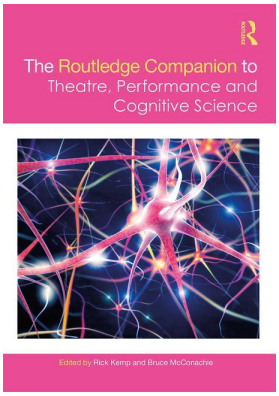

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1

STANISLAVSKY'S PRESCIENCE

The conscious self in the system and Active Analysis as a theory of mind

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This chapter interrogates the continuing value of Konstantin Stanislavsky's legacy to acting in the wake of twenty-first-century discoveries in cognitive science, specifically Theory of Mind. During the first three decades of the twentieth century, Stanislavsky conducted a broad search through many fields of knowledge, including the science and psychologies of his era, for ways to verbalize his tacit experience with acting. His effort was deeply experimental, resulting in a globally influential acting System that has been successively transmitted and transformed by actors from generation to generation. While his System in its many, often distorted, forms continues to hold exceptional authority in actor training programs and rehearsal halls worldwide, that authority is also being challenged by rapid technological and dramaturgical changes that impact actors' work. Stanislavsky himself acknowledged the inevitability of change, when in the opening pages of his autobiography he recalls everyday items from his nineteenth-century Russian childhood that his students no longer knew—candles made from lard, the horse-drawn *tarantas*, flint-lock muskets, and the like (Stanislavskii 1988–1999, vol. 1: 53).[1] By extension, neither he nor his students could have imagined the world in which twenty-first-century actors live.

As I have argued elsewhere, Stanislavsky's pragmatic techniques can constitute a living legacy as long as they can accommodate production and dramaturgical conditions that postdate his life. To test such adaptability, I have experimented with applying his last rehearsal technique, Active Analysis (AA), to new media and non-Aristotelian plays. For example, I have used AA at the University of Southern California to generate motion capture data for a scientific study on the emotional expressivity of physical gesture and in my private Studio to rehearse post-dramatic plays that do not require actors to impersonate fictional characters (Carnicke 2016b). In these cases, I have found that AA provides actors with exactly the kind of flexibility they need for such twenty-first-century work.

Discoveries in cognitive science that outdate the psychologies of Stanislavsky's era can also be counted among the current challenges to his authority. In this chapter, I join other performance scholars and actors/directors, including Rhonda Blair (2008), John Lutterbie (2011) and Rick Kemp (2012), in arguing that Stanislavsky's System can not only withstand this challenge, but also be newly validated by twenty-first-century scientists. Actor/director and teacher Joelle Ré Arp-Dunham succinctly expresses the pragmatic importance of our argument, when she observes that, 'looking through the lens of recent research in the field of

cognitive science may help us fine-tune which of Stanislavski's[2] ideas and techniques should be emphasized in the classroom and in the rehearsal hall' (2017: 68).

A full examination of the ways in which the dynamic field of cognitive science might reinvigorate Stanislavsky's complex theories on acting is far beyond the scope of this little chapter. Therefore, I confine myself to the following: (1) a brief survey of the scholarship on Stanislavsky's science, (2) how Antonio Damasio's research on human consciousness suggests the value of revisiting the System through the lens of neuroscience and (3) how AA can be used experimentally in conjunction with Theory of Mind to generate new scientific knowledge.

Studies of Stanislavsky's science

A brief survey of how Stanislavsky's science has been studied reveals that a new scholarly methodology is emerging in the wake of twenty-first-century discoveries in cognitive science. At base, Stanislavsky's impulse to understand acting through science was not unique or particularly original. In *The Player's Passion*, performance scholar Joseph Roach demonstrates that 'conceptions of the human body drawn from physiology and psychology have dominated theories of acting from antiquity to the present' (1985: 11). Furthermore, by detailing the specific ways that actors have mirrored science's changing views of human nature over the centuries, Roach observes that each new paradigm shift in science has generated new acting theories and practices.

Consequently, studies on the sources of science in the System have also dominated scholarship on Stanislavsky's scientific thinking. Natalie Crohn Schmitt identifies his 'science of acting [as] based on a perception of nature very like Aristotle's' that assumes 'the principles underlying all art, nature and life are the same' (1990: 94–5). Despite having no access to the Russian texts that prove Stanislavsky's familiarity with Aristotle, Crohn Schmitt accurately connects the two. Moreover, she concludes that the System's 'success' largely rests upon his incorporation of widely accepted 'Aristotelian precepts' (1990: 94).

Jonathan Pitches understands the System as 'fundamentally Newtonian' with 'a view of the world which is objectively measurable and material' (1999: 4). Pitches further argues that this 'mechanistic thinking […] prov[ed] particularly popular in post-revolutionary Russia' where Soviet behaviourists, like Ivan Pavlov and Ivan Sechenov, stressed bodily, hence material, aspects of psychology (1999: 15).

In this comment, Pitches points to a particularly sad chapter in Stanislavsky studies, when Soviet cultural policies and Stalinist censorship banned all but the materialist approach to psychology. Within this cultural and political context, Stanislavsky had no choice but to bring his System into conformance with Soviet behaviourism. Yet, the record shows scant evidence that Stanislavsky did little more than pay lip-service to it (Carnicke 2009: 162–3). Nonetheless, by 1962, Soviet scientist Pavel Simonov had published *The Stanislavsky Method and the Physiology of Emotion* positioning the work of Pavlov and Sechenov at the System's heart. By 1963, the Russian actor Aleksei Popov had fully accepted the Soviet view of Stanislavsky as 'a natural materialist [who] walked hand in hand with the great physiologist I.P. Pavlov' (Vinogradskaia 2003, vol. 4: 465). The overstated link between Stanislavsky's System and behaviourism proved so persuasive that American Method actors also accepted the Soviet scientific heritage as primary in the System. Emphasizing the role of self-conditioning in actor training, Method guru Lee Strasberg said, 'That's how we're trained, not from Freud, but from Pavlov' (Munk 1966: 198). Some twenty-first-century scholars continue to find value in this Soviet view when aligning the System with the biological underpinnings of

neuroscience. Ysabel Clare notes the irony in the fact that 'even the "mystical" aspects of the system' might be conceived as 'material,' especially 'if recent findings in the field of neuroscience resituate human experience in what turns out to be materialist terms' (2016: 101).

Stanislavsky actually preferred the writings of Théodule Armand Ribot to those of the Soviet behaviourists. Founder of French experimental psychology, Ribot, studied emotion from a more holistic perspective than that of the Soviets. Thus, Ribot better supports Stanislavsky's simultaneous interests in yoga and art's ability to convey transcendent aspects of human experience (Carnicke 2009: 170–84). Ribot understood emotion as a monistic phenomenon that embraces a total psychophysical experience. He therefore treats objective and subjective human experience as two sides of the same coin. 'An emotion which does not vibrate through the whole body is nothing but a purely intellectual state' (1897: 163). For Ribot, the tendency in Western civilisation to presume a separation between body and mind was entirely beside the point. In fact, he criticised the French language for forcing him to make 'an arbitrary distinction' between the internal (or 'organic') and external (or 'motor') functions of emotion merely 'for the sake of clearness in exposition' (1897: 113). In writing about emotion in acting, Stanislavsky emulates Ribot's monism by choosing to use the Russian word, *chuvstva*, which simultaneously refers to the physical senses and psychological feelings. 'Once you can grow pale or blush at the memory of something you have experienced,' Stanislavsky writes, 'once you are frightened to think about something unhappy that you lived through long ago, you have a memory for *chuvstva* (senses, feelings)' (Stanislavskii 1988–1999, vol. 2: 281).[3]

Rose Whyman meticulously places the System into the science of Stanislavsky's era by examining the Russian language texts and translations to which he had direct access. Her studies on 'Darwinian ideas of the physiological basis of emotion' and Russian associationist philosophy with its 'pre-Freudian concepts of the unconscious' and its methodology 'based on introspection and observation' are especially enlightening (2008: 8, 4). While Whyman sees these threads as anticipating behaviourism, she also takes account of the constraints that Soviet censorship places upon a full study of Stanislavsky's science by acknowledging that Soviet views of 'what was "scientific" had become more circumscribed' than his private thinking. She interprets his now famous disavowal of science in the prologue to his 1936 acting manual (Stanislavskii 1988–1999, vol. 2: 41–2) as his way of sidestepping Soviet censorship in order to study human nature as broadly as possible (Whyman 2008: 8).

These studies of Stanislavsky's science are invaluable in understanding the evolution of his System. But, studies of his scientific sources alone are insufficient to assure contemporary actors of the System's continuing relevance. In accord with Roach's thesis, twenty-first-century discoveries in cognitive science are prompting actors to rethink their acting theories. Nonetheless, in his detailed study of the System, Roach also holds the door open for the possibility that Stanislavsky's theories may be more flexible than the limits of his era's science. Roach explains that Stanislavsky's 'relationship to science evolved over several decades,' continually gaining 'depth and complexity,' and always grounded by an 'intense, even obsessive interest in the inner psychological context of an action, [and] in the nature of consciousness itself.' Thus, his System 'def[ies] tidy summary, because [his theories] take into account the complexity of higher organisms, including the phenomenon of double or multiple consciousness' (1985: 204–6).

Many scholars have already walked through this door, exchanging the traditional methodology of studying Stanislavsky's scientific sources for an inverted method that evaluates his insights by weighing them against cutting-edge developments in neuroscience. Among these scholars are the editors of and contributors to this anthology, as well as the actor/

director Rhonda Blair, who observed in 2000 that 'cognitive scientists, neurophysiologists and psychologists are proving that Stanislavsky, seventy-five years ago, began intuiting something fundamental about how we, as human beings and as actors, work' (2000: 204). Blair's work implicitly proves Roach's thesis—that acting responds to paradigm shifts in science—when she describes her overall aim as bringing acting 'into the next generation' through 'a transformed way of thinking about imagination and action, based in knowledge of the neurocognitive ground of memory, feeling, and imagery' (2008: 52).

This inverted method of studying, not Stanislavsky's understanding of science but the science in his System, depends, however, on a highly volatile field where much new information is often as provisional as it is tantalising. As Blair acknowledges, 'scientists disagree about their work at least as intensely as we do about ours' (2008: 6). All the same, measuring the System by means of new science is 'exciting,' to quote Ré Arp-Dunham, because it promises to provide 'strong scientific validation' in future for Stanislavsky's acting theories and techniques (2017: 68).

Damasio and Stanislavsky on the conscious self

Antonio Damasio's research on human consciousness can test the efficacy of studying Stanislavsky's theories through the lens of cognitive science. Born in Lisbon, Damasio is a neurobiologist who heads the Brain and Creativity Institute at the University of Southern California. He studies the biological processes of the brain in close collaboration with his wife, Hanna Damasio, an expert in neuroimaging. Their findings are changing how scientists envision the interdependence of reason and emotion and the mysteries of consciousness, subjects which Stanislavsky saw as directly pertinent to actor training. Moreover, Damasio is also changing cultural discourse though his vivid and accessible writings. His 1994 book, *Descartes' Error,* on the importance of emotion to social cognition and decision-making, was translated into 30 languages and became a finalist for the *Los Angeles Times* book award. His 1999 book, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*, found an even broader readership, winning countless book awards in the United States and globally. In short, at the end of the twentieth century, Damasio offered one new way to envision emotion that, together with the work of other cognitive scientists, is prompting a paradigm shift that directly affects how we understand ourselves as humans and how actors understand acting.

For the purposes of this chapter, Damasio's potential to impact acting theories is most relevant. He stands among the neuroscientists who are oft-cited by performance scholars. Indeed, at times, Damasio seems to speak directly to acting. Consider the opening of *The Feeling of What Happens*:

> I have always been intrigued by the specific moment when, as we sit waiting in the audience, the door to the stage opens and a performer steps into the light; or, to take the other perspective, the moment when a performer who waits in semidarkness sees the same door open, revealing the lights, the stage, and the audience. […] I sense that stepping into the light is also a powerful metaphor for consciousness, for the birth of the knowing mind, for the simple and yet momentous coming of the sense of self into the world of the mental.
>
> *(1999: 3)*

Given Stanislavsky's obsessive quest to understand what happens in actors' minds during performance, Damasio's theatrical metaphor is especially apt. However, his reference to

'sense of self' is even more striking in regard to the System. Damasio explains that in studying consciousness, he 'had come up against the obstacle of self, for something like a sense of self was needed to make the signals that constitute the feeling of emotion known to the organism having the emotion' (1999: 8). Stanislavsky too insists that the actor needs 'a sense of self' (*samochuvstvie*) in order to create as an actor. 'You can never lose yourself on stage.[…] There's no walking away from yourself' (Stanislavskii 1988–1999, vol. 2: 294).

'Sense of self' marks only the first in a series of insights that Stanislavsky and Damasio share. 'Images' that create a 'movie-in-the-brain,' the inner/outer split in consciousness and the mind's multi-layered operations are three additional points of comparison. I will take each of these points in turn.

First, a cinematic metaphor helps both men describe mental processes. Damasio represents consciousness as 'images' in the mind that play out as 'a movie-in-the brain' (1999: 9). Stanislavsky exactly anticipates Damasio's formulation when he teaches the actor to create during performance a 'filmstrip' (*kinolenta*) of 'images' (*videniia*) that mirror the character's thoughts in order to focus the actor's mind (Stanislavskii 1988–1999, vol. 2: 130).[4] He trains the actor's ability to create this imaginary 'filmstrip' by adapting from yoga a visualisation exercise that works systematically through the senses. The best-known instance of this exercise can be found in the first volume of Stanislavsky's acting manual, when the fictional teacher, Tortsov, invites his students to imagine themselves as trees. They begin by envisioning the specific species, the shape and colour of the leaves, the texture of the bark and so forth. They then progressively add more imaginary senses: the tactile feel of the roots buried deep into the earth and the branches reaching towards the sky; the sap's flavour; the sounds and smells of the specific place in which the tree grows. Finally, the students add a sixth sense, emotion, by imagining a story that unfolds at the base of the tree: a battle ensues; a romantic tryst takes place; a family enjoys a picnic (Stanislavskii 1988–1999, vol. 2: 133–6). Significantly, the sensory aspect of Stanislavsky's exercise mirrors Damasio's 'movie-in-the-brain' which enters the mind through 'as many sensory tracks as our nervous system has sensory portals—sight, sound, taste, and olfaction, touch, inner senses, and so on' (Damasio 1999: 9).

Of course, Stanislavsky's assumption that emotion operates as a sixth sense stands outside Damasio's science. Yet, Damasio would not mock Stanislavsky for this or any other of his unscientific insights. Consider, for example, the fact that Stanislavsky defines the actor's creative state as 'that which occurs in the artist's soul (*dusha*) during the creating and preparing' of a role (Stanislavskii 1988–99, vol. 2: 410).[5] In *Descartes' Error,* Damasio explicitly honours the notion of 'soul':

> To discover that a particular feeling depends on activity in a number of specific brain systems interacting with a number of body organs does not diminish the state of that feeling as a human phenomenon. […] Precisely the opposite should be true: Our sense of wonder should increase before the intricate mechanisms that make such magic possible. Feelings form the base for what humans have described for millennia as the human soul or spirit.
>
> *(1994: xx)*

Second, the split between inner consciousness and the external world of things is fundamental to the study of both neurobiology and acting. For both men, the subjective mind's access to the objective world depends upon the creation of mental images of 'objects.' For Stanislavsky, 'objects of attention' name anything that demands the actor's focus during performance, whether partner or prop (Stanislavskii 1988–1999, vol. 2: 149). Damasio also

uses the term 'object' to name different kinds of things. In asking 'how the brain inside the human organism engenders the mental patterns we call, for lack of a better term, the images of an object,' Damasio explains that 'by *object* I mean entities as diverse as a person, a play, a melody, a toothache, a state of bliss' (1999: 9). Even more startling is how both men posit the relationship between inner perception and outer objects as provoking action. Stanislavsky teaches that action defines drama, often citing the word's Greek etymology, to prove his point (Vinogradskaia 2000: 496). Moreover, in AA, he emphasises that drama results from the interactions between the self in performance and the objects of attention on stage. Damasio seems to restate Stanislavsky's basic premise—that action undergirds drama—in the following passage:

> I began seeing the problem of consciousness in terms of two key players, the *organism* and the *object*, and in terms of the *relationships* those players hold in the course of their natural interactions. […] Seen in this perspective, consciousness consists of constructing knowledge about two facts: that the organism is involved in relating to some object, and that the object in the relation causes a change in the organism.[6]
>
> *(1999: 19–20)*

Third, both men understand mind as multi-levelled and complex. Stanislavsky divides the mind into the 'conscious' and the 'unconscious,' which in turn comprise a 'subconscious,' which works automatically underneath our awareness, and a 'superconscious,' a term from yoga that refers to transcendent, spiritual aspects of human experience (Stanislavskii 1988–1999, vol. 4: 142). Damasio explains that 'consciousness is not a monolith' and distinguishes 'core consciousness' that deals automatically with 'the here and now' from 'extended consciousness' that 'provides the organism with an elaborate sense of self […] and places that person at a point in individual historical time, richly aware of the lived past and of the anticipated future, and keenly cognizant of the world beside it' (1999: 16). Viewed through Damasio's terminology, Stanislavsky's 'subconscious' would be akin to 'core' and his 'superconscious' akin to 'extended consciousness.' Moreover, when Damasio then identifies within 'extended consciousness' a 'supersense'—his term for the awareness of being aware—he even more directly brings to mind Stanislavsky's notion of the 'superconscious.' Just as Damasio sees the 'supersense' as that which 'eventually brings a full construction of being into the light [and…] permit[s] human creativity' (1999: 17), Stanislavsky understands the 'superconscious' as that which 'most of all elevates a person's soul, and thus most of all must be valued and preserved in our art' (Stanislavskii 1988–1999, vol. 4: 140).

One must certainly acknowledge that Damasio and Stanislavsky part company in their overall goals. As a scientist, Damasio seeks to 'discover[…] the biological underpinnings for the curious ability we humans have of constructing, not just the mental patterns of an object, […] but also the mental patterns which convey, automatically and naturally, the sense of self in the act of knowing' (1999: 11). As an artist, Stanislavsky seeks knowledge for the purpose of practicing his art. Damasio recognises this difference of goal when he writes:

> We [humans] can control, in part, the expression of some emotions—suppress our anger, mask our sadness—but most of us are not very good at it and that is one reason why we pay a lot to see good actors who are skilled at controlling the expression of their emotions.
>
> *(1999: 48)*

This look at Stanislavsky through the prism of Damasio's neuroscience, however cursory, suggests the value of measuring the System against twenty-first-century paradigms. Additionally, it suggests that Ribot's research and yoga may have fostered Stanislavsky's prescience more effectively than links in his System to behaviourism, because Ribot and yogis share a more insistently holistic conception of the mind, which better aligns with the complexities in twenty-first-century studies on human consciousness, like Damasio's.

AA as a theory of mind

Another way to test Stanislavsky's theories for the twenty-first century is to use them in experimental projects that seek to further scientific knowledge. As a theatre scholar and practitioner, known for my research on acting theories and Stanislavsky's System, I have had opportunities to consult on a number of such projects, including an investigation on how robots and intelligent virtual agents can interact with humans more credibly (Carnicke 2005), and the extended study, referenced earlier, on the bodily expression of emotion through motion capture (Carnicke 2012).

To conclude this chapter, I report on the scientific project in which I am engaged, while writing. The scientific team is based at Northeastern University and headed by Stacy Marsella, a widely published professor of computer science and psychology, and Magy Seif El-Nasr, associate professor of computer science with special expertise in arts, media and design. We are joined by two Ph.D. candidates, Dan Feng and Elin Carstendottir. Our project, which is funded by the US National Science Foundation, links AA to interactive storytelling in digital media.

The field of interactive storytelling investigates how digital games and artificial intelligence can be utilised, not only for entertainment, but also to address a wide variety of social and psychological needs. During the 2010s, a great number of interactive training programs were developed to help people cope with all sorts of social interactions, ranging from communication between doctors and patients to bullying. One particularly strong area of research has been the use of virtual reality to treat veterans with post-traumatic stress disorder.[7] However, the interactive narratives created for such training systems are often hampered by too few alternative choices for the humans who use the programmes and by overly simple stories.

Our team seeks to overcome both these difficulties. First, 'our approach begins with a paradigm shift that re-conceptualizes social skills simulation as rehearsing and improvising roles instead of performing a role' (Feng et al. 2016: 157). More specifically, we use the rehearsal techniques of AA to model how users can replay narratives in order to generate variations on the story. Second, relying upon 'the human skill to have and use beliefs about the mental processes and states of others, commonly called Theory of Mind (ToM),' we adapt the theoretical principles of AA to digital simulations that 'embed ToM training in the [interactive] experience to support better learning outcomes' (Feng et al. 2016: 157). This adaptation further aims at complicating and enriching the narrative content for interactive training programmes.

As this overview makes clear, our project brings Stanislavsky's AA into collaboration with scientific studies on Theory of Mind. Therefore, the histories of AA and ToM provide fuller contexts within which to understand our team's efforts.

Stanislavsky developed AA in his last Studio, the Opera-Dramatic (1934–1938), while he was under virtual house arrest by Stalin for artistic ideas that violated Soviet policies on Socialist Realism. Stanislavsky worked out the principles of AA by rehearsing plays in a variety

of performance styles and genres with a select group of actors behind closed doors. Given the censorship of the times, he never wrote publicly about his new rehearsal approach. Moreover, the Soviet press and Soviet scholars promoted a politically cleansed version of his experiments, called the Method of Physical Actions, in order to bring his late experimentation into alignment with Marxist materialism and realism (Carnicke 2010b, 2009: 183–94). With the Soviet 'thaw' in the arts during the 1960s, Stanislavsky's most trusted actors began to speak and write openly about his hidden experiments. His chief proponent was Maria Knebel, who named his late work AA in order to distinguish it from the Soviet Method of Physical Actions. She promoted AA until her death in 1985 through her influential directing, teaching and prolific writings (Carnicke 2010a: 99–116). While widely used in contemporary Russia, AA is still largely misunderstood elsewhere (Carnicke 2016a).

ToM began as an issue in philosophy, but moved into psychology in 1944 when social psychologists Fritz Heider and Marianne Simmel showed animated cartoons of geometric shapes to observers, who readily attributed emotional states and purposeful intentions to the moving shapes. Heider's seminal book, *The Psychology of Interpersonal Relations* (1958), moved the common-sense psychology of ToM into the realm of sophisticated, experimental science. Over the decades, ToM has generated many different mental models that now also impact studies in neuroscience and artificial intelligence. As Damasio explains, 'the traditional worlds of philosophy and psychology have gradually joined forces with the world of biology and created an odd but productive alliance' (1999: 13). From the 1980s onwards, Robert Gordon's and Jane Heal's model for ToM, called Simulation Theory, has become widely accepted among cognitive scientists. This model posits a process by which an observer puts himself or herself imaginatively in the shoes of the other in order to understand how that person might be thinking and planning (see Gordon 1995). Bruce McConachie, co-editor of this volume, has observed that such simulation is 'very close to the notion of empathy put forward by Konstantin Stanislavsky,' who likewise asks actors to imagine themselves in the given circumstances of their characters (McConachie 2006: 55).

Our scientific project uses both the rehearsal practices and theoretical principles of AA to design an interactive training system that teaches ToM skills through interactive stories. In terms of rehearsal practices, AA replaces Stanislavsky's earlier process of analysing plays through lengthy discussions with actors around a table with AA's experimental process of embodied analysis. AA operates through a series of guided improvisations that require actors to explore the interactive possibilities in a dramatic event by working them out on their feet. Actors read a scene in order to make a hypothesis about the interpersonal dynamics implied by the text. They then test their hypothesis through an improvised performance (called an 'etude' from the French word for study). Etudes can proceed either silently through physical behaviour alone, or verbally, with actors using their own words to explore the scene. Following each etude, the actors assess how closely their improvisation came to embodying the text as written. This evaluation leads to adjustments in the group's hypothesis, then to the next etude, then to the next evaluation—a three-step process that is repeated until the full complexity of the scene emerges. In short, the actors actively and collaboratively interrogate the full range of possibilities in a scene by repeatedly replaying it through improvisatory etudes. This iterative process provides a productive model for the replay with variations that our team believes will create richer narratives than the field of digital storytelling generally supports.

In terms of theory, AA provides a clearly articulated structure, which actors can use reliably to attribute mental processes and inner states to their acting partners. This theoretical structure conceives of performance as a chain of events, with each event resulting

from the collision between an impelling action and a counteraction. Vector analysis from physics, which assesses the direction and intensity of forces, has always afforded me a convenient analogy to explain the underlying principles of AA to actors. If I throw a baseball, I initiate an action; gravity now becomes the baseball's partner, exerting a counteraction that changes the trajectory of the baseball, curving its path down toward the ground. When the baseball finally falls, an event occurs and allows for a new impelling action. Perhaps a dog comes along, picks up the ball and starts running. If I chase him (a new counteraction), the next scene ensues and moves towards another event, and so on. This AA structure seems to be precisely what the performance scholar Patrice Pavis seeks when he calls for 'a theory of vectors that group together and dynamize entire moments of performance' (2003: 23).

In practice, AA's dynamic structure also prompts ToM skills because it assists actors in reading, reacting and adjusting to what they presume is going on in the minds of their acting partners. Actors are trained to pay close and sustained attention to how the external behaviours of their partners express their inner actions or counteractions. Damasio explains that, while consciousness is 'entirely private,' it is also 'closely tied to the external behaviours that can be observed by third persons,' and thus 'we know quite well how [first-person mind and third-person behaviour] are intercorrelated, first because of our own self-analysis, second because of our natural propensity to analyse others' (1999: 13).

If I were playing a scene in which my impelling action is to ask my boss for a raise, I would continuously assess her counteraction by attending to every nod of the head, every shift in the chair, every lapse in conversation which allows me to speculate about her attitudes, intentions, thoughts and feelings. As I asses this behavioural information, I modify my own behaviour, changing the strategies and tactics I use within the scene to persuade her that I deserve a raise. My partner simultaneously pays me the same close attention and adjusts to the information she observes in my behaviour. By the end of the scene, an event occurs between us when I get the raise or leave the office without it. Thus, our etude develops as an interactive dance in which we use the principles of action, counteraction and event as pragmatic tools to read each other's minds.

Yet, knowing who impels the action and who counteracts is not enough for actors to create a fully satisfying performance. Greater specificity comes when actors state their actions and counteractions as strong, active verbs that name their inner intentions in regard to one another. Using these verbs to advance their actions and counteractions in the etudes better allows actors to create credibly complex interactions that unfold moment to moment during performance. When directing, I begin with a brief discussion in which each actor determines whether he or she impels the scene or resists through a counteraction.[8] The actors then choose specific verbs that they believe might help them embody their actions and counteractions. By committing fully to their chosen verbs in their etudes, they often discover the scene's unanticipated possibilities, which they can test in future etudes.

Using AA as the rehearsal method for our social training project has opened my eyes to many premises in ToM that shed light on familiar aspects of acting. I trace three such premises here. First, in studying the developmental stages of ToM, scientists have found that children's ability to engage in pretend play develops at age two and is directly contingent upon knowing how to behave 'as if' something not true were true, for example, to use a banana as if it were a telephone receiver (Perner et al. 1994). Stanislavsky anticipates Perner by calling one of the System's foundational techniques 'magic if' and by observing that 'the actor must treat fiction exactly as if it were reality' (Stanislavskii 1986, vol. 2: 265). Additionally, studies

in ToM find that the ability to attribute a 'false belief' to another develops in children at age three or four, when they can recognise that beliefs sometimes diverge from reality. In 1983, Heinz Wimmer and Josef Perner developed the now familiar 'false-belief task' to test this ability. A puppet, named Sally, puts a toy in a location and leaves the room. Another puppet, named Anne, comes in and moves the toy to a different location. The child-observer is then asked to predict where Sally will look for the toy when she re-enters. The child who predicts that Sally will first look in the place where she last left the toy passes the test. The child who expects Sally to look for the toy where Anne put it fails the test. My readers will surely associate ToM's 'false belief' with the theatrical notion of 'the illusion of the first time.' Actors are, after all, trained to be masters of the 'false-belief task' and thus able to behave during performances, as if they do not know how the stories, which they have thoroughly rehearsed, will end.

Second, in studying the human capacity to recognise behaviour as expressive of a plan, psychologist Bertram F. Malle observes that ToM 'frames and interprets perceptions of human behaviour […] as perceptions of agents who can act intentionally and who have feelings, desires, and beliefs that guide their actions' (2005: 227). This insight supports Stanislavsky's demand that actors engage in purposeful action driven by precisely the same trio, feelings (*chuvstva*), desire (*khotenie*) and belief (*vera*). In one of the most famous passages from the first volume of his acting manual, Stanislavsky's fictional teacher, Tortsov, asks a beginning student to go on stage and sit there, waiting for further instructions. After a few moments, he tells her that she has completed her work well. She is stunned, because, in her view, she has done nothing. But, as Torstov explains, the very fact that she sat 'for a specific purpose, even so simple a one as waiting for something to happen' was enough to take her into 'the realm of living art' (Stanislavskii 1988–1999, vol. 2: 88–9).

In order to infer purpose, however, people must recognise a series of actions, performed in sequence, as an intentional plan. In the classic 1978 study on plan recognition, Charles F. Schmidt and his team set up an experiment in which a man, Steve, walks to a cabinet, opens it, takes out a record, removes the record jacket and then drops the record. The team found that observers made sense of this sequence by creating narratives that could logically account for Steve's intent—perhaps he wanted to play the record but accidentally breaks it, or perhaps he wanted to smash it because he associates it with a bad relationship. The scientists concluded that 'the problem of plan recognition is to take as input a sequence of actions performed by an actor and to infer the goal pursued by the actor and also to organize the action sequence in terms of a plan structure' (Schmidt et al. 1978: 52). Actors will readily connect this experiment to Stanislavsky's advice on developing a 'score of actions' that clarifies the logic of a role's story.

Such plan recognition allows an observer to predict future outcomes, in other words, to reason about imaginary possibilities. Schmidt and Marsella, who head our project, explain:

> By definition, planning to achieve some goal involves the use of and representation of states of affairs that are not true of the current world. And plan recognition involves attributing to some other acting agent belief about past, present, and possible future states of affairs as well as an intent to bring about some future state of affairs.
>
> *(1991: 109)*

In short, imagination is as necessary to ToM as to Stanislavsky, who, like Damasio, associates it with the 'images' of 'objects' that make up the imaginary 'filmstrip' in the actor's mind while performing (Stanislavskii 1988–1999, vol. 2: 129–31).

Third, scientists value ToM for its fostering of those social skills, such as empathy, cooperation and collaboration, which define human culture and are the target for training programmes in the field of interactive digital storytelling. As Malle passionately writes:

> The ability to represent, conceptualize and reason about mental states is one of the greatest achievements of human evolution.[…In fact,] recent theories and evidence suggest that the evolutionary emergence of a genuine theory of mind occurred after the hominid-line split off and may thus be uniquely human.
>
> *(2005: 225)*

Stanislavsky might have said much the same of acting, which in his opinion is an art that relies upon human empathy and cooperation through collaborative work.

In the first case, Stanislavsky uses the Russian linguistic connection between human feelings (*chuvstva*) and empathy (*sochuvstvie*)[9] to explain how actors create their roles through 'a process of analogy that occurs when recollections arise from both reading and listening to stories about other people' (Stanislavskii 1988–1999, vol. 2: 312). He continues:

> When we first encounter a dramatic work, we usually, with rare exception, start with empathy for the characters in the story. Then in rehearsing the play, we, who are humans and actors, transform this empathy into our own authentic feelings.
>
> *(Ibid)*

In the second case, Stanislavsky stresses the need for actors to work together cooperatively as an 'ensemble,' which he defines as 'a union formed for the sake of a single collective goal' (Stanislavskii 1986, vol. 1: 377). Moreover, he explains:

> This union must never be forced by a director, but free. Directors should attain their goal, not through fear or compulsion but by inspiring actors' fantasies and free-wills.
>
> *(Ibid)*

The digital project, in which I am engaged, began with a formal experiment that collected alternative interactions for a two-person scene through crowdsourcing—an Internet-based methodology that allows a large number of people to contribute data. This experiment yielded promising results that were presented by Dan Feng at the Ninth International Conference on Interactive Digital Storytelling in November 2016.

Based upon my providing a primer on AA, the scientists developed a three-step social skills training system: (1) *Framing* sets the parameters of the scene. (2) *Improvisation* then takes place between a human participant and virtual actors, with the participant writing short sentences that trace the development of the interaction by using verbs to express the actions and counteractions. (3) *Performance Analysis* concludes the process by providing feedback on how the participant understood the beliefs and intentions of the virtual character (Feng et al. 2016: 158–9). At the conclusion of this three-step process, a new piece of information about the dramatic situation or the characters would be added and the process repeated. 'This design is to encourage each [participant] to re-evaluate the same scenario but from different perspectives, much like AA rehearsal directors do with their actors' (Feng et al. 2016: 161).

This first experiment focused on one scene from a longer scenario, *Mistaken Guilt on a Train*, that the scientists wrote for the project. Following the erroneous arrest of an African-American good Samaritan, who intervenes to protect his fellow passengers when a

passenger on a train begins attacking people, a reporter *(R)* goes to interview the police chief *(PC)* at his house, but is blocked from entry by a guard *(G)* (Feng et al. 2016: 158). Crowd workers, who functioned as human actors, generated 108 interactions based upon this scene, with each interaction averaging six lines of text. These interactions proved to be 'very rich in terms of character actions and the intention of each action,' despite the fact that the intentions tended to remain 'fairly static' over the course of the scene (Feng et al. 2016: 161). Here are two examples of the interactions that were collected:

> *Bribe: R* asks *G* to see *PC*. *G* declines her request. *R* tries to bribe *G*. *G* declines *R*'s bribe. *R* adds $50.00 more to the bribe. *G* accepts the bribe.
>
> *Manipulation*: *R* flirts with *G*. *G* tries to ignore *R*. *R* compliments *G* a lot. *G* begins to flirt with *R*. *R* tells *G* that she just needs a few teeny minutes with *PC*. *G* becomes wary and tells her to leave.
>
> *(Feng et al. 2016: 161)*

A different group of 120 crowd workers annotated how the verbs in the collected data 'altered the beliefs, goals and attitudes of the characters.' They also assessed the dramatic coherence, elicited by the improvised interactions of the players (Feng et al. 2016: 162).

In assessing our first experiment, Feng reported that 'the results of using AA and ToM as theoretical foundations show the promise of such a framework to collect, annotate, and generate interactive narratives, broader in scope and greater in richness, than those currently available in social skills training' (Feng et al. 2016: 166).[10] Moreover, during the Ninth International Conference on Digital Storytelling, we were delighted to meet another group from Italy, who are also using AA to develop a computational model for creating and analysing drama (Albert et al. 2016). This meeting further convinced me of Stanislavsky's value to science.

Conclusion

Can Stanislavsky's twentieth-century theories on acting continue to inspire contemporary actors when cognitive science promises radically new paradigms through which to understand humanity and, in turn, acting? In this chapter, I argue that Stanislavsky can indeed continue to speak to twenty-first-century actors. On the one hand, my case study on Stanislavsky and neurobiologist Damasio demonstrates the efficacy of the emerging methodology among scholars and actors/directors to study Stanislavsky's work through the lens of new science. On the other hand, my collaborative work with scientists, who are applying Stanislavsky's AA to the generation of new knowledge, positions his work as a living legacy in acting that not only continues, but also evolves with the times.

Notes

1 All translations from Russian language sources, including Stanislavsky's writings, are mine.
2 I transliterate the Russian name 'Stanislavskii' with a final 'y' in accord with standard transliteration practice in the Slavic languages field in which I hold a Ph.D. However, in this chapter I retain the alternate transliteration with a final 'i' as used in cited sources and quotations.
3 For more on the influences of Soviet behaviourism and Ribot on the System, see Carnicke (2009: chapters 8 and 9).
4 Blair finds the concept of 'image' especially salient as its prominence in the title of her 2008 book demonstrates.

5 While Stanislavsky fought with the Soviet censors to retain 'soul' (*dusha*) and 'spiritual' (*dushevnyi*) in his publications, Jean Benedetti erases both words in his 2008 translation by consistently translating *dusha* as 'mind' (*um*) and *dushevnyi* as 'mental' (*umnyi*). For example, with regard to my quotation here, Benedetti translates Stanislavsky's definition of the creative state as 'what happens in an actor's mind as he is performing and rehearsing' (Stanislavski 2008: 205).
6 The italics are Damasio's.
7 Leading the way in this work is Albert Rizzo, Director for Medical Virtual Reality at the Institute for Creative Technologies at the University of Southern California. He won the American Psychological Association's 2010 Award for Outstanding Contributions to the Treatment of Trauma.
8 If there are more than two actors in a scene, alliances are created in which actors assist with either the action or the counteraction. Such alliances ensure that ensemble scenes maintain clear focus and that all actors in the scene work collectively.
9 Jean Benedetti translates *sochuvstvie* as 'fellow feeling' (Stanislavski 2008: 224).
10 We have initiated the next phase of our work. The scientists will observe my directing of the project's scenario with live actors in order to design an intelligent virtual agent (IVA) that can, like a human director, assist participants to expand their imaginative choices as they prepare for improvisations. The scientists hope that designing this 'director agent' will allow them 'to incorporate more aspects of AA into the social training experience' (Feng et al. 2016: 166). My modelling for an IVA boggles my mind, but brings a smile to the face of my long-term colleague, Stacy Marsella. Only time will tell if such an avenue of research will prove productive.

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