the nature of dance. Other artists, according to Hyatt, Dale, and Hollerman...

...start from the basics of visual or auditory sensation, then perception and integration, and only in the final stages touch on defining the art itself. This could be considered a “bottom-up” approach, which serves them well in their endeavors. Our view of dance, on the other hand, begins with questions about the nature of dance itself, and we attempt to trace the roots of this to its source in the nervous system. We thus follow primarily a “top-down” approach, which, of course, we hope will serve us well in our endeavor.²²

Rather than focusing on the neurological to the detriment of the artistic, those involved in this project are seeking to understand movement and emotion physically and intellectually simultaneously, expanding the field in the process.

Likewise, in the field of theatre studies, Bruce McConachie’s recent explorations of cognitive theory have been dedicated to countering the dominant poststructuralist, literary approach to history. Instead he believes cognitive science can provide what he feels is the

²¹ Molnar-Szakacs and Overy, 489.

²² Dale, Hyatt, and Hollerman, “The Neuroscience of Dance and the Dance of Neuroscience”, 92.

necessary scientific grounding for theatre scholarship.²³ McConachie recognizes that scientific discoveries continue to force a reevaluation of theories based on older discoveries, and that those discoveries rapidly accrue:

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 twenty-five 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....As this ongoing controversy demonstrates, no science produces final truth, and cognitive science, like biology and chemistry, remains open to future revision.²⁴

He is not unaware of the radical shift in literary studies necessary to embrace cognitive science as a vital part of the field. As he notes, “embodied realism, concretized in the mirror neurons, embodied concepts, and emotional dynamics of *Homo sapiens*, is radically at odds with the theories of Baudrillard, Derrida, Lacan and other poststructuralists.”²⁵ For McConachie the rejection of post-structuralism is one of the more appealing connotations of embracing neurology, particularly when regarding studies of audience reception.

Other cognitive scientists agree. For example, the traditional division of actor/character has historically been an area of theoretical dissonance for audience members.²⁶ In their book *The*

²³ McConachie, 2008, entire.

²⁴ McConachie and Hart, ix-x.

²⁵ McConachie, 2008, 227.

²⁶ McConachie and Hart, 18-23.

Way We Think, Gilles Fauconnier and Mark Turner describe the audience's process as a "blend" of the actor/character into a unified identity. This cognitive unity consisting of separate potential divisions does not present a divisive dichotomy but instead produces a richer and more complex whole identity for the audience to observe. As Bruce McConachie and F. Elizabeth Hart see it in their book *Performance and Cognition*,

...we believe that conceptual blending theory bears special promise for future studies in theatre and performance. For instance, conceptual blending, which as a theory is generally compatible with Lakoff and Johnson's embodied realism, offers material and experiential explanation for the inherent doubleness of theatricality—the fact that performing human beings exist simultaneously in both real and fictitious time—space.²⁷

Their argument is clear: cognitive science allows the scholar to form a more precise model of audience understanding of the stage as well as avoid untenable theories of human knowledge undefended by experimental proof.

McConachie's co-editor F. Elizabeth Hart is similarly critical of linguistic and post-structural approaches to theatre studies. In her essay "Performance, Phenomenology, the Cognitive Turn" Hart claims that the theoretical constraints imposed by a Saussurean influenced (language centric) semiotic approach are far too myopic to successfully envision the scope of the compounding evidence which supports the (more physical) embodied or phenomenological approach:

I assert that Butler and her fellow poststructuralists are actually quite right to say that language and discourse contribute to the formation and even the material realization of human subjects; however, I contend that language and discourse at issue in these

²⁷ McConachie and Hart, 18.

processes are somewhat different from the way post structuralism has typically defined them, and that the difference is crucial for understanding, first, how the subject - or identity-formation actually takes place, and second, *to what extent* [sic] we should credit discursively formulated subjectivity and identity with having such embodiment capabilities.²⁸

For Hart, this distinction hinges on the understanding “that language and discourse are *themselves* embodied: they are *cognitively* embodied, arising from the embodied human minds that anchor Merleau-Ponty’s embodied consciousness and, *from* this embodied condition, acquiring the semantic and syntactic structures necessary to facilitate social construction, i.e., communication.”²⁹

Hart freely acknowledges that such a construction of consciousness in communication requires “an interdisciplinary leap outside the humanities into another domain in which embodiment now serves as a central concept: the domain of cognitive science.”³⁰ However, rather than replacing the traditional tools of the theatre scholar with those of the experimental researcher, she uses the work of cognitive science to speak to Merleau-Ponty’s theoretical writings:

In recent years, cognitive studies have taken a noticeable turn toward the human body as the source of both information to and constraint upon the mind, the very MC that until recently was thought to be essentially transcendent in its relationship to the body. In disciplines embracing both the philosophy of mind in the sciences of the mind (including cognitive neuroscience, cognitive psychology, linguistics, artificial intelligence studies,

²⁸ McConachie and Hart, 31.

²⁹ Ibid.

³⁰ Ibid.

and others), the conceptual barriers separating the mind and brain and the brain from the body have to some extent given way to imagery of a fluid interaction between the three, plying easy generalizations about cognitive cause -- and -- effect. Nonetheless, it's becoming increasingly clear that Merleau-Ponty's embodied consciousness is a cannily accurate description of what the scientists now see as the material grounding of knowledge, of the mind -- brain's dependence on the body's concrete situatedness within the physical and social worlds that encompass it.³¹

Hart, in contrast to McConachie, therefore, proposes enriching past theorists' insights with new information drawn from the study of cognitive science and not a wholesale rejection of other schools, not even the post-structuralists.

Unlike McConachie and Hart, whose interests are history and criticism, Rhonda Blair focuses on the potential uses of cognitive science in acting and actor training. In her book *The Actor, Image, and Action*, Rhonda Blair begins to examine the connections between existing theories of acting and emerging evidence from the cognitive sciences. Her primary intent is to provide actors with tools they can use with confidence, though, like McConachie, she feels that the scientific evidence will add credibility to her theories, and help to eliminate confusing and inappropriate theories in the field. The book provides a thorough overview of both the current state of cognitive theory and a discussion of Stanislavski's system in relation to these new theories. Additionally, Blair discusses her practical experiences of using her interpretation of the Stanislavski system through the lens of cognitive theory. Her description of the experiences she had while using these techniques provides a good example of the practical use of this type of

³¹ McConachie and Hart, 31.

theory. Additionally, it is an example of the flexibility in the application of both scientific findings and historical data.

An example of Blair's actor-oriented focus can be seen in her preference for extreme pre-performance preparation and consideration. After she has given a very detailed and complex line by line examination of Hamlet's "To be or not to be" speech, Blair considers what possibilities exist linguistically, metaphorically, and historically for the character:

The entire play could, and probably should, be treated with this kind of care and attention as a means of unlocking the actor's psychophysical being. The goal is to develop a detailed score, a stream of images -- which, of course, can and will be adjusted as the process continues -- that puts the play into the actor's body as vividly and immediately as possible. A good number of the preceding questions on the soliloquy are the kind that an actor might often ask while preparing the piece, but I would argue that the intense detail and the nature of some of the questions, e.g., such as where the body -- toggle from "sleep" to "dream" is, and what the color of the hue of the resolution is, are not typical, as is the relative lack of concern in this phase of the work for Hamlet's "psychology" or motive in the intense focus on images that come from or reside in the body.³²

She ties this exercise to the concepts espoused by Stanislavski: "This is not an intellectual or dramaturgical exercise. It is about waking up the body by going through the mind (or, as Stanislavski might put it, constructing a detailed filmstrip to reach the unconscious by conscious means...)." ³³ Like Hart, Blair sees cognitive science as most useful to the theatre artist (or scholar) in conjunction with other methods already accepted in the field.

³² Blair, 89.

³³ Ibid.

While McConachie and Blair are currently the theatre scholars best known for their embrace of cognitive science, they are not the only ones using neurological theories to inform their studies. As the title of her article – “Essentialism and Comedy: A cognitive reading of the motif of mislaid identity in Dryden’s *Amphitryon* (1690)” – indicates, Lisa Zunshine examines the cognitive complexities which exist around the definition of self, and how self concepts can be used to create humor. She compares a poem and a play, each written for distinct audiences. Both pieces derive their comic value from the category mistakes which occur due to essentialist supposition. Nonetheless, she acknowledges that the reliance upon the audience’s assumptions does not indicate that the essentialist concepts are concrete categories:

In other words, our tendency to essentialize by no means testifies to the actual existence of any underlying essences; instead, its cross-cultural prevalence reflects the particularities of the cognitive make-up of our species.³⁴

The essentialist categories on which the humor relies are real and constant only in the context or realm of the cognitive framework of human consciousness. They are not external platonic truths which are eternal, but rather they arise from similarity of the physical brains which the audiences have that were the result of similar / common evolutionarily generated brains – the stuff of cognitive science.

Zunshine additionally explores the difference that the physical representation of the actor on stage provides. Here she contrasts the effects of reading the poems versus watching the play performed. The theme of mistaken identity provides a case in point. The poem can only offer description of the errors. Performance provides ample opportunity for physical play related to

³⁴ Zunshine, “Essentialism and Comedy,” 103.

twins' appearances. Indeed, if they look too similar, the joke actually misfires. It is in the visual communication – the cognitive link between actor and audience – that the freest communication exists, a theme further examined by Naomi Rokotnitz in her examination of *The Winter's Tale*.

In her article “‘It Is Required/You Do Awake Your Faith’: Learning to Trust the Body Through Performing *The Winter's Tale*,” Rokotnitz uses cognitive theory to explore this complex play by Shakespeare. The characters' trouble, she observes, is their inability to know Truth. Their search for Truth is frustrated by the elusiveness of language:

The tool of reason with which we tell of our knowing, is shown to be susceptible to misinterpretation and reinterpretation. Although the words of the oracle seem clear and explicit – “Hermione is chaste, Polixenes blameless, Camillo a true subject, Leontes a jealous tyrant” 3.2.130 – they are insufficient to persuade King Leontes of the truth. Instead, it is Paulina... who ensures that the oracle's prophecy comes about...Even more importantly, she uses words to disguise, rather than to explain, where her real efforts are concentrated: in the material world of *actions*.³⁵

Cognitively, Rokotnitz suggests, knowledge gained by action is the more effective and true form of communication. Following her promotion of physical rather than linguistic communication, she advocates for the staging, rather than the reading of Shakespeare's plays. Citing Zunshine as an inspiration, Rokotnitz shares her conviction:

I would like to go further and suggest that drama bypasses the constraints posed by the fact that the reader's analysis is always reliant upon the author's description of the characters behavior; drama has the added advantage of affording the theatre audience

³⁵ Rokotnitz, 123.

first-hand experience of the events performed. At the theatre, we are able to observe for ourselves the behavior of the characters embodied on stage. Even if the story it stages is fictional, a live performance enables the audience to witness the events it unfolds as tangibly as if they were really taking place.³⁶

Cognitive theory provides a framework for this reliance on physical and visual communication, and Rokotnitz provides an example of how cognitive theory can be effectively applied to the analysis of a single play.

Even renowned theatre artist and theorist Augusto Boal draws on the field of neuroscience in his last book, *The Aesthetics of the Oppressed*. Like the majority of humanities scholars utilizing cognitive studies in their work, Boal is not intimately familiar with the science of the field. Mostly, this is not a problem; his explanation of how personal experience defines the neurological *structure* of the brain and the manner in which subsequent information is sorted and understood *through* those structures is highly accurate and useful for his project of describing the value of the experience of lived theatre. However, his poetically evocative descriptions of neuron crowns creating physio-neurological systems of oppression is highly troubling; he does not base these claims on any science, and rather than claiming metaphorical truth, Boal asserts that he can make such a “*hypo-thesis*” because no “neuroscientist could present proofs of their non-existence.”³⁷ Such thinking, rather than expanding the potentials of humanities research by embracing trans-disciplinary study, instead re-entrenches the biases and misunderstandings that have long plagued communications between the arts and the sciences.

Still, cognitive theory is already establishing its own space in humanities’ scholarship, but still needed is an analysis of individual artists through the lens of neurological insight. For

³⁶ Rokotnitz, 135.

³⁷ Boal, 27.

this project George M. Cohan is the perfect subject. Through a combination of native skill and long training, he was able to effectively map the response triggers of his audience, leading to his unprecedented popularity. Cognitively speaking, Cohan's mirror systems developed to a point they were acutely attuned to the audiences he encountered. These audiences provided him with an "action understanding" in line with the theory of Gallese, Cossu and Sinigaglia:

We posit that motor cognition provides both human and nonhuman primates with a direct, prereflexive understanding of biological actions that match their own action repertoire. Motor cognition finds its neural substrate in brain areas involved in matching action perception and action execution (the mirror neuron system [MNS]). A consequence of our hypothesis is that action understanding is tightly related to the motor expertise individuals acquire during their development.³⁸

As Cohan's expertise was shaped by his personal mirror systems, cognitive science and its insight into the function of mirror neurons is a valuable tool in understanding his work. Similarly, the usefulness of cognitive science in understanding the efficacy of Cohan's theatre demonstrates the incredible potential of this school of science in understanding the art of theatre.

³⁸ Gallese, et al. 103

CHAPTER 2

The success of George M. Cohan is sometimes dismissed as a purely economic phenomenon. However his achievement in providing his audiences with an engaging theatrical experience is actually a sign of Cohan's sophistication as a writer and performer. His audience was spread across the vastness of the United States at the end of the 19th and beginning of the 20th century. While often referred to as a melting pot, this audience was not a homogenous bisque, but a rather thickly chopped stew. Recent immigrants and children of such immigrants held fast to many of the old traditions, while trying to discover what it meant to be an American. Entertainment for such a diverse and developing people changed to address their needs. Cohan's multileveled, masterful ability to provide for his diverse audience was the result of an intuitive understanding of social interaction and evaluation that cognitive scientists are now quantifying. Before considering the cognitive efficacy of Cohan's method, however, it is necessary to consider the form and influences of his theatre.

Vaudeville emerged from various forms of variety shows and was specifically designed to broaden the appeal of such performances.³⁹ Monetary success was the driving factor in the development of this form. Previously variety shows catered toward men, and were often risqué or even lewd. While working in the circuses and the infamous Bowery district, Benjamin Franklin (B. F.) Keith, one of the major innovators and producers of American vaudeville, saw that he could increase his target audience by providing entertainment which was family-friendly, and therefore both women and children could potentially bolster his ticket sales. In his book *Vaudeville Wars*, Arthur Frank Wertheim relates how Keith experienced the increased audience pool: "As an assistant at Bunnell's dime museum, Keith was directly involved in staging

³⁹ Lewis, *From Traveling Show to Vaudeville: Theatrical Spectacle in America, 1830-1910*, entire.

wholesome shows that appealed to families.”⁴⁰ While Keith's conservative New England upbringing, as well as his wife's ideological influence, contributed to his focus on clean vaudeville performances, he was also a shrewd businessman overall and so focused on gaining the greatest return on his investment. While not all vaudeville followed his new puritanical model, Keith's marketing of family-friendly entertainment was extremely successful, including the introduction of the family (and family-friendly) act “The Four Cohans.”

George Michael Cohan's world was the stage; from the variety show and its successor, vaudeville, to Broadway later on, his life was spent on stage mastering the theatrical language of his time. His work was always performance focused, and Cohan spent much more time and thought performing than writing. He would write plays quickly, and often joked that no play had gone up before he had written the second act – though it was often close. In contrast his focus when performing was complete. Cohan refined his shows even as the audience watched. He listened from the wings to gauge the patrons' reactions and adjusted the performance accordingly, improvising freely within the boundaries of the written text. While Cohan had a rare natural talent for gauging and reacting to audience response, the fluency of his improvised adaptations was primarily the result of his long life in the theatre.

Both of his parents, Jerry and Nellie Cohan, were already established in the vaudeville circuit before the birth of their first child. Jerry had been a minstrel performer since the Civil War, and Nellie joined the act after getting married. The two appear as “Mr. and Mrs. Jerry Cohan” in such melodramas as *The Molly Maguires* and *The Owls of New York*.⁴¹ George M.'s sister Josephine, two years older than he, was his only sibling; the Cohan's first child, Maude,

⁴⁰ Wertheim, *Vaudeville Wars: How Keith-Albee and Orpheum Circuits Controlled the Big-Time and Its Performers*, 11.

⁴¹ Morehouse, *George M. Cohan: Prince of The American Theatre*, 28.

died at birth. When George was ten the family started their own act, billed as "The Four Cohans." Three years later George managed to sell his first song "Why Did Nellie Leave Her Home?" Although he received \$25 for the song, he became irate upon learning that the publishers had changed his lyrics. Morehouse says that George's "...anger was such that he vowed that he would never write another song in all his life. And he didn't—for at least a week."⁴² The young Cohan's tenacity in the face of criticism and his ability to use such failures as motivation to improve his creative efforts became a recurring theme throughout his life and works. George's perseverance paid off and by 1894 he was not only selling songs, but also his sketches.

The Four Cohans continued to perform and tour but the road was not without adversity:

In 1896-96 the Four Cohans traveled extensively and disastrously. On a Chicago tour, on a Southern tour, on a tour through Ohio and a subsequent one on the Eastern seaboard, they joined companies which closed in every instance two weeks after auspicious openings. The only cheery note was struck in Chicago where they were invited to a picnic given for the employees of Armor & Company.⁴³

At this picnic there was an amateur performance which the Cohans attended. During the show they became the targets for parody by the amateur performers. One of the employees performing was Julius Tannen, and his impersonation of George was well received by the crowd. Rather than taking offense at the amateur mimic's portrayal, George took Tannen's closing line and made it his trademark curtain call speech: "'Ladies and gentlemen, my mother thanks you, my

⁴² Morehouse, 39.

⁴³ McCabe, *George M. Cohan: The Man Who Owned Broadway*, 41.

father thanks you, my sister thanks you, and I thank you!"⁴⁴ Once more George turned potential criticism into something useful.

George had his first role in *The Two Dans*, a piece written by Jerry. He was still an infant, and made his entrance in the arms of his mother.⁴⁵ He was born in Providence, Rhode Island, to an Irish-American family. His paternal side had emigrated from Co. Cork, Ireland. The name had originally been O'Caomhan in Ireland but as the family moved to America the name shifted to Keohane, and eventually Cohan. His maternal grandmother – maiden name Breen – was also Irish. The fact that George M. Cohan was born in Providence is not debated. What is less agreed upon is the date of his birth. Cohan always claimed his birthday was July 4th, and even built the notion of his Independence Day birth into his public persona. However, biographer and theater critic Ward Morehouse complicated this narrative in 1943 when he went in search of Cohan's original birth record.

Cohan was born at home, so no civil certificate exists, but Morehouse still found his answer at St. Joseph's Church. A baptismal record dated July 14, 1878, reads: George Michael Cohan, child of Jeremiah Cohan and Ellen Costigan born on the third day of July, 1878. George M. Cohan, a consummate showman, may have changed his own birth date for reasons of marketing and commerce. However, he was also known as man who would keep his word. Also, throughout their lives, his parents consistently referred to George's birthday as being July 4th. Furthermore, his mother's name is listed incorrectly on the baptismal record: Nellie Cohan's first name was Helen, not Ellen.⁴⁶ Biographer John McCabe uses this information to attempt rebuttal of Morehouse's findings; his view hinges on the claim that both Jerry and Nellie "taught their son

⁴⁴ McCabe 41.

⁴⁵ Morehouse 31.

⁴⁶ *Ibid.*, 24.

that a man's word was his impregnable bond,"⁴⁷ and so Cohan's word should not be taken lightly. Thus it is possible, if not probable that the date on the baptismal certificate could have been a clerical error.

Cohan was apparently an unenthusiastic student at best. And while there is little evidence that he was a whining schoolboy it is safe to say that for the mere six weeks he attended class at the E St. school in Providence that he crept unwillingly. In his autobiography he joked about his limited experience with formal education, and yet acknowledged that there were difficulties which arose because of this limitation. However, Cohan thrived once his parents authorized his shift from the schoolhouse to the playhouse. Initially he played the violin in the orchestra, but he felt that his place was on stage with his family and engaging with the audience – something which he described throughout his career as both comfortable and natural.

Cohan's acting technique was honed through years of experience in vaudeville, musical theatre, and even legitimate drama, but he first recognized the power of the actor's craft as a young boy in Providence. In his book *George M. Cohan: The Man Who Owned Broadway*, John McCabe tells of the time during the summer of 1892 in which Cohan had the opportunity to observe a theatrical production develop. The play was *A Gilded Fool* by Guy Carleton, and it provided Cohan with "... his first big lesson in dramaturgy," as well as, "... a great opportunity for George to see how a play of general appeal could be tailored into a vehicle for a specific talent."⁴⁸

The individual whose talents the play was designed to showcase was Nat Goodwin, and as he was the preeminent light comedian of the time, the decision to cater to his strengths was a

⁴⁷ McCabe, 1.

⁴⁸ Ibid., 20.

profitable one. The concept of producing shows that cashed in on strengths of a star performer was not lost on the fourteen-year-old Cohan. Much of his future productions were precisely this type of vehicle: shows that catered to Cohan's strengths. In addition to learning this lesson, he had the opportunity to envision rewrites for the play in development. Cohan was merely an audience member, but as an audience member he was powerfully "engaged," as McCabe relays the tale:

... and so I hopped on to my old hometown, Providence, to see my favorite comedian, Nat Goodwin, in the first night of a new play, and incidentally it was my first night of any play. Was I excited! Well, if you had been sitting beside me in the first row of the gallery, you would have thought that I was a kid on the verge of a nervous breakdown waiting for that curtain to rise on the first act. I witnessed the entire first four performances of *A Gilded Fool*, Thursday and Friday nights and the matinee and night performances Saturday. After the first performance I said to myself, 'Now, there's a pretty good play, but the trouble is that it's too long drawn out. I wonder how they'll remedy that fault and bring it down to cases?' And so I began making mental notes and fixing up the play in my own way.⁴⁹

The imagined re-working of *A Gilded Fool* by the fourteen-year-old Cohan was the beginning of his long career in manipulating the relationship between stage and auditorium, as described by McCabe:

Long afterwards, Cohan lightheartedly hinted at his understanding of the reciprocal nature of the audience/performer connection drawn from Goodwan's performance:

⁴⁹ McCabe, 20-21.

Years later when Goodwin became a close friend, Cohan told him the story of his experience with *A Gilded Fool*, and added with a straight face that he had doubtless projected the improvements the play needed via mental telepathy. Goodwin smiled appreciatively, paused and took a closer look at his young friend. “By God, knowing *you*, maybe you did!”⁵⁰

In a sense he did send his critique to the performers, though chances are it was physically. The performer in Cohan and indeed any engaged audience member will react in ways that can be read onstage. Boredom may result in fidgeting or checking ones watch or sleeping. This active physicality in the auditorium may trigger the cast and crew to consider adjustment to a show or performance. However what adjustments to make and specific cuts or edits are not necessarily revealed by such reaction. Mirror neurons are great to show you when something rings true or not, but it is only the knowledge gained from theatrical experience that can allow one to define the issue and address it. The performer who is less savvy may sense the discomfort of the audience but may not know the appropriate adjustment to provide the audience with what they need. As the result of Cohan’s extensive stage experience he had developed both the requisite mirror neurons and knowledge of the theatrical form to succeed. Cohan intuitively sensed what needed adjustment but also had developed the knowledge required to make the right adjustments. Empathy is not the complete answer but when combined with knowledge can result in great theatre.

Despite Cohan's drive to succeed in the big city of New York and his ultimate achievement of such success, he maintained that he and his family were “small-town folks” at heart. In the article in *the Rotarian* Cohan related to Henry Albert Phillips how his family started

⁵⁰ McCabe, 21.

out and built their successes on their experiences in small towns. He reported that their first big break occurred in a Boston museum rather than in New York, and that it was smaller towns throughout America which provided the Cohans with encouragement. The exposure to audiences outside of New York or Chicago offered the experience that Cohan needed to develop the skills which would ultimately allow him to achieve his success. Touring throughout America developed Cohan's concept of theatre:

What I'm really trying to say is that the small-town audience has been an important factor in the education of the player and in the growth of the American theater. There was no time for the education of the children of actors' families, and no law to compel it, in those days. It was mainly a school of hard knocks in what you could learn from the study of other men -- of audiences, in our case.⁵¹

Cohan studied his audience very carefully, and became intimately familiar with their expectations, needs, and desires. He goes on to explain how he felt that the simplicity of the rural audiences allowed for a more genuine response, and one which was not filtered or hindered by the preconceived notions which the market audiences may have had. For instance, the rural audience would laugh if they felt that it was funny.

In 1899 Cohan would marry a fellow performer despite his parents misgivings about her; their one child, Georgette, was born in 1900. His wife Ethel Levy (1881-1955) was a successful singing comedienne prior to joining the Cohan act, but she was also something of a diva. Possible evidence of Levy's nature is the *New York Times* article dated June 5th 1913:

⁵¹ Cohan, "I Like Small Town Audiences," *The Rotarian*, 59-60.

Ethel Levy the vaudeville singer was sued to-day by her former chauffeur for three weeks' wages in lieu of notice. The chauffeur alleged that the defendant expected him to drive her from the Hendon Aerodrome to the London Hippodrome, a distance of some ten miles, in fifteen minutes. When the Hippodrome manager asked her for an explanation of why she was late, she said it was her chauffeur's fault, whereupon the chauffeur gave notice to quit her service, but his mistress said he could go at once. Judgment was given for the chauffeur.⁵²

Still, she and Cohan worked effectively together. Levy, real name Ethelia Fowler, first popularized Cohan's song "I Guess I'll Have to Telegraph My Baby" in 1898, and her performance of Cohan's song "I Was Born in Virginia" from the show *George Washington Jr.* became her signature tune. It was, still is, often referred to as "Ethel Levy's Virginia Song."

After Josie left the Four Cohans Ethel became the fourth Cohan on the bill.⁵³ However, the stubborn and independent Levy did not fit comfortably into the family act as, according to McCabe, "it is likely she felt that in a very real sense no one but Josie would ever be the fourth Cohan."⁵⁴ While Ethel Levy and the remaining three Cohans formed an effective, professionally competitive routine, personal resentments and fighting backstage led to the breakup of the act, forcing George M. into other avenues of performance, and ultimately making his career. While the Levy/Cohan incompatibility was good for the history of the theatre, it did lead to the end of the marriage after just eight years. Four months after the divorce, in June 1907, Cohan married

⁵² *The New York Times*, June 5, 1913

⁵³ McCabe, 82.

⁵⁴ *Ibid.*, 82-83.

Agnes Nolan.⁵⁵ That marriage lasted until Cohan's death in 1942 and produced three children: Mary, Helen, and George M. Jr.

Sam Harris, a highly skilled businessman and producer, met George Cohan in the spring of 1904 when Walter Moore, a Broadway producer, brought Harris by Cohan's office. Moore thought the two men would make a good team, and that a partnership would allow Cohan to focus on the artistic side of the business.⁵⁶ That first meeting led to a partnership that dominated Broadway for sixteen years. Working together Harris was able to give Cohan the freedom to experiment with style and form that led to the development of a distinctly "American" form of musical theatre. Previously, the American musical theatre was stylistically derivative. As McCabe describes, "New York theatre-goers had their choice of three basic forms of musical shows: operettas, heavily European in flavor, musical vaudeville, and musical farce."⁵⁷ Cohan broke from such tradition and helped develop the new Tin Pan Alley style. The "thirty-two-bar song form," was structured in such a way that, as musical theatre historian Raymond Knapp explains, it "provided the secure and natural-sounding basic framework required if a song were to be perceived, however complicated it might actually be, as straightforward and simple expression 'from the heart.'"⁵⁸

Also defining Cohan's work, and thereby the new American musical theatre, was the theme of patriotism, bordering on nationalism. The period of Cohan's dominance – before, during, and after World War I – was a period of active American imperialism, even as the nation promoted a dogma of isolationism. The master populist that he was, Cohan was perfectly in step with his time. Take, for instance, 1904's *Little Johnny Jones*: as McCabe explains, "the

⁵⁵ Ibid., 84.

⁵⁶ Morehouse, 60.

⁵⁷ McCabe, 50.

⁵⁸ Knapp, *The American Musical and the Formation of National Identity*, 79.

personification of this American pride was Cohan as cheeky Johnny Jones.”⁵⁹ Johnny is irresistible to the English ladies, proud and a bit defiant to the English gentlemen, and, most importantly, convinced of his nation’s superiority. “The audience,” McCabe notes, “was electrified.”⁶⁰ Cohan had found his perfect formula.

The degree to which Cohan used patriotism in his work, and the degree to which it resonated with his audience, is demonstrated by the success and long-lasting popularity of his most significant song. According to the popular story, while on a train to New York the day after the United States entered World War I in April 1917 he penned the song “Over There.” The stirring song was popularized by vaudeville star Nora Bayes, who recorded the iconic version. It was an instant success, and twenty-five years later President Roosevelt presented him with the Congressional Medal of Honor for the song. “Over There” was his most significant piece, and its sentimental and uncomplicated message was characteristic of all of his work, particularly his most successful.

However, before he developed his process of meeting the psychological needs of his large, middle class Broadway audience, Cohan, like every artist, had some misses – most notably *The Governor’s Son*, an expanded version of a Four Cohans sketch that opened at the Savoy Theatre on February 25, 1901, and ran for only thirty-two performances. Cohan experienced a painful ankle injury during the opening performance but he struggled through. Critical response was perhaps more painful to Cohan than the injury he received, and this marked yet another moment in Cohan's life where he took the rejection and used it to fuel his creative energy. Unwilling to concede the win to his critics, Cohan used the failure as the first step in creating his

⁵⁹ McCabe, 60.

⁶⁰ McCabe, 61.

formula for success. Besides, the production was not entirely without merit: despite the brief run on Broadway it had limited success on tour and the score included the popular song “Push Me Along in My Pushcart.” Still, it was an inauspicious start to Cohan’s career writing, producing, and performing in Broadway musicals.

Cohan returned to Broadway with his production of *Running for Office*, another sketch extended into a full play, at the 14th St. Theatre on April 27, 1903. It ran for only 48 performances, but that was immediately followed by another 72 performances of the revised play, renamed *The Honeymooners*, at the Aerial Gardens of the New Amsterdam Theater starting on June 3, 1907. Both productions included heavy use of contemporary slang – something that was a significant break from the usual stylized stage language of the time and would become part of Cohan’s trademark style.

Little Johnny Jones, Cohan’s breakthrough work about an American jockey in England, was a catalyst for the changes that he brought to the American theatre. Cohan’s musical comedy format was new to Broadway, but it was exactly what the audiences were looking for. The initial 52-performance Broadway run was not record-setting, but the show’s successful national tour and subsequent two Broadway revivals in 1905 established the musical’s significance, the foundation of the American musical format, and Cohan’s signature style. The song “Yankee Doodle Boy” epitomized the patriotic fervor and – drawing on “Yankee Doodle Dandy,” “Dixie,” and even “The Star-Spangled Banner” – the melting pot nature of Cohan’s audience and the country for which it was written. It was recorded by singer and foremost Cohan interpreter Bill Murray, and was his first Cohan song to become a hit. Modern audiences still enjoy this tune, particularly at United States’ Independence Day celebrations, as exhibited by the Boston Pops performance every year. Murray also scored a major hit from the show with “Give My

Regards to Broadway,” still popular today. In 1911, when Cohan started recording his own music, he chose to record a third song from the musical, “Life’s a Funny Proposition, After All.” *Little Johnny Jones* was made into film twice in the 1920s.

With *Forty-Five Minutes from Broadway*, Cohan first proved he could write and direct a hit show without appearing in it. The musical, set in New Rochelle, New York, starred Fay Templeton and Victor Moore. Murray found another hit in its title song, and both Corrine Morgan and Ada Jones made a hit out of “So Long, Mary.” In 1906 Cohan returned to the stage with *George Washington, Jr.* The show was a success, but the breakout hit of the show, “You’re a Grand Old Rag,” became a point of contention between Cohan and the critics. He had found inspiration for the patriotic march from an encounter with a Civil War veteran who used the phrase affectionately to describe the American flag. When the term “rag” was criticized, Cohan changed the lyric and the title to “You’re a Grand Old Flag.”⁶¹ However, the lyrical shift changed the dramatic meaning of the number: “the whole point of song as sung in the play was that the flag carried out by the old veteran *was* a rag, splendidly tattered after valiant service, its raggedness emphasizing its proud durability,” as McCabe notes.⁶²

Cohan had made his impact with three consecutive successes in just 15 months. Besides being a composer, lyricist, actor and song-and-dance man, he was a great businessman, and he naturally turned his success into the beginnings of an empire. Cohan expanded into other areas of the theatre, forming his producing partnership with Harris and starting to write non-musical plays. His first effort, *Popularity*, was a failure, but he revised it successfully as a musical, *The Man Who Owns Broadway*. But he could still do well with musicals: *The Talk of New York*,

⁶¹ Cohan, 1939, 11.

⁶² McCabe, 75.

starring Moore, was a sequel to *Forty-Five Minutes from Broadway* and featured the songs “When We Are M-A-Double-R-I-E-D,” “I Want You,” and “When a Fellow’s on the Level with a Girl That’s on the Square” all of which were released by popular contemporary recording artists. Cohan repeated the “double R” lyric in the song “Harrigan” from *Fifty Miles from Boston*, a tribute to the vaudeville comedian Ned Harrigan. The song was a hit for Murray, who released it before the show even opened. Later Cohan had his own hit record, a song from *Fifty Miles from Boston*: “A Small Time Girl,” released as “The Small-Time Gal.”

After 1908, Cohan began to spend a significant portion of his time writing non-musical plays and, with Harris, producing plays by other people. In September 1909 he and Harris produced Winchell Smith’s *The Fortune Hunter* starring John Barrymore, which ran for a striking 345 performances. While not all of the works he produced were that successful, he and Harris stayed busy – busy enough to earn him the nickname “The Man Who Owned Broadway” – with the business of the theatre. At the same time Cohan continued writing. His first significant success with a play from his own pen came with an adaptation of George Randolph Chester’s Wallingford stories, *Get-Rich-Quick Wallingford*, starring Hale Hamilton and Edward Ellis, which ran for 424 performances, “moving from the Gaiety early in 1911 to become the opening attraction at the new George M. Cohan Theatre in Times Square.”⁶³

He returned to writing and starring in his own musicals in 1911 with *The Little Millionaire*, but his biggest success of the period came with the song “That Haunting Melody,” written for *Vera Violetta*, a popular one act musical starring Al Jolson. The young Jolson recorded the song at his first recording session for the Victor Studio on Dec. 22, 1911; it was his first hit. That year Cohan and Sam Harris had six hit shows on Broadway and controlled seven

⁶³ Morehouse, 99.

theaters. In his spare time Cohan was active in both the Lambs and Friars Clubs, both major theatrical clubs in New York City.

Cohan's next big success came with his 1913 mystery play *Seven Keys to Baldpate*. It initially ran for 320 performances in New York, and in 1917 Cohan made it into a silent film starring himself. The movie was remade four times: in 1925, 1929, 1935, and 1947. He also made silent versions of his plays *Broadway Jones* (1917) and *Hit-the-Trail Holliday* (1918). About the same time Cohan turned from book musicals to musical revues with *Hello, Broadway!* and *The Cohan Revue of 1916* and *of 1918*. In 1919 an actors' strike closed Broadway. Cohan took this personally, dissolved his partnership with Harris and retired from show business, but his inevitable return happened less than one year after his retirement.

After his brief stint away from the theatre Cohan returned with a vengeance. Working alone after breaking with Harris, Cohan produced three musicals in 1920, *Otto Harbach*, *Frank Mandel*, and *Louis Hirsch's Mary*, and one, *The O'Brien Girl*, in 1921. He also returned to writing. 1922's *Little Nellie Kelly*, the first musical Cohan had written in nearly four years, was a hit. Both the American Quartet and Prince's Orchestra recorded "Nellie Kelly, I Love You," and the play was made into a movie. The 1940 silver screen version featured a score by Roger Edens and starred Judy Garland. Cohan's greatest successes of the 1920s were his plays, most prominent among them the farce *The Tavern* and *The Song and Dance Man*. His last musical was *Billie*, a musical version of *Broadway Jones*.

In the 1930s Cohan began to work more frequently as an actor in other people's projects, although he still frequently sang his own hit songs. He appeared in the 1932 film *The Phantom President* in which he sang "You're a Grand Old Flag." He also appeared in a 1934 movie

version of his own play *Gambling*, directed by Rowland Lee. Onstage he starred in Eugene O'Neill's *Ah, Wilderness!* in 1933 and he portrayed President Franklin Roosevelt in Rodgers and Hart's musical *I'd Rather Be Right* in 1937. His final Broadway appearance came in 1940 with the brief run of his sequel to *The Tavern*, called *The Return of the Vagabond* at the National Theatre. "It was," Morehouse notes with regret, "a heartbreaking experience. It was his last play, as he well knew and as his friends and followers certainly suspected, and it was quite the weakest of them all."⁶⁴ The run of the play lasted only seven performances. Cohan, who had once been able to give the audience what they did not yet realize they wanted, had been left behind by his world.

In his final years, Cohan was sick and in seclusion. During this time Warner Brothers approached him to do a movie on his life. Cohan approved the choice of James Cagney for the role and later, against doctor's orders, he snuck out of his apartment to catch a screening of the movie at New York's Hollywood Theatre. Sitting in the back row unknown to the audience, Cohan heard the audience laughing and cheering and then returned to his apartment. He died quietly on November 5, 1942. At the time of his death, he was working on a new musical, *The Musical Comedy Man*. After Cohan's passing, James Cagney won the Academy Award for Best Actor playing Cohan in *Yankee Doodle Dandy* (1942) – a role Cagney reprised his in the Eddie Foy film biography *The Seven Little Foys* in 1955.

The success of the movie and the onset of World War II brought Cohan's music back into fashion, and in 1943 Fred Waring's Pennsylvanians had a hit version of "The Yankee Doodle Boy," while Bing Crosby revived "Mary's a Grand Old Name" from *Forty-Five Minutes from Broadway*. During the next several years, "Over There" and "Give My Regards to Broadway"

⁶⁴ Morehouse, 222.

turned up in half a dozen films, including *The White Cliffs of Dover* (1944) and *June Bride* (1948). While Cohan's theatrical career lasted nearly his entire life, the fifteen plays and musicals of his late period – the years following his retirement in 1919 at the age of 41 – were not nearly as successful as his previous work.

Cohan was not an old man when the explosion of modernism's influence changed the language he used so naturally, but he was the epitome of the theatrical establishment. Still, it would be a mistake to assume that Cohan had distaste for the "new" theatre because it was different. His difficulty with the new style was mainly due to the fact that it was too vulgar for his taste. While in his youth he had broken from the conventional approach to theater by utilizing slang, rapid line delivery, and novel usage of format he did not incorporate foul language or risqué subject matter. Cohan felt strongly that theatre should be a moral and educational form of entertainment that would appeal to family audiences. This approach certainly arose from his experience with the Four Cohans and their time in vaudeville. While the old guard in Cohan's day disagreed with his use of street-level slang, in truth throughout his entire theatrical career he focused on ensuring all his productions were "wholesome."

However, by rejecting the influence of modernism and taking an antagonistic stance to the Actors' Guild, Cohan found himself out of step with his audiences, disrupting the relationship which defined his work and granted his success. The man who had recreated American theater in his own image found that his image of the American theater was out of date. It was in this late stage of his life, after he had lost his easy connection to his audiences, that George M. Cohan went back and documented his method for posterity. In "I Like Small-Town Audiences" for the September, 1939 issue of *The Rotarian* Cohan explained how his experiences performing in vaudeville laid the foundation for his understanding of theater. Vaudeville gave

him exposure to acting, music, dance, and direct audience response. He combined his understanding of each of these aspects into what would become the art form known as the American musical. In writing this article Cohan attempted to codify his understanding of performance practice which he had acquired through years of embodied experience and rapid adaptation of performance based on audience response.

The problem with defining the mechanical techniques he espoused are similar to the problems one has when trying to describe any activity. Writing about how to play basketball may help an uninformed reader to better grasp the game when they view it being played, but it does little to increase their skill at playing the sport. As a result his writing provides imperfect understanding of the methods he describes. Still, his article grants significant insight into the specific nature of Cohan's association with his audience, and interaction which, according to his descriptions, is directly in line with the current findings of cognitive scientists.

CHAPTER 3

Unlike the Stanislavski-based theories which would soon gain dominance, Cohan's method was external. He observed, just as Diderot had done before him, that individuals respond emotionally to physical actions. Regardless of whether or not the actor feels anything, the audience will experience emotion in response to observing the actor's actions. Indeed, the theatre itself is a practical application of processes which occur in the brain with mirror neurons

Cohan knew that great theatrical performance relies on the collaboration between audience and performer. In live theatre, the audience provides immediate feedback to the performer. The performer, having received the audience's response, then adjusts the performance based on the feedback. This is not to say that consciously the actor makes calculated adjustments, but rather instinctively works with the audience to create a better show. The easiest example of this is laughter.

It doesn't take long for an actor to realize that the quickest way to silence an audience while performing a comedy is for the actor to continue to deliver lines as the audience laughs. The audience wants to hear the lines so they stop laughing to listen. The actor is effectively training the audience not to laugh. Normally this is not an actor's intention, but once this cycle begins, it continues to reinforce itself during the performance. Thus, the audience and the actor work collaboratively to create the performance. Once the actor receives less positive feedback from the audience (in the form of laughter) the actor (not recognizing that his premature line delivery has quieted the audience) often begins to deliver his lines even faster.

Generally, the laugh lines are apparent and so the actor has an idea of where there should be a brief pause for laughter. If laughter occurs, then the actor waits for the wave of laughter to crest before continuing. When done properly, this allows the audience the optimal amount of

time to laugh and ensures them that the actor will wait for them to stop laughing before delivering the next line. In turn, audience members do not become hesitant in their laughter. When the conditions are ideal, they feel free to laugh, which in turn provides energy for the actor, who then uses the energy for the performance, which provides a more entertaining show for the audience. Mirror neurons are the mechanism in each person which allows this “feedback loop” to occur. This is also generally true for theatre in the sense that the audience and performers must work together to produce the effect which is theatre.

Cognitive studies show that physical action from one person can bring about powerful responses in viewers. Cohan is reported to be a master of such physical communication. For example, here is a *New York Times* description of one of the many farewell performances that Cohan gave:

They stopped the show when Cohan came on. They stood up and clapped; they called to him and yelled; they made it known that they were for him even if he is a bit young to give up work and devote himself to literature. For five minutes George cocked an accusing eye at them, tipped his hat over his forehead, shook a leg reprovingly and smiled a Cohanesque smile. It didn't subdue them a bit. He tried to talk and they wouldn't hear him then. But finally he flipped up the stick he carried, made a curious gesture that nobody but Cohan would think of and the unexpectedness of it stopped the cheers and the handclaps as if they had been shut off.⁶⁵

This shows the immediate response of the audience to Cohan's action. Here he displays his mastery of the audience's expectations.

⁶⁵ *New York Times* June 26, 1921.

After giving them what they want and trying to use the usual common methods to silence a crowd, using his vast knowledge of appropriate or expected behavior, Cohan then did something that did not fit. His action was so obscure that it could not be understood easily. The audience's mirror neurons were not able to comprehend the motion he made with the stick. This resulted in a delay of processing in which the prefrontal cortex was aroused and required the effort to try to recognize the activity. By forcing the crowd to use the labor-intensive region of the brain, Cohan's gesture disrupted the audience's other mental activity. They had to divert considerable mental resources to process the action that was so disruptive, and they could not continue the ruckus. He stated that the things which are easily appreciated are expedients to use to entertain, and so conversely he showed here that the opposite is also a potential and effective tool to garner the response he desired from the crowd. This exemplifies the fact that the active-viewer concept, in which a Cartesian controller is examining all the data coming in from performance and laughing when funny, is not effective in most scenarios. It is too time consuming and difficult. Like having to explain a joke to someone, the laughter is not there as the moment has past. This was not the first time Cohan had invented something in the moment to control an audience. He had experienced the need for such creative and spontaneous actions during his time touring in vaudeville.⁶⁶ It was during this time on stage that Cohan worked to perfect the physical techniques and skill which allowed him to perform captivantly, convincingly, and consistently.

Furthermore, Cohan was highly aware that he was performing for a divided audience, each different segment with the spending power to affect the runs of his shows. His practical need to attract multiple audiences also caused him to embrace the reality of humanity's

⁶⁶ McCabe, 40.

commonality – a defining principle of mirror neuron theory. He expressed his understanding of the universality of what moves an audience in a performance:

The emotional lives of all men follow a fixed norm, precisely as do their physical lives. In the main, the same elemental ideas that "got a rise" out of our ancestors will do the same for us. Perhaps the permanence, through the ages, of the same type of humor is best illustrated by the circus clown.

If we are normal, we all cry at the same things, laugh at the same things, and are thrilled by the same things, and these expedients are, for the most part, artless and simple -- so simple that, under ordinary circumstances, we should indignantly repudiate the suggestion that they could move us.⁶⁷

Cohan touches on the universal aspect of human communication and understanding which mirror neurons can provide. Similarly, McConachie acknowledges that mirror neurons provide insight into the commonality of theater audiences and their expectations. This basic unfiltered response is why Cohan preferred small town audiences. His focus is on efficient communication of the emotions to the audience. He goes so far as to say that the acting occurs on the audience's side. While using the term "artless" may seem to demean the role of the actor, it is intended to note that the actor should not try too hard. Cohan was against overacting. For Cohan, the simple uncomplicated move was best to elicit the audience's response.⁶⁸ While Cohan's perception of and interaction with his audience was unusually strong, even for a successful performer, it took years of work for him to develop his rapport.

⁶⁷ Cohan and Nathan, 71.

⁶⁸ This technique of efficient and clear performing was reflected in the Spencer Tracy's film performances. He had worked with Cohan and agreed that often, less is more.

The beginning of his communion with the audience was as a child dancer performing vaudeville. When the orchestra played the wrong song in the wrong time, Cohan was forced to improvise, playing the buck-and-wing for laughs. By listening to the audience response and exaggerating the features they enjoyed, he created a “superb eccentric dance” that “did, in fact, revolutionize buck and wing dancing.”⁶⁹ The success of this performance depended not only on Cohan’s ability to quickly create a new dance on stage, but also on his ability to respond to audience input to maintain its interest and engagement – skills dependent on his highly effective mirroring abilities.

The extensive experience he garnered while touring the vaudeville circuit provided Cohan with broad enough experience to understand the overlap of different roles within the theatre. It also allowed him to continue to develop the acuity of his mirror neurons in relation to the audience. After his playwriting had become less popular, his ability as an actor to engage with the audience remained strong. When he had stopped touring, his understanding of what types of productions appealed to theatregoers became out of step with the rest of the country. As times and tastes changed, his plays did not continue to adapt and develop as they had when he toured the country actively. However, he remained an extremely popular performer. Even after the critics’ reviews exhibited a widening disconnect between the subject matter and the audience, Cohan would ultimately show that his ability to relate to the immediate audience was a constant.

Despite having had such a preeminent status in the American theatre, Cohan’s theories of acting were to be overridden only a few years later by Lee Strasberg’s heavily filtered and partial theories of Stanislavski’s work. Strasberg agrees that preparation is essential for acting excellence, but directs the preparation inward attempting to develop the actor’s emotional recall.

⁶⁹ McCabe, 40.

Instead of honing one's skills on the stage in front of an audience, his Method has the actor exploring past emotions in a closed setting. Strasberg believes that a rehearsed and trained actor can call upon affective memory for a given scene by having prepared and (in a Pavlovian way) trained the physicality to respond convincingly via experientially based affective memory. While it may be possible to generate the physiological response via memory triggers, the fact that mirror neurons fire when viewing a physical action regardless of the internal state of the actor would indicate that the Method is flawed. Compared to the mechanical approach espoused by Cohan, the affective memory aspect of the Method is less reliable (consistency was Stanislavski's original goal in developing his system) and less efficient. Cohan was a shrewd businessman in addition to being an accomplished performer, so he recognized that consistent and active delivery of the actor's performance was the cost effective choice.

As an actor and playwright Cohan developed his own unique theory for how performers manipulate their audiences. Surprisingly, his theory in many ways anticipated the cutting edge research of cognitive science and its application to the world of the theatre. He intuitively recognized the effects of such a mental system and consciously strove to develop his capacity to engage audiences. He had been extremely successful with this audience control which prompted him, along with George J. Nathan, to write the magazine article "The Mechanics of Acting."

Cohan begins the article by describing a story in which one of the characters destroys a goblet through the use of sonic waves. He then uses this story as a metaphor for the influence a performer has on an audience.⁷⁰ He equates the invisible sound waves' effect on the goblet to the actor's performance upon the audience. Cohan goes on to articulate the factors which he feels are involved in successful theatrical productions. The metaphor he uses to describe the actor's ability

⁶⁹ Cohan and Nathan, "The Mechanics of Emotion"

to influence the audience is formed around the concept of the person being able to produce sound waves which resonate in such a way as to shatter glass.

Empathic communication facilitated by mirror neurons and Cohan's system of audience engagement each assume the same five basic postulates. First, the acting agent can affect a change in the observer through non-verbal communication. Second, excepting individuals with neurological disorders that prevent ability to read social cues, as Cohan puts it "if we are normal,"⁷¹ this empathic communication process is more efficacious than speaking. Third, it is primarily unconscious. However, fourth, a fixed mindset or defined framing can allow a conscious rejection of the initial unconscious response. Finally, continued use of mirrored exchange strengthens performers' ability to clearly communicate their message. Side-by-side comparison of Cohan's theoretical writing and writings of cognitive scientists reveals the depth of similarity.

Not only is the audience able to co-experience the actor's displayed emotions through this system of communication, it is unable to avoid it. According to Rizzolatti and Sinigaglia in their groundbreaking book *Mirrors in the Brain*:

As soon as we see someone doing something, either a single act or a chain of acts, his movements take on immediate meaning for us, whether he likes it or not...The mirror neuron system and the selectivity of the responses of the neurons that compose it, produce a *shared space of action*, within which each act and chain of acts, whether ours

⁷¹ Cohan and Nathan, 71.

or ‘theirs’, are immediately registered and understood without the need of any explicit or deliberate ‘cognitive operation.’⁷²

In other words, both actor and audience are in constant, unavoidable communication, always sharing information and emotion, or as Cohan views it, “there are certain outside stimuli, forces that will automatically make us, without much conscious action on our part, laugh, weep, or freeze with horror.”⁷³ Those stimuli, “if produced at the right moment and with sufficient skill, they never fail to strike the audience in the midriff.”⁷⁴

Cohan was a firm believer in the predictability and commonality of his deeply stratified audiences. “It is a mistake to suppose that from the standpoint of the fundamental emotions we are not all alike,” he argues. “Emotionally we are essentially the same.”⁷⁵ Based on this conviction Cohan scored his performances to create the strongest possible emotional effect, the “coordinated clashes” of his tonal metaphor. The efficacy of his system is a testament to his instinctual understanding of human communication.

Describing more personal interactions, Rizzolatti and Sinigaglia note that “the instantaneous understanding of the emotions of others, rendered possible by the emotional mirror neuron system, is a necessary condition for the empathy which lies at the root of our more complex inter-individual relationships.”⁷⁶ The formation of all forms of human relationships requires the ability to unconsciously interpret and respond to these signals; those few individuals who cannot communicate in this manner are at a great disadvantage in social interactions. Human emotional triggers, Rizzolatti and Sinigaglia, like Cohan, observe, are universal.

⁷² Rizzolatti and Sinigaglia, 131.

⁷³ Cohan and Nathan, 70.

⁷⁴ *Ibid.*, 71.

⁷⁵ *Ibid.*, 70.

⁷⁶ Rizzolatti and Sinigaglia, 190-191.

The observation and interpretation of information by the mirror neuron network happens prior to the level of conscious thought. Experimental neuroscience, such as the 2003 study by Wicker et. al., repeatedly finds that observers watching someone else have an unpleasant experience (in the case of the Wicker study a bad smell) have an entirely unconscious, uncontrolled, physical response as if they had experienced the sensation themselves. Furthermore, emotional information is passed on in the same manner:

The same is true of people we meet: their behavior not only embodies particular acts, but often provokes in us feelings of anger, hate, terror, admiration, compassion, hope, and so on. Irrespective of whether we are aware of these feelings or not, or whether they produce an effect which is explicit and recognizable by others, or simply create internal physiological reactions, our emotions supply our brain with an important instrument for navigating the sea of sensory information and automatically triggering the most appropriate responses to ensure our survival and wellbeing.⁷⁷

Cohan recognizes the unconscious nature of his audiences' understanding of his work, and even provides a warning against over-examining his performances:

We do these things first with the brain, but ultimately an unconscious, unthinking something else takes control. If you do not believe this, try to run down a flight of stairs as a conscious act, the brain directing each separate movement of your legs and body. You will probably make little progress, unless, as is not unlikely, the experiment ends in your going down head first.⁷⁸

⁷⁷ Rizzolatti and Sinigaglia, 173-174.

⁷⁸ Cohan and Nathan, 70.

While the reading of the mirrored information is immediate, unconscious, and unavoidable, the observer can then choose to reject or suppress acquired insight. Neurologically speaking, the dorsolateral prefrontal cortex can act as an executive to override the instinctual response of the audience. In this, Cohan knew he was at an advantage. The audience, by and large, “comes to the theater for one definite purpose, to have its emotions played upon; this experience gives such exquisite delight and satisfaction, indeed, that the average citizen is willing to pay liberally for it.”⁷⁹ However, he also recognized that a portion of the audience rebelled against the very experience for which it had paid handsomely. As he notes, “probably this class of theater-goers would not have their tear-ducts loosened and their spines ‘shivered’ by the somewhat commonplace expedients that will be described, chiefly because they come to the theater steeled against this sort of thing”⁸⁰; they had exercised their executive function to reject the fun, applying their dorsolateral prefrontal cortex as a censor (though Cohan was unaware of the specific region of the brain that activates this reaction, he was well aware of the results of an audience doing so.)

Cohan was highly aware of the shift from conscious to unconscious control of bodily action, be it typing, walking, acting, or one of the “many other movements which were originally voluntary, conscious acts, but which, by constant repetition, have become reflex.”⁸¹ His thinking was highly original in that he also applied this to emotional response. As he explained it, “we laughed or cried because there was something in the stimulus that appealed to our human intelligence as being funny or pathetic. A constant repetition, however, has given these

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid.

particular emotions the character of reflex actions.”⁸² In this assessment he actually prefigured the work of current neuroscientists studying how neuronal networks develop through mimicry, imitation, and imaginative play. Furthermore, “there is also evidence that the human mirror neuron system is shaped by experience,”⁸³ as Iacoboni notes in his discussion of an experiment comparing how experts versus non-experts responded to the same stimuli. Cohan, the theatre expert, had an extremely sophisticated ability to mirror his audience that only grew stronger with increased exposure, and as his ability to predict audience reaction increased so did his ability to manipulate the crowd into experiencing the performance according to his own intention.

⁸² Cohan and Nathan, 70.

⁸³ Iacoboni, 216.

CONCLUSION

George M. Cohan's virtuoso performance, writing, and audience manipulation shaped early-twentieth-century American theatre to such a degree that he was nicknamed "the man who owned Broadway," "the father of the modern musical," and "the prince of the American theatre." For a time it seemed as though his would remain the dominate approach to acting.

Shortly after Cohan's reign, Lee Strasberg shifted the focus of acting in America from a physical approach to a psychological one. While Strasberg consistently claimed that he was merely teaching the techniques of Konstantin Stanislavsky, his emotion-based Method is far more inward-focused than even the work of the master of psychological realism. The shift from Cohan's focus on audience response to Strasberg's focus on actor experience changed the audience dynamic from one of participation to one of observation. However as the ramifications of the discovery of Mirror Neurons begin to be explored further by theatre scholars it seems that the past concepts can be objectively examined, and the value of such shifts in theatrical focus can be weighed.

Actor preparation and acting technique have historically been some of the least scientific aspects of theatre studies and this is an area in which cognitive studies can be most helpful. The mysterious realm of the actor's craft can begin to be defined through science. Previously all successful practitioners intuited the process of performance, and now science is revealing the physiological inner workings of the actor-audience relationship. This is not to say that understanding the science can make anyone into an actor, but rather helps one understand how the well trained and experienced artist can produce great performances.

In addition to Cohan's theories, cognitive science could also enlighten historical works of others such as Diderot who tried to explain how it was possible for David Garrick to convey emotion so quickly and efficiently. In his explorations he detailed the rapid shifting of Garrick's facial features which in turn elicited immediate response from those who viewed it. Certainly the mirror neurons Garrick had honed upon the stage were much the same as those possessed by Cohan or any great actor. The mystery of how one can emote so rapidly has been revealed by science in that the facial expressions are mechanical (as Diderot suspected) and not first driven by some inner emotional trigger. According to Diderot the good actor merely signifies the emotions:

The broken voice, the half-uttered words, the stifled or prolonged notes of agony, the trembling limbs, the fainting, the bursts of fury—all this is pure mimicry, lessons carefully learned, the grimacing of sorrow, the magnificent aping which the actor remembers long after his first study of it, of which he was perfectly conscious when he first put it before the public, and which leaves him, luckily for the poet, the spectator, and himself, a full freedom of mind. Like other gymnastics it taxes only his bodily strength.⁸⁴

For Diderot no matter the virtuosity of the surface representation, the vessel remains empty. However, lest one become convinced that there are no emotions felt at all by the actor it would be prudent to recall that mirror neurons go both ways. Not only does the evidence of mirror neurons show that when a physical action is viewed the same neurons which fire when taking the action are also triggered, but that in taking the action the neurons also fire. This seems obvious but can lead to some confusion in that the action taken by an actor does not need to be

⁸⁴ Diderot, *The Paradox of Acting*, 16.

prompted by an emotion, but in taking the action one is (as the audience) firing neurons which are intricately tied to emotion. So for Diderot to say the actor feels nothing is a mistake.

For Strasberg, by contrast, the heart of the actor's performance is internal; the surface signification is a function of the internal experience. Onstage, the internal process may be invisible to the audience between the factors of the distance from auditorium to stage and the subsequent exaggeration of expression and gesture necessary to make up for this gap. As a result, the Method is most effective on film:

But it is in the film that Strasberg's technique really comes into its own. Shooting a film involves sitting around for long periods, and then from time to time doing shots in isolation, which may be as brief as a few seconds. In place of the flow of action that carries you along emotionally in a play, there is endless starting and stopping. It may not be possible to use your surroundings as a stimulus—in a process shot, the setting is not even there, but is instead added on the film later. As for using your fellow actors, they may not be there either—a scene between two actors may actually be shot at two different times in two different cities, with each actor by himself.⁸⁵

The closeness of the camera reveals the actor's internal process, and the Pavlovian response of emotional recall allows him to access inspiration even when working in a vacuum. The popularity of the Method in Hollywood is a testament to its power in this close-up medium.

Science has shown that it is more accurate to say the actor need not feel emotion to take the action which triggers the emotion (for audience as well as actor.) It is a matter of efficiency and

⁸⁵ Hornby, *The End of Acting: A Radical View*, 183-184.

consistency which puts the Cohan approach to performance at forefront of versatile actor training.

The success of the Method in the movies is directly related to its failure onstage: the alienation of the actor from the audience appears self-indulgent and narcissistic onstage, but on film, in the movie theatre with its huge screen and predilection for close-up shots, the focus is entirely on the actor's inner life. Cohan, on the other hand, developed a technique of acting entirely based on the interaction of actor and audience; indeed the more closely he worked with his audience the stronger his theatre. The result in the shift of actor focus from the audience to himself may actually account for part of the lack of popular support for contemporary theatrical performance – why go to the theatre only to watch an actor interact with himself?

To train as Strasberg suggests in affective memory can work, but it is more work than necessary. To explore inner emotion and attempt to learn how to be an actor is as fraught with potential missteps as there are interpretations of his method. It is certainly possible to achieve greater success through visualization as basketball players have shown improved free throw percentage after visualizing the process in which they shoot the ball. However this is an example of trained athletes who have already spent significant time honing their physical ability to shoot free throws (particularly during the live stressful conditions of an actual game) before they attempted to visualize during their off time. Visualizing the actions one has previously trained in (again during stressful real conditions) provides improved performance. This is not unlike what Cohan experienced when consciously examining his past stage efforts and thought through his actions, and having had years of stage time to draw on he was able to improve his art. However in modern times the young actor does not have the furnace that was vaudeville to smelt the impurities from their craft.

Traditional approaches to theatre studies will continue to be influenced by the theories and works of historical practitioners such as Cohan and Stanislavski, as well as theorists such as Diderot and Strasberg. However subsequent scholarly examinations of drama will be enlightened by the new discoveries which cognitive science provides, and the areas of potential exploration are myriad. The scientific rigor backing mirror neurons will bolster the credibility of the field of theatre studies.

Of the myriad directions future studies could take, a few seem the most promising. As a modern society, we spend increasing amounts of time interacting with family, friends and acquaintances through a technological conduit, that is, via the phone, via text messaging or on line. This means that we spend less time experiencing one another and our associated emotions in person. How much does this stunt or hinder the development of our mirror neurons? Does this mean that we will be less interested or able to understand how actors convey their messages onstage? Further studies may examine how the decrease in physical interaction and communication which results from increased use of electronic messaging changes the mirror neuron makeup of the brain. The neural networks which Cohan developed by performing in vaudeville took time and exposure to audiences to develop. As people focus more on electronically illuminated screens which display emoticons as their primary means of emotional expression how can empathy or catharsis be experienced?

Another area meriting further exploration involves the marriage of theatre and democratic ideals. Both were integral to the ancient Greeks who originated western democracy and theatrical performance. The Greeks looked to theatre in part, as an obligation of citizenship and as such, the shared experience would serve to unify the populace. Catharsis may be the communal understanding which arises via the formulation of mirror neuron networks during a

poignant performance. If so, would a decrease in a society's shared theatrical experience result in a less empathetic society? Would it behoove a social unit, which seeks to increase understanding and communication between its constituents, to require or encourage participation in theatrical performances?

A final suggested area for further research would help inform those wishing to hone their acting craft. Should the primary approach to training actors shift to one which encourages performance as the primary means improving technique, as Cohan espoused? In such training, the actor's exchange with the audience would enhance the actor's mirror neurons which would lead to better, more engaging performances. Could the time off stage in the studio be better utilized doing mechanical exercises to prepare the actor for their time on stage? Physical exercises which enhance endurance, strength and flexibility would allow the performer more creative movement options when onstage. Additionally, vocal training which has not been encouraged under the shadow of the Method could return to the forefront of actor preparation. Tuning and preparing the body and voice of an actor would prepare their instrument of performance for the stage. Combined with increased stage time, the next wave of actors would have all the tools needed, and the expertise to wield them, to transform the future of theatrical performances as well as shaping the audiences who attend. Actors who have prepared in this way, seem more likely to, like Cohan, be able to adapt while onstage and create something new which could delight or stupefy the audience, thus creating the next great breakthrough in theatre.

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