

**Improvisation for the Mind:
Theatrical Improvisation, Consciousness, and Cognition**

A dissertation

submitted by

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Abstract

Improvisation teachers Viola Spolin, Del Close, and Keith Johnstone knew that with structure and guidelines, the human mind can be trained to be effortlessly spontaneous and intuitive. Cognitive studies is just now catching up with what improvisers have known for over fifty years. Through archival research, workshops, and interviews, I ask what these improvisation teachers already knew about improvisation's effects on consciousness and cognition. I then hold their theories up against current findings in cognitive neuroscience, psychology, and philosophy.

The hypothesis that comes out of my methodology is that improvisation orders consciousness. By demanding an outward focus on other improvisers and the game being played, improvisation diminishes one's internal focus. This reduces self-consciousness, fear, and anxiety. I also look at more extreme examples of this change in focus where improvisers reach states of flow and experience changes in perception, time, and memory. Examining cognitive studies' relevance to improvisation has implication for scripted productions, therapy, and our everyday lives. The guidelines of improvisation and how those guidelines alter consciousness and cognition can serve as a model in ordering consciousness, interacting with people, and living optimally.

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Introduction

Viola Spolin begins her book *Improvisation for the Theater* (1963) by saying that everyone can act and everyone can improvise.¹ Everyone does. People behave spontaneously all the time. Theatrical improvisation is a microcosm to better understand how guidelines and structure can lead to intuitive and inspired behavior, so a look at the theatrically improvising mind and brain has implications for all people. What is going on in the creative and spontaneous improvising mind? How are time, memory, and notions of the self affected while improvising? And how can we access this mode of spontaneity for drama, other artistic pursuits, other fields, and even our everyday moment-to-moment happiness?

In college, I regularly rehearsed and performed with a very tight-knit improv comedy troupe. During a few performances, I seemed to get so “into the show” that I did not remember performing. I had, and still have, no recollection of being onstage. The shows were all videotaped, and when we watched the tapes I was amazed at how good I was at improvising. Yet I still had no memory of being that guy on the video. The unique rules, structure, and skill-set required for improv affected my mind/brain differently than scripted performances.

My personal experience led me to this dissertation and my broader hypothesis on improvisational acting, which is that the difference between “as if for the first time” and “for the first time” changes the way an actor thinks, reacts,

¹ Viola Spolin, *Improvisation for the Theater: A Handbook of Teaching and Directing Techniques* (Evanston: Northwestern University Press, 1963), 3.

and performs. It changes how the performer's mind functions. This, as a result, changes the very quality of a performance. I am not about to argue that all performances should be improvised; most would fail painfully, the dreaded downside of the art form. I do, however, think that a look into how various improvised acting techniques can affect consciousness and cognition can give valuable insights into creating lively, engaging theatre while also expanding our understanding of the mind more generally. The question is, "How does theatrical improvisation affect consciousness and cognition?" To answer that question I look at the teaching and writing of Viola Spolin, Del Close, and Keith Johnstone and compare their theories to those of recent cognitive studies. What interests me in this topic is not just a look at improv's history but that history viewed with the cognitive processes and possibilities always at the forefront of the discussion. My project is to uncover what Viola Spolin, Del Close, and Keith Johnstone intended, what actually ends up happening to their practitioners while improvising, and finally, what current cognitive neuroscience can add to the explication of the various improv schools.

My thesis is that the brain of an improviser works differently than the brain of someone reciting a script. The key to unlocking this improvising brain is focus. Most improv instruction centers around skill-sets and rules that must be ingrained in the mind of the performer. Once second nature, this new way of focusing allows parts of the brain related to self-censorship and editing to quiet and regions of the brain related to intuition and creativity to take over.

The history of improvisation has been written a few times, sometimes quite

thoroughly, but consciousness and what goes on inside the brain during improvisation is always alluded to without ever being explained. Frost and Yarrow's *Improvisation in Drama* (2007) casts a wide net by defining improvisation in broad terms. Their exploration includes System-based rehearsals, psychodrama, and even the work of Brecht. One conclusion of these histories is that improvisation is an integral part of even scripted drama. David Charles's dissertation *The Novelty of Improvisation: Towards a Genre of Embodied Spontaneity* (2003) also interprets improvisation in broad terms by including the work of Grotowski, Boal, and psychodrama. These two histories are far-reaching and extremely thorough; they incorporate various cultures and modes of improvisation. In *Whose Improv Is It Anyway?: Beyond Second City* (2001), professor in theatre and dance Amy Seham uses a narrower scope to analyze Chicago-based improv comedy that comes out of the work of Neva Boyd and Viola Spolin as well as Keith Johnstone's theatresports-based improv. Her focus, though, is on the social implications of Chicago improv's "boys' club."²

All three histories are important and drop hints and clues about improvisation's effects on consciousness and cognition that I intend to pick up and explore more deeply with my project. References to consciousness, transformations, altered states of mind/consciousness, presence, and deep listening abound in writing about improvisational theatre. For example, David Charles's dissertation introduces huge questions about consciousness and

² Chicago improv is dominated by heterosexual, white men, and Seham's project is to explore the lack of diversity in the form. I also focus on this culturally narrow type of improvisation in the hopes that a look at its history and cognitive possibilities can resonate with a larger audience.

improvisation without ever defining or explaining the phenomenon (as this is not his project). The question of what makes a self comes up when Viola Spolin writes:

In present time a path is opened to your *intuition*, closing the gap between *thinking* and doing, allowing *you, the real you, your natural self*, to emerge and experience directly and act freely, *present to the moment you are present to.*³

Spolin is a champion of using terminology that invokes cognitive neuroscience, but since cognitive studies is a relatively new discipline, her pioneering theories are based more on her experience and intuition.

Johnstone's work is even more laced with references to consciousness and merits a much closer look (especially his mask work and altered consciousnesses). Johnstone talks about his students as utterly distinct from the masks they wear during his mask exercises. For example, he writes about the Mask⁴ learning to speak. When the student takes off the mask, she is right back to the state of mind she had pre-mask donning. The Mask stops developing and learning once the student takes it off as well. If the Mask had learned to say simple vowel sounds during one session that is where it will pick up during the next session.⁵ How can this be explained? Can the improviser and the actor have distinct minds or selves?

³ Italics mine. Viola Spolin, *Theater Games for the Lone Actor: A Handbook*, Paul and Carol Sills, Eds. (Evanston; Northwestern University Press, 2001), xii. Also quoted in David Charles, *The Novelty of Improvisation: Towards a Genre of Embodied Spontaneity* (Baton Rouge: Louisiana State University, 2003), 105.

⁴ Like Johnstone, I use the capitalized Mask to refer to the separate personality distinct from the performer. Whereas, mask refers to the literal object placed on the performer's face.

⁵ Keith Johnstone, *Impro: Improvisation and the Theatre* (New York: Routledge, 1979), 143-200.

So when I could not remember having performed an improv show, when Spolin talks about improv unlocking the real person, when Johnstone's Masks seem to act on their own accord, separate from the "consciousness" of the improviser, what is really going on? What is happening differently when an actor solves problems, figures things out, or makes decisions for the first time in front of an audience (my definition of improvisation) instead of reenacting as if for the first time? This a different sense of improv than Seham's definition of Chicago-style improv comedy:

...unscripted performance that uses audience suggestions to initiate or shape scenes or plays created spontaneously and cooperatively according to agreed-upon rules or game structures, in the presence of an audience—frequently resulting in comedy. It is usually performed by small groups of players who often develop strong bonds and relationships as a result of their work together.⁶

Seham's definition of Chicago-style improv has many key elements that I consider important to all forms of improv. There should be audience interactivity, spontaneous creation among a cohesive group of players, and agreed-upon rules and structures for playing in order for the performance to be considered improvised.

Ellen W. Veenstra also starts with Seham's definition of improv in her dissertation, *Improvisational Theater and Psychotherapy: A New Model* (2009). She then gets more detailed by further dividing improvisation into scenes, games, and exercises and short-form, long-form, and sketches with the help of theatre arts professor Jeanne Leep's book *Theatrical Improvisation: Short Form, Long Form*,

⁶ Amy E. Seham, *Whose Improv is it Anyway?: Beyond Second City* (Jackson: University Press of Mississippi, 2001), xvii.

and Sketch-based Improv (2008). I think Veenstra and Leep's clarification is important. Veenstra writes that "A *scene* is typically a few minutes long, and any observer would be able to clearly see who the characters are, where they are, and what they are doing."⁷ A game is different than a scene because the focus is on the solving of the problem or objective, and as soon as the problem is solved the game is over. The definition of game changes slightly in long-form improvisation. There the game of a scene is some quirk or pattern that can be repeated and heightened. If a character laughs after the other person says something serious the game of the scene could be one person saying sadder and sadder things and the other laughing harder and harder. Finally, an exercise's purpose is to improve a skill during a rehearsal or warm-up and not to solve a problem or create characters, places, and actions with a beginning, middle, and end.⁸

Sketch-based improvisation, such as that done by Second City, is when "improvisers perform scenes, pick out the best scenes, rework them, test them again in performance, and then eventually write them down as finished pieces."⁹ According to my definition, sketch-based improv can use improvisation to create scripted scenes. These scenes can be classified as improvised if the actors still have choices to make, on the spot, in front of the live audience. Sketch-based improv could also just as easily become completely scripted without any room for

⁷ Italics in original. Ellen W. Veenstra, *Improvisational Theater and Psychotherapy: A New Model* (Azusa Pacific University, 2009), 13. Veenstra's inspiration for this definition is from Jeanne Leep, *Theatrical Improvisation: Short Form, Long Form, and Sketch-Based Improv* (New York: Palgrave, 2008).

⁸ Ibid.

⁹ Ibid.

improvisation during the final performance. However, sketch-based improvisation is only one type of sketch comedy; often sketch comedy is completely scripted and uses no improvisation in the rehearsal or performance of the comedy. Veenstra and Leep define a short-form improv show as “usually comprised of several short scenes, each based on a different suggestion, each based on a different game structure, and each with predetermined improvisers.”¹⁰ The best-known example of this is the British and American television shows *Whose Line is It Anyway?* Long-form shows are anywhere from twenty to ninety minutes and are completely improvised. Short-form scenes or games can be used to create the long-form show. Connections between the scenes can be thematic or narrative, loose or direct.

Cognitive neuroscientists are still discovering and explaining what consciousness is and is not. My work starts with the basic idea that anything in consciousness is something we can knowingly think or experience, but the work of Daniel Dennett and Steven Pinker, along with other philosophers and neuroscientists, muddies these waters rather quickly. Understanding the mind better is part of their mission, and a look at improvisation’s effects on consciousness and cognition will hopefully help in that pursuit.

Neuroscientist V.S. Ramachandran’s description of blindsight in *The Tell-Tale Brain: A Neuroscientist’s Quest for What Makes us Human* (2011) is an example of why defining consciousness is difficult. The example also makes my understanding of consciousness clearer:

¹⁰ Veenstra, *Improvitational Theater*, 14 and Leep, *Theatrical Improvisation*.

Weizkrantz [the doctor] told him [Gy, patient with brain damage] to reach out and try to touch a tiny spot of light that he told Gy was to the right. Gy protested that he couldn't see it and there would be no point, but Weizkrantz asked him to try anyway. To his amazement, Gy correctly touched the spot.¹¹

Ramachandran goes on to describe blindsight, which is seeing without being conscious of that seeing. The ability to see is generally thought to be a conscious effort, so “How can a person locate something he cannot see? The answer lies in the anatomical division between the old and new pathways in the brain.”¹² The pathway in the brain that allows seeing is different than the one that allows the perception of sight. In Gy's case, he was unaware that he could perceive the spot in front of him; therefore he was not conscious of perception. It could be said though that he could see the spot, since he was able to point to it. Blindsight then would be unconscious seeing according to my definition of consciousness thus far. Another example Ramachandran uses for this unconscious seeing is when one zones out during a long drive on the highway or while driving a very familiar route. Clinical psychologist Zoltan Torey refers to conscious awareness as reflective awareness, which may be a better term than consciousness.¹³ Either way, this distinction between conscious and unconscious perception is integral to my research on improvisation and cognition. Throughout this dissertation I draw on many scholars' theories about conscious versus unconscious perception and problem solving, since improvisation often requires performers to speak and act

¹¹ V.S. Ramachandran, *The Tell-Tale Brain: A Neuroscientist's Quest for What Makes us Human* (New York: W.W. Norton and Company, 2011), 63.

¹² *Ibid.*, 63-64.

¹³ Zoltan Torey, *The Crucible of Consciousness: An Integrated Theory of Mind and Brain* (Cambridge: MIT Press, 1999), 4.

before being reflectively conscious of it.

Neuroscientist Antonio Damasio also makes a distinction between core consciousness and extended or autobiographical consciousness. For Damasio, core consciousness is “...the sense of the here and now, unencumbered by much past and by little or no future.”¹⁴ This is an instinctual consciousness that all sentient beings have. Extended consciousness though “...manifests itself most powerfully when a substantial part of one’s life comes into play and both the lived past and the anticipated future dominate the proceedings.”¹⁵ This is the kind of consciousness that incorporates learning and identity. His distinction will be helpful to describe improvisation, an activity that relies on core consciousness.

For my purposes, the distinction that Ramachandran’s blindsight case study provides is the most valuable. In improvisation much of the discussion involves intuition and awareness, so the dichotomy raised by blindsight is a good starting point. As different styles of improvisation speak to different aspects of consciousness, I will continue to evolve and develop this basic definition of consciousness as I describe the inner workings of the improvising mind. The crucial takeaway from the blindsight example is that we are not conscious of everything we perceive. A huge part of humans’ problem-solving capabilities is unconscious, and improvisation is one means to access this unconscious mind.

It is also important to briefly distinguish the term brain from that of mind. I use the word brain to mean the literal organ between the ears. When I describe

¹⁴ Antonio Damasio, *Self Comes to Mind: Constructing the Conscious Brain* (New York: Pantheon Books, 2010), 168.

¹⁵ *Ibid.*, 169.

scanning technology or specific regions and clusters, I write brain. On the other hand, mind refers to a vaster and much more mysterious set of connections. The mind includes other parts of the body (such as spine, heart, and gut), energy from the environment, and connections with other people. Brain goes with neuroscience and functional magnetic resonance imaging (fMRI),¹⁶ and mind goes with thinking, perception, and self-identity.

Throughout the dissertation I write about specific regions in the brain, but this is not to say that one region is doing all the work in perception and cognition, regions work in isolation, or that brain regions do not also involve chemicals. Even when I get more specific with brain regions, my frame for this dissertation and for my understanding of the mind is that of situated cognition. Philosophy professors Philip Robbins and Murat Aydede summarize the premise of situated cognition:

First, cognition depends not just on the brain but also on the body (the embodiment thesis). Second, cognitive activity routinely exploits structure in the natural and social environment (the embedding thesis). Third, the boundaries of cognition extend beyond the boundaries of individual organisms (the extension thesis).¹⁷

Consciousness does not start and end in the brain but is a complex interaction between the body, the environment, and other bodies. Even containing consciousness only in the body is too simplistic, as consciousness extends between and amongst bodies. Philosopher Alva Noë also makes the argument

¹⁶ fMRIs are brain scans that show increases and decreases in blood flow in brain regions.

¹⁷ Philip Robbins and Murat Aydede, “A Short Primer on Situated Cognition” in *The Cambridge Handbook of Situated Cognition* (Cambridge: Cambridge University Press, 2009), 3.

towards a more comprehensive, embodied consciousness:

...we ought to reject the idea—widespread in both philosophy and science—that perception is a process *in the brain* whereby the perceptual system constructs an *internal representation* of the world. No doubt perception depends on what takes place in the brain, and very likely there are internal representations in the brain... What perception is, however, is not a process in the brain, but a kind of skillful activity on the part of the animal as a whole.¹⁸

It is essential to remember that perception is something that is done but not done exclusively by the brain. Improvisation consists of specific environments and human interactions that are as much a part of what makes improv consciousness unique as what is happening in the brain. When I describe the brain and brain regions, it is always through the underlying principle of situated cognition. The brain is just one part of a complex network that creates consciousness.¹⁹

Rhonda Blair's book *The Actor, Image, and Action: Acting and Cognitive Neuroscience* summarizes the connections that recent cognitive studies discoveries have to Stanislavski-based acting systems.²⁰ Blair describes the paradox of acting as both spontaneous and rehearsed:

...the actor's work is akin to that of the dancer's or the musician's, for each memorizes a score, whether it is textual, choreographic, or musical, that engages and interacts with the body. The same text

¹⁸ Italics in original. Alva Noë, *Action in Perception* (Cambridge: MIT Press, 2004), 2.

¹⁹ I do, however, describe particular brain regions throughout this dissertation. Perhaps speaking of brain regions and their possible functions is replacing the old metaphor of left and right brain with something more specific, but I find neuroscience a useful way to describe the effects of improvisation. As long as the complexity of consciousness is never forgotten, zooming in on brain regions can help describe decreases in self-consciousness and increases in creativity and spontaneity.

²⁰ By Stanislavski-based, Blair is describing acting traditions that come out of the Stanislavski tradition that often use sense and emotional memory during rehearsals.

or score may be memorized word for word, step by step, or note for note by different artists but the way in which the score is executed will vary greatly from individual to individual.²¹

Blair focuses on scripted productions in her book but writes, "...since all performance is ultimately about how images in somebody's head work on the bodies of the performer and the audience, I believe there can be applications for any kind of theatre (but that is another book)."²² This is that other book, the one that focuses on improvisation. While Blair's analysis of Stanislavski-based techniques and cognitive studies has some overlap with my project on improvisation, her focus is on careful textual analysis in rehearsals leading to a recapturing of spontaneity. Instead of trying to recapture the spontaneity once experienced in rehearsals with no audience to enjoy it, my dissertation connects cognitive studies with spontaneity experienced for the first time (not "as if" for the first time) in front of an audience. Those connections, as previously mentioned, always seem to be bubbling below the surface of any discussion about improvised acting. This dissertation makes those connections explicit.

In the recent article "This is your Brain on Jazz: Researchers use MRI to Study Spontaneity and Creativity" (2010) scientists hooked jazz musicians up to brain scans while they played memorized scores and also when they improvised.²³ Interestingly, the scientists found that the part of the brain called the dorsolateral

²¹ Rhonda Blair, *The Actor, Image, and Action: Acting and Cognitive Neuroscience* (London: Routledge, 2008), 52.

²² *Ibid.*, 84.

²³ Johns Hopkins Medicine Media Relations and Public Affairs, "This is Your Brain on Jazz: Researchers use MRI to Study Spontaneity and Creativity," *Brassmusician.com* (11 October 2010): <http://brassmusician.com/this-is-your-brain-on-jazz/>

prefrontal cortex²⁴ slowed down during improvised playing. This part of the brain has been linked to planning and self-censoring. The medial prefrontal cortex increased in activity in the improvising jazz musicians. This part of the brain is linked with self-expression and creativity. The brain works differently when musically improvising than when it is recalling memorized scores, but does this difference still exist with improvised versus scripted acting? Luckily, there is research linking music and language in the brain. *The Cognitive Neuroscience of Music* (2003), edited by psychology professor Isabelle Peretz and neuropsychology professor Robert Zatorre, contains essays linking music and language processing, as does senior fellow at the Neurosciences Institute Aniruddh D. Patel's *Music, Language, and the Brain* (2008). Chapter four of this dissertation explores the connections between music and language processing by asking how improv and current research such as the jazz musician fMRI study relate.

Looking at how the mind functions spontaneously also has broader implications. Thinkers and spiritual leaders such as Deepak Chopra incorporate ancient religious traditions with current cognitive studies to teach rules for being present and open to each moment of life. Many of these rules are the very same as in improvisation and can relate to interactions as diverse as parenting, therapy, or business meetings. Looking at improv pedagogy and its effects on the mind is also looking at its effects on mankind and how people interact with each other. Viola Spolin believes her improv students are able to carry the skill of accessing

²⁴ See Appendix for a diagram of brain regions.

their intuition into their everyday lives.²⁵ She may be onto something, since improvisation rules may open people up to a truer sense of self, more empathy, and changes in consciousness where time, memory, and space can all be altered. As I explore the different branches of improvisation and their relationships to cognitive studies, more implications of the importance of these broader connections will become clear. I will focus narrowly on different improv forms only to broaden my scope in the conclusion, returning to the idea that improv and the brain is a topic about empathetic social interactions as much as it is theatre. But first, what is it that goes on in the brain of a skilled improviser when she takes the stage?

My working hypothesis is that an increase in intuition and creativity occurs because of similar regions in the brain affected in the John's Hopkins brain scans. I believe the dorsolateral prefrontal cortex and regions like it can be trained to decrease in activity and other regions such as the medial prefrontal cortex to increase in activity. Jazz musicians do this by learning the skills of jazz as second nature and then focusing on the music (not themselves). Theatrical improvisers do this by learning the skills required of improv as second nature and then focusing on their environment as it is mutually created through intense focus on others. This results in less self-consciousness and more intuitive playing, the true self over ego self according to Viola Spolin.²⁶ It can also result in moments of flow, where time seems to be altered and everything seems to fall into place

²⁵ Spolin, *Improvisation*, 37.

²⁶ Viola Spolin, Viola Spolin Archives at the Northwestern University Special Collections, Box 9, Folder 2 (Evanston, March 2011).

effortlessly. In moments of enhanced flow, memory can be affected as much as time, since the parts of the brain being used are so different from day-to-day brain functioning. Different brain functions can mean different selves. I also think scripted acting can take a cue from improv and incorporate outward focus and not thinking about the future in order to attempt to affect the brain similarly to when it is improvising.

The limitations of this dissertation are that I am certainly not a neuroscientist, psychologist, or cognitive philosopher. I use these sources as they apply to better understanding improvisation and the mind, but this dissertation does not pretend to be an exhaustive study of the cognitive sciences, though I have tried to use the most current finding in those fields. This dissertation is also not a comprehensive history of improvisation. I use historical information about improvisation only when it relates to my task of answering what happens to the mind during improvisation. I also focus on forms of improvisation that are most common and popular with heterosexual, white men. There are other kinds of improvisation that would add cultural nuance to the exploration of improvisation and the mind including the work of Augusto Boal and Jerzy Grotowski. This dissertation is not an exhaustive look at all improvisation. Instead, I focus on three forms that share some similar guidelines.

LITERATURE REVIEW

This dissertation draws from research in many fields. A survey of relevant sources from theatre history, cognitive studies in drama, neuroscience, cognitive

philosophy, psychology, and musicology will make connections between current findings in all those fields. Also, the sources I draw from can be sought out for more detailed insight into those disciplines, since they are all only partially pertinent to my own scholarship.

The theatre history books I draw from include those written directly by the improvisation teachers. Viola Spolin's *Improvisation for the Theater* (1963) includes many of her games and teaching theories. She also includes some of her ideas on what improvisation is and how it affects the brain. Many of Spolin's concepts such as side coaching and using the space are crucial to understanding her specific contribution to improvisation.²⁷ I also supplement Spolin's published work with writings from her archives at Northwestern University's Special Collections. This archival research allows me to trace a progression and development in Spolin's theories and teaching. In those archives, I also discovered more of Spolin's theories on how her work relates to cognition.

Del Close and Charna Halpern wrote about their work at iO Theater (previously improvOlympic) with Kim "Howard" Johnson in *Truth in Comedy: The Manual of Improvisation* (1993). Similar to Spolin's writing, this is more of a how-to guide, but it does contain some of their theories on improv and the mind. Halpern also wrote *Art by Committee: A Guide to Advanced Improvisation* (2005). *Art by Committee* describes the evolution of long-form improvisation since 1994 and also contains the historical details of Halpern and Close's

²⁷ Spolin's books *Theater Games for the Lone Actor* (1985) and *Theater Games for Rehearsal: A Director's Handbook* (2001) mainly consist of additional improv games and insights into how to teach and direct using her technique.

beginnings at iO. I supplement Close and Halpern's own writing with interviews and workshops at iO Theater in Chicago, since it is still an active improv school and Halpern is still a presence at the institute. I took the summer intensive program in 2011 and interviewed teachers, experienced improvisers, and Halpern herself to find more specific answers about long-form improvisation and how it affects consciousness and cognition.

Keith Johnstone has written about his theories and teaching in *Impro: Improvisation and the Theatre* (1979) and *Impro for Storytellers* (1999). The former is filled with his theories about improvisation, how it affects the mind, and even how his mask work can lead to a kind of altered state of consciousness. The latter focuses more on building improvised narratives and is more like Del Close's work with long-form improv in that sense. I also conducted interviews and took a Johnstone-led workshop to delve deeper into his improv pedagogy and theories.

Research and first person accounts are also available that describe the history of these improvisation teachers. Historian Janet Coleman recounts the history of The Compass Theater Company, the precursor to Second City, in her book *The Compass* (1990). She gives insight into Viola Spolin's early involvement leading workshops at both the Compass and Second City. Theatre historian Jeffrey Sweet compiled *Something Wonderful Right Away* (1978), which is an oral history of the most prominent members of the Compass and Second City including Del Close. Jeff Griggs and Kim "Howard" Johnson describe their personal involvement with Del Close and his teaching in their books *Guru: My*

*Days with Del Close*²⁸ and *The Funniest Man in the Room* respectively.

Something Like a Drug: An Unauthorized Oral History of Theatresports (1995), compiled by actor and teacher Kathleen Foreman and drama professor Clem Martini, describes the effects of Keith Johnstone's theatresports on its players. Many of their stories verify Johnstone's theories of the power his improv style has to alter performers' minds.

Broader histories of improvisation include lecturer and director Anthony Frost and drama professor Ralph Yarrow's *Improvisation in Drama* (2007). Theirs is a comprehensive look into the history of improvisation going all the way back to ancient Greece and Italy's commedia dell'arte tradition. They are liberal with their definition of improvisation and include the works of Grotowski, Brecht, and Moreno (psychodrama). Their book serves as a broad outline of the history and influence of theatrical improvisation.

Acting and improvisation professor David Charles's dissertation *The Novelty of Improvisation: Towards a Genre of Embodied Spontaneity* (2003) is similar to Yarrow and Frost's book in its comprehensiveness. Charles uses the theories of Grotowski, Boal, and Bakhtin to develop his own conclusions on the history of improvisation. His focus is on theorizing the spontaneity of theatrical

²⁸ Johnson's biography is comprehensive and references three sources that Close drew from when creating his own theories on improvisation. Robert S. DeRopp's *Drugs and the Mind* (1957) and Aldous Huxley's *The Doors of Perception* (2009) speak to Close's fascination with drugs and their effect on the brain. Betty Edwards's *Drawing on the Right Side of the Brain* (1979) is a how-to guide for drawing students to change their perception in order to draw using the intuitive parts of their brain and not the analytics parts. Edwards's book holds firmly to the right brain/left brain dichotomy, but her theory on shifting perception in order to shift brain function was relevant to Close's own work and theories about long-form improvisation and the brain.

improvisation, which is a first step to then investigate the cognitive make-up of that spontaneity. Amy Seham has a much narrower focus in her book *Whose Improv is it Anyway?: Beyond Second City* (2001). Seham explores the social and cultural implications and even barriers of the Chicago-based school of improvisation. Her work is useful in that it also covers noteworthy, contemporary Chicago improv troupes. Ellen W. Veenstra's dissertation *Improvisational Theater and Psychotherapy: A New Model* (2009) compiles the many different guidelines from various styles of improvisation, which is helpful for my project. Understanding the common principles amongst various forms allows me to connect these principles to cognitive studies in chapter one of this dissertation. Veenstra draws from Jeanne Leep's book *Theatrical Improvisation: Short Form, Long Form, and Sketch-Based Improv* (2008) to extrapolate her general guidelines, and I also use Leep's work. Leep has outlined the basic history and description of the various Chicago-based styles of improvisation. *Theatrical Improvisation* (2008) also defines many terms integral to understanding improvisation.

There are also sources that focus specifically on long-form improvisation. Improviser and teacher Rob Kozlowski's *The Art of Chicago Improv: Shortcuts to Long-Form Improvisation* (2002) looks specifically at long-form improv such as the kind performed at iO. Kozlowski's book is a practical guide for people who want to attempt careers in the Chicago improv world. iO improviser and teacher Jason Chin's *Long-Form Improvisation and the Art of Zen* (2009) is another practical guide to long-form improvisation. Both books are valuable as they are

written by and for performers, the people whose brains and minds are most relevant to my thesis.

The next sources relevant to my scholarship are those that explicitly connect theatre and cognitive studies. Cognitive theatre studies is a relatively new field, and some of the pioneers of such writing are Rhonda Blair, John Lutterbie, and Bruce McConachie. Rhonda Blair's book *The Actor, Image, and Action: Acting and Cognitive Neuroscience* (2008) is the first comprehensive study connecting acting with recent findings in cognitive studies. Her work focuses on applying cognitive neuroscience findings to scripted and rehearsed acting in order to better understand and develop performances. Concepts such as memory, imagination, and emotion are especially pertinent to her work. Though Blair focuses on scripted performance, her research and writing still have relevance to my dissertation. Blair argues that cognitive studies helps to better understand theatre. By understanding how neuronal paths are set and codified, we are better able to create live performances that are vibrant for our audiences. John Lutterbie's *Toward a General Theory of Acting: Cognitive Science and Performance* (2011) focuses on acting as viewed through Dynamic Systems Theory (DTS), which is similar to situated cognition. DTS "argues convincingly for the integration of thought with processes of living"²⁹ and refutes the mind/body dichotomy. Lutterbie and Blair relate the most recent findings in cognitive studies to

²⁹ John Lutterbie, *Toward a General Theory of Acting: Cognitive Science and Performance* (New York: Palgrave Macmillan, 2011), 79. John Lutterbie also makes connections between creativity and cognitive studies in his essay "Neuroscience and Creativity in the Rehearsal Process" in Bruce McConachie and F. Elizabeth Hart's collection *Performance and Cognition: Theatre Studies and the Cognitive Turn* (2006).

performances and acting in a practical as well as theoretical manner. Their approach is a model for applying cognitive studies to the process of acting.

Bruce McConachie's work focuses on audience reception. His writing, especially *Engaging Audiences: A Cognitive Approach to Spectating in the Theatre* (2008), is important to my scholarship insofar as improvisation relies on instant feedback from a live audience. This interactivity is important in keeping improv spontaneous and connected to the audience and may also make flow states more likely during improvised performances. Psychologist Mihaly Csikszentmihalyi lists immediate feedback as one of the prerequisites in achieving flow.³⁰ An improv audience provides this immediate feedback, so McConachie's writing on spectating is important for my own scholarship.

Another type of source important to my work is cognitive studies itself. I am using cognitive studies as an umbrella term to mean cognitive neuroscience, philosophy, and psychology. There are overlaps between all three, but dividing cognitive studies into specific branches helps clarify their unique contributions. Cognitive neuroscientists particularly useful in my own research include Antonio Damasio and V.S. Ramachandran. Damasio's *Self Comes to Mind: Constructing the Conscious Brain* (2010) explains how the evolution and composition of the brain creates a conscious self. His work is especially helpful in understanding

³⁰ Csikszentmihalyi, *Creativity*, 111. All nine elements of flow according to Csikszentmihalyi in *Creativity* are 1. Clear goals every step of the way. 2. Immediate feedback to one's actions. 3. Balance between challenges and skills. 4. Action and awareness are merged. 5. Distractions are excluded from consciousness. 6. No worry of failure. 7. Self-consciousness disappears. 8. Sense of time becomes distorted. 9. Activity becomes autotelic or something that is an end in itself.

Viola Spolin's teachings, since Spolin stresses the benefits of releasing one's "true self." Ramachandran's book *The Tell-Tale Brain: A Neuroscientist's Quest for What Makes us Human* (2011) has a similar aim as Damasio. A major difference is that Damasio relies more on brain scans and advanced technology, whereas Ramachandran uses case studies and self-professed Victorian science to reveal similar insights into the human brain. Both scientists use the most up-to-date findings in neuroscience to try to explain what makes us unique among other species.

I am calling the work of Steven Pinker and Daniel C. Dennett cognitive philosophy, since they rely more on thought experiments than on brain scans or case studies. Perhaps the most important contribution of Daniel Dennett's *Consciousness Explained* (1991) for my own scholarship is his Multiple Draft Modeled mind theory. Dennett goes against the Cartesian idea of the mind's eye, where thoughts are projected somewhere in the mind. Instead, he offers the Multiple Draft Model theory where neuronal activity competes for attention. There can be no unified thought projection or mind's eye, because there would have to be something registering the projection, then something beyond that to register the projection of the projection and so on.³¹ I go into much more detail and draw more on Dennett's cognitive philosophy in chapter two, where I describe long-form improvisation and the teaching of Del Close. Steven Pinker offers a more evolutionary view of cognitive philosophy. One important concept from his book *How the Mind Works* (1997) is that the brain did not evolve to be

³¹ Daniel C. Dennett, *Consciousness Explained* (Boston: Little Brown and Company, 1991), 101-138.

used how humans currently use it. Instead, because of the brain's plasticity, humans have been able to figure out new uses for the brain throughout time. Humans continue to figure out new ways to utilize the brain, which makes cognitive studies so compelling. Neuroscientists such as Damasio and Ramachandran draw on the philosophical work of Dennett and Pinker among others.³²

The third branch of cognitive studies is what I call cognitive psychology. These doctors generally draw on case studies instead of brain scan technology. This category is admittedly blurred with the neuroscientists, but doctors such as Oliver Sacks seem more interested in describing all the ramifications of various brain malfunctions in individuals than in trying to figure out which parts of the brain are causing them or which neuron clusters may be to blame. The conclusions Sacks makes, though, are similar to the neuroscientists, and neuroscientists often begin their research with similar abnormal case studies. So my division of neuroscience and cognitive psychology is not meant to be a dichotomy. Oliver Sacks's books *The Man who Mistook his Wife for a Hat and other Clinical Tales* (1970) and especially *The Mind's Eye* (2010) offer captivating case studies of patients who have various regions of their brains go awry. His detailed descriptions of the social and physical results of these malfunctions offer a fuller understanding of the brain that adds to the work of

³² Zoltan Torey's *The Crucible of Consciousness* (1999), Evan Thompson's *Mind in Life* (2007), and Daniel Kahneman's *Thinking Fast and Slow* (2011) are also cognitive philosophy books from which I draw.

neuroscientists such as Damasio and Ramachandran.³³

Other psychology sources include the work of Mihaly Csikszentmihalyi. His books on the psychology of flow and creativity include *Flow: The Psychology of Optimal Experience* (1991), *Creativity: Flow and the Psychology of Discovery and Invention* (1996), *Finding Flow: The Psychology of Engagement with Everyday Life* (1997), and *The Evolving Self: A Psychology for the Third Millennium* (1993). Improvisation lends itself to flow when the player's focus is outward, her skill level matches the challenge at hand, and she gets constant feedback and interactivity from the audience and her fellow players. These are all elements that Csikszentmihalyi states are necessary for flow states. Author Malcolm Gladwell's *Blink* explores the genius of unconscious, intuitive responses, and psychologist G. W. Farthing's *The Psychology of Consciousness* (1992) provides definitions and a thorough overview of consciousness and related terms. Psychodramatist and teacher Eberhard Scheiffele's "Acting: An Altered State of Consciousness" (2001) begins to connect improv to altered states of consciousness. Scheiffele led students through a series of improvisation exercises and then had them fill out a survey, which gave him some empirical evidence that the students were experiencing some of the qualities of altered states of consciousness as defined by Farthing. Scheiffele looks only at altered states of consciousness, which is just one psychological phenomenon of many needed to

³³ Ramachandran also uses case studies in a very Sacks way in his *The Tell-Tale Brain: A Neuroscientist's Quest for What Makes us Human* (New York: W.W. Norton and Company, 2011).

explain what goes on during improvisation.³⁴

I am putting all music cognition sources in one broad category here to save space and time instead of breaking them down further as I did with cognitive studies sources. Music cognition is more advanced than theatre cognition, so it serves as a model for my research. That said, music is not the type of improvisation I focus on. Excitingly though, language and music have been linked by cognitive scholars already, so a thorough look at sources asking how the brain processes music is still integral to my dissertation.³⁵

The Johns Hopkins jazz musician fMRI article I previously cited and a presentation given by medical doctor and associate professor Dr. Charles Limb about those scans are important for my own look at theatrical improvisation. There was also another set of brain scans done by musicologist Aaron L. Berkowitz and his team around the same time. Berkowitz describes his findings in *The Improvising Mind: Cognition and Creativity in the Musical Moment* (2010). Berkowitz's experiments confirm the findings of the Johns Hopkins scientists. He also claims to have removed more variables to see more specific effects of improv on the brain. The structure of his book is also a model for my own work since he starts by describing jazz pedagogy and practice and ultimately concludes with brain scan and other neuroscience evidence linking his early

³⁴ I also use Judith Becker's *Deep Listeners* to explain altered states of consciousness and trance. Other psychology books I utilize include Sian Beilock's *Choke* and Guy Claxton's *Hare Brain Tortoise Mind*.

³⁵ Jeff Pressing's "Improvisation: Methods and Models" in John A. Sloboda's *Generative Processes in Music* and Aniruddh D. Patel's *Music, Language, and the Brain* begin making those connections between music and language processing.

chapters with cognitive studies.

CHAPTER OUTLINE

Chapter one “Viola Spolin: Games as a Means towards Flow, Empathy, and Finding One’s Truer Self” goes back to the origins of contemporary, Chicago-based improvisation. I re-tell the story of Viola Spolin’s early improv teaching by focusing on her own writing as it relates to cognition. Spolin took Neva Boyd’s educational children’s games and applied them to adult performers, which her son Paul Sills expanded into the Compass Players and then the Second City. In this chapter, I explore the intentions behind Spolin’s teaching. What did she intend her improvisation teaching to do, and what did she hope her students would gain from her instruction? Spolin describes her work as unlocking one’s real or true self, which deserves a closer look.

The second part of the chapter compares and contrasts Spolin’s theories with current trends and findings in cognitive studies and neuroscience. Antonio Damasio’s book *Self Comes to Mind: Constructing the Conscious Brain* (2010) and V.S. Ramachandran’s *The Tell-Tale Brain: A Neuroscientist’s Quest for What Makes Us Human* (2011) begin to explain the effects of Spolin’s exercises on the brain and mind.

Chapter two “Del Close: Improvisational Time and the Multiple Draft Modeled Mind” focuses on long-form improvisation. Del Close came out of the Second City tradition started by Viola Spolin and her son Paul Sills. Close had a reputation for drug use and rebellious behavior, so it is no surprise that he was

part of the beginnings of the less logical and more dream-like form of improv, long-form. He was integral in starting the long-form improvisation form known as the Harold³⁶ and teamed up with Charna Halpern at iO Theater to perfect and teach it.

Daniel Dennett's exploration of consciousness, *Consciousness Explained* (1991), refutes the idea that the mind has one command center or Cartesian Theater. Instead, he proposes a Multiple Drafts theory of consciousness, wherein stimuli or demons compete for attention and no chronological, unified consciousness is projected in the "mind's eye."³⁷ Dennett's theory has interesting parallels to Close's Harold, where performers create evening-length improvised sets by self-editing, riffing, and repeating patterns based on their impulses and the sensory details created by the ensemble. In this chapter, I look at what Close intended and what actually goes on during his revolutionary improv form, and Dennett's Multiple Draft Modeled mind theory is useful in that pursuit.

In chapter three, "Keith Johnstone: Spontaneity, Storytelling, Status and Masks, Trance, Altered States," I delve into altered states of consciousness by describing the work and theories of Keith Johnstone. Johnstone's mask work raises perhaps the most intriguing questions and problems regarding human consciousness. Johnstone claims that his masks can unlock a separate consciousness, one belonging to the Mask and not the performer. Many cultures

³⁶ The anecdote about how the form got its name involves Close asking his actors what the name should be and one of them responding that Harold was a nice name. Unfortunately the name stuck. Kim "Howard" Johnson, *The Funniest One in the Room: The Lives and Legends of Del Close* (Chicago: Chicago Review Press, 2008), 135.

³⁷ Daniel C. Dennett, *Consciousness*, 101-138.

have ways of explaining altered consciousness brought on by mask work and/or trance, so examples from the work of scholars such as Judith Becker will help me explicate what Johnstone intends with his work and what is really going on cognitively when someone dons a mask in his workshops. Also the work of scholars such as Eberhard Scheiffele has relevance to Johnstone's teaching. Scheiffele has written about improvisation as a means towards an altered state of consciousness, and Johnstone's work serves as an extreme example of this possibility.

In chapter four, "The Improvising Mind: On Stage and in the Lab," I describe the experience of being onstage during successful improv sets by using the words of the improvisers themselves. I interviewed well-known acting teachers and improvisers, and their perspectives on what it feels like to improvise are important in setting up my final chapter. This chapter also weaves cognitive science throughout these stories to finally hypothesize what happens in the mind of improvisers when things are going well onstage and they give themselves over to their intuition.

Once the connections between cognitive neuroscience and theatrical improvisation are firmly established, the Conclusion includes improvisation's potential usefulness in even scripted performances. Understanding how the mind works during improv has ramifications on performances more broadly. It also has implications for the fields of philosophy, sociology, psychology, and social work. Cognitive studies is starting to become integrated into all these fields, and my work on improvisation has relevance to them all. Even more broadly than this,

learning how the brain functions during spontaneous moments also relates to intuition and creativity. These are human and life pursuits that everyone has a stake in understanding and developing.

Chapter 1

Viola Spolin:

Games as a Means Towards Flow, Empathy, and Finding One's Truer Self

Viola Spolin is often called the mother of improvisation, so a look at her body of work and her improv games is a logical starting point for my study. From 1924 to 1927 she studied at Neva Boyd's Recreational Training School at Chicago's Hull House. Boyd's work in recreational games is the inspiration for much of Spolin's later work in improvisation. Spolin then experimented with her own improvisational games as the teacher and supervisor of creative dramatics on the Works Progress Administration's Recreational Project in Chicago. She then continued her teaching in Hollywood in 1946 with her Young Actor's Company, a school that taught children through games. Her best-known contributions to improvisation, and the platform which allowed her to publish her *Improvisation for the Theater*, were her workshops with adult improvisers at her son Paul Sills's two theaters, The Compass and then the Second City.

What connects Spolin's work to Boyd's is that their games require outward focus from the participants. Games, as opposed to play, rely on guidelines and a structure, and this structure makes changes in cognition and consciousness possible. Spolin also advocated for her improvisers to not need approval from their teacher or from the audience, and this results in a less self-conscious mode of playing. This same kind of fearless playing is innate in children and is integral to Boyd's game theory.

Neva Boyd

Neva Boyd's recreational games are the foundation for Spolin's work, so before I explain Spolin's theories on improvisation and cognition it is important to explain Boyd's. Boyd began her work in recreational games in 1911 when she organized the Chicago School for Playground Workers. She then directed the Department of Recreation in the Chicago School of Civics and Philanthropy from 1914 to 1920 before starting her own Recreation Training School at Hull House.¹ It is here where she taught Spolin. One of Boyd's theses was that play was important in childhood development. Trying to figure out why has relevance to Spolin's later work as well as to cognition.

Neva Boyd taught at Northwestern University in the Sociology department from 1927 until 1941, and it is likely in this period that her paper "Play—A Unique Discipline" wound up in Spolin's hands.² Spolin's notes from her time in Boyd's classes in the twenties also prove that Boyd was theorizing about games and play even before Gregory Bateson and certainly well before her *Handbook of Recreational Games* was published in 1945 or her article "Play as a Means of Social Adjustment" appeared in *New Trends in Group Work* in 1939. As far back as 1925, Spolin included questions in her class notes about the role of recreation on childhood development and play as a means to unconsciously improve its players.

¹ Neva Boyd, *Handbook of Recreational Games: How to Play More than 300 Children's Games* (New York: Dover Publications, 1945), "Introduction."

² I found this unpublished Boyd article in the Viola Spolin Archives at Northwestern University Special Collections, Box 21 Folder 3 (March 2011).

In “Play—A Unique Discipline,” Boyd distinguishes work from play by stating, “that play is always an artificial situation and work is always a genuine one.”³ She goes on to clarify by writing, “A game...is a situation set up imaginatively and defined by rules which together with the prescribed roles, is accepted by the players.”⁴ Boyd then poses the question, why would children take this artificial situation so seriously? She gives two reasons, “the nature of the situation” and “the child’s attitude toward it.”⁵ Games allow the child a more condensed experience than the learning that occurs in the genuine world, to use Boyd’s term. So the child enters the artificial situation willingly, because there is a problem that must be solved and rules that can be followed. Then once absorbed in the game’s reality, time and space are “condensed” to promote more rapid and freer learning. When someone is involved in game play, she does not need to focus on herself. Successful game playing requires an outward focus that promotes a freer type of play. In “Play as a Means of Social Adjustment,” Boyd writes that much of the learning that actually occurs through game playing is “unverbalizable” and that the discipline needed for game playing helps stabilize the nervous system and make children socially better adjusted.⁶ All of these ideas, that games teach without being explicitly didactic and that they promote individual and social benefits, also appear in Spolin’s improvisation pedagogy, which I will explore after a brief discussion of game theory.

³ Boyd, “Play,” Spolin Archives, 1.

⁴ Ibid.

⁵ Ibid.

⁶ Neva Boyd, “Play as a Means of Social Adjustment” in *New Trends in Group Work* (New York: Association Press, 1938), 96.

Game Theory

Gregory Bateson famously theorized play, and his work is important in understanding how Boyd's recreation affects children's development and then how Spolin was able to transform Boyd's recreational play into her improv games. In his 1956 essay "The Message 'This is Play,'" Bateson defines play as having the following conditions: the ordinary function of play is not real (in play-fighting no one is killed), there is exaggeration and expansion, it is repetitive without a set sequence, all participants are willing, there is frequent role switching, it exists independent of external needs, and it is set apart from other activities through signs indicating a beginning and end of play.⁷

Sociologist Erving Goffman builds on Bateson's study of play by developing his own theory of keying and framing. Since play is a scenario set apart from what Boyd would call the genuine, it is framed as such. All participants know they are within the frame of play. If one participant did not know she was playing and the other did they would be framing their experiences differently—one within the play frame and the other within the genuine frame. Either one participant must be clued in that it is play, or the other will interpret the events as a serious threat. Frames are cleared either way, so that the participants are working within the same frame. Goffman defines catharsis as simply the clearing of frames, and his definition of self is the sum total of social interactions.

⁷ Gregory Bateson, "The Message 'This is Play'" in *Conference on Group Processes*, Bertram Schaffner, ed. (New York: Josiah Macy, Jr. Foundation, 1956), 145-242.

I share Goffman's view that the self is comprised of an accumulation of social interactions. Later in this chapter, I list a few different cognitive studies possibilities for what constitutes a self, but as far as improvisation goes, focusing more on others and less on oneself brings one closer to her true self in that specific moment. The social interaction and the accumulation of interactions change the self. In every social exchange it is different. Game playing can bring out the self of the player, because the focus is on fellow players and the rules of the game. This has the potential to alleviate self-consciousness.

Boyd's work on games inspired in Spolin the idea that game playing was a special activity where people could safely leave their genuine world behind to become intensely invested in solving problems together. Games, unlike free play, add this problem-solving element. Participants focus on each other and collaborate in order to solve the problem of the game. If a player isolates herself or works within a different frame the problem of the game is not solved. Focusing on the problem keeps players in the present moment instead of worrying about the past or future, and this kind of moment-to-moment attention is one of the most important aspects of game playing and improvisation as far as cognition is concerned.

Viola Spolin

In her notes from Boyd's Hull House classes, Spolin wrote on November 16, 1925, "What is the place of recreation in all this. [sic] How can recreation helps [sic] in building in qualities which cannot be talked about cannot be helped

consciously. [sic]”⁸ So she had been thinking about the role of consciousness in Boyd’s recreational games as early as 1925. Initially, Spolin referred to her budding games as problems, and she began developing these problems during the Depression with her involvement in the WPA Recreational Project that aimed to help poor children in Chicago.⁹ These problems aimed to be a separate space for children to problem solve together thereby unconsciously developing their own senses of self in the process.

After Spolin’s work with the WPA, she relocated to Hollywood, California in 1946 and started her own children’s school, the Young Actor’s Company. It is here where she began solidifying her own theories on her improv problems. In 1948, she wrote “A Slight Preface as to Why I Have Come to Think as I Do”:

Each individual becomes aware of, and moves into a movement in terms of his individual needs and his understanding of relationships in the world in which he lives. The creative release of individuals in terms of their everyday [sic].¹⁰

Spolin’s theories on her teaching at this time began to center more specifically around how focusing outside of oneself could change children’s self-perception.

Her theories on play draw heavily from Boyd’s “Play as a Means of Social Adjustment”:

You no doubt recall that Pavlov created conditioned reflexes in the dogs with which he experimented by placing a plate of food before them simultaneously with the sounding of a buzzer. After several repetitions the buzzer was sounded without the food being present and the dogs salivated as if it was present. With repetitions of this latter performance—the dogs not only gradually ceased to salivate but manifested inertia, in some cases even going

⁸ Spolin Archives, Box 1 Folder 1.

⁹ Janet Coleman, *The Compass* (New York: Knopf, 1990), 23.

¹⁰ Spolin Archives, Box 1 Folder 12.

to sleep. To understand Pavlov's explanation of the normal function of excitation and inhibition. [sic] When the excitation is such that it is carried on nerve fibers to more than one part of the brain, some must be inhibited while others function. When in the case of the dog, all were inhibited, he manifested inertia; and when inhibition extended over the whole surface of the cortex, sleep resulted. When the dog refused to "respond" to the buzzer—that is, to salivate—after repeated omission of the food, Pavlov deduced the theory of "cortical sleep."

Are we not justified, then, in concluding that all frustration tends to create corresponding inertia and that normal functioning is thus interrupted? It is therefore apparent that the resolution of conflicting impulses is essential to a healthy functioning nervous system.

We know from experience that the play situation, so largely comprised of unverbalizable [sic] play-behavior patterns—the events of which occur in close sequence in time and space—and the psychological attitude of play constitute a unique condition compelling meaningful action. And this action results in psychological and social adjustment.¹¹

Boyd's connection between cortical sleep and the benefits of the play situation seem tenuous. Certainly her field work had shown that her games helped children's social and personal development, but her scientific affirmation of that field work seems to come from the idea that frustration prevented Pavlov's dog from learning in a similar way that frustration would prevent children from learning. Her games were the frustration-free space where children could unconsciously learn and develop. However, the part of Boyd's essay I find especially predictive of current cognitive studies findings is when she writes, "When the excitation is such that it is carried on nerve fibers to more than one part of the brain, some must be inhibited while others function."¹² Boyd describing Pavlov's experiments as exciting some parts of the brain and inhibiting

¹¹ Spolin Archives, Box 1 Folder 18, 4-5.

¹² Ibid., 5.

others may also be a very intuitive and forward-thinking theory on how improvisation affects the brain.

Spolin also theorizes about the brain working in parts. In her book *The Compass*, historian Janet Coleman claims that Spolin had been known to say, “I’ve always known this stuff about the right brain.”¹³ Coleman goes on to clarify:

The left brain, the province of intellect, the mind, is literal, sedimentary, logical, premeditated, censoring. Metaphoric, metamorphic, mystical, spontaneous and unguarded, the province of intuition, genius, is the right brain.¹⁴

It is not quite as easy as Coleman makes it out to be. There is something to the left brain/right brain binary, but the important aspect of Spolin’s writing on Pavlov and Coleman’s Spolin quote is that Spolin had been thinking about the brain as working in parts. Some parts could be slowed down and sped up, resulting in different outcomes of thought and behavior. The way Spolin saw to unlock these changes was through her games.

Spolin left Los Angeles to direct a production of *Juno and the Paycock* in spring 1955. The Playwrights Theatre Club, of which Spolin’s son Paul Sills was a founding member, produced the play. Spolin was invited to stay on after the production and lead workshops to teach the company her games. Playwrights Theatre Club ended, but many who took Spolin’s workshops continued on with Sills at the new Compass Theatre. The Compass began by performing scenarios and living newspapers, but Spolin’s games would eventually help to form what we now know of as short-form improvisation, especially when Sills began the

¹³ Viola Spolin quoted in Coleman, *Compass*, 24.

¹⁴ Coleman, *Compass*, 25.

Second City in 1959.¹⁵

Theatre arts professor Jeanne Leep describes short-form improvisation¹⁶ as “focus on the creation of a scene *within* the rules of the game.”¹⁷ Boyd’s and Spolin’s game theories require the players to solve the problem of the game through focus on the space and their fellow players. Spolin’s games involve mirror exercises in which players try to exactly imitate their fellow players’ movements or exaggerate them through careful observation, space exercises in which players must create an environment silently by carefully miming their setting and honoring whatever their fellow players have established in the space, and gibberish when players must act out the scenes by using only nonsense words. Some games include audience suggestions of where, when, or what. Audience members give scene starters such as location, time, day or year, or the name of a concept or object. All games require what Spolin calls side-coaching which is the teacher vocally guiding the players without approval or disapproval and without the players acknowledging the teacher. The student must “stay in it” as she is side-coached.

The important aspects of Spolin’s game playing is that there are no right answers, focus must be on the other players and on the rules and reality of the scene, and players are not supposed to think of clever responses. Over and over, Spolin stresses letting go of the tendency to be clever and funny and the constant

¹⁵ Ibid., 93-95 and 255.

¹⁶ Spolin’s games are a large part of what later became short-form improvisation. Del Close and Keith Johnstone are also integral parts of the puzzle, but there work will be explored in later chapters.

¹⁷ Italics in original. Jeanne Leap, *Theatrical Improvisation: Short Form, Long Form, and Sketch-Based Improv* (New York: Palgrave, 2008), 52.

process of saying and doing whatever intuitively arises moment to moment.

Spolin does not condone playing for laughs. Generally when a player tries to be clever, it is in opposition to her being involved with the other players and with the rules of the game and the reality of the scene.

Principles of Improvisation

Ellen W. Veenstra has taken the improv rules and guidelines that stem from Boyd's and Spolin's work and come up with three general principles. These principles help clarify what some of the common techniques and aims of theatrical improvisation are. The first is "Respect and Trust + *Yes, And.*" Players must contribute to scenes, trust their partners to do the same, and have the respect it takes to not only agree with others' contributions but to treat those contributions as genius. The ego-self has to step aside enough for players to accept whatever their partners contribute to the reality of the scene and then willingly contribute something else. The "Yes, And" part of her principle is the rule of agreement. In one improv warm-up exercise, one player begins the scene by giving some sort of detail about who or where they are or what they are doing. Then the partner must literally say "yes, and...." and then add onto the scene by giving another detail, called a gift. This exercise helps instill the habit of always accepting a partner's contribution to the scene.¹⁸

Veenstra's second improv principle is "Be in the Moment + Encounter." Basically, this is the tenet that the improv player must be fully focused on the

¹⁸ Ellen W. Veenstra, *Improvisational Theater and Psychotherapy: A New Model* (Azusa Pacific University, 2009), 59-74.

scene and her partner, not on the past or the future. Planning ahead does not create successful improv. Veenstra refers to this presentness as entering a scene naked. It is what gives improv the sense of crisis and danger that also makes its effects more palpable.¹⁹

The third principle is “Let Go + There are No Mistakes.” Veenstra explains this principle by using the metaphor that Charna Halpern, Del Close, and Kim “Howard” Johnson use in their improv guide *The Truth in Comedy: The Manual of Improvisation* (1993). They compare the art of improvisation to the Sufi weaver who weaves all mistakes into the tapestry to make an end product that is more brilliant because of, not despite, the mistakes.²⁰ The way to do this in improv is through a total commitment to the group. Veenstra writes, “letting go” fully and not being afraid of making mistakes creates remarkably better improvisations both for the players and for the audience.²¹ Veenstra includes some pretty remarkable claims as to how much better improv becomes when players truly let go and abandon their ego-selves:

The reason why improvisers eagerly surrender their own agenda to follow the current of the group, the scene, and the process is because the experience is not only quantitatively better but also qualitatively better. There is an explosion that occurs in the heart of each improviser and he or she is in touch with the true nature of his or her own heart, the hearts of the fellow players, and perhaps the heart of God himself or herself. The intelligence that can be achieved by a group is truly greater than the sum of its parts.²²

¹⁹ Ibid., 68-74.

²⁰ Charna Halpern, Del Close, and Kim “Howard” Johnson, *Truth in Comedy: The Manual of Improvisation* (Colorado Springs: Meriwether Publishing, 1993), 37-38.

²¹ Veenstra, *Improvisational Theater*, 74-82. I explore the role of the improv audience in the section on flow later in this chapter.

²² Ibid., 80.

These are incredibly vague and lofty claims for the power of improv's major principles. After I describe Viola Spolin's aspects of improvisation, I will begin to explain how some of these claims, especially improv leading to insight about one's true nature, can begin to be verified by an understanding of how improv affects the brain.²³

After teaching workshops at her son Paul Sills's Compass and Second City theaters, Spolin was able to finally publish her *Improvisation for the Theater* in 1963.²⁴ A look at this book is important before attempting to decode her theories on improvisation and cognition. Spolin claims that, "through spontaneity we are re-formed into ourselves."²⁵ The rules, discipline, and structure of Spolin's games are the avenue to unlock intuitive genius, group expression, and this re-formed self.

Three of Spolin's seven aspects of spontaneity are particularly important in understanding how improv training could potentially affect the mind.

The first aspect of spontaneity most relevant to cognitive studies is "approval/disapproval." She writes that, "the language and attitudes of authoritarianism must be constantly scourged if the total personality is to emerge a working unit."²⁶ This aspect of Spolin's work refers mainly to how improv

²³ I explore Veentra's claim that the sum of the group is better than its individual players in chapter two, especially when I describe the phenomenon of group mind.

²⁴ She had been attempting to publish this since her time at the Young Actors Company. There are copies of her submissions to publishers and the matching rejection letters in the Spolin Archives (March 2011).

²⁵ Spolin, *Improvisation*, 4.

²⁶ *Ibid.*, 8.

should be taught. Spolin encourages what she calls side-coaching, in which the improv teacher guides the improvisations without ever insinuating there are right and wrong answers. If a student looks to the teacher for approval or disapproval then the student will not be free to make mistakes, make bold choices, and trust her instincts.

Spolin's sixth aspect of spontaneity is "carrying the learning process into daily life." Simply put, Spolin thinks her players should embody the rules and lessons of improvisation on and off the stage. The possible effects of her work on the brain could make this aspect of spontaneity all the more interesting and important. At the end of this chapter, I compare Spolin's seven aspects of spontaneity, and the rules of improv that followed, with the teaching of physician and writer Deepak Chopra as an example of how living the rules of improv everyday has the potential to change people's minds, quality of social interactions, and lives.

Spolin's seventh and final aspect of spontaneity is "physicalization." This demands an outward and not inward focus. She writes:

Reality as far as we know can only be physical, in that it is received and communicated through the sensory equipment. Through physical relationships all life springs, whether it be a spark of fire from flint, the roar of the surf hitting the beach, or a child born of man and woman. The physical is the known, and through it we may find our way to the unknown, the intuitive, and perhaps beyond to the human spirit itself.²⁷

She goes on to state, "When energy is absorbed in the physical object, there is no time for 'feeling' any more than a quarterback running down the field can be

²⁷ Ibid., 16.

concerned with his clothes or whether he is universally admired.”²⁸ If the actor is focusing on her physical surroundings (pantomimed in Spolin’s form of game playing), her fellow actors, the audience, and the rules of the game then they have no time to revert to self-consciousness. They actually may become more likely to experience moments of being “in the zone” (to extend Spolin’s sports metaphor). Before I connect Spolin’s work with this idea of being in the zone or reaching flow states, I first need to establish what rules must be followed for Spolin’s style of improvisation or game playing.

One of Spolin’s workshop guidelines is to show and not tell. This keeps game playing actively occurring in the moment instead of being a story from the past. She also talks again about side-coaching and avoiding approval and disapproval while teaching improvisation. However, the workshop guideline I find most compelling where the mind is concerned is her section on focus (previously point of concentration). She writes that focus is one of the central tenets of her teaching.²⁹ Spolin changed point of concentration to the term focus, because she wanted a more active description of the concept. The importance of focus during improvisation is not understated by Spolin when she writes, “Focus releases group power and individual genius.”³⁰ Essentially, Spolin is referring to total awareness and attention being placed on the playing of the game itself. This frees players from being self-conscious and from censoring or inhibiting their playing. Spolin continues:

²⁸ Ibid., 16-17.

²⁹ Ibid., 21.

³⁰ Ibid., 22.

The focus of an exercise acts as an additional boundary (rules of the game) within which the player must work and within which constant crises must be met. Just as the jazz musician creates a personal discipline by staying with the beat while playing with other musicians, so the control in the focus provides the theme and unblocks the student to act upon each crisis as it arrives.³¹

Spolin's jazz comparison is an important one. Instead of thinking of her improvisation as lawless spontaneity, it requires as much focus as improvising jazz musicians. Instead of staying with the beat and scale though, theatrical improvisers must stay with their partners, agreeing with the reality of the scene as it is created spontaneously within the group. Without focus, improvisation stops being spontaneous. Let me explain. Spolin warns that clever pre-planned responses take over in moments of lost focus. Improvisation requires strict awareness that ultimately becomes second nature for the improviser. Like the jazz musician, this frees the mind to be able to "release group power and individual genius."³²

In her archives at Northwestern University, there is more evidence of the importance focus has in unlocking an improviser's intuition. On September 30, 1973, Spolin wrote "Excursions Into the Intuitive Commentary":

The intuition...an unknown area³³ cannot be reached by known routes...All the space exercises...and games of connection and space reality will be more and more activity beyond the set-cerebral xxxx [sic] The following exercises are actual exercises in responding and or rising above the CEREBRAL in an attempt to give the player the FEELING...the organic experience of being in a new place to find answers...³⁴

³¹ Ibid., 23.

³² Ibid.

³³ This unknown area is called the "X-area" in the Theater Game file, published in 1995. Spolin Archives.

³⁴ All markings in original. Spolin Archives, Box 6 Folder 4.

She then continues by giving an example experienced by one of her students.

“‘I didn’t know what I was saying’ a careful joke-producing actor [sic] who has tripped [sic] into stopping his CEREBRAL...xxxxx’s his mind’s activity...”³⁵

So in Spolin’s theory, what she refers to as the cerebral can be stopped through outward focus. Then the x-area or intuition is allowed to take over with its ability to release group expression and individual genius.

Spolin also connects improvised acting with human instincts:

Seeing the danger of a mad dog headed our way is clear. Our FEAR of the DANGER immediately puts us into action and we do something about it. As quickly as possible. [sic] Our very life is in danger...what is the DANGER that creates FEAR in first beginning a creative activity? THE DANGER OF BEING JUDGED!³⁶

Once the rules and focus of improvisation are ingrained and followed, danger of being judged is alleviated. However, improvisation continues to work on an instinctual level even after the fear of judgment subsides. The new danger becomes the lack of a safety net, since relying on rehearsed or pre-thought bits is beyond the bounds of Spolin’s game playing. The rules, structure, and focus push players to work at their peak sensory and skill levels. After all, “improvisational theater is as structured as the written play; it has its limitations and its discipline.”³⁷ Unlike free play, improvisational games require structure to keep players connected as they solve the problem of the game together. The lack of safety net and reliance and focus on fellow players then allows improvisers to be

³⁵ Spolin Archives, Box 6 Folder 4.

³⁶ All markings in original. Spolin Archives, Box 9 Folder 1 in “New Material Written Between Oct. and Nov. 1955.”

³⁷ Spolin Archives, Box 9 Folder 5.

pushed to the very limits of their abilities, challenging them towards genius.

Flow

One result of being pushed to the peak of one's creative skill level is what psychologist Mihaly Csikszentmihalyi calls flow. Flow is "an almost automatic, effortless, yet highly focused state of consciousness."³⁸ In Csikszentmihalyi's particular case studies in his book *Creativity: Flow and the Psychology of Discovery and Invention* (1996), he claims flow "stretched the person's capacity and involved an element of novelty and discovery."³⁹ The first of three elements of flow most relevant to Spolin's improvisation (there are nine total) is the balance between challenge and skill. Just as Spolin strives for in her teaching, flow states occur more readily when a person is highly trained and talented at her skill, and those high levels are matched with the challenge of the task at hand. Some examples of flow states are when a skilled server at a restaurant gets "into the groove" when the restaurant quickly fills up. Time seems to fly by, while everything goes smoothly and efficiently. Another example is sports. When a skilled player is matched with a skilled opponent, she is more likely to get "in the zone." Often, I have heard of extraordinary pressures, stresses, or demands causing skilled performers to fall back on their talent and allow a flow state to guide them through seemingly without effort. Skills being matched by the

³⁸ Csikszentmihalyi, *Creativity* (New York: Harper Collins Publishers, 1996), 110. Csikszentmihalyi's other relevant descriptions of flow can be found in Csikszentmihalyi, *Finding Flow: The Psychology of Engagement with Everyday Life* (New York: Basic Books, 1997) and *Flow: The Psychology of Optimal Experience* (New York: Harper Perennial, 1991).

³⁹ Csikszentmihalyi, *Creativity*, 110.

challenge is often an important precursor to states of flow, and Spolin's aspects to spontaneity allude to her knowing this on some level:

Yet all of us have known moments when the right answer 'just came' or we did 'exactly the right thing without thinking.' Sometimes at such moments, usually precipitated by crisis, danger, or shock, the 'average' person has been known to transcend the limitation of the familiar, courageously enter the area of the unknown, and release momentary genius within himself. When response to experience takes place at this intuitive level, when a person functions beyond a constricted intellectual plane, he is truly open for learning.⁴⁰

She seems to be describing flow states that allow her improvisers to release momentary genius. Flow allows them to let their intuition take over, guided by their talent and skill, mixed with the high danger of failure inherent in not having a safety net of rehearsed dialogue or established bits or routines.

The second element of flow particularly relevant to theatrical improvisation is "clear goals every step of the way."⁴¹ Csikszentmihalyi uses musicians and surgeons as examples of clear goals leading to flow states. He writes that there is no question what these two professionals have in mind as the intended outcomes in any given moment. The musician must play notes in the correct scale, and the surgeon knows exactly where to cut and why. Very similarly to the musician, theatrical improvisers have the rules of the game to support them in each and every moment of the improvisation. Think back to Boyd's and Bateson's games as opposed to free play. The collectively understood and followed rules of the game bring all the players together within the same frame. Everyone shares the same goal, and the goal of successful improv is to create a scene in which two

⁴⁰ Spolin, *Improvisation*, 3-4.

⁴¹ Csikszentmihalyi, *Creativity*, 111.

characters have a strong relationship, a mutually agreed upon environment or reality, and a situation that connects and challenges the improvisers.

Improvisation principles such as “yes and...” help players reach these goals and stay present in the momentary aims and needs of the scene. If players did not have these principles to guide them they would most likely become overly self-conscious and less focused on the present moment. Focusing on the rules of the game and having that structure actually allows them to be fully present moment to moment during the scene. This also helps alleviate distractions, which is another element of flow.

Third is “immediate feedback to one’s actions.”⁴² Csikszentmihalyi uses his same examples of musicians and surgeons to illustrate this element. The musician knows immediately when they have played a wrong note. The surgeon, too, knows immediately whether one of her actions has succeeded or failed on her way towards improving the health of her patient. Improvisers also know exactly when things work and do not work during the creation of their scenes but not because there are right and wrong answers. There are not. The avoidance of approval and disapproval is central to Spolin’s teaching. It is also yet another element of flow; “there is no worry of failure.”⁴³ The trust between players, adherence to the improv guidelines, and the alleviation of the need for approval all help improv players not care whether they succeed or fail. One of the sentiments common for improv players and teachers is that if you are going to fail fail big. Csikszentmihalyi claims that the other elements of flow such as skills

⁴² Ibid.

⁴³ Ibid., 112.

being matched to challenge and moment to moment goal awareness prevents people in flow states from being bogged down in thoughts about failing. Improv is an example of this. So if it is not success or failure what is giving improvisers instant feedback?

During improvisation the connection with the audience seems to me to be the instant feedback that keeps the players engaged in the reality of the scene. Speaking from my own experience, I could tell when the audience was “with me” and when they were not. Not only was there applause and laughter when things were going well, but there was also an almost indescribable feeling of connection with the audience, as if they were in the palm of my hand. I interviewed extremely talented improvisers and improv teachers, and I describe their connection with the audience in more detail in chapter four, where I also further describe cognitive studies theories on audience reception. In addition to the audience, the ensemble onstage also provides instant feedback for improvisers. Players are trained to focus intently on each other, and this allows them to be able to more readily perceive feedback amongst the group.

Psychologist A.J. Marr claims, “...flow occurs because psychic energy is invested, consciousness is ordered, undreamed states of consciousness are reached, and when we are immersed into activity.”⁴⁴ Improvisation may be one of

⁴⁴ A.J. Marr, “*Intrinsic Motivation and Csikszentmihalyi’s Flow Experience: A Critique of Two Factor Theories of Human Motivation in Social Psychology*,” (Drmezmer.com, 2000). Other relevant flow studies are Jeffrey J. Martin and Keir Cutler, “An Exploratory Study of Flow and Motivation in Theater Actors,” in *Journal of Applied Sport Psychology* (Volume 14, 2002), 344-352. and Elizabeth McIntyre, “Encouraging Creativity: Csikszentmihalyi’s Flow and Motivation.”

the ways to more readily experience flow states, and it has everything to do with Spolin's emphasis on outward focus or point of concentration. This focus is learned and changes the way the brain/mind works. I will explore these changes further in a moment.

Mirror Neurons and Empathetic Playing

Spolin also claims that her improvisation style promotes and relies on ensemble work, not star performances. She often writes about group expression and the need to focus on one's acting partner instead of oneself. She quite beautifully writes, "...recognition of fellow player gives one a compassionate glimpse of oneself as well."⁴⁵ This is scrawled in pencil on her handwritten revisions to the first edition of her *Improvisation for the Theater* (1963). Just as I used Csikszentmihalyi's concept of flow to begin to understand Spolin's moments of genius precipitated by crisis, I think neuroscientist V.S. Ramachandran's work and writing on mirror neurons is helpful in appreciating just what type of connections Spolin's group work may foster.

In the 1990s, Giacomo Rizzolatti and his fellow neuroscientists at the University of Parma discovered that some motor-command neurons fired when monkeys performed an action (as one would obviously expect) but also when the monkeys watched a different monkey perform the same action. The same neurons fired.⁴⁶ These were also found to exist in humans and have since been

⁴⁵ Spolin Archives, Box 10 Folder 11.

⁴⁶ V.S. Ramachandran, *The Tell-Tale Brain: A Neuroscientist's Quest for What Makes Us Human* (New York: W.W. Norton and Company, 2011), 121.

dubbed “mirror neurons.” In his book *The Tell-Tale Brain* (2011), Ramachandran explains his fascinating theory about how mirror-neurons could have been one of the keys in the spread of language and culture, the very things that make humans unique from other species. If some mirror-neuron clusters are “empathizing”⁴⁷ with a different person’s action the idea is that the person empathizing would be able to predict and better relate to the other person. This is certainly an oversimplification, but if Ramachandran thinks this kind of predicting and experiencing others’ actions⁴⁸ could help people spread language and culture it seems plausible that these clusters in the brain could also connect people just as deeply onstage. Beyond reaching flow states, part of what makes Spolin’s type of improvisation so compelling is that players seem to be able to predict each other’s words and actions. In established groups, a kind of group expression or group mind is often felt amongst the members of the team.

Ramachandran describes what these mirror neurons could be doing. He thinks they could allow us to interpret other people’s intentions and predict their actions. He likens this to a virtual simulator, where unconsciously the mirror neurons are embodying someone else’s actions to predict what could happen next.⁴⁹ This seems especially relevant to sports, jazz, and improvisation in a

⁴⁷ I do not mean to personify these mindless clusters, merely explain the discovery succinctly and simply.

⁴⁸ The actions of others are often not experienced on a conscious level. The brain has many other parts that usually override consciously experiencing someone else’s action as one’s own. Ramachandran does describe brain abnormalities such as with phantom limbs though. Sometimes with phantom limbs, a person is able to feel when someone else’s hand is touched. Ramachandran describes his use of mirrors in this pursuit in his *The Tell-Tale Brain*.

⁴⁹ Ramachandran, *Tell-Tale*, 128.

similar way that flow does. Part of what makes flow moments so extraordinary is not only that the player is “in the zone” but that she is often there with her fellow teammates, experiencing her teammates’ and opponents’ moves as they do.

Ramachandran also thinks mirror neurons could help people “see the world from another person’s *conceptual* vantage point,”⁵⁰ not just visual and physical. This ability, helped by mirror neurons, could be just part of what gives people their own sense of self, separate from the viewpoints of others. Ramachandran thinks mirror neurons are integral to people’s ability to imitate others, which is the crux of his argument in their importance in the spread of language and culture. Many of Spolin’s games involve imitation. Games, such as her mirror exercises, allow improvisers to focus solely on imitating their partners. Spolin’s game progression works well with the relatively recent discovery of mirror neurons; much of the early emphasis is on putting all of one’s energy and focus towards really seeing and listening to the other person in the scene in order to develop a higher level of empathy and group mind. Using the mirror exercise example, if I were to think about whether my actions matched those of the person I was mirroring the exercise would most likely be less successful than if I were to solely focus on the actions of the other person. Instead of consciously mirroring my partner, the theory behind mirror neurons posits that unconsciously a part of my brain is already imitating them. Instead of consciously forcing the connection with my partner, I am better served if I allow the unconscious connection to rise to the surface. Mirror neurons could be one of the reasons improvisers are able to be so

⁵⁰ Italics in original. Ramachandran, *Tell-Tale*, 128.

in sync with their teammates. Their mirror neuron clusters are firing “empathetically” when their partners are moving, acting, feeling, and even thinking.

The Improvising Self

Spolin writes a lot about what it is to be a self, a question cognitive studies is currently grappling with as well. She often refers to bringing out the student’s true or real self. I will begin with Spolin’s writing on self, compare that to contemporary views in cognitive studies, and then begin to establish my own hypothesis on improvisation’s implications for a contemporary definition of self.

I will quote from Spolin’s archives at some length, since her views on her work as it affects the self are prominent:

We still have a sense of self—self-identity....But what is this Self that the teacher must help the student find? It seems paradoxical, but until the student can be taken away from self (the subjective) and at the same time helped to develop self (the objective) he will not be able to free his creative energies for his fullest expression.

There are, you might say, two selves: first, there is the self of the senses, the imagination, the intellect, the intuitive. All of this self must be developed in our students, and we must have the tools (i.e. the technique) to do this. Awareness levels must be sharpened, sense perceptions awakened, communicative bodies developed, and the intuitive made available.

Then there is the ego-self: the part of us which puts out its tentacles for pats on the head or slaps in the face, which must wander through the wish to be loved and fear of rejection before it can be productive. The status of this self is determined by approval or disapproval, abandoned to the whims of others and categorized [sic] ‘good’ or ‘bad’ from the hour of birth—a ‘good’ baby does not cry too much! We become so bound up with these fine, tenuous strands of approval and disapproval that we grow

creatively paralyzed....⁵¹

Spolin uses Freudian terms to distinguish her two types of self—the one of the senses, imagination, intellect, and intuition as opposed to the ego-self, but her idea that not focusing on oneself is a way to get closer to some kind of authentic or truer self requires some comparisons to current cognitive studies theories.

Authentic or truer self are loaded and vague ideas that neuroscientists such as Antonio Damasio are also investigating.

Damasio cites a positron-emission tomography (PET) and functional magnetic resonance (fMRI) imaging scan study conducted by Marcus Raichle to show some evidence as to which parts of the brain serve as a kind of default mode of being. Certain regions were shown to be active even when the person was not engaged in any task that required her focused attention. Therefore, Raichle alludes to this cluster of brain regions' activity as a default mode that the brain returns to again and again when there is not a need for focused outward attention. Simply put, this cluster of brain regions may hold one key to unlocking the mystery of selfhood. The region includes “the medial prefrontal cortex; the temporoparietal junction, structures in the medial and anterior temporal cortex, and the PMCs,⁵² all regions we now know to be extensively interconnected.”⁵³

Damasio also puts things in terms of inward and outward focus of attention similar to how Spolin crafts her pedagogy. To focus one's attention outward at the very least changes how the brain works in that moment.

⁵¹ Spolin Archives, Box 9 Folder 2.

⁵² PMC stands for postoromedial cortices.

⁵³ Damasio, *Self*, 228.

There are three other regions of the brain I want to mention that could have significance in creating selfhood. The ventromedial prefrontal cortex seems to deal with “the conscious sense of being embodied.”⁵⁴ In the most extreme example, this region could have significance during moments when people describe out of body experiences such as with drug use or injury. The dorsomedial prefrontal cortex has been shown, by way of brain imaging scans, to deal with conceptual ideas of self. During brain scans, this area lights up when people talk about themselves but not when they talk about others.⁵⁵

The final area of the brain of note here is the dorsolateral prefrontal cortex (DLF). Ramachandran attributes the following to this region:

The DLF is required for holding things in your current, ongoing mental landscape...(The technical name for this function is working memory.) The DLF is also required for logical reasoning, which involves paying attention to different facets of a problem and juggling abstractions—such as words and numbers....⁵⁶

Interestingly, it is the dorsolateral prefrontal cortex that decreased in activity during the Johns Hopkins brain scans on the improvising jazz musicians, and the medial prefrontal cortex was among the areas that increased in activity. An area of the brain in charge of logical reasoning and working memory was inhibited, and an area that appears to be a part of core consciousness was activated. In these very early studies on improvisation, it appears that the brain is operating quite differently while improvising than while performing memorized scores. The particular areas of the brain that seemed most affected seem to indicate that less

⁵⁴ Ramachandran, *Tell-Tale*, 264.

⁵⁵ *Ibid.*, 265.

⁵⁶ *Ibid.*

conscious problem solving is involved with improv, and core consciousness and creativity centers are highly activated.

Researchers at Northwestern University are using Chicago-based improvisation as a possible treatment for people with dementia. I find it extremely telling that the players thus far have experienced greater comfort levels due to improv's focus on the present and not the past or future. Mary O'Hara, a social worker at Northwestern University's Cognitive Neurology and Alzheimer's Disease Center, says:

Improv is all about being in the moment. For someone with memory loss, that is a very safe place. Maybe thinking about the past and trying to remember makes the person a little bit anxious. Or even a bit sad because their memory is failing. And maybe thinking about the future too much is also anxiety provoking So [sic] being in the moment is such a safe and a good place to be.⁵⁷

Christine Mary Dunford, from the Lookingglass Players who led the improv games, attributes the players' success to the tenets of improvisation:

Some of the basic tenants [sic] of improv that are perfect for working with people with dementia are the concept of yes, or yes and. So fundamental to all our work is that whatever answer someone comes up with the rest of us are going to be able to work with it.⁵⁸

So the players focus on creating the scene by building on what their fellow players offer. The focus is solely on the present, no memory required. This being in the moment may lead them back to a truer sense of self that dementia had been eroding. The Lookingglass Players' work with people with dementia is still in its early stages, and concrete results about improv's effects on memory have yet to

⁵⁷ Mary O'Hara qtd by Julianne Hill May, "A Healthy Dose of Laughter for Patients Suffering from Memory Loss" (May 25, 2011)

<http://www.wbez.org/episode-segments/2011-05-25/healthy-dose-laughter-patients-suffering-memory-loss-87012>

⁵⁸ Christine Mary Dunford qtd by Hill May, "Laughter."

be measured. I do think the possibility exists for a connection to be made between memory, self-consciousness, and selfhood. Since the dorsolateral prefrontal cortex plays a role in working memory and in self-censorship, it makes sense that players with poor memory could tap into their intuitive, truer selves through improvisation. My hypothesis is that, just as in the Johns Hopkins jazz improviser brain scans, the dorsolateral prefrontal cortex sees a decrease in activity during theatrical improvisation that allows other parts of the prefrontal cortex and other brain regions to become more active and the player to become more intuitive and creative. The decrease in self-consciousness allows the improviser to be more connected to her fellow players revealing a truer self if self is contingent on social interaction as in Goffman's theory.

Viola Spolin's teaching strategy centers around her concept of outward focus or point of concentration. This idea is also prevalent in cognitive neuroscience, as scientists have found that an outward focus alters which parts of the brain are more active than others. Is an extreme version of decreased dorsolateral prefrontal cortex activity comparable to acting like a different self or a different character? Since working memory is one of the jobs of the DLF, perhaps this part of the brain is at the root of improvisers getting so into the performance that they are unable to recall being onstage. If the players cannot remember ever performing is this still one unified self, Spolin's truer self, or one self among many? I will continue this line of thought and extend this hypothesis further in chapter three when I describe the work of Keith Johnstone, since selfhood and the possibility of altered selves is at the crux of his mask work.

One definition of self may be what scientists have discovered is the default mode of the brain in which the medial prefrontal cortex, the PMCs, and related regions are engaged. Another definition involves Spolin's idea of an outward focus making an improviser more authentically herself. This could involve mirror neurons and being in tune with one's partner, but it could also involve parts of the prefrontal cortex slowing down to inhibit intuitive responses less. Both definitions of self could be connected if outward focus inhibits regions such as the dorsolateral prefrontal cortex and activates regions such as the medial prefrontal cortex. If improvisers are able to train themselves to focus outward on their space, partners, and the game, then their ability to reduce activity in brain regions such as the dorsolateral prefrontal cortex could also improve. This type of uninhibited self may be what Spolin was striving for, and it is not only relevant to improvisation. It can also be relevant to people's everyday experiences and their quest for optimal experience.

Metaphysical Connections and Implications

Connections between Spolin's teaching and neuroscience might also tell us more about ourselves and what it is to be spontaneous, social beings in our everyday lives. Many of Deepak Chopra's teachings, such as his seven laws for spiritual success, draw from cognitive neuroscience as well as ancient religious traditions and also have interesting parallels with Spolin's seven aspects of theatrical improvisation. Chopra's first rule is pure potentiality. He calls pure potentiality "pure consciousness," which comes from the non-ego self that does

not need approval.⁵⁹ Viola Spolin separates the ego-self from the true self in the same way, and both Spolin and Chopra teach that a focus on others (without the need for approval) and on one's environment is the path to this true self. Chopra writes about attention and intention; what someone focuses on becomes more prominent in his or her life. This is also true for improvisation. Switching the focus switches how the brain works and ultimately changes the brain, which is extremely plastic even into adulthood. Spolin might have been right when she said improvisation was a path to being open and then to learning. The rules of improv establish what is and is not to be focused on, and this outward focus enhances social interactions. More and subtler social cues can be detected and acted upon to keep on and offstage scenes going and growing.

Improvisation often stresses the idea of gift giving; Chopra's second law is that of giving and receiving. In improv, a scene is able to continue through gift giving, receiving, and adding onto. This is the "yes and" rule of improvisation. If I say my partner is a serial killer she agrees and then adds a new detail to the scene, which I agree to in turn. As soon as someone denies a prior statement, the reality of the scene is put into question and generally the scene has nowhere to grow. "No" kills scenes. Similarly, Chopra's second law talks about the flow of energy and of stagnation. If money, talent, or emotions are stagnant no more is able to be attracted. In short, one must give in order to receive.⁶⁰ Chopra also

⁵⁹ Deepak Chopra, *The Seven Spiritual Laws of Success: A Pocketbook Guide to Fulfilling your Dreams*, Abridged Version, E-Book (San Rafael: Amber-Allen Publishing, Ltd., 2007), 21.

⁶⁰ *Ibid.*, 34-44.

writes about the need to be defenseless, to not need to defend one's positions.⁶¹ Just as in improv, the player of life is supposed to accept the reality presented by others as they really are instead of struggling to turn them into something preconceived or scripted.

Lao Tzu's nonactive action is Chopra's law of least effort. When we force the end of a scene, we miss all the cues and details during the scene that were guiding us to an even better ending, an ending that can only exist in the moment when each scene partner is fully immersed in and engaged with the other. Chopra calls this the universe. It is also the improv rule of being in the moment and discovering creativity, inspiration, and spontaneity by focusing on others' realities and needs and not one's ego-self. Finding this true self is the goal of life as much as it is improv's. Both journeys lead to happiness; I can think of worse endings.

Famous improvisers Tina Fey and Amy Poehler often talk in interviews about living life through the tenets they learned from their improvisation training. At the 2011 Harvard commencement ceremony, Poehler told the new graduates:

Listen, say yes, live in the moment, make sure you play with people who have your back, make big choices early and often, and don't start a scene where two people are talking about jumping out of a plane—start the scene having already jumped.⁶²

She also talked about how life is all about the connections between people. This outward focus on others is at the heart of both improvisation and life as a complex social being.

In chapter four, I will put together a more comprehensive picture of what is

⁶¹ Ibid., 70.

⁶² Amy Poehler, Harvard Commencement (May 25, 2011).
http://www.youtube.com/watch?v=T7N_L_pu74k

happening in the improvising actor's mind. Before that, it is important to take a look at how other improv teachers have built upon or worked against Spolin's pivotal work. Each improv teacher gets us closer to understanding the special way the mind functions during skilled improvised acting.

Chapter 2

Del Close and the Harold:

Improvisational Time and the Multiple Draft Modeled Mind

Viola Spolin's improv games were the inspiration for many different branches of theatrical training. Her workshops with the Second City influenced *Saturday Night Live*, the Groundlings, and Second City's own use of improvisation as a means of creating loosely scripted, then eventually very scripted, sketch comedy. The first part of Second City shows generally consists of sketches, and the last part consists of improvisations based on audience suggestions. The improvisations then become the inspiration to write sketches for future reviews. This tradition of using improvisation as a means to write sketches is different than what Del Close saw as the possibilities for improvisation.

Del Close was a part of the Second City and the Compass Players before that. He was one of the major pioneers in creating improvisation as entertainment and not just as a rehearsal strategy. He was integral in taking Spolin's games and turning them into the Harold. The Harold is a long-form improvisation, which means it is usually twenty minutes to an hour and is comprised of vignettes and patterns of short-form improvisations. Patterns and repetition weave the scenes together thematically or narratively to create a cohesive whole. A look at how Del Close went from Viola Spolin's games to his Harold helps further explain how improv affects consciousness and cognition.

Del Close History

Del Close was first introduced to improvisation when he auditioned for the Compass Players in Chicago in 1955.¹ For the audition he improvised with Elaine May who was one of the better improvisers to come out of Viola Spolin's workshops at the Chicago Compass. Close had a successful audition but had obligations at the Barter Theatre, where he was already under contract. As it turns out, May and Close would reconnect years later and change the very course and purpose of improvisation.

Back at the Barter Theatre, Close had his first experience improvising commedia dell'arte scenarios in the role of Arlecchino. This improv experience got him noticed and cast by Theodore J. Flicker in the St. Louis Compass. Close joined the St. Louis Compass in March 1957. It was the first to focus on improvisation as performance and not a means to produce scripted sketches or as show filler. The Chicago Compass had been doing improv at the end of their shows, and even those improvisations were a means to then develop scripted material. In St. Louis, Elaine May, Theodore Flicker, and Del Close were far enough removed from David Shepard's control to begin experimenting with improv as a performance art for its own sake. Shepard believed that improv was only useful as a writing tool. This debate over whether or not improvisation could stand on its own as an art form followed Close over thirty years until his death. He always believed improvisation was not only an art form but also that it could

¹ Kim "Howard" Johnson, *The Funniest One in the Room: The Lives and Legends of Del Close* (Chicago; Chicago Review Press, 2008), 38-39.

create a kind of “theatre of the heart.”²

May and Flicker were responsible for coming up with some of the earliest rules for improvisation during their time with the St. Louis Compass. They came up with three main rules that were slightly different than what Spolin established in *Improvisation for the Theater* (1963). The three rules are to never deny reality (“Yes, and”), take the active choice (present), and justify what happens onstage (this is what Close would later call wearing your character like a thin coat).³ These three rules were called “the Rules, the Boarding House Rules, and the Westminster Place Kitchen Rules.”⁴ They were named after the location where May and Flicker created them, and Close would carry them forward even after the St. Louis Compass. Charna Halpern, who still leads her and Close’s iO Theater, still refers to them as “the Kitchen Rules.”⁵

The Second City started in 1959, and Close joined them, first as a director, the following summer. That same year, Spolin was conducting mandatory workshops at Second City. Close did not treat them too seriously, allegedly rolling his eyes and making light of Spolin’s games. He thought she put too much emphasis on focusing on the space, but he would later realize that the two’s views on improv were more similar than he first thought. In a 1978 interview, he said:

² Del Close quoted by Charna Halpern, phone interview (Chicago: iO Theater, 9 August 2011).

³ Johnson, *Funniest*, 52-3. Also, reiterated at Summer Intensive workshop at iO Theater (11 July 2011-11 August 2011) and discussed in Charna Halpern, Del Close, and Kim “Howard” Johnson, *Truth in Comedy: The Manual of Improvisation* (Colorado Springs: Meriwether Publishing, 1993).

⁴ Johnson, *Funniest*, 52.

⁵ Charna Halpern, Orientation Speech at Summer Intensive 2011 (Chicago, iO Theater, 11 July 2011).

My major disagreement with Viola may have been based on a misconception. I had the feeling that she wanted to take theatre and reduce it to the level of a game. At the same time, I had independently of Viola cooked up various theories of my own. Since then, I've had to...well, not exactly eat my words, but on the other hand, I am using more of Viola's work now than I have in the past.⁶

Kim "Howard" Johnson thinks that Close's approach to improv was different than Spolin's in that her teaching was more physical and spontaneous, while his was more cerebral. Close allowed his players time during improvisations, so that they could respond with a non-obvious choice instead of the first response that crossed their minds. In 1966, he joined forces with the Committee Theatre in San Francisco and began experimenting with the more cerebral long-form improvisation. Long-form tended to be slower than short-form, especially in its earliest incarnations. However, just as Close's views on Spolin's work evolved, long-form became increasingly more intuitive, spontaneous, and quicker as it developed.

Close's involvement with the Committee allowed him to take May and Flicker's improv rules and make them his own. His unique perspective on improv was partially due to his drug use. Through books such as Robert S. DeRopp's *Drugs and the Mind* (1957) and Aldous Huxley's *The Doors of Perception* (2009), he integrated his experience with drugs into his theories on improvisation. Johnson writes, "He was determined to experience whatever reality-altering substances he could find, ostensibly with the idea of improving his

⁶ Jeffrey Sweet, *Something Wonderful Right Away: An Oral History of the Second City and the Compass Players* (New York: Limelight Editions, 1978), 152-153.

performances.”⁷

Biochemist Robert S. DeRopp’s *Drugs and the Mind* (1957) makes the argument that the mind is essentially a series of chemical reactions. Since the book was published in 1957, it also holds firmly to the idea that the instinctive part of the nervous system “is located in the spinal cord, the medulla oblongata, and the pons.”⁸ The interesting part of DeRopp’s focus on the chemistry of the brain is that taking chemical drugs allows the mind to be altered in ways that are sometimes similar to how the mind can be altered naturally. Some of his descriptions of the mind affected by drugs are quite similar to what Csikszentmihalyi describes as optimal flow experiences, so one can imagine that Close was making this very comparison. If the mind consists of a series of chemical reactions, which improv rules would help shift perception thereby shifting how the mind works?

DeRopp writes:

Our very perception of the outside world exists not in that world itself but solely in our brain. A rose is a rose is a rose, says Gertrude Stein. Nonsense, says the neurophysiologist. A “rose” is a pattern of nervous impulses, patterns in the visual area interpreted as color, patterns in the olfactory area interpreted as scent, patterns of memory, of language, of past experience, which informs us that this indeed is a rose and not a geranium or a slice of raw beef.⁹

The idea that universe-making occurs at least partially in the brain still melds with

⁷ Johnson, *Funniest*, 63.

⁸ Robert S. DeRopp, *Drugs and the Mind* (New York: Grove Press, Inc., 1957), 11.

⁹ *Ibid.*, 20.

modern thoughts in the field of cognitive studies,¹⁰ but it is DeRopp's concept of patterns that seem especially pertinent to Close's work in long-form improvisation. Focusing on themes and patterns is necessary for successful long-form improvising, and that focus changes how meaning is made and how the improviser must use her brain. I devote a section at the end of this chapter to the idea of pattern making. DeRopp ends his book with a call to arms for more research and discovery within our minds and not in space or underwater. Since his study is on how drugs alter the mind, he emphasizes the possibility that we can also absolutely alter our minds without them. By altering what we focus on and how we choose to use our brains, the possibilities for naturally enhancing and altering our minds is left open.

Aldous Huxley's *The Doors of Perception* (2009) echoes DeRopp's vision for naturally chemically altering the human brain. He writes, "each one of us may be capable of manufacturing a chemical, minute doses of which are known to cause profound changes in consciousness."¹¹ It became Close's mission to figure out how to turn his extensive experimentation with drugs into an improvisation pedagogy that would naturally alter a player's consciousness.

The first Harold was done at the Committee in 1967. In the few years before this, the Committee had experimented with other types of long-form improvisations without Close. What made the Harold unique was that scenes

¹⁰ I use the term mind here, because of situational cognitive studies. Recent thinking on the mind is that perception does not occur exclusively in the physical brain but that it is situated in relation to the environment, other people, and is an embodied experience not just a thing that the brain does.

¹¹ Aldous Huxley, "The Doors of Perception" in *The Doors of Perception and Heaven and Hell* (New York: Harper Perennial Modern Classics, 2009), 11.

related to each other thematically and sometimes narratively and that scenes could return and develop further later in the same performance. Committee director Alan Myerson played a part in the Harold's earliest development, but Close would later take over as the long-form improvisation guru.

Close later moved back to Chicago and Second City and began incorporating dreams into his long-form improvisations. Exercises are still being taught at iO Theater that reflect Close's interest in dreams. One example of this is what long-form level two teacher Marla Caceres referred to as story theater.¹² One player takes center stage to narrate a dream or a story. An ensemble of five to eight players then begins to embody the characters and concepts of the dream or story. If the storyteller describes a deer someone becomes that deer. If she describes the wind players act that out as well. The idea is that the ensemble begins to affect and alter the storyteller's story or dream in a natural and organic way.

Story theater is similar to organic openings and games. Organic openings can begin a long-form improvisation. The games occur between sets of scenes and are not scenic. A game generally explores themes that were introduced in the set of scenes directly preceding it. The organic openings and games involve all the players. All the improvisers must watch and listen to each other closely to act as a collective. The group creates movements, patterns, and themes in these organic openings and games. The example of an organic game described for our class was when one player went to the center of the stage and began flapping his

¹² Marla Caceres, class notes, week 2 of Summer Intensive (Chicago: iO Theater, 2011).

arms. Then another player did the same. Then a third player joined them making a symmetrical row of birds. Then someone acted as the power line the birds sat on. Someone became a woman talking on the phone at one end of the line, and another person joined becoming the symmetrical other person talking to her on the phone. Then the more they talked on the phone the more electricity went through the lines. Eventually the birds began getting electrocuted during especially intense conversation. Organic openings are more complex than the game in that characters can morph into new ideas, concepts, and characters.¹³ The basic difference is that the opening aims to expand the audience suggestion into more themes, and the game aims to make thematic sense of the scenes that preceded it. I break down the entire structure of the Harold in more detail after Del Close's historical background.

After many experiments with long-form improvisation in classroom settings, the Harold was first performed in a Second City show in 1973. Close was constantly aiming for more and more improvisation for its own sake during performances. He left Second City in 1974 and began another bout of suicide attempts, something he had battled with for decades. Friend Michael Gellman connects Close's suicide attempts and drug use to his artwork:

He was always trying to go right up to the edge of death and look over the edge. I thought that's what the Harold was all about, exploring how the brain worked. He was constantly trying to figure out how the human mind functioned chemically and psychologically, and figure out how someone could kill himself. Everything he did in improvisation was about exploring the human brain and the workings of the mind. I thought his entire artistic existence was about the

¹³ Ibid.

brain.¹⁴

Close's suicide attempts all failed but may have given him more insight into his work. He said that the reason he was no longer at Second City was due to an artistic disagreement with Bernie Sahlins. Sahlins thought improv was a route towards scripted material, and Close "...was so heavily into experimentation and the use of improvisation to find out more and more about what constitutes a human being..."¹⁵ Now sober and on way fewer drugs, Close turned more towards the mystical aspects of improvisation.

Close was a practicing Wiccan, and this spiritual leaning influenced his improv workshops as well. He often did exercises called invocations in order to summon someone or something into the room. Invocations are still taught at the iO Theater. It can be a way to begin a long-form improvisation instead of an organic opening. First, the players get a suggestion from the audience. Then they begin to invoke that object or concept by saying phrases that begin with "We see..." For example, if the suggestion was "boat" players would begin to set the scene starting at the center and moving outward. "We see a small wooden boat with two red oars." "We see murky river water lapping against the boat." "We see smooth rocks along the bottom of the river." By saying "we" instead of "I", players begin to think as a unit. Everyone sees the same scene. The second step of the invocation is "You are..." In order to invoke the object players must tell the object all the things it is. The boat could be safety, a vacation, relaxing, or

¹⁴ Michael Gellman quoted in Johnson, *Funniest*, 191.

¹⁵ Close quoted in Johnson, *Funniest*, 237. Original source is unpublished Bob Odenkirk interview (February 1983).

making me sea sick. The third step of the invocation is the step that allows players to be less literal and more poetic and metaphorical, which is important to establish broader themes for the rest of the long-form improvisation. This step is “Thou art...” These phrases are much more poetic and verbose than the simpler “You are” statements. For example, “Thou art the ripples outward from the single stone.” “Thou art the breeze as she caresses the river.” “Thou art eternity’s meander and the polish of the stones over time.” The final step of the invocation is “I am...” Now players give definitive and simpler statements about all the things they now are. In my example, players are now the boat. After exploring themes and metaphors with the other steps of the invocation, the final step generally contains much more powerful and explicit phrases about what the object is now that the group has invoked and now represents and is that object.¹⁶

Close believed the unconscious held more sway in the universe than most people know. In one anecdote, he traveled to a Wiccan banishing ceremony in Canada to cure his cocaine addiction. After the ceremony he started using cocaine again almost immediately. Then he bought some bad cocaine. Then dealers started to fall through. Eventually, he was no longer doing cocaine, and the priestess from the banishing ceremony told him that it took about three weeks to work through the unconscious.¹⁷ All this is to say, he had a developing respect for the power of the unconscious and wanted to tap into that potential in his improv teaching.

¹⁶ Jessica Rogers, class notes, week 1 of Summer Intensive (Chicago: iO Theater, 2011).

¹⁷ Johnson, *Funniest*, 233.

Close became the “house metaphysician” at *Saturday Night Live* (SNL) in December 1980. This essentially meant improv and acting coach. He was hired by SNL, because they had an extremely inexperienced group of actors and needed someone to help develop new material between the writers and actors. His improv teaching was a great tool for material development and for the writers to see what the new cast was already capable of doing.

Yet Close’s biggest contribution to the history and development of improvisation came when he teamed up with Charna Halpern at iO Theater. Close had officially left Second City in 1983, and Halpern had been trying to start her new theatre with David Shepherd. The Shepherd partnership quickly fell through, so Halpern teamed up with Close and began the new improv company in Chicago. iO was different than Second City because of the focus on improvisation as an end in itself. Long-form became iO’s signature contribution to improv. It was an extension of the concepts and skills developed in short-form and Spolin-based games. Close’s aim for the new venture was “...to take these games and combine them in a way that they are sufficiently elevated to call them theatre.”¹⁸ He saw connections and repeating patterns or motifs as the way to elicit laughter with his long-form improvisation. These patterns and themes are what make it distinct from short-form. Close continued to theorize about his work as well. Johnson writes:

He [Close] was fascinated by left-brain right-brain theories, and focused on Betty Edwards’s 1979 book *Drawing on the Right Side of the Brain* as a method of nurturing creativity. He was determined to

¹⁸ Close quoted in Johnson, *Funniest*, 243. Original source in Lenny Kleinfeld interview, “Del Close” in *Chicago Magazine* (March 1987).

learn how to dull the left side of the brain to make the right side kick in and do something brilliant.¹⁹

So Close's work picks up where Spolin's left off as far as trying to slow down one part of the brain to enhance or provoke the part of the brain that is intuitive and creative. Charna Halpern told me what it was like working with Close as he tried to put into practice his theories on brain sidedness. She said, "He had us sitting on the stage just doing this tone for fifteen or twenty minutes and seeing what kind of a ritual would arise after that. Just trying to...bore the left side of the brain and get the right side of the brain creative."²⁰ One of Close's sources, art teacher Betty Edwards's book, describes a method of shifting from an analytic mode of brain functioning to an intuitive one in order to be able to perceive and therefore draw differently. She describes this shift as going from left brain to right brain perceiving.²¹ Recent cognitive studies is much more nuanced than simply attributing one hemisphere of the brain to analytic thinking and the other to intuitive creativity, but Edwards's theory that a person can shift how they perceive and therefore how the brain operates during that perception appears to be integral to how Close tried to shift perception with his improvisation teaching.

Edwards states that learning to draw requires changing the way one sees and "...seems to require that you use your brain in a different way than you ordinarily use it."²² This new mode of perceiving requires a switch from what we usually consider literal or analytic seeing to the perception of patterns and possibilities.

¹⁹ Johnson, *Funniest*, 248.

²⁰ Charna Halpern, Personal phone interview (Chicago, 10 August 2011).

²¹ Betty Edwards, *Drawing on the Right Side of the Brain* (Los Angeles: J.P. Tarcher, Inc., 1979).

²² *Ibid.*, 3.

Edwards writes:

...you will develop your ability to perceive things freshly in their totality, to see underlying patterns and possibilities for new combinations. Creative solutions to problems, whether personal or professional, will be accessible through new modes of thinking and new ways of using the power of your whole brain.²³

One example of a creative solution Edwards uses to make drawing students perceive differently is an exercise in which the student must copy a drawing completely upside down. When students are examining an upside down model, they focus on the relationships between the lines and shapes instead of the picture as a complete whole. Focusing on the lines and shapes is like improv's "being in the moment." In Edwards's theory, focusing on patterns is freeing up the right brain. Eventually students should be able to focus on these patterns without flipping models upside down. It is no wonder Del Close was drawn to Edwards's book. His long-form improvisation teaching includes exercises that also aim to shift perception. A long-form improviser must also focus on patterns in order to creatively solve problems caused by having fellow players add seemingly incongruous information to a scene.

Edwards includes a quote from Aldous Huxley's *The Doors of Perception* (2009) to drive her point about perception home, but the presence of the following quote also connects her theory even closer to the work and mission of Close:

To be shaken out of the ruts of ordinary perception, to be shown for a few timeless hours the outer and the inner world, not as they appear to an animal obsessed with words and notions, but as they are apprehended directly and unconditionally, by Mind at Large—this is an experience of inestimable value to everyone.²⁴

²³ Ibid., 6-7.

Edwards thought her drawing pedagogy could shift the brain from perceiving via words and concepts to perceiving more completely and intuitively, and Close had the same theory about his work in long-form improvisation.

Edwards also alludes to this new mode of perceiving as allowing artists to reach states of flow:

Many artists have spoken of seeing things differently while drawing and have mentioned that drawing puts them into a somewhat altered state of awareness. In that different subjective state, artists speak of feeling transported, “at one with the work,” able to grasp relationships that they ordinarily cannot grasp. Awareness of the passage of time fades away, and words recede from consciousness. Artists say they feel alert and aware yet are relaxed and free of anxiety, experiencing a pleasurable, almost mystical activation of the mind.²⁵

Not only does this connect Edwards’s theory to the theory that switching perception can lead to shifts in consciousness, it also echoes my own hypothesis of how long-form improvisation, as Close intended, leads to shifts in perception. The part of the brain that sees the whole picture is different than the part that hones in on patterns and connections. Long-form improvisation and Edwards’s style of drawing are two ways to shift from an everyday, whole picture perceiving to a pattern-detecting, creative, meaning-making perceiving. Well-trained artists often describe this shift in perception as being one with their art, lacking self-consciousness, or not thinking or thinking differently than they do when not involved in their artistic process.

Halpern continues to teach a similar brain-sidedness as Edwards. When asked how improv affected or changed the brain, she said that the right side of the

²⁴ Huxley, *Doors*, 73.

Huxley quoted in Edwards, *Drawing*, 7.

²⁵ Edwards, *Drawing*, 4.

brain “already knows how to do this stuff.”²⁶ It is just a matter of practicing how to harness that already existent ability. Betty Edwards and Viola Spolin seem to agree with this concept that anyone can draw and anyone can act, so long as they access and practice utilizing the right side of their brain. It is no longer sufficient to simply stop at right and left hemispheres. After a more complete description of the Harold and Close’s theories, I will connect those theories and the practice of long-form improvisation to contemporary theories in cognitive studies.

The basic principles that Close focused on in his pursuit of an improvisational pedagogy that allowed for a more intuitive mode of using the brain were the ones developed by Elaine May and Theodore J. Flicker at the St. Louis Compass. Close then continued to develop his own rules at the Committee, Second City, and iO Theater. “Less is more. Take the active choice. Follow the fear. And agreement. *Always* agreement.”²⁷ Close was specifically concerned with the rule of “yes, and,” since he saw much early improvisation as simply conflict and negation. He was one of the pioneers of the principle of agreement and saw positivity as a way to develop more interesting scenes than traditionally dramatic conflict scenes that hinged on negation. Being positive while agreeing with your partner’s reality allows for a decrease in a person’s usual defensiveness. This decrease in defensiveness can lead to less self-conscious playing. Simply put, it is not about you anymore. For example, if your partner tells you you are a bad person playing the scene as a really bad person allows for a less self-conscious performance than you trying to prove you are a good person.

²⁶ Halpern, Orientation Speech (11 July 2011).

²⁷ Italics in original. Johnson, *Funniest*, 248.

The other tenets of long-form improvisation that are still being taught at iO Theater in Chicago include focusing on the integrity and specifics of the relationships in a scene and not on gimmicks, being truthful in scenes, and playing to the top of your intelligence. Close believed that audiences responded with more laughter and applause from intelligent patterns and connections in truthful relationships than they would to stand-up comic style jokes and bits. The whole idea behind *Truth in Comedy* (1993) is to be honest and truthful and totally present in the scene and in the relationship you are creating with your fellow players, and then the comedy comes as a kind of side effect to that honest playing. Playing for laughs takes one out of the present moment. If someone is focusing on trying to make the audience laugh that decreases the focus she should have on her fellow player. I will now describe what exactly the Harold and long-form improvisation is in order to then explain how it affects the brain and mind of the players.

The Harold

The Harold follows a fairly rigid structure. I will describe this structure, but for my purposes, and throughout this dissertation, a Harold will mean any long-form improvisation that adheres to this structure. I will refer to all forms that diverge from this structure as simply long-form improvisations, or I will use their more specific names. The general structure of a Harold is as follows. A word game usually begins the improvisation, generally some kind of word association game that begins with an audience suggestion and then develops patterns and

themes for later scenes. Initially, word association games were how Harolds opened, but since the form is constantly being experimented with, many other types of openings are also possible. Three more examples of openings used now are the organic opening, the invocation, and a monologue.²⁸ In its purest form, three scenes (1-A, 2-A, and 3-A) follow the opening. Next comes a game in the “game slot.” This could be a short-form improvisation, a word association game, an organic game, a monologue, or something similar. The game slot is a nonscenic, thematic synthesis of what has come before it. Next comes some kind of continuation of those opening scenes (1-B, 2-B, and 3-B), aided by time dashes, which means part B of the opening scenes could occur before or after, near or distant in time to the opening scenes. Character dashes can also be used during the second round of scenes. A character dash is when one of the characters from the first round of scenes is joined by a new character who was not in that first round. For example, if a scene in the first round of scenes is about a husband and wife the second round of scenes could have the husband with his mistress. Next comes another game slot where, like the first game slot, generally every player participates. The Harold concludes with some kind of wrap-up to the scenes (1-C, 2-C, and 3-C) at least thematically, and it is generally at this stage in the Harold that themes, patterns, and characters begin to overlap and connect to

²⁸ The organic opening is where players take the suggestion and “just go with it.” Players work off each other closely and allow the opening to go where it may. Generally three different sections occur in an organic opening to allow for lots of varied material to later draw on. The invocation follows the pattern described earlier of “We are,” “You are,” “Thou art,” and “I am.” Monologues are most famously used at iO in the Armando Diaz Experience.” The Armando is its own form but monologues can be used as an opening and the rest of the long-form can follow the structure of a Harold.

each other.

An example of themes, patterns, and characters organically overlapping is the exercise known as “Cocktail Party.” Usually three sets of two players each begin by having three totally distinct conversations in their respective couples. They then begin to share the focus, meaning only one couple at a time receives the focus of the audience. Close, Halpern, and Johnson describe the point of the game:

At the beginning of the game, the couples’ topics of discussion are as different from each other as possible. This chaos is necessary, so that the group mind can utilize it in interesting ways. No matter how different the topics are kept at the beginning, they always connect by the end of the game, usually in the most unexpected ways.²⁹

The Cocktail Party exercise reflects the ideal progression of the Harold as well. The first round of scenes is generally extremely varied. Then by round three patterns, themes, objects, and characters are connected in fascinating ways. These connections between players, or group mind, are the heart of a successful Harold, and I explore and define the concept of group mind later in this chapter.

The aforementioned description of the Harold is the most basic, formal structure of the form, but there can be all kinds of variations and experiments that manipulate that structure. Close himself heavily experimented with the form throughout his life, and more often than not, a truly inspired Harold tends to naturally deviate from the basic structure. Players get inspired during successful Harolds and work cohesively as a group allowing scenes and games to naturally

²⁹ Halpern, Close, and Johnson, *Truth*, 95.

I also played the Cocktail Party game in class during the Summer Intensive. Taught by Jessica Rogers, Summer Intensive (11 July 2011).

go where they may. One of the rules of the Harold, perhaps the only one, is that there are no rules. The so-called rules I have previously described are merely guidelines to get players to be able to play well together. Once the guidelines are ingrained and players play well together, anything could happen.

It is important to clarify some vocabulary used during long-form improvisations. Editing is when players begin a new game or scene, ending whatever was previously going on. The simplest one is the sweep edit. The sweep edit is when one or more players run across the down stage area in order to completely end one scene and start a new one. Tagging is when one or more characters are tagged and then replaced by a different character. At least one character must remain the same, since tagging, unlike editing, happens within the same scene. If there is a scene between a mom and son someone could tag the son and replace him with the dad. Generally, the original character tags back in fairly quickly to finish the original scene. A pattern is when anything, phrase or action, gets repeated within a scene. A callback is when information from a different scene gets used later. A montage is just a series of scenes, while a Harold follows the structure of opening, scenes, game, scenes, game, scenes.

The ImprovOlympic Presents Harold opened at Crosscurrents Theater on October 1, 1984. Close's aim of presenting improvisation as an evening long entertainment was finally realized. This new form was called Slow Comedy, because Close wanted his players to take their time. Instead of going with intuitive, sometimes obvious, responses, Close wanted his players to slow down their response times to come up with a second or third option for the scene, one

that would be more creative and unique.

By December 1984, the Slow Comedy Harold experiment had ended. It was too slow for audiences. Later experiments with the Harold and other long-form improvisations would incorporate many of Spolin's aspects of spontaneity. Intuitive responses were eventually incorporated into the structure of Close's Harold. When asked about the difference between short and long-form, Halpern said, "long-form ate short-form."³⁰ In other words, a long-form improvisation is now comprised of truthfully played short-form games. The principles of improvisation especially important to Close's long-form improvisation became an extension of those important to Spolin's games. Agreement was particularly important. Players still had to build the reality of the scenes together. The Harold encourages agreement within and among the scenes as well. Generally by the end of a successful Harold, the scenes are all interconnected with characters, themes, and elements crossing the boundaries of their particular scenes. The police officer in scene 1-A might also be the long lost brother of scene 3-C. Ideally, the interconnections are much more subtle and clever than that example though. It is much more difficult to interweave themes than it is to just put a character from one scene with the characters of another.

Patterns and theme repetition are more prominent in long-form improvisations such as the Harold than short-form games. In the Foreward to Halpern, Close, and Johnson's *Truth in Comedy* (1993), Mike Myers says:

The basic principle of the Harold is adaptation, and being adaptive is the most crucial lesson I've learned. It provides you with a glossary

³⁰ Halpern, Orientation Speech (11 July 2011).

of terms for the creative process and identifies recurring patterns in your imagination. It's the Zen approach to comedy.³¹

These Zen-like patterns in the imagination are what make the Harold unique and give it its ability to be an evening length entertainment that can cohesively stand by itself. Themes and characters repeat and overlap from scene to scene making the Harold much more than a collection of disparate vignettes.

An example of patterns and associations in the Harold is a simple word association game that sometimes starts the evening's entertainment. Called the Pattern Game, players get a word or phrase from the audience and simply riff off that word. In *Truth in Comedy* (1933), Halpern, Close, and Johnson write that this Pattern Game is a way to find order out of chaos.³² For example, if the audience gives the theme "dog," players would go around one by one and find patterns based on the last word spoken. "Dog" could become "k-9" then "police" then "prison" then "chains" then "collar" and back to "dog." This Pattern Game then opens up a kind of metaphorical and thematic treasure chest for players to then create scenes. Thinking in this way allows experienced players to subconsciously develop patterns and eventually helps them weave all the scenes together by the end of the Harold. I say experienced players, because it takes effort and practice to retrain the brain to think in terms of patterns, themes, and repetition. The brain is a pattern-detecting machine, but allowing this part of the brain to dominate and excel takes practice. The shift in perception that I described earlier takes practice. The exercises that Close developed to teach the

³¹ Mike Myers. Foreword in Halpern, Close, and Johnson, *Truth*, 1.

³² Halpern, Close, and Johnson, *Truth*, 30.

Harold are similar to Edwards's flipping the model upside down. Eventually, players are able to detect patterns, relationships, and themes without metaphorically turning things upside down.

Multiple Draft Model

Before I talk more about the brain's pattern recognition centers and the Harold's relevance to those brain regions, it will first be important to set up a new way of thinking about how the brain processes information. Philosopher Daniel C. Dennett proposes an alternative to the Cartesian model in which there is one place in the brain where stimuli are processed centrally. Dennett calls Descartes's model Cartesian materialism, and it is basically the idea that there is one locus for consciousness or a theater of consciousness inside the brain somewhere.

Psychologist and philosopher William James questioned Cartesian materialism over a century ago. He claimed, "There is no cell or group of cells in the brain of such anatomical or functional preeminence as to appear to be the keystone or center of gravity of the whole system."³³ Dennett continues with this counter-theory to Descartes with what he calls the Multiple Draft Model of consciousness.

Dennett explains his model of how the mind perceives by stating:

...all varieties of perception—indeed, all varieties of thought or mental activity—are accomplished in the brain by parallel, multitrack processes of interpretation and elaboration of sensory inputs. Information entering the nervous system is under continuous "editorial revision." For instance, since your head moves a bit and your eyes

³³ William James quoted in Daniel C. Dennett, *Consciousness Explained* (Boston: Little Brown and Company, 1991), 101.

William James, *The Principles of Psychology, Volume 1* (London: Macmillan, 1891), 180.

move a lot, the images on your retinas swim about constantly, rather like the images of home movies taken by people who can't keep the camera from jiggling. But that is not how it seems to us.³⁴

Dennett then uses the example of dubbing in films to illustrate what he means by “editorial revisions.” If the film actor mouths the phrase “from left to right” and the overdubbed soundtrack says “from right to left,” using Dennett’s example, people watching the film will “hear” the phrase “from left to right” even though that is not the audio cue received by the ears. Dennett says that the eyes “win” in this instance. There are multiple drafts being written in the brain. In this example, it was the audio draft and the visual draft. There is no Cartesian Theater or mind’s eye where all the drafts are then projected. Instead all drafts compete in a sense and are either experienced consciously (the visual in the example) or not (the audio). Dennett goes on to explain, “at any point in time there are multiple ‘drafts’ of narrative fragments at various stages of editing in various places in the brain.”³⁵ All these information streams or narratives or drafts compete but are never projected or processed by one central command center in the brain. Different parts of the brain simply allow different streams to “be heard.”

When time is considered in the Multiple Draft Model of consciousness this lack of command center becomes even clearer. Dennett uses two experiments as examples of how the brain deals with time, delays, and perception. Neurosurgeon Wilder Penfield began experimenting with patients undergoing brain surgery while they were only locally anesthetized in 1958, and this is the type of work neurophysiologist Benjamin Libet took up as well. Libet gave brief electrical

³⁴ Dennett, *Consciousness*, 111.

³⁵ *Ibid.*, 113.

pulses to patients' somatosensory cortices, part of the brain that is conveniently located right on the surface. This pulse was registered as a sensation in the patients' hands, so Libet compared the time patients took to register the sensation when it was applied to their somatosensory cortex compared to the time it took them to register the pulse when it was applied to the hand itself. Interestingly, patients registered the pulse to the hand quicker than when it was applied directly to the brain.³⁶ How can this be when one would assume the pulse to the brain would cut out the middleman, nerves?

In 1963, neurophysiologist W. Grey Walter devised an experiment in which an electrode was implanted in patients' motor cortices. He had the patients look at a moving carousel containing various slides. Whenever the patient wanted, he was to push a button to move the carousel to the next slide. What the patient did not know was that the electrode on the motor cortex was the actual controller that moved the slides forward. Patients experienced the disturbing feeling that the slides were predicting their button pushing, and when they pushed the button they feared that it would advance the slide an additional time.³⁷

Instead of the brain having some kind of command center where sensory inputs are ordered sequentially, there are many parts of the brain and many

³⁶ Ibid., 154-166.

Libet theorizes his initial experiments further in Benjamin Libet, "The Experimental Evidence for the Subjective Referral of a Sensory Experience Backwards in Time: Reply to P.S. Churchland" in *Philosophy of Science*, Volume 48, Number 2 (June, 1981), 182-197. This paper is also a response to the growing controversy around his initial findings. Libet's study has received some negative scrutiny but for my purposes still further explains Dennett's Multiple Draft model.

³⁷ Ibid., 167-168. Dennett's original source is a presentation W. Grey Walter gave at Oxford. W. Grey Walter, Presentation to the Osler Society (Oxford University, 1963).

narrative streams or drafts with their own versions of how things seem to be. Dennett writes, “Since cognition and control—and hence consciousness—is distributed around in the brain, no moment can count as the precise moment at which each conscious event happens.”³⁸ Dennett’s Multiple Draft Model of consciousness goes well with Viola Spolin’s thinking that different parts of the brain can allow for different outcomes in her games, but it is even more relevant to Del Close’s work with his long-form Harold as inspired by dreams and drugs.

So if the brain is constantly creating multiple drafts, it becomes less a matter of distinguishing between conscious and unconscious and more a matter of seeing how shifting brain regions affects which draft rises to the surface and is then consciously perceived. All drafts are happening in various locations in the brain, and Close is concerned with accessing the ones that are most useful to the improviser. Similar to the thinking of Spolin, Close believed that the “subconscious” was “...a lot smarter than most people think.”³⁹ Halpern, Close, and Johnson continue by claiming:

And when a player reaches the level where he lets his subconscious make the correct choices, his level of confidence on stage will soar! One of the most difficult feats for a beginning improviser is trusting his unconscious mind to lead him down the right path. Eventually, he learns that there is a part of the brain that really does know how to do this work quite well—if he would just get out of his own way!⁴⁰

The image of getting out of one’s own way fits right into the Multiple Drafts

³⁸ Ibid., 169. It should be noted also that Michael S. Gazzaniga’s theory is that usually the left hemisphere of the brain makes sense of various drafts after the fact. Disparate drafts come together into some story that makes sense by the so-called interpreter of the brain. Michael S. Gazzaniga, *Who’s in Charge?: Free Will and the Science of the Brain* (New York: HarperCollins, 2011), 75-104.

³⁹ Halpern, Close, and Johnson, *Truth*, 91.

⁴⁰ Ibid.

Model of consciousness. The various Harold games and exercises are designed to shift focus from one draft to another or to many others. Other terminology used at iO Theater in Chicago is also in line with the Multiple Draft Model. When one wants to make an edit to a scene, she is supposed to do so “with her gut, not with her head.”⁴¹ The left brain/right brain dichotomy is also still invoked when they say, “the right side of the brain already knows how to do this stuff” and that it “takes practice” and is “like a muscle.”⁴² These phrases and images might not be biologically or neurologically accurate, but they do all allude to the idea that different parts of the brain and of perception must be used and practiced for successful long-form improvisation. Different drafts than we use everyday must rise to the surface, and different drafts must get overridden. The shift in drafts and in perception means the brain is operating differently than the nonimprovising brain.

Time

Part of what makes Dennett’s Multiple Draft Model of consciousness so relevant to Close’s Harold is its flexible concept of time. Instead of an always narrative, sequential, and rigid sense of time, the Multiple Draft Model does not allow time to be thought of as going through some kind of central organizing center in the brain. Time can be as nuanced, varied, and hard to pin down as the mind can make it.

⁴¹ Christine Bonstell, Class Notes, Summer Intensive (Chicago: iO Theater, 25 July 2011).

⁴² Halpern, Orientation Speech (11 July, 2011).

The experiments done by neuroscientist David Eagleman expand the idea of time in ways that parallel the Harold. Eagleman's work aims to answer the same question of how time is made conscious that Libet and Walter were asking before him. Eagleman says, "Time is this rubbery thing. It stretches out when you really turn your brain resources on, and when you say, 'Oh, I got this, everything is as expected,' it shrinks up."⁴³ An example of what Eagleman is talking about is in his lab. A computer shows an image of a brown shoe over and over and then rarely shows an image of a flower. The flower seems to be on screen much longer than the shoe but is not.⁴⁴ How the brain perceives and pays attention changes one's sense of time.

Eagleman first became interested in time and cognition when he was eight years old and fell off his roof. The moment he fell he experienced complete calm and increased mental clarity.⁴⁵ Eagleman has since gathered many similar stories from people who have experienced a shift in their perception of time during similar falls or accidents. He also tries to measure this effect scientifically in one of his more recent experiments. Eagleman hooked people up to a perceptual chronometer that flashes an L.E.D. number "at a rate just beyond the threshold of perception."⁴⁶ Eagleman then has the people do some sort of life-threatening activity such as bungee jumping, while they watch the chronometer. The thinking behind the experiment is that if the perception of time slows down the number

⁴³ David Eagleman quoted in Burkhard Bilger, "The Possibilian: Delving into the Mysteries of Brain Time" in *The New Yorker* (April 25, 2011), 60 and 62.

⁴⁴ Bilger, *New Yorker*, 62.

⁴⁵ *Ibid.*, 54.

⁴⁶ *Ibid.*, 56.

would become visible to whoever was jumping, and therefore time truly had slowed down. Ultimately, Eagleman has found that the people he tests overestimate the time of the fall by about thirty-six percent but that they are unable to read the chronometer no matter how hard they focus on it. Eagleman explains the results by saying, “In some sense, that’s more interesting than what we thought was going on. It suggests that time and memory are so tightly intertwined that they may be impossible to tease apart.”⁴⁷ Bilger goes on to clarify Eagleman’s statement by writing:

One of the seats of emotion and memory in the brain is the amygdala, he [Eagleman] explained. When something threatens your life, this area seems to kick into overdrive, recording every last detail of the experience. The more detailed the memory, the longer the moment seems to last.⁴⁸

Eagleman gives aging as an example of this phenomenon of memory affecting time perception. Time seems to go faster for older people, because they are not storing as much new perceptual information as young people, unfamiliar with the world, do. Bilger writes, “The more familiar the world becomes, the less information your brain writes down, and the more quickly time seems to pass.”⁴⁹

Many improvisers describe shifts in time perception during successful short-form games, scenes, montages, and long-form shows. Eagleman’s theory on time being linked to perception would assume that when improvisers describe time as going by quickly they were, in some way, perceiving less. If they describe time going by slowly it would be because they had consciously perceived more. More

⁴⁷ Eagleman quoted in Bilger, *New Yorker*, 60.

⁴⁸ Bilger, *New Yorker*, 60.

⁴⁹ *Ibid.*

often than not, improvisers describe time as flying by when they get really into scenes, so how can this be reconciled with the idea that improvisers must be focused on so many things in their external world in order to pick up on patterns and create truthful relationships spontaneously?

The structure of long-form improvisation lends itself well to flow states. In addition to Csikszentmihalyi's general definition and description of flow, long-form improvisation has other connections to flow states. Csikszentmihalyi focuses on flow as a means to order consciousness in his book *Flow: The Psychology of Optimal Experience* (1991). He gives a slightly different definition of flow:

The optimal state of inner experience is one in which there is *order in consciousness*. This happens when psychic energy—or attention—is invested in realistic goals, and when skills match the opportunities for action. The pursuit of a goal brings order in awareness because a person must concentrate attention on the task at hand and momentarily forget everything else.⁵⁰

This ordering of consciousness makes sense with Dennett's Multiple Draft Model. The brain needs focus, and improvisation provides specifics to focus on. It is the momentary forgetting of everything else in Csikszentmihalyi's definition that also fits into Eagleman's theory of time. It is not so much that improvisers perceive less resulting in time seeming to move more quickly; it is that they perceive less of what people normally perceive.

David Rock, co-founder of the NeuroLeadership Institute, explains how the brain uses different regions to perceive and problem solve in his book *Your Brain*

⁵⁰ Italics in original. Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience* (New York; Harper Perennial, 1991), 6.

at Work (2009) in a simple way that relates to Csikszentmihalyi's theory of flow and begins to explain how Eagleman's theory could in fact make time seem to go quickly for improvisers. Rock's theory starts with the idea that "the rational is overrated."⁵¹ Just as in Betty Edwards's *Drawing on the Right Side of the Brain* (1979), Rock states that analytical perception is just one way to solve problems. Unlike Edwards though, Rock credits the prefrontal cortex with the job of rationally problem solving. The region he credits with intuitive problem solving is the limbic system. The problem with rationally problem solving with the prefrontal cortex though is that it is a limited resource with limited space. In other words, the prefrontal cortex is the conscious type of problem solving and the area of working memory and can only deal with a very limited amount of processing at a time. The prefrontal cortex is also the region of the brain blamed for self-consciousness and inhibition.

Rock says that the region of the brain where most problems are solved is not the prefrontal cortex but the limbic system.⁵² Intuitive problem solving is only possible when we quiet the prefrontal cortex and can then perceive "weak associations." Rock's example of this is when an answer to a difficult problem seems to come out of nowhere while someone is driving or running or in the shower. Basically, when someone is not trying to solve the problem with the prefrontal cortex, the answer is able to come seemingly out of nowhere, unconsciously, from other regions of the brain. Rock advocates for a better

⁵¹ David Rock, *Your Brain at Work: November 12, 2009: Google* on youtube.com (4 September 2011). <http://www.youtube.com/watch?v=XeJSXfXep4M>
David Rock, *Your Brain at Work* (New York: HarperCollins, 2009).

⁵² Rock, *Brain*, 103-104.

understanding of the brain in order to better solve problems. Long-form improvisation is relevant to Rock's work in that the exercises and games change perception and lend themselves to intuitive problem solving and a decrease in rational⁵³ prefrontal cortex problem solving.

Going back to Eagleman's theory of time, if improvisers are able to use less rational prefrontal cortex problem solving they open themselves up to being able to use intuitive problem solving in regions such as the limbic system. Perhaps the medial prefrontal cortex can also increase in activity when the dorsolateral prefrontal cortex is inhibited. The medial prefrontal cortex has been "...linked with self-expression and activities that convey individuality, such as telling a story about yourself."⁵⁴ So the improvising mind could be perceiving less via the dorsolateral prefrontal cortex and more with areas such as the medial prefrontal cortex. Since the dorsolateral prefrontal cortex is tied in with working memory and inhibition and the medial with self-expression and creativity, it makes sense that the feeling and perception of time would be altered during successful improvisation. When improvisers say that they were "not in their head" and therefore time on stage flew by, they are most likely describing the feeling of not using areas such as the dorsolateral prefrontal cortex to solve problems. In this sense, certain brain regions are perceiving less. Eagleman's theory still makes sense if he is referring to only a certain type of perception in certain regions of the

⁵³ What Rock calls "conscious."

⁵⁴ Johns Hopkins Medicine Media Relations and Public Affairs, "This is Your Brain on Jazz: Researchers use MRI to Study Spontaneity and Creativity," *Brassmusician.com* (11 October 2010): <http://brassmusician.com/this-is-your-brain-on-jazz/>

brain.

Patterns

A successful Harold needs callbacks, which are the repetition of patterns, words and phrases, and themes from earlier in the performance. Del Close's theory on comedy was to play at the top of your intelligence, which meant paying attention to the patterns of the scenes instead of "going for the joke." He thought the audience appreciated, and therefore laughed harder at, callbacks.

One example of a pattern is the rule of three. This is a general rule of comedy as much as it is a Harold rule. When something unusual is said during an improvised scene generally that indicates the start of a game. It then becomes all the improvisers' jobs to pick up on the game and create the pattern. Generally, three repetitions create a successfully funny sequence. One example of the rule of three occurred during a Cook County Social Club performance. Cook County performs montage long-form consisting mainly of scenes. They generally have three or four improvisers for any given show. On this particular night, they had four players. During a restaurant scene, Brendan Jennings accidentally ordered a "Wallaby Dan," instead of "Wallaby Darn, which is a drink at the Outback Steakhouse. His partner Greg Hess, who was playing the waiter, justified this by saying that the drink was named after an employee at the restaurant. Hess brought the mimed drink to the table. Jennings saw Hess place the first drink very close to the edge of the mimed table, so he screamed that the drink fell off. This "waiter bringing drinks, then the drinks not being good enough" pattern repeated

two more time, and it all started with the happy accident of calling the drink the Wallaby Dan instead of Darn.⁵⁵

A pattern that goes beyond the rule of three is when a game repeats “until it breaks.” This simply means that the improvisers must continue with a pattern until it cannot go any further or be repeated anymore. With the Cook County drink example, Jennings took the pattern of being a rude customer at a restaurant and took it as far as he could. Every time the waiter came back, Jennings would say and do multiple things to play out the rude customer pattern. This escalates the scene quickly, bringing out stronger emotions between the characters.

It makes sense that the human brain seeks out patterns to find order in an otherwise chaotic world. Dennett’s Multiple Draft Model of consciousness shows that there is not one region of the brain in charge of bringing all perceptual stimuli together to form a cohesive whole, so focusing on patterns brings order to the competing drafts of human perception. It simply makes sense of the world. Csikszentmihalyi writes that flow states are only possible when consciousness is ordered.⁵⁶ Humans have to have something to focus on in order to make meaning and then to thrive. The sun rises every morning, the tide rises and falls, birds migrate seasonally. Patterns are a natural part of our worldly experience, and we are all equipped to be able to detect them. Author and poet Diane Ackerman writes that things are never identical, but the brain is unable to remember and decipher every minute difference. Instead, patterns must be used to more quickly

⁵⁵ “Cook County Social Club,” Live Performance, 8:00pm (Chicago: iO Theater, 19 July 2011).

⁵⁶ Csikszentmihalyi, *Flow* (1990), 39-40.

process perceptions. She writes:

Pattern pleases us, rewards a mind seduced and yet exhausted by complexity. We crave pattern, and find it all around us, in petals, sand dunes, pine cones, contrails. Our buildings, our symphonies, our clothing, our societies—all declare patterns. Even our actions: habits, rules, codes of honor, sports, traditions—we have many names for patterns of conduct. They reassure us that life is orderly.⁵⁷

To sit in the audience of a good long-form performance is to see just how much humans are rewarded by patterns. Close's theory that audiences respond more to patterns than to cheap jokes is played out night after night on the iO Theater's stages.

Ramachandran's analysis of patients with synesthesia offers a different kind of insight and possibility for the kind of pattern and theme building the Harold requires. Synesthesia starts with the idea that certain functions such as number recognition and color detection occur mainly in particular brain regions. Numbers and colors happen to be perceived in neighboring regions. Ramachandran's theory is that synesthesia is the cross-activation of neighboring regions. For example, common forms of synesthesia are when people see colors in numbers, see numbers spatially, or when they can taste by touching things.⁵⁸ This is somewhat similar to the remapping that the brain does with phantom limbs, in that it involves the theory of neighboring brain regions.

Ramachandran continues with his theory of synesthesia by positing that many artists are synesthetes and have the ability to sense things more multi-

⁵⁷ Diane Ackerman, "Essay: I Sing the Body's Pattern Recognition Machine" in *The New York Times* (15 June 2004), 2.

<http://www.nytimes.com/2004/06/15/science/essay-i-sing-the-body-s-pattern-recognition-machine.html>

⁵⁸ Ramachandran, *Tell-Tale*, 75-116.

dimensionally. This could be one factor in humankind's ability to think metaphorically. It is not proven yet, but it seems that people with damage to their left inferior parietal lobe and schizophrenics have difficult times interpreting metaphors. On the other hand, their ability to understand puns seems unaffected.

Ramachandran writes:

This seems paradoxical because, after all, both metaphors and puns involve linking seemingly unrelated concepts. So why should schizophrenics be bad at the former but good with the latter? The answer is that even though the two appear similar, puns are actually the opposite of a metaphor. A metaphor exploits a surface-level similarity to reveal a deep hidden connection. A pun is a surface-level similarity that masquerades as a deep one...⁵⁹

A different region of the brain seems to detect puns than does metaphors. So Ramachandran credits synesthesia as “cross modal interactions that could be a signature or marker for creativity.”⁶⁰ Fortunately for those who do not have synesthesia, Ramachandran then makes the claim that all people have the ability to creatively enjoy cross modal interactions. The example he gives of this is the bouba/kiki effect. The bouba/kiki effect is an experiment where one is told two shapes have the names bouba and kiki. 98% of people tested (including those in China and India) attribute the name bouba to the amoeba-looking shape and the name kiki to the sharp shape when asked.⁶¹ Attributing sounds to shapes is a kind of cross modal thinking. Even my referring to kiki as sharp is evidence of a kind of innate cross modal thinking in the English language. The bouba/kiki effect is an example of metaphorical perception the majority of people can already access.

⁵⁹ Ibid., 106.

⁶⁰ Ibid., 108.

⁶¹ Ibid., 108-109.

Developing cross-modal, metaphorical thinking is certainly a prerequisite for successful long-form improvisation.

The Harold and other long-form improvisations rely on players being able to become skilled at pattern recognition and metaphors. The structure of the Harold is a pattern in itself. Scenes have three beats, bits generally have three beats, and a successful Harold feels very much like it is complete with all loose ends tied up in one way or another by the end. When players get a suggestion from the audience, the opening helps them associate different themes with that suggestion. These associations become fodder for the first beat of scenes. Generally only one scene is going to directly relate to the suggestion, while the other two scenes come more from thematic associations brought out in the opening. So the opening is integral in creating three very different scenes that can then come together by the end of the Harold. Halpern, Close, and Johnson write that players "...aren't concerned with answering questions, only exploring the possibilities."⁶²

Once the Harold gets going, the players must focus on supporting their fellow improvisers. One part of that support is to know how they can add to scenes. Supporting players add sound effects, set chairs, make tags and edits. They are looking for games that emerge out of the scene work that can be repeated later; they are also looking for patterns. When all the players are really working together Close hypothesized:

On stage, one has a complete picture of what is going on, and also a clear sense of all the potential moves. They are almost laid out in

⁶² Halpern, Close, and Johnson, *Truth*, 133.

time. The pattern-making mechanism is kicked on, and yet, one's intellect does not desert him.⁶³

Close thought that everyone already had this pattern-making mechanism in their brains, and that it was just a matter of practice to be able to use that mechanism more effortlessly. Neuroscientists such as Ramachandran agree with Close on this. Patterns helped us to survive in the wild thousands of years ago, and they help us make sense of the chaotic world today. It seems that decreased problem solving with the prefrontal cortex allows more of an intuitive response from the limbic system. A quieter prefrontal cortex may do more than alleviate self-consciousness in the performer; it may also allow the pattern-recognizing parts of the brain to rise to the top of the Multiple Draft consciousness.

Of the rule of three, Close had a strange theory about the brain:

Nobody really knows why it's funnier when things happen three times, but I have a theory. We have three brains—the neo-cortex, the mammalian cortex, and the reptilian cortex. My theory is that each brain gets a joke at a different rate. Of course, it might be something else entirely!⁶⁴

Close's theory is interesting, and while it is true that different signals reach different regions of the brain at different times, his reason behind the rule of three seems unlikely. My hypothesis is that when improvisers start a pattern by repeating something twice, it does not become a true pattern, or it is not satisfied, until the third repetition. Two things could be accidental, while three make a pattern. Imagine two shapes on a page. You can probably imagine some kind of relationship between the shapes, some kind of story even, but until a third shape

⁶³ Del Close quoted in Halpern, Close, and Johnson, *Truth*, 87-88.

⁶⁴ Del Close quoted in Halpern, Close, and Johnson, *Truth*, 89. Charna Halpern also reiterated this theory to me in our phone interview (10 August 2011).

joins them, the placement of the first two could have been accidental.

Cognitive theatre scholar Bruce McConachie, in his book *Engaging Audiences: A Cognitive Approach to Spectating in the Theatre* (2008), cites psychologist Robert Latta's theory of cognitive shift as an explanation of the rule of three:⁶⁵

First, the person who will laugh becomes “unrelaxed,” a muscular-chemical state that may be produced by many causes. Next, some stimulus event produces a “cognitive shift” and the person realizes that the state of tension that he or she has adopted is no longer necessary. Finally, s/he “relaxes rapidly or fairly rapidly through laughter.”⁶⁶

So instead of three different parts of the brain processing the funny event at different speeds, Latta theorizes that there is a cognitive shift occurring in three parts. The first part of the humor pattern unrelaxes her. Next, the second part of the pattern allows her to realize, whether consciously or not is unclear, that the initial unrelaxing was unnecessary. All is still safe and framed as play. Finally, the third beat of the pattern allows the tension to be released quickly through laughter.

Group Mind

When all the elements of a Harold are there and all the improvisers are really working together and in a flow state with each other, it is possible for the

⁶⁵ Robert Latta is a psychologist who has analyzed real life and performed situations in order to come up with his three-part process of humor.

⁶⁶ Entire quote from Bruce McConachie, *Engaging Audiences: A Cognitive Approach to Spectating in the Theatre* (New York: Palgrave Macmillan, 2008), 107. McConachie quotes Robert L. Latta, *The Basic Humor Process: A Cognitive-Shift Theory and the Case Against Incongruity* (Berlin and New York: Mouton de Gruyter, 1999), 44.

team to reach what Close refers to as group mind. Group mind “...only happens when the group members are finely attuned to each other, but it almost seems like they are tapping into the same universal consciousness that enables individuals with special abilities.”⁶⁷ Examples of group mind are when people talk at the same time saying the same thing or are able to predict each other’s next words or actions. Improviser Katie Hammond describes one of her experiences with group mind:

...without prompting we [Katie and her scene partner] were able to sing the same lyrics at the same time. Not in the game-y “hey let’s talk/sing at the same time and see what happens” kind of a way, just in a “these lyrics have already been written and we already rehearsed and know them” kind of a way—even though the song was completely improvised.⁶⁸

The experience Hammond describes of feeling like she had rehearsed with a partner even though it was completely improvised is common for group mind. The scene seems to come fully formed, and the improvisers can effortlessly work closely together. How do improvisers’ minds sync up in the way Hammond and others describe?

Halpern, Close, and Johnson dedicate a section of *Truth in Comedy* (1993) to the concept of group mind. They write:

In the world outside of improv, the more minds that are involved in an undertaking, the lower the intelligence of the group—just look at the government (any government), or most TV and films that are created by committee! Too many cooks definitely spoils the broth.

The situation is very different with improvisation. We already know that people have incredible individual capabilities. Unlike the

⁶⁷ Halpern, Close, and Johnson, *Truth*, 93.

⁶⁸ Punctuation is kept exactly the same as in Hammond’s e-mail. Katie Hammond, Personal E-Mail interview (26 August 2011).

real world however, when a number of players are onstage, their intelligence is actually *increased*. The group intelligence is much more than the sum of its parts.⁶⁹

The cocktail party exercise is one example of the development of group mind. Three conversations begin as unique and unrelated. Oftentimes by the end of the exercise, sharing focus amongst the three conversations results in strange themes and patterns developing without the players having to consciously force connections. The Harold works in a similar way. The opening of the Harold helps expand the audience suggestion into broader themes and ideas. Then the first three scenes are inspired from the opening in some way. The first group game looks back on the first three scenes and is like a thesis statement showing what connects the first round of scenes. The second beat of the three scenes is an exploration of the first three scenes through the filter of the thesis of the first group game. The third beat is then able to bring all the ideas from the opening, the scenes, and the games together. All this is done without analytically analyzing the Harold while the performance is underway. The third beat should not force characters or ideas together in an obvious way; instead, it should more subtly connect the disparate parts through themes and patterns.

While I took the summer intensive classes at iO Theater in Chicago, my class had one particular practice Harold that is a great example of group mind. The audience suggestion unfortunately was lotion. Our opening explored a bedroom, a man who lived in the room with lotion on his nightstand, and his feelings of disappointment and loneliness. These three parts of the opening were

⁶⁹ Italics in original. Halpern, Close, and Johnson, *Truth*, 92.

inspired by the audience suggestion either directly or indirectly. Then the three scenes were a dad who told his son he could fly, a man promising never to look at anyone else to save his relationship with his boyfriend, and a fencing duel between sworn enemies. The first game connected the opening and the first beat of scenes by being about not seeing things for what they really are. I started the game slot by simply walking onstage with my eyes closed. I did this just because two scenes mentioned not looking or having one's eyes closed. Halfway through the game of everyone walking around with their eyes closed talking about what it would be like to be blind, people started posing the question, "What would it be like to do improv blind?" The next beats of the three scenes were done with this new rule. All the players closed their eyes and let blindness affect their scenes. Two players came in to play the son in the dad/son scene. The son flew for a while and then crashed since he was blind. The relationship scene was affected by the blindness in that the promise was kept to not look at other people, but the other man was now convinced that the only reason they were having sex was because his boyfriend could not see him. The duel scene also brought out the idea of cheating. One of the duelers cheated since the other had her eyes closed. I came out to initiate the second game slot by opening my eyes and telling everyone else to "open your eyes." Then the second game became all about seeing people for who they truly are. Then someone asked what it would be like to not listen to people. The final beat of scenes became all about not listening, and we all performed the end of the Harold either silently or by covering our ears.⁷⁰ This

⁷⁰ Steve Waltien teacher, class notes, Summer Intensive (Chicago: iO Theater, 4

Harold seemed like a cohesive exploration of the ideas brought out in the opening. Instead of putting all the characters in the same scene together at the end, we connected them thematically. The man in the opening represented loneliness, but all the scene work began to go deeper and see that loneliness relates to not really seeing people for who they are and not really listening to people. Our Harold became about not judging people and opening your hearts to others but in a complex way that explored the concept without being a moral or a definitive answer. This complex weaving together of games and scenes is only possible if the entire team plays together and establishes some degree of group mind.

Author Steven Johnson's *Emergence: The Connected Lives of Ants, Brains, Cities, and Software* (2001) explores the concept of emergence, of which the group mind of cocktail party and the Harold are examples. Emergence is the phenomenon when a group or network is smarter than any separate individual of the group. Emergence is also bottom-up in its organization, meaning no one is in charge. Each individual plays her role, and complex systems are born out of the connections between the components and the tasks the group is then able to achieve. Johnson writes, "...understanding emergence has always been about giving up control, letting the system govern itself as much as possible, letting it learn from the footprints."⁷¹ Ants are a great example of emergence. A lone ant forages based on a natural instinct that detects if too many ants are already foraging in the same area. They follow chemical trails of other ants. They do

August 2011).

⁷¹ Steven Johnson, *Emergence: The Connected Lives of Ants, Brains, Cities, and Software* (New York: Simon and Schuster, 2001), 234.

mindless tasks over and over without any ant being in charge of their behavior. The interesting part about emergence is that when all the ants are studied as a group, their behavior is astonishingly complex and organized. They place their dead ants at the farthest point from the anthill. They place their garbage an equal distance away from the hill but in the opposite direction of the dead. They quickly gather around food sources, not because they all detect the food, but because their individual trailing of each other quickly accumulates when a few ants have happened upon food.⁷² A few happy accidents result in a much stronger trail towards the food source. The complexity is only possible as a network.

Group mind is a kind of emergence. In improvisation no one is in charge. Each player must give up control of the scenes, the games, and the long-form. Players must become more ant-like in the sense that they cannot pre-plan or order other players around. They must just keep randomly connecting with each other. The system of the long-form can then govern itself. If everyone just “goes with it” a long-form takes on a life of its own complete with its own unique patterns and systems. Just as with the ants, with each happy accident the system becomes more complex and cohesive if the group is truly connected and interconnected. Johnson writes, “Humans beings are innate mind readers. Our skill at imagining other people’s mental states ranks up there with our knack for language and our opposable thumbs.”⁷³ He then describes the discovery of mirror neurons and people’s ability to connect to each other without speech. There is something deeply rooted in humans that allows them to play together and make it up as they

⁷² Ibid., 29-67.

⁷³ Ibid., 196.

go. This kind of group work is usually stifled by egos, pre-meditation, and self-consciousness. In the context of long-form improvisation, the special guidelines that make it a unique form make it a great example of emergence in humans.

I also think the emergence experienced by improv players is a kind of group flow experience. No one has to decide anything; the complex network creates itself out of each individual player's refusal to lead. The end product is potentially extremely complex and often players describe the feeling of not thinking what happened onstage had been possible. I often think, "What just happened?" after particularly successful improvisations. When individuals let the group mind do the work, they no longer have to consciously solve problems individually. Following the guidelines of the long-form allows them to give up control, lose self-consciousness, and record less of that problem solving in working and long-term memory. In chapter four, I will explain memory's role in the improvising mind.

The brain is only one part of what constitutes the mind. Thus far, I have explained how improvising affects players' brains, but that is only one part of the complex dance that is the human mind. The body and the world are equally important elements of the mind, and in the following chapter I use Keith Johnstone's pedagogical theories on improvisation as examples of a more embodied theory of the mind. This more embodied theory opens doors to then consider trance, altered states of consciousness, and the thinking body. Johnstone's theories on spontaneity and improvisation have explored these ideas for over fifty years.

Chapter 3

Keith Johnstone:

Spontaneity, Storytelling, Status, and Masks, Trance, Altered States

Keith Johnstone thinks of humans as apes. He talks a lot about alpha animals, instincts, and fear. His games and exercises aim to tame the players' fears and allow them to then intuitively let their mouth and body act without thinking. For example in *Impro: Improvisation and the Theatre* (1979), his popular book that theorizes improvisation pedagogy, Johnstone describes the way he leads a specific exercise. He asks students to mime taking an object out of a pocket or off a shelf. The aim here is for the student to be spontaneous and not self-censor. Johnstone writes, "If they're worried about failing, then they'll *have* to think first; if they're playful, then they can allow their hand to make its own decision."¹ Johnstone's approach considers the entire mind, and by that I mean not just the brain. Many of Johnstone's exercises use an "outside in" approach to acting; he has students make a movement or embody a stance as a way to develop characters. These physicalizations can bring out strong internal emotions and subtext. During the aforementioned exercise, Johnstone writes that he usually looks out the window or looks away while students mime picking up an object. He writes, "Afterwards I explain that I'm not interested in what they did, but in how their mind worked."² This chapter explores Johnstone's theories on how

¹ Italics in original. Keith Johnstone, *Impro: Improvisation and the Theatre* (New York: Routledge, 1979), 91.

² Johnstone, *Impro*, 91.

those improvising and embodied minds are working. First though, I look at how Johnstone developed his theories. After that, I examine those theories and compare them to recent findings in the cognitive sciences.

Keith Johnstone History

Johnstone's teaching style is a reaction to his own experience as a young student. Johnstone learned to read early. He taught himself by using comic strips and asking for help when he came across a word he could not figure out.³ Once he started school though, he was stifled. He had bad posture and a speech defect that his formal schooling only made worse. He writes, "I'd left school with worse posture, and a worse voice, with worse movement and far less spontaneity than when I'd entered it. Could teaching have a negative effect?"⁴ His answer is a resounding yes, and that answer is the basis for his own style of teaching:

By happenstance I've spent my life teaching the skills that my teachers had ignored. I encouraged negative people to be positive, and clever people to be obvious, and anxious people not to do their best. People are surprised when I give as much attention to the 'klutzes' as to the 'talented' players.⁵

Johnstone caters his teaching to the students. He lowers his status, which I will define when I explore his pedagogy, to make students feel more comfortable and engaged and to get them to want to help him. He watches for how students' minds are working, as he puts it, so that he can make negative people agree with

³ Keith Johnstone, Author Talk (Berlin: English Theatre Berlin, 24 September 2011).

⁴ Johnstone, *Impro*, 16-17.

⁵ Keith Johnstone, "Introduction" in *Impro for Storytellers* (New York: Routledge/Theatre Arts Books, 1999), x.

scenes or make nervous people less so by having them not do their best. I took a four day workshop with Johnstone in September 2011, and he would ask for volunteers by saying, “Alright, let’s have two really bad improvisers.”⁶ During a book talk that weekend, Johnstone’s publisher was visibly nervous during the discussion.⁷ The next day in our workshop, Johnstone told the class that he had told his publisher to not be good and to not do his best. He told us it had helped a little, but he thought his publisher had not completely taken his advice to heart.⁸ The reaction against his schooling inspired Johnstone’s theories on teaching. He really does try to get negative students to be positive, clever students to be obvious, and nervous people to not worry about being good.

Johnstone became a teacher in Battersea, England. He taught eight-year-olds and continued to be disappointed in the education system. He felt his fellow teachers stifled their students’ creativity and turned students into nonspontaneous and uninteresting adults.⁹ Johnstone continues to espouse this theory that all people are born creative, and then education and socialization destroy that ability as they grow up. In *Impro* (1979), Johnstone talks about the positive effect his training college art teacher, Anthony Sterling, had on him:

He made us mix up a thick ‘jammy’ black paint and asked us to imagine a clown on a one wheeled bicycle who pedals through the paint, and on to [sic] our sheets of paper...

...I was wanting to demonstrate my skill, because I’d always been ‘good at art’, and I wanted him to know I was a worthy student...

⁶ Keith Johnstone Workshop, Interkunst (Berlin: English Theatre Berlin, 22-25 September 2011).

⁷ Johnstone, Talk, 24 September 2011.

⁸ Johnstone, Workshop, 25 September 2011.

⁹ Johnstone, *Impro*, 20-23.

...Everyone's paper was covered with a mess of black lines—except mine, since I'd tried to be original by mixing up blue.¹⁰

The exercise continued with Sterling asking the college students to add colors and shapes to the pictures. The students ended up with disastrous, messy pictures. Then Sterling took out creative, colorful, beautiful pictures and surprised the class by telling them eight-year-olds had painted the good ones. Education, formal training, and the desire to get it right had inhibited the college-aged students from being able to creatively complete Sterling's art project. The idea behind this story is that all people have innate creativity and spontaneity. The foundation of Johnstone's teaching is that spontaneity that was once innate in children must be retaught to adults.

Johnstone then became a writer before suffering from what he describes as a very severe case of writer's block. This inability to write was also an impetus for his future interest in developing people's spontaneity and creativity. In 1958, he wrote a play, *Brixham Regatta*, for the Royal Court Theatre. The play, inspired by Samuel Beckett's *Waiting for Godot*, one of the only plays Johnstone appreciated at the time, received negative reviews. However, his newfound relationship with the Royal Court Theatre and the artistic director George Devine allowed him to become one of their best play readers. Johnstone read around sixty plays a week during busier seasons.¹¹ In 1958, he also became part of the Royal Court Theatre's new Writers' Group where playwrights including Edward

¹⁰ Ibid., 18.

¹¹ Johnstone, Talk, 24 September 2011.

Bond and John Arden developed new works.¹² George Devine led the Writers' Group briefly as a discussion group before handing it over to William Gaskell. Johnstone told Gaskell that the only way the group would last would be if they abandoned discussion and made the writers act everything out. If it could be shown it had to be. Gaskell agreed, and the Writers' Group was successful and run essentially as an improvisation group.¹³

Johnstone became Associate Artistic Director directing, and from 1965 to 1966 teaching, at the Royal Court Theatre.¹⁴ George Devine started the Royal Court Theatre Studio to train actors, and Johnstone sometimes led classes there as well. Johnstone had no background in actor training and led classes in narrative skills. He approached the Studio as he did the Writers' Group. Anything that could be physicalized and shown was, and discussion was kept to a minimum. Of the early days of his involvement with the Royal Court Theatre Studio, Johnstone writes:

It was very different, because I was consciously reacting *against* Stanislavsky [sic]. I thought wrongly, that Stanislavsky's [sic] methods implied a naturalistic theatre—which it doesn't...I thought his insistence on the 'given circumstances' was seriously limiting, and I didn't like the 'who, what, where' approach which my actors urged on me, and which I suppose was American in origin...¹⁵

He goes on to say that this "who, what, where" approach is described in Viola Spolin's *Improvisation for the Theater* (1963) and that he "fortunately" did not

¹² Hilda Louise Kearley, *The Pedagogy of Keith Johnstone: The Role of Improvisation in Teaching and in Acting* (University of Calgary, 1992), 13.

¹³ Johnstone, *Impro*, 25-26.

¹⁴ Kearley, *Pedagogy*, 13.

¹⁵ Italics in original. Johnstone, *Impro*, 26-27.

come across the book until 1966.¹⁶ Instead of what he perceived as the American approach or the Stanislavski approach, Johnstone “developed status transactions, and word-at-a-time games...”¹⁷ and focused on “relationships between strangers, and on ways of combining the imagination of two people that would be additive, rather than subtractive.”¹⁸ He developed his own system of improvisation, which he theorizes and describes in his book *Impro* (1979).

Johnstone then took sixteen of his actors to demonstrate their improvisation games in front of his contemporary theatre class at Morley College. The audience laughed more at the improvisations than the improvisers had during their workshops. Johnstone interpreted this as a sign that what he had been doing in class worked. Having successfully tested his theories in front of an audience, he was then able to tour throughout England and then Europe with his improvisers, named The Theatre Machine, thanks to the support of the Ministry of Education and the British Council.¹⁹ As Hilda Louise Kearley writes in her dissertation about Johnstone’s pedagogy:

It was in working with the professional actors of the Royal Court Theatre Studio that Keith began formulating his personal philosophy and methodology of improvisation and where he claims he found new ‘solutions’ to the problems of classical actor training.²⁰

Having demonstrated his successful improvisation theories and games throughout Europe, Johnstone became the improvisation teacher at the Royal Academy of

¹⁶ Johnstone, *Impro*, 27.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Kearley, *Pedagogy*, 13.

Dramatic Arts from 1966 to 1971.²¹

Johnstone then moved to Canada to teach acting at the University of Calgary. In 1977, he formed the Loose Moose Theatre Company. In the early stages of the improvisation company, they had “Free Impro” shows at the Pumphouse Theatre and “Secret Impro” shows at the University to test the games in front of audiences and begin to spread interest in improvisation.²² The first public theatresports match was in 1978 at the Pumphouse Theatre.²³

Theatersports matches consist of two teams playing against each other. Each team has a chance to play improvisation games. Then the audience votes on what the scores for each team should be. Many of the games come from Johnstone’s work with The Theatre Machine in Europe. Early in the development of theatresports, Johnstone advocated for the no blocking rule. Blocking was when a team stopped the other team’s scene. If the judges agreed that the scene should indeed be stopped then the team that blocked is given a certain amount of stage time as a kind of penalty. Johnstone wanted theatresports to be like a sporting event, where the audience exuberantly rooted for a team and was invested in the unfolding drama of the event. He was inspired by professional wrestling, which had, and continues to have, fanatical audiences. He thought that blocking created bad feelings between teams, since one team consistently

²¹ Ibid., 15.

²² Kathleen Foreman and Dennis Cahill quoted in Kathleen Foreman and Clem Martini, *Something Like a Drug: An Unauthorized Oral History of Theatresports* (Alberta: Red Deer College Press, 1995), 14 and 29. Dennis Cahill was co-director of theatresports with Johnstone during the earliest years of its development.

²³ Foreman and Martini, *Something*, 190.

blocking the other could create huge point disparities. In the early days of theatresports the losing team also got pies thrown in their faces. This only exacerbated bad feelings caused by large point spreads.²⁴

Theatresports was successful in Calgary drawing large audiences. It then began to spread to Denmark, other parts of Canada, the United States, then across Europe, Australia and New Zealand. Johnstone did workshops in some of the places teams were being formed, or people interested in starting teams would come and receive training in Calgary to then go back to their towns and cities and start their own teams. Eventually, Johnstone was no longer the face of theatresports. He was integral to its creation, but theatresports spread so much that it soon developed into a form of improvisation that he no longer advocated. He continues to lead workshops in Canada and Europe. Independent of theatresports, he now teaches the style of improvisation that matches his theories on teaching spontaneity and creativity. I took a four day workshop in Berlin in September 2011, where I was able to better understand and embody Johnstone's unique improvisation pedagogy.

Impro

Keith Johnstone's teaching, writing, and theories on impro are different than what he calls American improv. The differences are that he believes American improvisers play for laughs and rely too heavily on audience suggestions, which he adamantly opposes. He thinks that audience suggestions go wrong, because

²⁴ Keith Johnstone in Foreman and Martini, *Something*, 19-23.

the audience members who do the suggesting try to be clever. Their suggestions tend to not be scenes they actually want to see staged. Instead they are one-liners that try to get a laugh, and often the suggestions end up hindering the improvisers. Johnstone also separates his theories on impro from how theatresports does improvisation. He said he never goes to see improvisation, because nobody does it right. That is why I use Johnstone's workshop and books instead of analyzing the current work of theatresports troupes.

Johnstone divides his book *Impro* (1979) into four sections. These sections, "Status," "Spontaneity," "Narrative," and "Masks and Trance," continue to be the foci of his improvisation teaching. Status in scenes is when one person dominates and the other submits. Johnstone talks a lot about alpha animals and humans as animals. His theory about status is that humans, like all animals, are constantly adjusting their power dynamic with others. People are constantly increasing and decreasing their power and control over social exchanges based on the status of the people with whom they interact. Someone who stands with a wide stance and does not break eye contact is higher status than someone who giggles and finds eye contact difficult to maintain. Johnstone's theory is that playing scenes with sensitivity towards the status between players creates scenes that resemble everyday social exchanges.

Johnstone thinks all people are innately spontaneous. He draws this spontaneity out of his students by creating an environment where students have less fear. He also constantly encourages students to not try to be good. Many of his games also challenge students to split their focus. His theory is that splitting

focus makes students more spontaneous, because the parts of the brain that censor are occupied by other things. This frees the player to be more spontaneous and not “think” about what they are going to say next. The other key to this spontaneity is that students must not think of what is going to happen later. They are taught to focus on the present moment or things that have already happened in that scene or game.

This attention to things that have already happened in a scene blends into Johnstone’s next category, narrative. He teaches that to create a story one should not think about how the story ends. Instead, stories can be created spontaneously by making “obvious” additions to what has already been said and also by bringing back details that are in the “circle” of the story. This means that if a spontaneous story is about a girl, a lion, and an umbrella those ideas should be repeated and developed instead of adding new ideas. New, so called “clever,” ideas are outside the circle of the narrative. In addition to the chapter on narrative in *Impro* (1979), Johnstone goes into even greater detail on creating stories in his book *Impro for Storytellers* (1999).

The final chapter of *Impro* (1979) is about Johnstone’s use of masks. His theories on improvisational mask work come from his own experimentation as well as his knowledge of various mask traditions. Johnstone believes that mask improvisations can allow people to have even less fear while onstage and to experience a more embodied kind of improvisation. This can lead to what he calls trance, and I will explore the implications of Johnstone’s mask work more fully later in this chapter. First, a more detailed explanation of each of the four

areas of Johnstone's teaching is needed.

Status

During the workshop in Berlin, Johnstone had half the students make low status physical changes and the other half make high status ones. Then we walked around as if we were all at a party, introducing each other, talking, and getting mimed drinks. We had to maintain the status physicalizations throughout the exercise. Some low status physicalizations include blinking often, moving your head when speaking, breaking eye contact then glancing back quickly, turning your toes inward towards each other, and being short of breath when speaking. High status physicalizations include rarely blinking, not breaking eye contact, standing with toes apart, and keeping your head still while speaking. The idea is that making a physical change affects the rest of the body and the mind of the improviser. As people interact with each other, they do a "kinetic dance," constantly adjusting their bodies according to the status and position of the other people present.²⁵

Status is not something that people are. It is something they do.²⁶ It is embodied. It is action. Johnstone has developed many exercises that involve a master and a servant. These exercises make it clear that the master can play low status as easily as she could high; it is not a matter of rank but of interaction. Johnstone's status theory is that his exercises duplicate the way people interact at all times in their everyday lives. People are always shifting their bodies and body

²⁵ Johnstone Workshop (22-25 September 2011).

²⁶ Johnstone, *Impro*, 36.

language as they raise and lower their status in relation to others.

Johnstone writes that there is a connection between status and the improv tenet of agreement or “yes and”:

...since low-status players tend to accept and high-status players to block. High-status players will block any action unless they feel they can control it. The high-status player is obviously afraid of being humiliated in front of an audience, but to block your partner’s idea is to be like the drowning man who drags down his rescuer. There’s no reason why you can’t play high-status, and yet yield to other people’s invention. [sic]²⁷

The problem of people trying to control scenes often comes up during improvisations, and Johnstone’s theory that this has to do with status is helpful in trying to solve that problem. He thinks players can be both high status and agreeable to the gifts presented by their scene partners if they can overcome the instinct to control.

During the status exercises, improvisers must focus intently on the status of their fellow players, which sometimes includes very subtle, nuanced movements. In some exercises, students must match their scene partner’s status, raise and lower status together, or reverse statuses during the scene. This requires extreme focus on the nuances of one’s scene partner. Johnstone writes, “This ensures that they really ‘see’ their partner, as they have exactly to relate their behaviour [sic] to his.”²⁸

Of course most people in everyday life are not consciously considering other people’s status during social interactions. These exercises are meant to make conscious something that Johnstone sees as an innate part of the human

²⁷ Ibid., 92-93.

²⁸ Ibid., 44.

animal. He states, “The status exercises are really crutches to support the actor so that instinctual systems can operate.”²⁹ The example in *Impro* (1979) of an everyday status conflict is when two people are walking towards each other on a sidewalk. There can be plenty of room on either side, but if the two people are matching status or competing for the highest status they end up walking right up to each other and then doing that funny shuffle dance where no one knows how to get around anyone else. Johnstone writes, “...status is basically territorial.”³⁰ Territory obviously has to do with space and the competition for space. He talks about space as flowing into and out of people. He writes, “space flowed around the actors like a fluid”³¹ and “High-status players (like high-status sea gulls) will allow their space to flow *into* other people. Low-status players will avoid letting their space flow into other people.”³²

Situated cognition and the theories of the embodied mind of philosopher Alva Noë and director, performer, and teacher Phillip Zarrilli can help explain Johnstone’s idea that status interactions create dynamic kinesthetic shifts amongst players. Alva Noë’s theory is that perception is active. His enactive approach to perception says that:

We spontaneously crane our necks, peer, squint, reach for our glasses, or draw near to get a better look (or better to handle, sniff, lick, or listen to what interests us). The central claim of what I call *the enactive approach* is that our ability to perceive not only depends on, but is constituted by, our possession of this sort of sensorimotor

²⁹ Ibid., 46.

³⁰ Ibid., 57.

³¹ Ibid.

³² Italics in original. Johnstone, *Impro*, 59.

knowledge.³³

Perceiving does not merely cause people to act; it is action. So when Johnstone's improvisers focus intently on the bodily status clues of their fellow players, they have more access to these kinds of subtle sensorimotor enactions that accompany and comprise perception. Perceiving one's partner is active, and it can be observed as status physicalizations.

Outward focus is important to Johnstone's work much like Spolin's and Closes's. Many of Johnstone's exercises encourage improvisers to figure out how to make their partner happy or figure out what their partners want in the scene. These exercises are a means to increase players' focus on the other people in the scene. Just as in Spolin's games, an outward focus helps players play less self-consciously; in Johnstone's status work, it also helps players enhance their enactive perception. Noë writes, "To discover appearances is not to turn one's gaze inward, as it were, to sensation and subjectivity. Rather, it is to turn one's gaze outward, to the world, but to the world thought of in a rather special way."³⁴ During the Johnstone workshop, the most uninhibited improvising I did was when I was actively sizing up my scene partner. Also, the more I focused on my scene partners, the better able we were to create scenes that all parties enjoyed.

Phillip Zarrilli also describes an outward focus and enactive perception as part of his theory of psychophysical acting. In *Psychophysical Acting: An Intercultural Approach After Stanislavski* (2009), Zarrilli describes a

³³ Italics in original. Alva Noë, *Action is Perception* (Cambridge: The MIT Press, 2004), 1-2.

³⁴ Noë, *Perception*, 179.

kalaripayattu practitioner's "concentrated gaze and his readiness to respond—animal-like—to anything that might happen in the immediate environment."³⁵ He also talks about focusing on breathing as "a way of keeping our busy, analytical, squirrel-like minds occupied."³⁶ Like Csikzentmihalyi states, focus orders the chaotic mind. Focus also allows for an animal-like or instinctive preparedness. When the gaze is focused on one's improv partner, subtle status physicalizations can be detected and responded to with the embodied minds of the improvisers. Putting all of one's attention on the intentions and thoughts of another prevents scenes from being self-conscious and players from trying to be clever or plan ahead. Focusing on the status of fellow players also allows improvisers to order their consciousness and perceive subtler cues and clues from their partners than if they remained inwardly focused.

Spontaneity

Johnstone states, "I now feel that imagining should be as easy as perceiving."³⁷ Much of what he focuses on while teaching is stopping censored, pre-planned, or edited responses. He quotes Friedrich Schiller referring to the "watcher at the gate of the mind"³⁸ that is responsible for this self censoring, pre-planning, and editing. In classic, entertaining Keith Johnstone style, later in the chapter he writes:

³⁵ Phillip Zarrilli, *Psychophysical Acting: An Intercultural Approach After Stanislavski* (London: Routledge, 2009), 24.

³⁶ *Ibid.*, 25-26.

³⁷ Johnstone, *Impro*, 79.

³⁸ *Ibid.*

My feeling is that sanity is actually a pretense, a way to learn to behave. We keep this pretense up because we don't want to be rejected by other people—and being classified insane is to be shut out of the group in a very complete way.³⁹

Once again, Johnstone's theories on teaching improvisation start with the most basic, instinctual aspects of what it is to be a human animal. Socialization hinders imagination so that humans can belong to the herd or tribe. As children grow up, they are taught that seeing is believing. Ask a three-year-old if she sees her imaginary friend, and she will obviously tell you that she does. Ask a thirty-year-old if she can see an imaginary person, and she will most likely tell you that she cannot. This gets at the divide Johnstone aims to eliminate. The fear of appearing insane and the need to fit in prevents the human imagination from being as vivid as it could potentially be.

Just as Viola Spolin theorized, Johnstone thinks fear is what keeps most players from improvising in a truly spontaneous way. They are afraid of what their answers might reveal or of not seeming smart or funny enough or making mistakes or a combination of these fears. Keith Johnstone's teaching style attempts to allay these fears in order to allow players to improvise more spontaneously and imaginatively. I will connect fearful and anxious playing to cognitive studies more explicitly after I describe how Johnstone aims to solve this problem with his exercises.

Johnstone had the class do an exercise where one person sits on the couch. Then a scene partner enters the room. The person who enters interacts nonverbally with the seated person. Then, based on the entering person's choices,

³⁹ Ibid., 83.

the seated person says the first line of dialogue. This first line tends to determine who the characters are and what their relationship is. For example, the person on the couch might say, “hey mom, I can’t find my socks,” because as soon as the other improviser enters, she may have reminded him of his mom or been making a motherly face. The class tried a few rounds of this exercise, and then Johnstone stopped us. He said he could tell we were preplanning how we were going to enter the scene and that the scenes were suffering as a result. He then asked if we wanted to try it again his way. Of course, we all said yes. His way was to clear our heads of any ideas or preplanned ways of entering the scene. He told us that ideas would certainly come and go before we tried the exercise, but we needed to try to get rid of them just before the scene started. He said that if players do not improvise in this riskier way then the results are not as inspired.⁴⁰ With risk comes rewards, and the risk that Johnstone was aiming for was that we would have no idea what we were going to do or say until the instant we did or said it.

Part of being spontaneous is being obvious. Johnstone thinks, “Striving after originality takes you far away from your true self, and makes your work mediocre,”⁴¹ and “No two people are exactly alike, and the more obvious an improviser is, the more himself he appears. If he wants to impress us with originality, then he’ll search out ideas that are actually commoner and less interesting.”⁴² So Johnstone’s definition of obvious has to do with matching the reality of the scene and not culling the recesses of the brain for witty, clever

⁴⁰ Johnstone, *Workshop* (September 23, 2011).

⁴¹ Johnstone, *Impro*, 88.

⁴² *Ibid.*

phrases. Much like Viola Spolin's teaching, he wants his improvisers to say their first idea instead of preplanning something they imagine might be better. When improvisers say this so-called obvious, impulsive thing, often it is something the audience wants, as Johnstone puts it. If the scene takes place in a forest a clever thing to see in the forest might be a penguin, but no one in the audience was expecting a penguin nor do they want one there according to Johnstone.⁴³ A rabbit will do just fine and probably lead to a more interesting scene.

Johnstone also has exercises that aim to split the focus of the brain and therefore allow the improviser to speak more spontaneously. Johnstone theorizes that splitting one's attention decreases the "watcher at the gate of the mind." One of these attention-splitting exercises is "Mantra." In "Mantra," improvisers must repeat a simple phrase over and over, not out loud but silently to themselves. They then do a simple scene together, but the challenging part of the exercise is to not stop the mantra repetition when speaking out loud to the scene partner.

Cognitive science agrees that it is possible to occupy regions of your brain that handle working memory in order to bypass those regions and allow regions that deal in procedural memory and/or implicit memory to dominate. As Johnstone's theory would have it, a mantra can occupy your working memory and the parts of your brain that want to preplan scenes and allow implicit memory (unconscious) to take over, resulting in more realistic stage behavior. Associate professor of Psychology at the University of Chicago Sian Beilock explains the difference between explicit memory and procedural memory by describing a

⁴³ This was the example Johnstone used during the workshop. Johnstone Workshop (22-25 September 2011).

patient who lost a large part of his hippocampus, one brain region that helps turn information into long-term memories. In her book *Choke: What the Secrets of the Brain Reveal about Getting it Right When You Have To* (2010), Beilock explains:

[The patient] could still learn skills (such as the sequencing of finger movements needed to play the piano or how to trace a figure by looking at its reflection in the mirror) that rely heavily on procedural memory because this memory resides in brain areas, such as the motor cortex, basal ganglia, and the parietal lobe, that were not removed in the surgery. Of course, when asked, H.M. [the patient] couldn't tell you in detail how he performed activities based on these procedural memories, just as people with intact brains can't tell you.⁴⁴

What the missing part of the hippocampus did affect was the patient's long-term memory. He could not create memories that lasted more than a few seconds, and he could not remember people who he had previously met. H.M.'s condition could also be described in terms of explicit versus implicit memory. His implicit memory was intact, allowing him to unconsciously be able to learn motor tasks. His explicit memory was damaged, resulting in his inability to consciously remember details. Beilock's distinction between explicit memory and procedural memory is relevant to Johnstone's impro exercises, and it is also important for developing a theory of the improvising mind in the following chapter. Not all memory is created equally, and not all memory regions of the brain are helpful during improvisation.

When Johnstone tells his students to think of a phrase over and over in their heads, he is actually asking them to occupy parts of their prefrontal cortex. Some areas of the prefrontal cortex handle working memory, which is basically the

⁴⁴ Sian Beilock, *Choke: What the Secrets of the Brain Reveal about Getting it Right When You Have To* (New York: Free Press, 2010), 16.

ability to hold something in one's memory while being able to do other things.⁴⁵ Distracting the working memory center of the brain can have positive effects on performance when the desired activity calls for implicit or procedural memory. For example, Beilock describes golfers sinking more putts when asked to count backwards. Counting backwards occupies parts of the prefrontal cortex so that procedural memory can allow the more unconscious mind and body to do something it has become an expert in doing, in this case putting.

Beilock is interested in the phenomenon of choking, when people overthink making a putt or think about the wrong things when trying to ace a test then fail miserably. One type of choking is what she calls "paralysis by analysis."⁴⁶ She blames this type of failure on the overuse of the prefrontal cortex. This is the fear and anxiety that can creep in and ruin an improvised scene. The solution is to occupy the prefrontal cortex with other things, so that implicit memory centers can take over. When this occurs the embodied activity feels effortless and seems to require no thought. Your body just takes over. Johnstone's mantra work is one way of trying to override the prefrontal cortex and get at more embodied implicit memory.

Distracting one's prefrontal cortex is one oversimplified method of accessing implicit memory. Unfortunately, since everyone solves problems and handles pressure differently, overriding the prefrontal cortex is not the only way to achieve this access, and it certainly is not a one size fits all method. Beilock also describes an experiment that aimed to test the effect one's body had on later

⁴⁵ Ibid., 27.

⁴⁶ Ibid., 5.

decision making. In this experiment, men went over a very high, swaying rope bridge. This tended to increase their cortisol levels, meaning they were excited by having to go over such a scary bridge. Then an attractive woman approached the men one at a time and asked them to complete a survey. She then gave the men her phone number lest they have any questions or concerns or need follow up about the survey. The increase in cortisol levels caused by going over the bridge affected the men's response to the woman. Men were significantly more likely to call the woman after going over the high rope bridge than the men who went over a much safer and lower bridge and were approached by the same woman. The take away here is that the stressful act of going over the bridge caused the rise in cortisol levels, and this elevated cortisol level affected the men's later perception and decision-making.

The extension of this experiment had students taking a stressful math test. Then the students actually had a saliva sample taken to measure their cortisol levels. The students who had high cortisol levels did not all perform poorly on the test. Some students took the rise of the so-called stress hormone in stride and seemed to rise to the challenge. On the other hand, the students who also reported having anxiety about math performed differently with their increased cortisol levels.⁴⁷ They choked. Fear had gotten the best of them. In improvisation, some players are improv anxious and likely to choke, while others turn that anxiety into inspired scenes.

The math experiment makes Johnstone's teaching all the more poignant.

⁴⁷ Ibid., 139-141.

His main method of trying to create spontaneous improvisers is to deal with their fear. Improvisers or acting students who have anxiety about being in front of a group or about being spontaneous are a lot like the math anxious students who have to take the difficult test. Anxious people, people consumed with worry before the event, use up the limited space of their prefrontal cortex on the anxiety and worry. To say that improvisers need to completely distract their prefrontal cortices is to oversimplify the very complex brain. Occupying the verbal part of the prefrontal cortex to access implicit memory is one thing; occupying the prefrontal cortex with fear is another. These are two different phenomena that both have their places in Johnstone's teaching. The mantra exercise is an example of occupying usually the left side of the prefrontal cortex in order to quiet the verbal personality,⁴⁸ as Johnstone puts it, in order to create more spontaneous behavior onstage. This improvisation technique cannot work if the prefrontal cortex is already hard at work thinking about possible ways to fail, what everyone else is thinking about them, or whether or not they are improvising correctly.

During the Johnstone workshop, he often referenced author Malcolm Gladwell's book *Blink* (2005) as confirmation that his theories on spontaneity were not only true but also important. Gladwell goes to great lengths to prove that gut instinct or "following a hunch" can be just as viable as painstakingly evaluating and researching a decision. The validity of a hunch comes from the brain's expansive unconscious, or what Gladwell calls nonconscious, knowledge that people unknowingly access all the time. The most pertinent section of

⁴⁸ Not everyone's brain adheres to the verbal on the left side of the brain rule.

Gladwell's book to my project is his discussion of improv comedy. He uses improvisation as an example of how training within improv's guidelines provides the structure from which spontaneity and moments of intuitive brilliance become more prevalent.⁴⁹ Like Spolin, his argument is that often our gut instincts can be more informative and even more correct than if we hem and haw over a decision. Using another of Gladwell's examples of his "thin slicing" theory, experts were able to tell in the blink of an eye that an ancient Roman statue was a fake; eighteen months of tests and analysis could not prove what a single intuitive glance could.⁵⁰ In other words, the experts' implicit memory was able to solve the problem, while their conscious problem solving fell short.

Co-Director of the Centre for Real-World Learning and professor Guy Claxton refers to this unconscious problem-solving region as the undermind. His undermind theory serves as an extension of Gladwell's theory on intuition. In his book *Hare Brain Tortoise Mind: How Intelligence Increases when you Think Less* (1997), Claxton outlines a theory that favors access to the undermind for decision making instead of the prefrontal cortex. His theory has many similarities to that of David Rock, which I describe in chapter two. If a prefrontal-cortex-made-decision takes conscious effort the undermind does not. Claxton states that the fear of looking stupid or making mistakes sometimes prevents people from making unconscious decisions or decisions from the undermind, to use his

⁴⁹ Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking* (New York: Little, Brown and Company, 2005), 111-117.

⁵⁰ *Ibid.*, 3-8.

terminology.⁵¹ Claxton continues his theory by describing an experiment done by Peter Watson at the University of London. Students were given a three-number sequence and told to come up with three other numbers that conform to the same pattern in addition to also coming up with the rule of the pattern in question. Since students thought the solution was obvious there d-mode or deliberation mode, roughly prefrontal cortex decision making, prevented them from accessing their undermind to come up with more creative solutions. Claxton writes, “Instead of flipping into a more playful or lateral mode, in which silly suggestions may reveal some interesting information, people start to devise more and more baroque solutions.”⁵²

There are a couple ways to solve problems with the undermind without using this so-called d-mode. One way is to not try. Johnstone often talks about not doing your best as a way to improvise better, and this theory of the undermind validates that advice. The other way is to playfully and fearlessly act without editing or censoring oneself, to be spontaneous. One of the benefits of this undermind processing is that the undermind is better equipped to make connections and put disparate pieces together. In one experiment that Claxton describes, people must decipher rebus puzzles. These are word puzzles and puns such as “YOU JUST ME,” the solution or answer being “Just between you and me.” Claxton claims that a delay in responding helped the participants utilize their underminds to solve the puzzles. He writes, “the undermind may be making

⁵¹ Guy Claxton, *Hare Brain Tortoise Mind: How Intelligence Increases when you Think Less* (New York: HarperCollins, 1997), 30.

⁵² *Ibid.*, 32.

progress in picking out a useful pattern of which the conscious mind is unaware.”⁵³ This access to putting together disparate pieces, making patterns, and solving puzzles is not always one that requires delay however. The phenomenon of tip of the tongue is an example of delayed undermind. When you try to think of a name and cannot quite come up with it only to remember it later when you are no longer consciously trying is an example of delay aiding the undermind’s ability to problem-solve. However, Claxton also writes about a different experiment:

Perhaps the most significant of all these findings is that the group who are most at ease with uncertainty and doubt, the most able to ‘live with it’, are the group who are most able to make successful use of the inadequate information they have.⁵⁴

Basically, when people are not afraid of messing up and comfortable with not knowing what comes next, they are more able to also rapidly access this undermind processing. This is exactly what Johnstone teaches in his workshops and the theory he outlines in his books. This undermind processing that can better put disparate pieces together and detect patterns is also relevant in Johnstone’s third category of his teaching, narrative. Storytelling depends on being able to fearlessly and unselfconsciously collaborate without worrying about how the story ends.

Narrative

One of Johnstone’s impro exercises is to have the entire class tell a story.

⁵³ Ibid., 63.

⁵⁴ Ibid., 74.

Players contribute a line of the story using the pronoun we, since the class is working as one unit. After someone contributes one line, everyone must either lift their arms and yell “yes!” or leave the group story and sit back in the audience. Someone yells “yes” when they feel good about the new line of the story, and someone sits down when they are not enthusiastic about the suggestion. Johnstone also has variations of this type of exercise where two people tell a story. In the two-person version, if the other person does not love her partner’s suggestion she says “no,” and then it is her turn to contribute a line of the story. If the line is exciting the other player says “yes” until her partner says a line that receives a “no.” The idea behind these exercises is to start to train the improvisers to tell stories for the audience, in these cases classmates, instead of telling stories for themselves. Instead of having infinite possibilities to create a story, improvisers instead focus on telling stories that excite their partner and the audience and are fun to tell.⁵⁵

Once improvisers start to improve at telling stories that people want to hear and that they want to tell, Johnstone teaches them to stay within the circle of the story, to not be clever, to meet someone or something, and finally to not avoid trouble. Staying within the circle of the story is basically adding obvious details that people in the audience are probably expecting. If there is a bird in the story and then a hundred dollar bill on a high shelf then having the bird fly up and get the money makes sense. Introducing a bus driving kangaroo does not. Staying

⁵⁵ Variations of these exercises appear in Johnstone, *Impro*, 136-137. I participated in the versions described in the text at Johnstone Workshop (22-25 September 2011).

within the circle and not being clever are related concepts. As I described in the section on spontaneity, being clever takes improvisers out of the story, since they have to focus on what they are going to say next instead of on listening to what the story actually needs based on the other improvisers' contributions.

Johnstone also thinks it is a good idea to eventually meet someone or something during the story. If the players avoid meeting someone or something Johnstone considers this a kind of avoidance. When a new character is introduced anything could happen in the story, and that fear of the unknown prevents inexperienced improvisers from breaking the introductory plateau of a story and adding a new character. A different kind of blocking or avoidance is when students say they are going to go somewhere or do something during the story, and then they delay the action. Johnstone advocates just doing things, action over discussion just like in the Royal Court Theatre's Writer's Group or the Theatre Machine. If someone has a gun someone should get shot. If someone has a boat someone should drive the boat somewhere. If someone gets poisoned she should probably die. Johnstone teaches that improvisers should have the playfulness and imagination to make bold choices and actions and then still be able to keep the story advancing. If someone does get shot and killed they could continue in heaven or be a ghost. Fear of ending the story or not knowing what is going to happen next should not prevent improvisers from taking bold action without hesitation. There is always something that could happen next.

These group stories are told without focusing on the ending. Players focus on the story line by line instead of trying to preplan a resolution. Remembering

details that have gone before makes this type of group storytelling possible. These details are then reincorporated into the story. This reincorporation gives the story a complete feeling, since all the reincorporated details are within the circle. Reincorporation is also what makes long-form improvisation such as the Harold feel complete and cohesive. Patterns are created, and when details are reincorporated it seems like every gift had been made with that future reincorporation in mind. This only works when improvisers look at what has already transpired. It fails when players make choices based on a preplanned reincorporation they want to use later. Johnstone suggests, “You look *back* when you get stuck, instead of searching *forwards*.”⁵⁶ The human is a pattern-detecting machine, so if the improviser avoids thinking about the future she is better able to split her focus between the present moment of the story (her partner and details about the story) and details from earlier that could be reincorporated. Johnstone writes:

The improviser has to be like a man walking backwards. He sees where he has been, but he pays no attention to the future. His story can take him anywhere, but he must still ‘balance’ it, and give it shape, by remembering incidents that have been shelved and reincorporating them. Very often an audience will applaud when earlier material is brought back into the story. They couldn’t tell you why they applaud, but the reincorporation does give them pleasure.⁵⁷

Johnstone’s philosophy on creating group stories relies on “being in the moment,” while also “shelving” details that have gone before. Sometimes reincorporation can take players out of the present moment of the story. The moments of reincorporation that seem to be most successful occur unconsciously. I know I

⁵⁶ Italics in original. Johnstone, *Impro*, 118.

⁵⁷ Johnstone, *Impro*, 116.

have had moments in long-form improvisations when I did not consciously try to reincorporate past details. Without thinking “Oh man, what can I fold back into this story?”, it just happens. This is the ideal. There are certainly other times, when I consciously call back a previous detail in order to get a floundering scene back on track. I think reincorporations run the gamut between being unconscious and being completely conscious.

Cognitive theatre scholar and professor John Lutterbie, in *Toward a General Theory of Acting: Cognitive Science and Performance* (2011), writes that people, including actors, are always literally “in the moment,” which for him means “continually interacting with the world around us.”⁵⁸ However, when actors use the phrase in the moment, Lutterbie rightfully points out that it means something different. Being in the moment onstage refers to:

a *quality* of being: one that privileges an active engagement with others without conscious evaluation of what is taking place, that responds to what happens without premeditation or by recalling what happened previously and that allows the direction of events to shift without comment.⁵⁹

The important aspect of creating performances that are in the moment is that the future is not considered. Improvisers train themselves to focus on their partner, the scene, the game, and the space in order to focus less on what the future may bring. This technique applies just as much to social interactions. As soon as I start thinking about what clever thing I am going to say later, I have missed an important detail about the present interaction. Missed details do not make for

⁵⁸ Italics in original. John Lutterbie, *Toward a General Theory of Acting: Cognitive Science and Performance* (New York: Palgrave Macmillan, 2011), 168.

⁵⁹ Italics in original. Lutterbie, *Acting*, 168.

good social interactions or good improvisation.

The future takes care of itself during impro but only because past details are remembered somehow and woven back into the scenes. The prefrontal cortex can certainly consciously store these details about the scene, but I think something else begins to happen during particularly successful improvisation when players reach flow states. I have experienced improvisation performances where details from earlier in the show seem to come from nowhere. I do not consciously bring them to the surface. These contributions to the scene seem to come from somewhere other than the prefrontal cortex or d-mode processing. In other words, the improviser is not consciously culling her working memory, asking what details from earlier in the scene should be reincorporated. Any time I have had successful reincorporations and they have been pointed out to me after the scene or performance, I have had the reaction, “I cannot believe I said that” or “where did that come from?” I was not consciously trying to cleverly reincorporate material. It is like in the cocktail party exercise or the Harold that I describe in chapter two. A kind of group mind takes over that allows details and themes from earlier in the scene to effortlessly return later. I will explore more about the role of memory in the following chapter after a look at Johnstone’s mask work, which will further explain how these effortless reincorporations are possible.

Masks and Trance

One way to talk about Johnstone’s mask work is as an extension of status, spontaneity, and narrative. He says that masks inhibit the “watchman at the gate

of the mind” and allow a more spontaneous and embodied improvisation.⁶⁰

Johnstone writes, “We have instinctive responses to faces.”⁶¹ Once again, he uses instincts to explain his improvisation exercises. There is something about faces and our response to them that sometimes allows the mask work to free up improvisers even more than other exercises. First I will describe Johnstone’s mask work and its origins. Then we can begin to explore how the mask work affects the minds of improvisers and why.

George Devine introduced mask work to the Royal Court Theatre in 1958. Johnstone and William Gaskell led the mask exercises and, as Johnstone points out, were trying to induce trance states in the improvisers. Johnstone refers to masks with a capital ‘M’, because of the power he feels is possible for the mask wearer. During successful mask work it seems as if a spirit inhabits the improviser, the spirit of the Mask.⁶² Gaskell and Johnstone had their own interpretations of how mask work should be conducted, but it is first important to understand the mask tradition that came before them and the sources Devine used when he first brought the work to the Royal Court Theatre.

Devine had learned masks from Michel Saint-Denis, and Saint-Denis was taught by Jacques Copeau, Saint-Denis’s uncle. Copeau, famous for his Vieux-Colombier company,⁶³ started an apprentice program in 1921 that trained just six students. Mask work was introduced as part of this apprentice program. The

⁶⁰ Johnstone Talk (24 September 2011).

⁶¹ Johnstone, *Impro*, 150.

⁶² *Impro.*, 143.

⁶³ The Vieux-Colombier had their homebase in Paris but gained international success by touring. For a more complete history of Copeau and his company see Mark Evans, *Jacques Copeau* (London: Routledge, 2006).

mask work was only part of Copeau's actor training that also involved improvisation, mime, and physical expression.⁶⁴

Copeau's mask work consisted of the process known as "shoeing." In order to put the mask on, students first had to relax. As they placed the masks on their faces, they inhaled and closed their eyes. Before the students opened their eyes they were to clear their minds, sometimes using a mantra such as "I am not thinking of anything" to help quiet their thoughts. Finally they inhaled, sat upright, and opened their eyes. This process of transitioning into the mask has many similarities with Johnstone's later work. One major difference, however, was that Copeau did not allow the students to look at their masked selves in a mirror as he thought this made them self-conscious and took them out of the mask work.⁶⁵ St. Denis brought Copeau's mask work to England in the 1930s, and many of Copeau's techniques are apparent in Johnstone's interpretation of the exercises.

Johnstone's mask sessions start with him setting up a table with props such as balloons, scarves, and simple toys. He does not include anything that would require the Mask to have to think about how to operate the object. For example, the Mask might have to work to figure out how to open an umbrella or wind an alarm clock. Johnstone thinks the Masks have an average mental age of about two, so the objects are kept simple and attractive for that mental age.⁶⁶ Johnstone then sets up some furniture around the stage including a screen behind which he

⁶⁴ Evans, *Copeau*, 1 and 28.

⁶⁵ *Ibid.*, 136-137.

⁶⁶ Johnstone, *Impro*, 164.

places various costumes the Masks might want to use.

To start the actual mask exercise, Johnstone raises his status in the classroom. He leads the exercise with high status to assure students that what they are doing is not dangerous and that Johnstone knows what he is doing and can handle any outcome. He also plays high status to enforce the rule that the improviser must take off the mask as soon as she is instructed to do so. Johnstone writes, “I also have to establish that they will not be held responsible for their actions while in the Mask.”⁶⁷ This helps alleviate the students’ censorship region in the brain much like Johnstone’s spontaneity exercises. The idea is that at first he tells students they are not their imaginations; they are not whatever they say or do during improvisation. In reality, Johnstone actually believes people are their imaginations, but students are told otherwise in order to free them to be spontaneous and to not self-censor.⁶⁸

Next, Johnstone has the student put on the mask. He often uses half masks that leave the improviser’s mouth exposed. He tells the student to clear her mind and relax and then holds a mirror up for the student to look at her masked reflection. This is an attempt to “charge” the mask, meaning shock the wearer into getting her face to match the mask. The improviser is encouraged not to think about connecting to the mask but to try to just let it happen. This is the moment where not being responsible for their imaginations is so important. By telling students whatever they perceive when they look into the mirror has nothing to do with who they are, mask wearers are better able to embody the masks with a

⁶⁷ Ibid., 165.

⁶⁸ Johnstone, Talk (September 24, 2011).

childlike fearlessness. Whatever they see in that mirror has nothing to do with who they are. The more they believe this the less fear they will have and the less self-conscious they will be while wearing the mask. Eventually, in later mask sessions, improvisers begin to interact with objects and later with other Masks. During longer sessions, a mirror is available to re-charge and keep the improviser connected to the Mask. Johnstone describes the charging of the masks by stating, “The problem is not one of getting the students to experience the ‘presence’ of another personality—almost everyone gets a strong kick from their reflection—the difficulty lies in stopping the student from making the change ‘himself.’⁶⁹ Once again, Johnstone is advocating intuitive embodiment over consciously thinking about how to connect with the mask. Mask wearers must be able to imagine that they are the Masks to such an extent that they perceive it to be so.

It seems magical or fantastical, but Johnstone claims of his mask work:

A new Mask is like a baby that knows nothing about the world. Everything looks astounding to it, and it has little access to the wearer’s skills. Very often a Mask will have to learn how to sit, or bend down, or how to hold things. It’s as if you build up another personality from scratch; it’s as if a part of the mind gets separated, and then develops on its own.⁷⁰

When improvisers try to force the connection with the mask by consciously thinking, instead of embodying intuitively, the Mask will not “work.” Johnstone explains this kind of forced mask work by stating, “The Mask feeling leaks away and we are left with the actor pretending to be another person, instead of *being*

⁶⁹ Johnstone, *Impro*, 167.

⁷⁰ *Ibid.*, 168.

another person.”⁷¹ Johnstone explains the effects of his mask work as the improviser being in a trance state, being a different person, having a different personality, and being in the zone. These are all slightly different and require some unraveling. How can we explain a Mask that seems to learn independently of the wearer’s verbal personality?

Johnstone writes:

much of our lives is spent in some form of trance, i.e. absorbed. What we assume to be ‘normal consciousness’ is comparatively rare, it’s like the light in the refrigerator: when you look in, there you are ON but what’s happening when you don’t look in?⁷²

His theory behind the masks is that “The nature of creativity is the nature of the mask.”⁷³ In other words, mask work more efficiently decreases self-censorship to allow even more embodied and spontaneous improvisations. Johnstone does not think that people actually become more spontaneous but that his exercises and teaching allow the spontaneous parts of their brain to “be heard.” Think back to Daniel Dennett’s Multiple Draft Model of consciousness. The less the censoring regions are activated the more other regions, creative regions, can be the draft that rises to the surface.

I was lucky enough to participate in a Johnstone exercise that makes this separation between self-censored self and utterly uninhibited self clearer. In this version of the exercise “What Comes Next?,” I had a regular voice and an evil voice. With my regular voice I asked my evil voiced self, “What comes next?” Then, using my evil voice, I responded. Then I had to do whatever my evil voice

⁷¹ Italics in original. Johnstone, *Impro*, 168.

⁷² Capitalization in original. Johnstone, *Impro*, 148.

⁷³ Johnstone Talk (24 September 2011).

said and ask, “What comes next?” again. The evil voice works in a similar way as a mask. My evil voiced self was not me. I was not responsible, somehow, for what he said. The self that is writing this dissertation is slightly embarrassed to report that my evil voice made me pull down my pants and shake my crotch at the audience.⁷⁴ When I sat down after the exercise, I could not believe that my evil voice had made me do those things. It did not feel like me. Mask work, like the evil voice exercise, is permission to be other than your usual self.

Johnstone’s theory continues with the idea that trance is a kind of focus. He compares it to being in the zone while playing sports. He claims, “When they’re in the zone the body takes over and does it.”⁷⁵ Johnstone finds this kind of bodily take over to still be a provocative claim for people who are unfamiliar with trance traditions. If what he calls the verbal personality is not calling the shots during successful mask work then who or what is in charge? During Johnstone’s mask work it seems as if a different personality or consciousness has taken over for the improviser; the Mask has taken over. Johnstone says, “This goes against the entire culture.”⁷⁶ He writes, “The placing of the personality in a particular part of the body is cultural. Most Europeans place themselves in the head, because they have been taught they *are* their brain... We only imagine ourselves as ‘somewhere.’”⁷⁷ If mask work can interrupt this placement of the self in the head perhaps it can also radically shift the seemingly stable feeling of self or the verbal personality. This could be called a different self, a different person, a different

⁷⁴ Johnstone Workshop (24 September 2011).

⁷⁵ Johnstone Talk (24 September 2011).

⁷⁶ Ibid.

⁷⁷ Italics in original. Johnstone, *Impro*, 178.

consciousness, an altered state of consciousness, being in the zone, or an extreme state of flow, but the implications, I believe, are the same. Mask work has the potential to intensify what I have already described as possible during improvisation. The Mask can take the responsibility away from the player and free her up to get even more lost in the experience of improvising. Blaming the Mask for whatever the improviser does during the exercise allays the fear. This allows the improviser to rely less on her prefrontal cortex, whose job it would normally be to worry about being blamed or for looking silly or for messing up. Less prefrontal cortex equals more implicit memory, a state of just doing. Without the worry of the prefrontal cortex's draft of consciousness, the improviser can get more and more lost in the act of moving and doing.

An example of what Johnstone is describing is his wife Ingrid's experience wearing the "Waif Mask." She says:

I get very high on Mask work—it's like stepping out of my skin and experiencing something much more fluid and dynamic—sometimes when the Mask is turned on there is a part of me sitting in a distant corner of my mind that watches and notices changed body sensations, emotions, etc. But it's very passive, this watcher—does nothing that criticizes or interferes—and sometimes it's not there at all. Then it's like the "I" blanks out and "something else" steps in and experiences. When Ingrid switches back she can't always remember what that something else did or experienced. But while I am the Mask I experience it, or rather the Mask experiences itself like I do myself...only the way the Mask experiences itself is more intense. Things are more alive. The universe becomes magical—the body full of sensations. I suppose this is where the high comes from...

It's like you get the freedom to explore all the personalities that any human being may develop into—all the shapes and feelings that could have been Ingrid but aren't. Some Masks don't trigger any response...maybe these are spirits outside Ingrid's repertoire, that is any one person may have a *limited* number of possibilities when he develops his personality. Most of the time it's like becoming a child again, but some Masks feel very adult even though their knowledge is

limited. With the Waif I feel a distinct maturing process...she now feels like a thirteen-to-fourteen-year-old; at first she felt six or seven years old.⁷⁸

Masks seem to have a distinct personality that can develop and be taught, but how?

Johnstone's mask work brings together the ideas from situated cognition, flow, and what I have started to describe as the roles of working memory versus implicit memory. The masks give the improvisers a way to diminish their anxiety that what they do is representative of their verbal personality. Being able to "blame it on the mask" frees improvisers to be able to be more spontaneous. The prefrontal cortex and verbal personality are inhibited, allowing implicit memory centers and more embodied, unconscious brain regions to run the show.

Psychophysical acting trainer Phillip Zarrilli describes second-order bodymind awareness, which I think also helps explain mask work as a kind of enhanced flow state. When the improviser is able to be unselfconscious by focusing externally, second-order awareness is possible. Zarrilli takes the concept of bodymind awareness from phenomenologist David Edward Shaner who defines second-order awareness as:

...pre-reflective. Bodymind awareness is secondary to that toward which one primarily attends. One is not thinking about, but one attends to. This is the most primordial form of intentionality. This is the optimal state of being/doing when practicing martial arts, or yoga, playing a musical instrument, or acting.⁷⁹

⁷⁸ Italics in original. Ingrid Johnstone quoted in Johnstone, *Impro*, 175.

⁷⁹ Zarrilli, *Psychophysical*, 33.

David Edward Shaner, *The Bodymind Experience in Japanese Buddhism: A Phenomenological Study of Kukai and Dogen* (Albany: State University of New York, 1985), 48-54.

Phrased another way, it is when one “thinks with the body and acts with the mind.”⁸⁰ When Johnstone describes the hand making its own decision, this is second-order body awareness. Reliance on filtering information through the prefrontal cortex, where it can be edited and evaluated, does not allow for this kind of second-order awareness. External focus helps make this possible. Yoga, meditation, and martial arts all shift one’s focus in order to reach this state of second-order bodymind awareness.

Once players or practitioners become very skilled, it is possible for their second-order awareness to become first-order awareness while they are engaged in their practice. When players do not have to focus on the task at hand or on their conscious thoughts, they are able to have the euphoric experience of first-order awareness. Of this change in awareness, Shaner states:

First, the performance is exceptional because all the extraneous intentions, e.g., worry, anxiety, have been neutralized. Second, the sedimented skills are performed pre-reflectively. And third, since even the primary noetic intention is neutralized, the artist or sportsman becomes unhampered by a desire to concentrate and try too hard. Accordingly, the skill is performed with greater spontaneity and naturalness.⁸¹

So taking the psychophysical or bodymind approach to the effects of improvisation leads right back to the idea that enhanced flow states are possible after the structure and skillset become routine. Shaner describes this process as sedimentation, where skills become second nature and practitioners can rely on implicit and/or procedural memory (depending on the activity). This frees the practitioner up to reach euphoric states in which skills match talent and they no

⁸⁰ Zarrilli, *Psychophysical*, 32.

⁸¹ Shaner, *Bodymind*, 63.

longer have to consciously focus on either the task at hand or the internal dialogue that helps amateurs accomplish such tasks. First-order awareness is when things truly seem to just happen and the body just does.

I have experimented with some of Johnstone's mask work and have experienced charging the mask first hand. The moment I looked into the mirror after clearing my mind was liberating. I did not have to think about what to do next. I was able to just do, to let my masked self act as it wanted. I did not have to try or to worry. Once my mask was charged, the Mask became very frightened of everything around it. The Mask was scared of all other people, noises seemed unbearable, and everything was intensified. The whole time though, I did not have to think about any of these things. The key to the mask work is that it allows unselfconscious behavior to become so prominent that it feels like it is not you who does or says those things. Just like my evil voiced self during the "What Comes Next?" exercise, the Mask is coming from the undermind and not everyday, conscious thought processing. Mask wearers cannot think that this undermind behavior belongs to them during truly uninhibited mask work. Even though, it absolutely is a part (albeit often underused or below the surface) of the human mind.

In the next chapter, I will return to Johnstone's mask work and altered selves to complete my hypothesis about the improvising mind. After describing Viola Spolin, Del Close, and Keith Johnstone's contributions to improvisation and our understanding of the mind during improvisation, it is now time for a general theory about improv's effects on consciousness and cognition. By using

improvisers' own descriptions of what happens to them while onstage coupled with recent psychology and neuroscience findings, the next chapter aims to put together all the pieces of improvisation and cognitive studies thus far introduced.

Chapter 4

The Improvising Mind: On Stage and in the Lab

Once an improviser becomes skilled at her craft, something extraordinary is possible when she steps onstage. This chapter describes the experience of improvising through the words of well-trained improvisers. As I describe each cognitive shift or phenomenon in the improviser's own words, I also overlay recent findings in cognitive neuroscience, psychology, and philosophy to compile a theory that answers, "What happens to consciousness and cognition during improvisation, and what happens to the mind/brain of skilled improvisers during exceptional performances?"

Whether consciousness is thought of in terms of Daniel Dennett's Multiple Draft Model or psychologist Daniel Kahneman's System 1 and System 2, which he derives from the theories of psychologists Keith Stanovich and Richard West, the conclusion seems to be similar. Instead of one linear narrative controlled by one part of the brain, consciousness is actually more of a battle between many thought processes for attention. Kahneman's book *Thinking Fast and Slow* (2011) describes two systems of problem solving, System 1 and System 2. These roughly coordinate with the automatic and effortful systems.¹ Similarly to Guy Claxton's writing in *Hare Brain Tortoise Mind* (1997) or Malcolm Gladwell's *Blink* (2005), Kahneman is advocating the automatic system, the part of our thought process that seems to problem solve without thinking. This is his System

¹ Daniel Kahneman, *Thinking Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), 20-29.

1. System 1 is able to complete a sentence someone else has started, know when someone else is angry before they speak, understand simple phrases, drive, read simple words, or react when something is disgusting.² System 2, on the other hand, “is...credited with the continuous monitoring of your own behavior.”³ System 2 is the internal monologue and the conscious problem solver. The key to understanding improvisation’s effects on the mind is that it orders consciousness. By focusing outward on one’s scene partners, the game of the scene, or the space, skilled improvisers can order consciousness in such a way that System 1 or intuitive, automatic thinking rises to the surface in the competition amongst different modes of thought. Whether it be Viola Spolin’s Point of Concentration (or focus), long-form improvisation’s perceptual shift towards patterns and themes, or Keith Johnstone’s status, not thinking about your own behavior leads to less self-conscious improv with better ensemble collaboration.

Dina Facklis, an improviser and teacher at iO Theater, describes her shift in focus in terms of listening. When asked when successful improvisation happens while she is performing, Facklis says, “If I say to myself, ‘Listen, listen, listen, be in the moment, be in those scenes with your partners and your ensemble,’ then I’m always in a better place.”⁴ Facklis’s outwardly focused listening prevents her from relying on her System 2, conscious problem solver, internal monologue, or whatever one chooses to call it. In order to have successful shows where she feels as if she is experiencing the performance moment to moment, Facklis reminds

² Ibid., 21.

³ Ibid., 24.

⁴ Dina Facklis, Personal interview (Chicago, 2 August 2011).

herself and her students to shift their focus outward. By listening intently to her partner and the ensemble, Facklis is able to shift her focus from a self-conscious, critical mode of thinking to a heightened perception of what she hears onstage. This allows for more intuitive responses, responses from the undermind (Claxton's theory) or the nonconscious mind (Gladwell's theory). As improvisers often say, listening allows them to get "out of their heads," meaning out of System 2 processing. They are obviously still using their brains but not the regions including the parts of the prefrontal cortex that deliberate and consciously problem solve. "Out of their heads" means out of d-mode (Claxton's deliberating mode). It means no conscious monitoring of one's own behavior. When you try to think of an answer and you cannot come up with it, that is the deliberating mode. When the answer seems to come from nowhere, two days later, when you are no longer trying to think of it, that is System 1, undermind, nonconscious problem solving.

Perhaps the best example I came across of improvisation ordering someone's consciousness is Steve Waltien, another improviser and teacher at iO Theater. Waltien describes a huge shift in his thought process resulting from him stepping onstage for an improvisation show:

I think for me it's like what a lot of people describe yoga as or meditation, where it's a place, a mental space where you're not thinking about other stuff, because I have weird sort of like anxiety issues, and I don't have a very good attention span...I mean, I frequently have the experience of being like, "Man I don't think I can do this right now [go onstage]..." but then...I feel like nearly one hundred percent of the time when I go out and do that, for some reason it is like a Zen thing where it's kind of delightful for

me, because it's a mental break from everything else that's in my head...⁵

Since such different regions of his brain are working during improvisation than in his anxiety-filled everyday life, improv feels like a break for Waltien. Waltien's d-mode, his internal monologue, is filled with worries and anxieties during his everyday life. The moment he steps onto the stage to improvise, he automatically focuses outward, which quiets the regions of the brain that normally cause so much stress for him. He has trained his brain through improv to work completely differently than it normally does. His consciousness is ordered by the need to focus outward on his fellow players. It is just not possible for Waltien to continue worrying, be anxious and, be able to improvise.

Recent fMRI studies back up this claim that the improvising brain works differently than the non-improvising brain. Dr. Charles Limb, one of the scientists responsible for the jazz improviser fMRI experiments mentioned in the introduction, is trying to locate the source of creativity in the human brain. In addition to the jazz improviser experiment, Limb is also currently experimenting with freestyle rappers to begin figuring out what happens in the brain during improvisation. His work is in its early stages and many of his findings are speculative, but I think some of his preliminary assessments from his fMRI experiments with rappers and jazz improvisers are important to mention in the context of theatrical improvisation.

During the fMRI brain scans of the improvising jazz musicians, Limb found that the lateral prefrontal cortex was inhibited and the medial prefrontal

⁵ Steve Waltien, Personal interview (Chicago, 12 August 2011).

cortex increased in activity during improvisation but not during memorized scales or songs. Limb attributes this change in the brain to an increase in creativity and a decrease in self-consciousness. Limb's fMRI scans on freestyle rappers also appear to link the improvisation of the jazz musicians with the improvisation of the rappers. Limb's speculative claim for this link involves Broca's area, which is a language center in the brain. It seems that during both musical and verbal improvisation there is an increase in activity in language centers. Limb sees both music and speech as forms of communication, so it would then make sense that communication centers of the brain increase in activity during both rap and jazz improvisation.⁶

Senior fellow at The Neurosciences Institute Aniruddh D. Patel also advocates the position that music and language processing have similarities that reveal insights into brain functioning. Patel describes this connection between music and language in terms of syntax:

In language, one meaning supported by syntax is “who did what to whom,” in other words, the conceptual structure of reference and prediction in sentences. In music, one meaning supported by syntax is the pattern of tension and resolution experienced as music unfolds in time.⁷

Patel describes the “shared syntactic integration resource hypothesis” or SSIRH to further connect syntactic processing in music and language. The SSIRH is “the overlap in the neural areas and operations that provide the resources for difficult

⁶ Dr. Charles Limb, *Your Brain on Improv*: Charles Limb on Ted.com (31 January 2012). <http://blog.ted.com/2011/01/05/your-brain-on-improv-charles-limb-on-ted-com/>

⁷ Aniruddh D. Patel, *Music, Language, and the Brain* (Oxford: Oxford University Press, 2008), 264.

syntactic integrations.”⁸ Though music and language have distinct processing features, Patel’s theory is that an overlap exists in the neural processing of music and language. This hypothesis, when considered in conjunction with Dr. Limb’s preliminary findings about the medial and lateral prefrontal cortices in jazz musicians and rappers is the beginning of a potentially fruitful line of inquiry and dialogue between the arts and science.

Joe Bill, a teacher and improviser at iO Theater, is also very interested in locating the centers of creativity in the brain. In his yet unpublished book, Bill explores the idea that the medial cortex is a source for intuition and spontaneity for improvisers. In an interview with Bill, he explains his understanding of Dr. Limb’s preliminary findings:

It’s really about accessing the medial [prefrontal cortex], so that you can be one with the music, so that you’re just an extension of the music. You’re in turn, in effect, selfless. In a way it’s like...when it shuts off you’re almost in denial of a whole bunch of stuff...and so then you live in this sort of state that you fabricate and you create your own reality...and that’s when I think the medial prefrontal cortex gets sort of hyperactive.⁹

The outward focus that improvisation demands allows the intuitive and creative brain centers to flourish, while drastically inhibiting self-censorship parts of the brain that also are involved with working memory, parts such as the lateral prefrontal cortex. At least that is the hypothesis from what we can glean thus far from experiments such as those begun by Dr. Limb. Going back to Dennett and Kahneman’s models for consciousness, if the parts of the brain that normally tell you you are doing something wrong are drastically inhibited other parts of the

⁸ Ibid., 283.

⁹ Joe Bill, Personal interview (Chicago, 8 August 2011).

brain can have drafts that rise to the surface. Improvisation is a way to train the brain to use drafts that would normally be stifled by the self-censoring regions of the prefrontal cortex.

Psychobiologist Michael S. Gazzaniga's book *Who's in Charge?: Free Will and the Science of the Brain* (2011) adds another layer to this theory that improvisation could result in decreased activity in brain regions including the dorsolateral prefrontal cortex. Gazzaniga describes an experiment done by behavioral economist Ernst Fehr and his team. Fehr disrupted the activity of the right dorsolateral prefrontal cortex in his subjects by using transcranial electric stimulation. He then gave one patient twenty dollars, and that patient had to decide what percentage she would share with another person. The trick was that if the person who was offered the percentage of the twenty refused no one got any of the money. The subjects who had inhibited right dorsolateral prefrontal cortices accepted lower offers than the control group. They thought the offer was unfair, but they still accepted it. Gazzaniga attributes this to a selfish response. Less dorsolateral prefrontal cortex activity literally meant these people accepted any offer, fair or not.¹⁰ When improvisation's core is giving and receiving gifts from other players no matter what, it makes sense that this region might play a role in one's ability to do so, and I question whether the findings of the study indicate selfishness. A little money is better than no money at all. Using the

¹⁰ Michael S. Gazzaniga, *Who's in Charge?: Free Will and the Science of the Brain* (New York: HarperCollins, 2011), 177.

D. Knoch, A. Pascual-Leone, K. Meyer, V. Treyer, and E. Frehr, "Diminishing Reciprocal Fairness by Disrupting the Right Prefrontal Cortex" in *Science* (Volume 314, Number 5800, 2006), 829-832.

tenets of improvisation, the important factor is what the next person does with that gift.

Gazzaniga also describes moral tests run by Damasio and his team on people with lesions in similar parts of their brains. The problem here is that the dorsolateral prefrontal cortex was just one area that was affected by the lesions. Gazzaniga claims that these tests showed that people with injured dorsolateral cortices tended to be more egocentric and less likely to accept another's perspective. According to Gazzaniga's interpretation of the study, the dorsolateral prefrontal cortex seemed to have something to do with being able to learn social codes and mores.¹¹ One problem with these findings is their lack of specificity in regards to the brain regions affected and the small sample size (only two subjects). Of the brain regions damaged in both subjects, the authors of the study write:

The lesion in subject A was bilateral and involved the polar and ventromedial prefrontal sectors. The lesion in subject B was unilateral, located in the right prefrontal region, and involved the polar sector, both medially and dorsally.¹²

The dorsolateral prefrontal cortex is damaged in both subjects, but to jump to the conclusion that this one area makes them more egocentric and less able to take another's perspective seems to jump to conclusions. I do think Gazzaniga's interest in the dorsolateral prefrontal cortex is important in light of other findings

¹¹ Gazzaniga, *Who's in Charge?*, 177.

S.W. Anderson, A. Bechara, H. Damasio, D. Tranel, and A.R. Damasio, "Impairment of Social and Moral Behavior Related to Early Damage in Human Prefrontal Cortex" in *Nature Neuroscience* (Volume 2, Number 11, 1999), 1032-1037.

¹² Anderson, Bechara, Damasio, Tranel, and Damasio, *Nature Neuroscience*, 1034.

such as those of Dr. Limb. This brain region seems to have something to do with the ability to relate to other people and to express one's own interests freely. Drastic increases and decreases in its activity seem to make two things possible—freer behavior and hyper-connectivity with other people. Since this region does not work alone and does not exist apart from all other brain regions, we may never be able to say that this one region does this one thing. However, it is worth noting that the dorsolateral prefrontal cortex seems to be integral to understanding the cognitive effects of improvisation, creativity, and self-expression.

It is easy to get excited about preliminary findings on improvisation and neuroscience, but even Dr. Limb admits that cognitive neuroscience has yet to catch up with the arts.¹³ First of all, as we saw in the aforementioned Damasio study, no two brains are exactly the same. To jump to the conclusion that one brain region performs the same function in all people would be ridiculous. Some people's brain-sidedness is opposite the norm, and as I have previously discussed, the plasticity of the human brain allows regions to adapt and change as needed.

Also, too much emphasis is often placed on the so-called evidence discovered by fMRIs and other brain scans. Gazzaniga points out that people are more likely to believe a scientific article if it contains brain scans (regardless of the actual content of the article or whether or not the scans even relate to the text of the article).¹⁴ He also describes the problem that brains are individual and cannot ever truly serve as evidence that because the scan appears a certain way the person was thinking a certain way. There just are no universals in

¹³ Dr. Charles Limb, Ted.com.

¹⁴ Gazzaniga, *Who's in Charge?*, 190.

neuroscience. Brain scans too often trick us into a false sense of being evidence.¹⁵ I think it is important to consider the results of brain scans as just one piece of a very complex conversation. Here again, it is important to also remember situated cognition. The mind is what happens in the brain, in the body, and between people during social interactions.

Finally, the arts, including improvisation, already know many of the things that neuroscience is just now trying to understand. Improvisation teachers such as Viola Spolin, Del Close, and Keith Johnstone have already proven that their approaches to creativity get results. Shifting one's focus externally helps players respond quickly, spontaneously, and creatively. This outward focus has another effect on the improvising mind, though. When all one's attention is focused on other improvisers, cues and clues about their behavior and thought processes become easier to see, interpret, and react to.

Katie Hammond, an improviser trained at iO, Second City, and the Magnet among other places, describes moments onstage when she synced up with her fellow players. In one moment, she said nearly the same thing at the same time as her scene partner. This is a relatively common phenomenon during skilled improvisation shows. Multiple players seem to share thoughts, and this is known as group mind. About another such incident, Hammond recounted an improv performance where she and her partner sang an improvised duet and

¹⁵ See also M. Price, "'Voodoo' fMRI?" in *Monitor on Psychology* (Volume 40, Number 5, May 1999), 15 for more on the flaws of fMRI scans studies and how they are conducted.

ended up singing the same words at the same time.¹⁶ Hammond describes the experience as seeming rehearsed in its precision even though the duet was completely improvised. Steve Waltien also told me about a fascinating moment of group mind he experienced during an improvised Shakespeare show.

Improvised Shakespeare is quite impressive. In two acts, the improvisers switch between prose and verse, while improvising in the style of Shakespeare based on an audience suggestion for the title of the show. Waltien described one scene where he came onstage to be a choir director character near the end of act one:

What was really cool is that everybody at the same time grabbed chairs as instruments...and I think initially we all...thought somebody was going to be playing a lute or something, and then one person made the move to put it down and start drumming on it, and then everybody did that, and we evolved into this...I mean, none of us have any percussion experience...we fell into this amazing polyrhythm of five people just doing all...what I think sounded like really sick, great drumming...it really felt magical...I mean without planning it or having any experience with it, it was like we did...basically this wild drum solo thing and then all the sudden, at the same time, all five of us went [Waltien taps on the table twice] and then started singing...as somebody who did it, it's not really me patting myself on the back, because it felt like a happy accident, but...I think it was because it was the end of the act, and we were all free and loose and no one was trying too hard, and...no one was trying to drive it, because no one knew what they wanted it to be. So it just kind of came fully formed...¹⁷

Waltien, like Hammond, also describes the experience as seeming rehearsed. He worried that the audience might have thought the drumming and song had not been improvised as advertised. Most well-trained and experienced improvisers

¹⁶ Katie Hammond, E-Mail interview (26 August 2011).

¹⁷ Steve Waltien, Personal interview, August 2011.

have similar stories when no one tries to lead, everyone relaxes and has fun, and the group mind emerges.

How can group mind, which seems a lot like mind reading, be explained using cognitive studies? The mirror system, introduced in chapter one, is one way to explain group mind. If I have motor neurons firing when my improv partner moves and talks, I think it is possible that the draft (using Dennett's Multiple Draft Model again) that normally overrides me actually moving and talking like him or her may diminish. I believe it could be possible that drafts of conscious thought that connect me to other people (such as the mirror system) may rise to the surface, especially in moments of flow when I am extremely focused on my partner. At the very least, placing such value on intently observing others results in a greater likelihood that social clues and cues transfer between players. D-mode thinking decreases the connection amongst improvisers. The more I think about my own behavior the less likely I am able to intuit other people's.

This group mind experience, when it seems like the scene comes fully formed or like improvisers are reading each others' minds, is part of the reason improv can be addictive. Many of the improvisers I interviewed described successful improvisation by using drug or alcohol references. They said things like improv made them feel high or that they craved the experience they got while onstage. Marla Caceres, iO improviser and teacher, compared improvising to having an itch that needs to be scratched, a metaphor she once heard an alcoholic use to describe his need to drink.¹⁸ Steve Waltien described his experience as a

¹⁸ Marla Caceres, Personal interview (Chicago, 1 August 2011).

kind of euphoria that usually takes hours to come down from and sometimes days. Here again, point of concentration and outward focus are key factors in creating these euphoric improv moments. Csikszentmihalyi writes:

...enjoyment happens only as a result of unusual investments of energy. A person can feel pleasure without any effort, if the appropriate centers in his brain are electrically stimulated, or as a result of the chemical stimulation of drugs. But it is impossible to enjoy a tennis game, a book, or a conversation unless attention is fully concentrated on the activity.¹⁹

Improvisers intently focus outward, which makes group mind and flow states more likely. The extreme case of improvisers' concentrated outward attention resulting in enjoyment is that they feel high. So as Csikszentmihalyi states, one can have this pleasurable experience (what I am calling a high) artificially through drugs, alcohol, or electronic stimulation of the brain, or one can order their consciousness by focusing attention fully on the task at hand.

I think the decrease in activity in the lateral prefrontal cortex may play a role in this improv high and be a commonality between the effects of alcohol and those of improvisation. Many improvisers compare the experience of a good show to being a little drunk. Alcohol also lowers inhibitions and self-censorship, as many of us know too well. The moment that trained improvisers take the stage, they automatically go into the mode of thinking that focuses outward. The part of the brain that censors one's thoughts, speech, and actions becomes much less involved. This allows for more creative and intuitive behavior onstage. The guidelines and structure of improv allows the mind to stop editing itself but so

¹⁹ Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience* (New York: Harper Perennial, 1990), 46.

does consuming alcohol. The results of both are freer behavior. The decreased activity in parts of the prefrontal cortex (the internal monologue that chatters all day long) can finally go offline and not be the draft of consciousness that constantly rises to the surface. Psychologists Peter E. Wendt and Jarl Risberg confirm that parts of the dorsolateral prefrontal cortex do indeed slow down when inebriated. In their paper “Ethanol Reduces rCFB Activation of Left Dorsolateral Prefrontal Cortex during Verbal Fluency Task,” (2001) they find that this region in charge of working memory decreases in activity after ethanol is consumed. In addition, hemispheric functioning and brain specialization is adversely effected.²⁰ Alcohol has some similar effects as improvisation for very different reasons. Parts of the dorsolateral prefrontal cortex see a decrease in activity resulting in less self-consciousness and less working memory, and hemispheric functioning is also altered during both. The similarities end here though. Getting drunk is a very different experience than ordering one’s consciousness through improvisation. Alcohol does not require skill and challenge to be matched. It does not push its consumer to the peak of her abilities. Therefore, it cannot result in some of the other cognitive effects I have been and will be discussing such as flow, altered states of consciousness, or group mind.

The players’ connection to the audience also plays a role in encouraging freer, more natural onstage behavior. Bruce McConachie’s *Engaging Audiences: A Cognitive Approach to Spectating in the Theatre* (2008) lays the foundation for

²⁰ Peter E. Wendt and Jarl Risberg, “Ethanol Reduces rCFB Activation of Left Dorsolateral Prefrontal Cortex during Verbal Fluency Task” in *Brain and Language* (Volume 77 Issue 2, May 2001), 197.

describing a theatre audience's role in cognitive theatre studies. He states that audience behavior affects individual cognition, and it is certainly the case in improvisation that the players' connection to audience members is an integral factor for the success of performances.²¹ McConachie uses the audience research of research professor in sociology and communications John Tulloch to argue that the inherent danger and unpredictability of theatre makes it compelling to its audiences. Even in a well-rehearsed, scripted play, actors could forget lines or slightly change their blocking night to night. Every live performance is slightly different than the night before no matter how many times the performers have rehearsed. Improvisation is even more extreme, and its inherent uncertainty in regards to how scenes end is shared between audience and performers. This uncertainty is an extreme example of engaging audiences by keeping them in suspense about what the future holds within a performance.²²

McConachie also describes the problem inherent in amateur acting when actors complain they do not know what to do with their hands while onstage. When actors focus on remembering their lines, oftentimes their gestures do not seem to match their words and their movement becomes unnatural looking. McConachie uses an example from psychologist David McNeill's research to illustrate why cognitively this may be occurring, and then he extrapolates why this type of mismatched gesture and word is less engaging for audience members. McNeill describes a patient, called IW, who lost his sense of touch and spatial

²¹ Bruce McConachie, *Engaging Audiences: A Cognitive Approach to Spectating in the Theatre* (New York: Palgrave Macmillan, 2008), 31.

²² McConachie describes Tulloch's audience research starting at McConachie, *Engaging Audiences*, 52.

awareness below the neck. However, IW's speech and cognitive functions were normal. McNeill performed an experiment in which he had IW speak about a topic but prevented him from looking at his hands while he did so. As McNeill predicted, IW's gestures were completely normal when he was not conscious of his hands. McNeill links gestures to the linguistic system in the brain to explain IW's ability to gesture unconsciously while remaining unable to use his hands consciously.²³ By focusing on and listening to the other people onstage in order to respond naturally, improvisers take the conscious focus away from their own gestures. This allows them to sync up with the words the other players are saying. When the linguistic system is functioning in sync, audiences are more apt to find the performance compelling, since they can better interpret the actors' underlying intentions and emotions.

Another way of understanding an audience's search to relate to and interpret a performance is through the region of the brain known as Broca's area. A disorder in this area results in an inability to match speech and gesture. Known as aphasia, this disorder could also make it more difficult for someone to interpret the speech and gesture of others, including actors. McConachie writes that aphasia impairs the mirror system, which could make it harder for someone to interpret the communicative clues and actions of others.²⁴ If the mirror system really does link people communicatively and gesturally then certainly the actors being able to see the audience's faces allows for more of a connection. As

²³ McConachie, *Engaging Audiences*, 88.

David McNeill, *Gesture and Thought* (Chicago and London: University of Chicago Press, 2005), 4.

²⁴ McConachie, *Engaging Audiences*, 91-91.

McConachie reminds us, “The eyes and the muscles around them are especially revealing.”²⁵ When picking up communicative cues it is especially important to be able to see someone’s eyes. The mirror system is then better able to “mind read” or interpret and relate to the speech and gesture (the linguistic system) of others.

In addition to feeling euphoric or like a freer version of themselves, skilled improvisers sometimes also describe performances where they do not feel like themselves at all. Sometimes improvisers report feeling like a different personality takes over for their everyday personality.²⁶ In addition to Keith Johnstone’s mask work in chapter three, there are two other scholars’ work that might help to better understand how enhanced listening and outward focus may also make altered states of consciousness possible. Psychotherapist Eberhard Scheffele has done a psychological survey that begins to link theatrical improvisation with altered states of consciousness (ASC). His definition of ASC comes from the work of psychologist G. W. Farthing: “temporary change in the overall pattern of subjective experience, such that the individual believes that his or her mental functioning is distinctly different from certain general norms from his or her normal waking state of consciousness.”²⁷ Results of ASC include changes in attention, memory, and higher level thought processes.

The first of three elements of an altered state of consciousness relevant to improvisation is changes in attention. Farthing describes this: “As a consequence of narrowly focused attention, people may notice aspects of their attentional

²⁵ Ibid., 74.

²⁶ I will describe this phenomenon in terms of altered states of consciousness.

²⁷ G. William Farthing, *The Psychology of Consciousness* (Englewood Cliffs: Prentice-Hill, 1992), 205.

object (such as music) that they would not normally notice.”²⁸ When all is going well, improvisers focus very narrowly on each other and on the task at hand. Group mind is one example of improvisers noticing more about their attentional objects (each other) than would otherwise be possible. Some of my favorite moments onstage have happened when I just walk on and have no idea what I am going to do. I just give all my attention to the other person, and I notice something about them that starts the whole scene, something I would not have noticed in my everyday life. Keith Johnstone’s status work is an example of this outward focus. During our workshop with him we did an exercise where we had to continuously match our partner’s status. I was so focused on my partner that I did not have to think of anything except her.²⁹ Generally after exercises like this, I am left with the strange feeling that because my attention was so outwardly focused I have no idea what my behavior had been like during the scene.

The second relevant consequence of the ASC is a change of memory.

Farthing discusses this change in memory as involving:

changes in the associations between words or images, such that the flow of ideas in the stream of consciousness is notably different from normal. Some such changes are merely nonsense, but in other cases truly creative combinations of ideas may occur in ASCs.³⁰

My not being able to remember what I did while onstage is one example of this element of an ASC. I was improvising well, creating funny and creative patterns out of whatever my fellow players were saying. Yet I was not recording any of

²⁸ Ibid., 208.

²⁹ Keith Johnstone Workshop (24 September 2011).

³⁰ Farthing, *Psychology of Consciousness*, 209.

the experience as memories as I normally would. My stream of consciousness, as Farthing puts it, was altered. Another example is the phenomenon in which someone calls back something from earlier in a performance without conscious effort. This effortlessness of one kind of memory and total lack of another are effects of improvisation that tie it closely to ASC.

The final relevant effect of ASC is a change in higher level thought processes. Farthing states that during an ASC “people sometimes come up with truly creative solutions to practical or artistic problems.³¹ It is this possibility of the unconscious mind being allowed to rise to the surface of a performance that I find most important to Farthing’s discussion of altered states of consciousness and is the core of what Viola Spolin, Del Close, and Keith Johnstone aim for with their improvisation pedagogies. This is Spolin’s concept of releasing momentary genius and transcending the normal limits of the self.³² This is the Harold’s group mind, where the collective is more intelligent and creative than the individual.³³ This is Keith Johnstone’s coaxing his students’ imaginations out and getting rid of their judgment of those imaginations. In short, coming up with creative solutions to problems is the work of the unconscious mind. Improvisation’s ability to bypass the brain’s censors promotes this element of the ASC. It is the whole point of improvisation to allow an often-underused part of the mind to do the bulk of the problem solving.

³¹ Ibid.

³² Viola Spolin, *Improvisation for the Theater* (Evanston: Northwestern University Press, 1963), 3.

³³ Charna Halpern, Del Close, and Kim “Howard” Johnson, *Truth in Comedy: The Manual of Improvisation* (Colorado Springs: Meriwether Publishing Ltd, 1993), 92.

Eberhard Scheiffele explores the connections between improvisation and ASC in his paper “Acting: An Altered State of Consciousness” (2001). Scheiffele led college students in improvisation games and exercises. He then had them rate the five times during the exercises they felt the most spontaneous. Then he had them complete a survey to get empirical evidence on the connection between improv and altered states. Since Scheiffele had already described the fourteen dimensions of ASC to the class, the survey simply had the students rank on a scale to what degree they experienced that dimension of ASC during the five moments they felt most spontaneous.³⁴ Scheiffele’s conclusions, based on his survey, were that students experienced most of the dimensions of an ASC during improvisation. The highest ranked dimensions were arousal and emotional feeling and expression. Interestingly, Scheiffele’s aim was to connect acting with ASC, but he had the students do only improvisation exercises.³⁵ There is definitely overlap between acting and improvisation, but during improv, players do not know what they are going to say, hear, or do next. Following the structure of a play script is very different than following the rules of the game. It is perhaps easier to describe ASC in terms of trance traditions. Trancing, like improvisation, generally relies on rules of the game more than a script. The fact that anything can happen lends itself well to heightened states of arousal as participants enter the unknown. This is not to say improvisation and acting are opposites.

³⁴ Eberhard Scheiffele, “Acting: An Altered State of Consciousness” in *Research in Drama Education* (Routledge, Volume 6, Issue 2, September 2001), 188-189.

³⁵ *Ibid.*, 188.

Improvisation's cognitive effects can and do relate to scripted acting, and I will explore this idea at the end of this chapter.

Psychology professor Judith Becker explores trance and enhanced listening in her book *Deep Listeners: Music, Emotion, and Trancing* (2004). Becker theorizes that what she calls deep listening is related to various cultures' trance traditions. She is careful not to universalize these global traditions, but the similarities in the phenomena allow her to draw some conclusions on the relationship between listening and trance. Her definition of deep listening is "a descriptive term for persons who are profoundly moved, perhaps even to tears, by simply listening to a piece of music."³⁶ Deep listening relates to what I have been describing as enhanced listening during improvisation. One's focus is shifted externally instead of focusing on internal dialogue. An even more extreme version of this shift in focus is a trance state or trancing. Becker's example of trancing for readers who are unfamiliar with these traditions is the example of zoning out while driving. Most people can stop their internal dialogue while driving, because they do not have to think about every detail of what they are doing yet their attention remains outwardly focused.

Becker's theory on trancing relates to improvisation in the sense that external stimuli and focus are crucial. She writes:

I suspect that strong emotional arousal stimulated by listening helps precipitate the onset of a trancing consciousness characterized by focus, by duration, by limiting the sense of self, and by the surety of special knowledge...Control of the autonomic bodily responses of emotion and the ability to affect the intensity

³⁶ Judith Becker, *Deep Listeners: Music, Emotion, and Trancing* (Bloomington: Indiana University Press, 2004), 2.

of those physiological responses is one definition of a trancer.³⁷

When Becker describes control over the autonomic system it is not the kind of control that involves core consciousness, to use Antonio Damasio's terminology. In other words, external focus allows the trancer to quiet her internal monologue, extended consciousness, or autobiographical self.³⁸ So the control over the autonomic system is not a conscious kind of control. The rules, structure, and cultural expectations of the trancing ritual allow nonconscious parts of the mind to do what is expected of them as they fall into a trance state. This decrease in activity of the extended consciousness can then allow core consciousness to take over. According to Becker's theory, this shift from extended to core consciousness could also affect the memory of the trancer and result in amnesia of the trancing event. She writes, "Trance amnesia, I suspect, may be a result of the absence or inactivity of the autobiographical self during the trance period."³⁹ Some memory must remain during trance, such as some sort of implicit memory of what is expected of the trancer according to her cultural traditions.

My experiment with Keith Johnstone's mask exercises, my participation in the evil voice exercise, and all the moments when I finished a scene with the feeling of not knowing what had just transpired⁴⁰ are all examples of core consciousness taking over for the autobiographical self that usually runs the show. The autobiographical self diminishes and allows a different self to take over. The

³⁷ Ibid., 68.

³⁸ I am using internal monologue, extended consciousness, and autobiographical self synonymously.

³⁹ Becker, *Deep Listeners*, 144.

⁴⁰ I go into greater detail on my own experience with Johnstone's work in chapter three.

autobiographical self does not always remember what happened during the exercise, but core consciousness does. This is the “What just happened out there?” reaction many improvisers report after a successful show where they were really into the scenes. The autobiographical self cannot remember an event in which it played such a minor role. This is also what allows Masks to seemingly develop and learn separately from the improviser who wears them. It also makes short-term amnesia possible during mask exercises and improvisation performances. Less autobiographical consciousness could be the cause of my and other improvisers’ amnesia during our improvisation performances. In Becker’s terms, we experienced trance states and trance amnesia brought on by deep listening and outward focus.

Psychologist and memory expert Alan Baddeley describes memory by stating:

Memory does not comprise a single unitary system, but rather an array of interacting systems, each capable of encoding or registering information, storing it, and making it available by retrieval. Without this capability for information storage, we could not perceive adequately, learn from our past, understand the present, or plan for the future.⁴¹

One of the systems of memory is working memory and another is long-term memory. Working memory has what Baddeley calls a central executive component. This aspect of working memory seems to control the phonological loop and the visuo-spatial sketch pad. The phonological loop is an auditory rehearsal for memory in which one hears the word in one’s mind. The visuo-

⁴¹ Alan D. Baddeley, *Essentials of Human Memory* (East Sussex: Psychology Press, 1999), 19.

spatial sketch pad is the visual counterpart to the phonological loop in which one envisions the thing to be remembered in one's mind. The central executive of working memory then relays this to long-term memory.⁴² Going back to the experiments of Sian Beilock I describe in chapter three, when a golfer counts backwards to allow her procedural memory to take over, the central executive aspect of working memory is being overridden. So here again, we find that a shift to procedural memory, a type of implicit memory, can result in a decrease in what gets stored as long-term memory.

Dina Facklis, who I previously quoted describing how important listening is during improv, describes a moment of forgetting:

Well, I can tell you right now that most of the time if it's a good show I kind of come off stage and I can't remember it...sometimes I think I was just so in the moment that it's kind of like, it's so real that it just feels like something that happens all the time...⁴³

Facklis, many others, and I have described moments when the central executive does not fully relay working memory to long-term memory. Becker describes this failure to relay in terms of Damasio's neuroscience. Decreasing one's own ego self or autobiographical self may also result in a decrease in remembering those moments of diminished extended consciousness.

This diminished extended consciousness would also explain the loss of anxiety Steve Waltien and other improvisers describe. Waltien calls the process of stepping onto the stage his threshold of nervousness. This is the moment his anxiety disappears. He explains, "What is almost always true is that I will go

⁴² Ibid., 49-69.

⁴³ Facklis, Personal interview, August 2011.

through the day with worry and burdens, and then for forty-five minutes I won't have those, and then they will return...the time I'm onstage I'm not thinking about those things."⁴⁴ This brings me back to the possibilities of a decrease in one's autobiographical self. During successful shows, improvisers' brains are recording less of the information they normally would, including fears, anxieties, and self-evaluations. Similar regions of the prefrontal cortex that deal in self-criticism also deal in working memory, so my hypothesis is that feeling less anxious and not being able to recall performances are connected. Memories are not being relayed to long-term memory, because regions of the brain that do this relaying are also affected by the decrease of the autobiographical self.

Improvisation has more profound effects on memory and lends itself more easily to moments of flow than scripted acting, because improvisers have no idea what the future holds. Improvisers do not know where they will be standing next, to whom they will be speaking, or what they will be saying. This is a more extreme version of being in the moment than scripted acting. There simply is no room to think about the future during improv. This is why improvisers such as Steve Waltien describe what happens to them during improv as a more drastic cognitive and conscious shift than scripted acting. However, I do think the phenomenon of diminishing one's autobiographical self can also be possible to some degree during scripted performances. In philosopher Denis Diderot's *The Paradox of Acting* (1957), this loss of autobiographical self is the inspired actor, the one who really feels the emotions onstage. This is the famous French actress

⁴⁴ Waltien, Personal interview, August 2011.

Dumesnil who “comes on the stage without knowing what she is going to say.”⁴⁵ Some actors are able to perform scripted roles in a way that feels as if they do not know what the future holds, and I think the lessons and benefits of improvisation can be incorporated into scripted productions. However, in a scripted production the actors always know how the play ends. Spontaneous performances are what improvisation’s guidelines aim for every time, and improvisers must embrace the ignorance of how things resolve. They must literally not know, care, or pre-plan how things end.

In addition to the decrease of one’s autobiographical self, there are other ways of describing amnesia during improvised performances. Psychology is also interested in the complexities of different memory systems. Getting more specific about Kahneman’s System 1 and System 2, which I described at the beginning of this chapter, psychologists are also doing experiments that try to manipulate certain memory systems in order to more specifically understand mental processing. Michael J. Frank, Randall C. O’Reilly, and Tim Curran published “When Memory Fails, Intuition Reigns: Midazolam Enhances Implicit Inference in Humans” (2006). Their study used the drug Midazolam to decrease memory in the hippocampus in order to test the role of the hippocampus in learning and memory; it also has relevance in understanding the role of memory in intuition.

In the experiment, Frank, O’Reilly, and Curran injected half the participants with Midazolam and half with a saline placebo. Then they told participants to select the correct symbol out of two choices. They did not tell the

⁴⁵ Denis Diderot, “The Paradox of Acting” in *The Paradox of Acting and Masks or Faces?* (New York: Hill and Wang, Inc. 1957), 17.

participants anything further, so the people selecting symbols had to learn by guessing and then by receiving feedback as to which symbol was correct. The final section of the experiment tested the memory of the participants by showing them ten names and making them recall as many of those names as they could thirty minutes later.⁴⁶ The results of the experiment showed that the Midazolam did indeed impair participants' memory. People injected with the Midazolam, and not the saline, performed worse on the name recall test. Those same people did much better on the earliest part of the symbol-learning test. In other words, it appears that the decrease in the memory of the hippocampus may have helped the Midazolam-injected participants intuitively learn to detect correct symbols. There could be an inverse relationship between the memory system of the hippocampus and the ability to make transitive inferences, which are "novel conclusions based on prior premises."⁴⁷ This relates back to memory, amnesia, and improvisation, in that certain memory systems, such as that of the hippocampus, seem to hinder and not help intuitive learning.

Neuroscience and psychology are still far from being able to explain what happens during successful improv performances when players reach states of flow with each other. However, my conclusion, based on the research I have done, is that a shift in improvisers' foci can shift their minds into a different kind of functioning. Focusing on other people, the environment, and the task at hand allows them to become less self-conscious and makes them more likely to reach

⁴⁶ Michael J. Frank, Randall C. O'Reilly, and Tim Curran, "When Memory Fails, Intuition Reigns: Midazolam Enhances Implicit Inference in Humans," in *Psychological Science* (Volume 17 Number 8, 2006), 702-703.

⁴⁷ *Ibid.*, 700.

flow states. This decrease in extended or autobiographical consciousness and the increase in core consciousness or intuition allow the improvisers to be spontaneous and have moments when they have inspired responses without “thinking.” This could be caused in part by a decrease in activity in the hippocampus and/or lateral prefrontal cortex and an increase in activity in the medial cortex.

Just as in many trance traditions, improvisation is not just something that happens in the brain. It is dependent on cultural expectations, the rules of the game. It is also dependent on other people. Successful improvisation can be contagious, and it generally is contingent on giving yourself up to the group, the group mind. Because improv teachers such as Viola Spolin, Del Close, and Keith Johnstone have given us a structure, improvisers can then be liberated to become less self-conscious and allow their core consciousness to speak and act freely. Just as in trance, without this structure that transfer from the thinking self to the creative self would not be possible. Once the structure and the guidelines become innate, an improviser no longer has to consciously think. Embodying these improv guidelines can also lead to less self-consciousness and deeper connections between people in other contexts.

Conclusion

My hope is that focusing on the work of Viola Spolin, Del Close, and Keith Johnstone through the lens of cognitive studies has broader implications. Successful improvisation requires the player to enter the scene fearlessly with no anxiety over how the scene will develop. Players must also focus on each other, following the “yes and” rule in order to build the reality of the scene together. No one can lead, contributions are not judged, and players have no need to be defensive about their choices.

Many actors and acting teachers already know about the usefulness of improvisation during rehearsals. As Phillip B. Zarrilli explains, even Stanislavski’s acting pedagogy evolved to involve more improvisation and more physicalization near the end of his career. Zarrilli incorporates the writing of actor and professor Bella Merlin to describe Stanislavski’s later teaching as a kind of constant mental improvisation.¹ In this state, the actor is not conjuring up emotions to have specific results on her physicality. Instead, she is constantly improvising with the environment and responding to stimuli moment to moment. When I teach my acting classes, which have the ultimate goal of having students perform scripted scenes in a way that resembles everyday life, I teach using mostly improvisation rules and exercises. I tell my students that the words do not matter. What matters is the other person and the space. Their job is to figure out

¹ Phillip B. Zarrilli, *Psychophysical Acting: An Intercultural Approach After Stanislavski* (London: Routledge, 2009), 18.
Bella Merlin, *Konstantin Stanislavski* (London: Routledge, 2003), 28.

what the other person wants and how she feels. In short, I ask my students to play dumb. Even though they may have rehearsed a scene hundreds of times, I ask them to be brave enough to pretend they have no idea what is going to happen next. To that end, I also ask them to continue to challenge and surprise each other and take risks. If they are truly working in the scene together moment to moment the scene works. Worrying about the lines, blocking, or anything that has yet to happen in the scene prevents them from connecting with each other.

Many therapists and psychoanalysts, including Philip A. Ringstrom, Alan R. Kindler, Rosalind Chaplin Kindler, and Arthur A. Gray, are also beginning to make connections between the effects of improvisation and the work they do with their patients. Of therapy's connection to improvisation, Ringstrom states:

Back and forth, each one acts in kind, until they have reached a satisfying, though unpredictable, ending, much like an improvisational scene in theater or a jazz ensemble piece. As such, improvisation cultivates a kind of mutually enhanced free associational process that instantiates “unintentional” moments, laying bare the structures of the two parties unconscious’ [sic] revealed through their play.²

Improvisation-based therapy that does not try to nudge patients in a specific direction can be beneficial, and more work needs to be done connecting the tenets of improvisation with therapy. Being wherever the patient is moment to moment allows the patient and therapist to build a productive reality together.

As I mentioned in chapter one, improvisational theatre companies are beginning to work with people suffering from dementia. Just as improv can alleviate anxiety by focusing on only the present moment, I think it can also

² Philip A. Ringstrom, “Yes/And, Alan! A Few Additional Thoughts” in *Psychoanalytic Inquiry* (Volume 30, 2010), 239-240.

provide comfort for people who cannot always rely on their memories and who have concerns for what the future may bring. Creating a creative reality moment by moment has the potential to allay these worries, and it is exciting that improvisation is being introduced to more and more dementia patients.

Improvisation guidelines need to be adhered to in a thoughtful and well-planned way with dementia patients. It is more than just playing games, so my hope is that this dissertation will help groups form that understand the structure and science behind their work. I also hope groups aim to write down their findings and contribute more empirical evidence to the field.

Improvisation's unique effect on the mind also has possibilities for interacting with and treating people with autism. I have personal experience working with a girl with autism. Everyone around her had certain expectations for how she should act. Everyone tried to get her to behave more like other girls her age. Usually when this happened, she rebelled, screamed or cried, and did not act any more like her caretakers envisioned as normal. I built upon the reality she set up and then added onto it. I used the "yes and" rule with her. One time, she started taking all the books off the bookshelf and then putting them back in all kinds of disorderly and silly ways. She would put one book back in her own way. Then I would try to figure out the game by putting another book back onto the shelf. She laughed and smiled and was really starting to engage with me and make eye contact until someone came along and told us that that was not how the books were supposed to look. The moment was ruined as we had to put the books back in the boring way. The reality we were creating had been destroyed.

iO teacher and improviser Jessica Rogers tells a similar story about working with a boy with autism and following the rules of improv in order to meet the boy where he was at:

Second week I did an exercise “Tell me about the time you...” and basically it’s improvised monologues, so one at a time we get up there. “Tell me about the time you were on a pirate ship, tell me about the time that you went to space,” whatever the suggestion is. So I got up there and I said, “We’re gonna play this game. You’re gonna tell me about a time, I’m gonna tell you what you did, and you’re just gonna talk to us. Who wants to go first?” His [the boy with autism] hand shot in the air, so I was like, “[X], get up onstage.” He got up there. I don’t remember what his story was. Contextually it was a series of non sequiturs, totally unconnected, but he would not stop talking, right, right, right? Wouldn’t stop... Mom comes up to me after class tears streaming down her face... Tears, she’s like, “Jessica, I sit there, and I watch you, and I don’t know what you’re doing, but I have taken my son to all the top specialists in the Midwest and on the West coast and nobody has ever gotten him to volunteer for anything.” Tears tears tears tears. That was the moment that I said, “I gotta figure out what I’m doing and why it’s working.”³

I then asked Rogers what she thought the answer was, why her teaching style worked so well for her student with autism. That question resulted in the following dialogue:

Drinko: ...I’m assuming just from how you taught us⁴ we probably have similar teaching styles. I’m also the autism whisperer. I’ve babysat for kids and taught them and stuff, and always the parents will be like, “No...it’s not gonna happen.” I do. It’s improv. I’m where they’re at.

Rogers: That’s it!

D: So if they want to stack books for an hour...

R: Then let’s stack books.

D: I’m gonna figure out the game you’re playing...

R: Yes! And play it with you.

D: Instead of saying, “No, you need to be like us.” I’m gonna do

³ Jessica Rogers, Personal interview (Chicago, August 2011).

⁴ Jessica Rogers also taught my level one class of the summer intensive program I took in the summer of 2011.

what you're doing.

R: That's it!

D: And so they're not wrong. They're supported. They're right.

R: They're right.

D: No matter what they say, they're right.

R: They're...absolutely...they're successful.

D: Cuz we're all poets and geniuses...I mean, I feel like that's what it is, which is crazy. It's just improv.

R: That's it. It's just improv...I mean, lots and lots of money later and a certificate on my wall, I think I came out with a deeper understanding of what I already knew, and that's it, you know? And I don't know that for me, I don't know that I have to know the ins and outs of anxiety. And I don't know that I have to know the ins and outs of autism for my students, but recognizing that everybody comes from a different place...and learning how...to get to that place with them, because...even in your level one I'm gonna push harder on certain students than I am on others, and it's not favoritism, but it's recognizing where you're coming from and where you need to be....⁵

Again, science has yet to catch up to what improvisation already knows. Meeting someone where they are at, really seeing them, and building a reality together without a leader shows promise in being beneficial to people with anxiety, dementia, and autism.

For similar reasons, improvisation and games also help with child development. Marla Caceres told me a charming story from when she was a child that I think shows how meeting people wherever they are, in that moment, and truly seeing them has broader implications:

I don't wanna brag, but...I am like crack cocaine to my nephew and my niece...My husband and I both, because we both do this [improv], and it's just very natural and fun for us to play with them...they don't have that with anybody else in their lives...it's almost this childlike sense of not censoring yourself that it helps you connect to all the time, right? And a sense of not having self-consciousness, so I could just be goofy with...my niece and

⁵ Jessica Rogers and author, Personal interview (Chicago, August 2011).

nephew, and we can play, and I'm yes-anding their stuff...we're building playtime off each other, and we're having fun, and it's like they don't really have that with any other adults... I remember being a little girl, and this older man who's like a relative...for some reason this story always sticks in my head...there was an ant hill, and we were talking about the ant hill...I was maybe four or five, and I was like, "Where are the ants going?" And he's like, "Oh that's where they live." And I'm like, "Oh really, do they have like..." He's like, "That's where they live. That's like their house." And I said something like, "And they have furniture in there?" And he goes, "Yep, they do."...I was like, "Hhhhuuuuh, what are we doing? This is great!" And then...he went to talk to an adult...and I'm tapping on his shoulder...I'm like, "And they have a swimming pool!" And he's like, "Okay, yeah yeah yeah yeah yeah." And I'll never forget the hurt I felt that he cut it short...⁶

The guidelines of improvisation allow people to build off each others' ideas, pay close attention to each others' needs and wants, and reduce their levels of anxiety and self-consciousness. They also allow people to become more consciously and unconsciously invested and in tune with each other. Strangely, we are back to talking about ants again. Just like a colony of ants that emerges only through the complex patterns of the group, Caceres's ant tale reminds us that humans can also experience emergence. When a group of people focuses on each other, diminishes their self-consciousness, and creates a reality together moment by moment, something emerges that is impossible to experience alone, while thinking about oneself, or while trying to lead. Understanding the structure and efficacy of improvisation has implications for parenting and caregiving. Just imagine if that grown up had continued to play along with little Marla.

Cognitive neuroscientists and psychologists are still hard at work trying to explain all the complexities of what goes on in the brain/mind when people are

⁶ Marla Caceres, Personal interview (Chicago, August 2011).

creative and intuitive. They may never fully explain the human mind, but I hope my research will inspire further experiments on the connections between improvisation, consciousness, and cognition. There need to be more experiments like the ones done by Eberhard Scheffele and the Frank, O'Reilly, Curran team. Hopefully my survey of improvisation pedagogy will allow further psychological experiments that give us more empirical data about the effects improvisation has on intuition, spontaneity, and creativity. Psychologists could expand on Scheffele's study by comparing improvisation and scripted acting to see if there is a difference in how subjects report elements of ASC. They could also try to see how inhibiting the dorsolateral prefrontal cortex or the medial prefrontal cortex affects creativity.

The knowledge of improvisers and improvisation teachers also needs to be incorporated into the work of neuroscientists. Scientists such as Dr. Charles Limb are in the beginning stages of seeing how creative pursuits affect the brain. Improvisation is dependent on the environment, the audience, and the interaction between players and is a completely embodied experience, so fMRI studies may be difficult to set up, but some of the tenets and structures of improvisation may be testable. Separating novice from experienced improvisers in the lab may be enlightening. The "yes and" rule may be testable. Possibly an experiment that parallels Limb's fMRI study with rappers or with jazz musicians could be fruitful, keeping in mind brain scans will only ever partially explain improvisation's effects on the mind.

What happens onstage during successful improvisation performances is nearly indescribable and certainly not reproducible inside an fMRI scanner. My hope is that through the use of neuroscience, psychology, and philosophy, the work of Viola Spolin, Del Close, and Keith Johnstone will have broader applications and further research will continue. I also hope this exploration of improvisation, consciousness, and cognition will be enlightening to people in their everyday lives. People make decisions all the time about what to focus on, and I think we have more control over our perception than we sometimes know. The brain and mind can be retrained. Imagine the possibilities if we retrain them all to focus on someone else and give up trying to force future outcomes. Imagine if we could walk onto life's stage and become less self-conscious and anxiety-free. Like those little ants, we could build a better reality as a group, moment by moment, agreeing and adding on, boldly trusting the genius of the collective mind.

Appendix

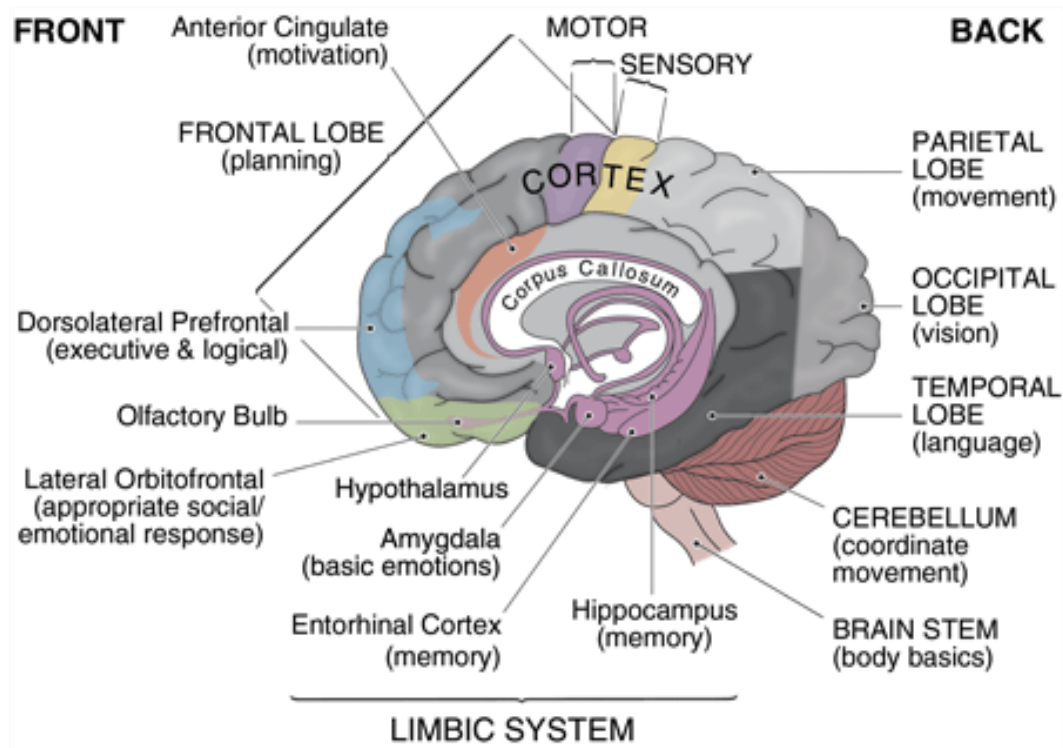


Diagram of the human brain. Image reprinted from online source. Accessed April 2, 2012. http://www.brainwaves.com/brain_diagram.html
 Originally from David Gamon and Allen D. Bragdon, "Building Mental Muscle: Conditioning Exercises for the Six Intelligent Zones." (Bass River, MA: Brain Waves Books, 1998).

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