

**From Biological Impulse to Analyzed Product: An Exploration of the
Choreographic Process**

by

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Introduction

As a choreographer who was trained in science and math for a large portion of my educational career, analysis of data has been ingrained in my research processes. As I have grown and narrowed my choreographic interests I have discovered the analytical rigor that exists in choreographic process.

For my purposes, choreography consists of two broad elements: movement of the body, or kinesthesia, and the arrangement of moving bodies in space. Because the use of spatial arrangement of bodies and movement pathways are so important to my choreographic design, I make the conscious choice to choreograph as a viewer instead of choreographing from the inside as a performer. While my preference to be outside my choreography allows me to see spatial design clearly, I do not have the physical experience of performing the movement and, therefore, do not have a direct sense of how the movement feels. In addition, I work in a collaborative environment in which my dancers create most of the movement material, and so, any bodily knowledge of the movement comes from pure observation. Because of this, initial reactions to the movement are based on some sort of gut instinct, without considering what the movement might mean. This type of choice-making around which movement stays and which movement is put aside is a reflexive process that, at times, feels contrary to my analytical thinking. As a choreographer who crafts work as an outside observer, there is always a question of how the movement resonates with my interests through observation instead of physical experience.

My first chapter, reviewing the scientific research on mirror neurons, looks at one possible explanation for the reflexive choice-making that is an important first step to crafting a new work. Mirror neurons, a set of neurons located in the brain, activate in response to performing and observing familiar movements. This means that mirror neurons may facilitate embodied experience through observation because of the recognition of known movements. This is important for the choreographic process because it provides an explanation for how choreographers can make choices about movement material solely through viewing in-process. In addition, mirror neurons may be involved in recognition of empathy, particularly kinesthetic empathy. If this is the case, I not only understand how the movement occurs, but also how the movement feels. This includes not just initiation of the movement, weight shifts, or how the body interacts with its surroundings, but also how the texture of the space feels. The texture of the space affects how the movement feels by providing an imagistic sense of thickness, airiness, or other defined consistency, which affects the quality of movement. Not only can this be seen, but it may be experienced via mirror neuron activation. The ability to embody the movement by observation gives me a sense of ownership over the movement so that any choices, even reflexive ones, are a part of the overall process of making.

Additionally, mirror neuron activation may be involved in aesthetic evaluation. An increase in mirror neuron activation has been associated with positive viewing experiences of dance works. Positive viewing experiences can be associated with a number of factors including, familiarity with the movement, expectations of

performance, and perceived difficulty of the movement. This information further supports the gut instinct that occurs when choosing movement or spatial arrangements during preliminary stages of process. While these initial choices are instinctual, they are not random, and so choosing movement sequences based on purely positive reactions to viewing not only makes sense for the choreographic process, but may be explained using biological factors.

The important first step of choosing movement material enables the choreographer to start thinking more critically about the movement later in process. For me this stage typically involves some sort cognitive thinking so I can order and arrange selected sequences of movement. Chapter Two explores some of the critical theories I had been researching involving the use of space in dance performance, which have been applied to my choreographic research. One of the theoretical frameworks I had been thinking about was Laban's Space Harmony, a highly codified system of analysis looking at the interactions of movement through space. This system is quite mathematical, and provides an analytical way of thinking that feels familiar to scientific analysis. While this theoretical framework has been studied and researched for decades in the Western dance community, I chose to consider this theory from a broader perspective. I am not a Certified Laban Movement Analyst, however, I have some familiarity with the strict theory defined by Laban and his disciples, as well as the use of Laban's finding that has been adopted in a more open sense in the dance community. This broader way of thinking about space feels more

relevant in an intermediate stage of process because it leaves analysis and subsequent intent open to interpretation.

The broad use of Laban's concepts served to bring attention to parts of the body that ultimately function together to perform full-bodied movement. Kinesphere, the space occupied by the moving body, was used when crafting the work by altering the size, reach and shape of the dancers' kinespheres. Laban's theory of spatial pulls and counter pulls, a purely mathematical way of analyzing the centeredness of the body in motion, was used to promote the inherent three-dimensional nature of the body during movement generation. Both of these theories borrowed from Laban's Space Harmony were used to develop movement, however, the choices surrounding this development were chosen without looking for intent. Instead, choices surrounding the exploration of the material was made by thinking about moving between centeredness and off-centeredness or full-bodied movement and moving parts.

Another theoretical framework I considered during this intermediate stage of process was the consideration of the performance space itself. There are many familiar or conventional ways of using a performance space, including performing on a proscenium stage, using the center of the stage to designate the importance of the movement material, and using familiar diagonals for spatial configurations or pathways. My knowledge of these conventions enables me to make decisions that question these conventions or purposefully go against these conventions. Again, my decisions to rebel against these conventions came from choices that were made

thinking about conventional uses of space, but not from knowing how those decisions would show the intent of my piece.

The application of theory to my process during this intermediate stage is a mix between the reflexive processes that occurred during my preliminary stage and more cognitive processes. Although I am using theory during this middle stage, the consideration of theory is not used for a full analysis. The theories come up in my choreography because I have been researching them in an intense and rigorous way outside of my choreography.

This rigor becomes more and more cognitive the longer I spend with my work. The process I am discussing occurred over five months. As I spent more time with the work and reevaluated my choices, the crafting of the work becomes more analytical as I discover meaning in the work that has unfolded in front of me. This phase is important because it prepares the piece and my dancers for performance as smaller details such as visual focus, specificity of line and angle and forming of dancer relationships become integral in supporting the intent of the piece. These rehearsals are truly a part of this written thesis, but instead of existing in language, they exist in lived experience and they were the most important part of the presentation of both my creative work and this written document. Although the whole process will not be discussed here in detail, it is important to note because the majority of the research occurred during the rehearsal period because of the assimilation of written theory and active practice. In addition, even though I had analyzed the work that I was preparing to present, the performance of the piece was a

part of the process, and so the overall analysis, and therefore the intent of the work, was not fully revealed until post-performance.

The performance and rehearsal environments varied greatly and because of this the analysis of the work differed, particularly because of my interests in space. Because of the differences in performance and rehearsal spaces, Chapter Three analyzes the work post-performance. While the general feel of the environments differed between addition of lighting, proximity of audience, and intensity of energy, the majority of the analysis returns to the theory that was considered during the crafting of the piece. The purposeful opposition to conventional uses of the space and the moving bodies is analyzed to look at the intent of the whole piece. Analysis reveals the creation of a magnetized environment in which the dancers explore and coexist with the audience as a welcome witness, but not a participant of the world. The contemplation of Laban's space theories contributed to the ever-present attentiveness of the dancers to each other, without needing direct eye contact or physical contact throughout the whole piece, while the attention to different spatial patterning created an unexpected viewing experience for the audience. The use of these theories after creation of the work allow for a deeper analysis that reveals the overall intent of the work.

In closing, this document reveals the analytical rigor with which I approach my creative processes. While beginning stages of process may result from more intuitive choices, the use of other theoretical considerations or broader considerations

about the world before and after performance of the work add analytical rigor to an artistic field that is often only considered physically rigorous.

Chapter 1: Mirror Neurons, Observational Embodiment and the Choreographic Process

Viewing dance invites analysis. Choreographers, in particular, engage with their work in a multitude of ways as they analyze their work, including application of choreographic devices, integration of movement and music, interactions of dancers, and consideration of audience. These considerations as a means for analysis are important for the creation and discovery of meaning in a dance work. But how in the process do these methods become useful? Choosing and organizing of initial movement phrases to create a dance work arguably comes from an impulse or instinct that resonates with the choreographer simply by viewing bodies moving in space. The discovery of mirror neurons may provide a biological mechanism by which this instinct occurs for the choreographer while viewing movement. Although the extent to which mirror neuron activation constitutes comprehension of movement is unclear, it may provide a connection between a primal neurological activation and the viewing of dance, which could in turn facilitate more cognitive processing later in the creative process.

First discovered in the 1980s in macaque monkeys, mirror neurons are a group of neurons in the brain shown to activate when a subject performs an action or observes that action being performed by a third-party subject.¹ For example, mirror neurons would activate when a monkey would grasp an object, or if a monkey

¹ Giacomo Rizzolatti and Laila Craighero, "The Mirror-Neuron System," *Annual Review of Neuroscience*, 27 (2004), 169.

observed another monkey grasping the same object. Initial research focused on observations of hands grasping objects for eating or other goal-directed behavior. Subsequent research involving functional magnetic resonance imaging (fMRI) reveals human mirror neuron systems that function in the same way as those in macaque monkeys and the locations of these human systems correspond to parts of the brain that respond to sensorimotor stimuli, which have both sensation and motor components.²

Activation of mirror neurons while performing actions and observing the same actions in others suggests that a person experiences movement simply through viewing. This information has implications for viewing dance, particularly for choreographers during the creative process. With the activation of mirror neurons, a choreographer understands where a movement initiates in the body, the spatial relationship of parts of the body to each other, the direction in space a gesture moves, shifting of weight required to perform movement, as well as the quality with which the movement is performed. Mirror neurons present an inherent mechanism for the choreographer to experience movement as the viewer, and might explain the initial impulse a choreographer could have for organizing movement phrases without the need for physical embodiment of the movement. In other words, choreographers know their work physically through observation.

² Cynthia Berrol, "Neuroscience meets dance/movement therapy: Mirror Neurons, the therapeutic process and empathy," *The Arts in Psychotherapy*, 33 (2006), 305.

The importance of this suggested embodiment via mirror neurons lies additionally in the ability of humans to intuit movement cues in social contexts. The presence of mirror neurons indicates a biological, primitive method for recognizing particular movements to adhere to societal values or stipulations. The act of mirroring another's movements is so pivotal to social interaction by sociologists that both cultural and evolutionary origins for the development of the mirror neuron system have been explored and suggested.³ As easily as humans can discern the difference meaning of pulling away from another person versus a warm hug, so can the choreographer distinguish the difference between a supportive relationship versus a combative one on a stage.

Although the activation of mirror neurons appears to be a product of sensorimotor stimulation, some scientists have argued that mirror neuron activation and the corresponding neurological motor system ascribe intention automatically to an action. Iacoboni et al., pioneers in mirror neuron research, created and performed experiments to investigate the neural and functional methods of understanding intentions of motor actions. Utilizing hand grasping, previously shown to activate mirror neuron systems in humans, the researchers set up three different scenarios of grasping a mug – the first scenario provided context for a social situation without any motor action, the second featuring solely the action of grasping a mug, and the third situation, described as the intention situation, combining both the grasping and

³ Tony Waters, "Of Looking Glasses, Mirror Neurons, Culture, and Meaning," *Perspectives on Science*, 22 (2014): 616-19.

contextualization.⁴ Results of the study showed increased activity of mirror neuron areas for the intention condition compared to the action and context conditions.⁵ In other words, mirror neuron activation was higher when observing a mug grasped in a particular context, compared to just viewing the context of the situation or just the action of grasping the mug. Researchers interpreted these results to imply that mirror neuron activation codes for a probable sequence of motor actions, and these probable sequences underlie the coding of intention.⁶ In other words, if the mirror neurons activate it is likely they will cause certain motor reactions and the limited number of motor actions exists because humans have specific intentions associated with certain movements. Further, it can be assumed that the method of deciphering intention of movements observed as a mode of human interaction is made possible by the initial activation of mirror neurons. This is significant for social cognition because it indicates that mirroring motor actions automatically provides a frame for collective meaning between individuals.

This research suggests that mirror neurons not only provide a way to experience movement solely through observation, but also that observation of movements in situational contexts leads to the eventual creation of meaning. This holds implications for dance because it indicates the capacity of the viewer to create meaning when watching a dance work. The choreographer, as a particular type of viewer, can create a work that has particular meaning because of the activation of

⁴ Marco Iacoboni et al., "Grasping the Intentions of Others with One's Own Mirror Neuron System," *PLoS Biology*, 3 (2005), 530.

⁵ Ibid, 532.

⁶ Ibid, 533.

mirror neuron systems. For example, the arrangement of bodies in space in relation to each other holds meaning because the choreographer (viewer) is able to simulate that scenario and understand context of the movement through mirror neuron activation while viewing. A choreographer observing a body moving closer to another body in space, with an attention to a high level of tension in the body could indicate confrontation, while observation of a body moving closer to another body with hesitation or less speed could indicate unfamiliarity with curiosity. This understanding helps the choreographer make choices of how the movement is performed and therefore helps create the overall meaning of the work. Further, I argue that mirror neurons allow the choreographer to understand how the space feels. If the choreographer can embody the movement simply by observing then the choreographer understands the influence spatial texture has on the movement, which helps create a specific environment for the dancers to exist in and ultimately an intentional contextual meaning.

In addition to providing insight to how the external environment affects movement, mirror neuron activation has also been linked to recognition and understanding of empathy.⁷ The presence of the mirror neurons in the premotor cortex and the insula, a small region of the brain associated with social emotions, make an argument for mirror neurons' roles in motor activity, consciousness, and interpersonal relationships.⁸ These locations also share neural networks with the

⁷ Amee D. Baird et al., "Mirror neuron system involvement in empathy: A critical look at the evidence" *Social Neuroscience*, 6 (2004).

⁸ Cynthia F. Berrol, "Neuroscience meets dance/movement therapy: Mirror neurons, the therapeutic process and empathy," *The Arts in Psychotherapy*, 33 (2006), 310

adjacent limbic system, structures in the brain associated with emotion, and formation of memories about past experience.⁹ Empathy, as “an embodied affective resonance that involves some level of cognitive processing,”¹⁰ does not result from mere sensorimotor stimulation. However, in theory, initial activation of mirror neurons in either the premotor cortex or insula via observation of movement could activate a series of neuronal chains allowing humans to comprehend, and thereby embody, a behavioral or emotional response behind a particular movement because of the adjacent location of mirror neuron systems to the emotional center of the brain. While not all scientists agree on this hypothesized chain of events linking observation of movement and emotional resonance, the implications of such innate communication structures are tremendous in all areas of movement study.

Synthesizing the involvement of mirror neurons with embodied experience of observed physicality and possible relationship to empathy, I posit there is mirror neuron involvement in kinesthetic empathy. Kinesthetic empathy, beyond the expression of feeling, involves “the embodied mind’s capacity to give meaning to each present instant by making recourse to past embodied experience.”¹¹ There are a number of studies showing a strong relationship of mirroring with kinesthetic or motor empathy, particularly with studies involving observation of pain.¹²

Extrapolating from this research, I suggest that other movements tied to emotion can

⁹ Ibid, 311

¹⁰ Ibid, 308.

¹¹ Dee Reynolds and Matthew Reason, *Kinesthetic Empathy in Creative and Cultural Practices*, Intellect Books Ltd. (2012), 12.

¹² Ameer D. Baird et al., “Mirror neuron system involvement in empathy: A critical look at the evidence,” *Social Neuroscience*, 6 (2004), 332.

be experienced through mirror neuron pathways, by viewing, and conversely that witnessing movements can produce some sort of empathic state related to direct emotion responses. In addition, the empathic experience results from past emotional situations remembered by the body. This indicates that an observer is not only embodying the movement, but is also experiencing how the movement feels utilizing information stored from past embodied experience.

This research is important because it further implies that the choreographer, as viewer of dance, is not only embodying the movement, but intuiting how the movement feels from past embodied experiences. The ability to employ a wide range of kinesthetic and emotional information in the early intuitive stage of the creative process means the choreographer knows the work in a visceral way through viewing. In addition to the understanding of bodies in space, texture of space and how the movement manifests in the body gained by embodiment of physical phrase work, mirror neurons act as a preliminary step toward the more cognitive process of understanding the feeling of the movement: qualitative differences, muscular effort required, energetic applications, imagistic influences. This further encourages the intellectual endeavor of meaning-making in choreography, without having to dance the work.

Despite the exciting research of mirror neurons and its implication for choreographers, there are some conflicting opinions of mirror neurons' involvement in deciphering intent. Neuroscientists are quick to associate activation of the mirror neuron system to creation of meaning or understanding in cultural or social

contexts. However, some cognitive scientists are questioning the extent to which mirror neurons contribute to inferring intention. One argument concludes that mirror neurons are only indicating a response to observing a goal-directed behavior, and recognition of such behavior is not sufficient for grasping intention.¹³ In other words, one goal could have multiple intentions and, likewise, multiple intentions could be compatible with a number of different goals, so mirror neuron activation only indicates possible intentions.¹⁴ In addition, goal-directed behavior requires only motor and sensory representations while intentional action requires mental representations, or further cognitive processes, as well.¹⁵ Although they may be connected to other neurons responsible for perceiving meaning, there is widespread agreement that mirror neurons are primarily involved in motor responses. Therefore, mirror neuron system activation may lead to inference of an intention, but may be indirectly related to understanding the intention. On the other hand, motor responses that could be considered abstract suddenly becomes less abstract because inferences of intention become possible despite the myriad of potential intentions.

In addition, there is a lack of consistency among researchers concerning the correlation between mirror neuron activation and empathy. Much of the inconsistency is due to the breadth of definitions of empathy among the reviews.¹⁶ Studies showing the strongest correlation between motor imitation and empathy show that cognitive

¹³ Shannon Spaulding, "Mirror Neurons and Social Cognition," *Mind and Language*, 28 (2013), 237.

¹⁴ *Ibid*, 246.

¹⁵ *Ibid*, 240.

¹⁶ Ameer D. Baird et al., "Mirror neuron system involvement in empathy: A critical look at the evidence," *Social Neuroscience*, 6 (2004), 328.

empathy, the ability to recognize an emotion in another person, but not necessarily emotional empathy, the ability to respond to another person's emotions, may be related.¹⁷ There is also variation among the studies involving what constitutes motor mirroring or mimicry, with some studies associating facial imitation with emotional empathy, and others associating certain facial movements, such as smiling, with motor empathy.^{18 19} Therefore, a response that correlates with kinesthetic empathy becomes unclear since the definition of the term has some discrepancies. Still, the possibility of mirror neurons playing a role with empathy, particularly kinesthetic empathy, further supports the visceral experience of choreography from watching.

While the interpretation of mirror neuron activation and its subsequent importance in grasping the single intention of a movement is not wholly substantiated and creates doubt in the scientific community, the experimental and imprecise process of meaning-making is continually utilized by choreographers. If any movement correlates with a multitude of intentions, then the choreographer (as viewer) has the choice to craft the movement to communicate a specific and simultaneously abstract intention. Mirror neurons, although only initiating an embodied experience of the work, still provide a framework for thinking about the numerous pathways a dance work could take. This is an important step when crafting abstract movement into meaning.

¹⁷ Ibid, 329.

¹⁸ Tanya L. Chartrand, and John A. Bargh, "The chameleon effect: The perception-behavior link and social interaction," *Journal of Personality and Social Psychology*, 76 (1999), 901.

¹⁹ Marianne Sonnby-Borgstrom, "Automatic mimicry reactions as related to differences in emotional empathy" *Scandinavian Journal of Psychology*, 43 (2002), 440.

The rigor of arranging the movement and creating meaning out of contextual values challenges not only the creative capacity of a dance artist, but also the intellectual and analytical dimensions of the brain. Meaning arises from the consideration of context: use of space, relationship of dancers to each other, relationship of dancers to space, and arrangement of phrases or sections. The ability to embody the movement from observation and the ability to feel the movement from recalling past movement memories enables the choreographer to consider more viscerally all the contextual factors to craft the desired intention of the whole piece. Mirror neurons could then constitute the pivotal first step in creation of a dance work, a process that involves not only biological sensorimotor activation, but also the complicated and rigorous mental representations found in other intellectual endeavors.

Additionally, a topic worthy of discussion relating mirror neurons and the choreographic process are the potential links to aesthetic valuing. The nascent field of neuroaesthetics has provided a means to study the neurophysiological methods of determining aesthetic value in the arts. fMRI studies and subsequent interviews have suggested that viewers generally enjoy watching larger, virtuosic movements.²⁰ Alternately, some research posits that viewers enjoy movements that they themselves could not easily perform. Other factors that contributed to positive viewing experience included ease with which difficult movements were performed, and

²⁰ Beatriz Calvo-Merino, "Neural mechanisms for seeing dance," in *The Neurocognition of Dance*, ed. Bettina Blasing and Martin Putke, Psychology Press (2012), 168.

fluidity of movement in general. The same study also suggested that the ability of the brain to perceive that the observed stimuli (the movement) was difficult contributed to the positivity of the viewing.²¹ This information could explain why some choreographers prefer to make work that appears difficult and physically rigorous, while others prefer to make works in which the rigor is purposefully hidden.

Various studies also suggest that familiarity with a particular style or movement aesthetic affects enjoyment of a performance. Jola et al., through both transcranial magnetic stimulation (TMS) and qualitative interviews collected data indicating that experienced viewers of ballet had increased kinesthetic responses and enjoyed the overall performance more than novice viewers.²² Descriptions of enjoyment collected from interviews included increased desire to move, feeling connected to the performers, and having an emotional response to the work²³ indicating kinesthetic responses as well as emotional empathic responses. For the choreographer, this might mean that initial choices in crafting material due to enjoyment of the material could be related to both kinesthetic and empathic responses. Expectations of the performance and audience's preconceived notions of how the dance would look also appeared to affect the overall enjoyment of the performance.²⁴ Research has also shown that viewers who have had physical experience performing observed movements have increased responses in mirroring,

²¹ Emily S. Cross et al., "The impact of aesthetic evaluation and physical ability on dance perception," *Frontiers in Human Neuroscience*, 5 (2011), 6.

²² Corinne Jola et al., "The experience of watching dance: phenomenological-neuroscience duets," *Phenomenology and Cognitive Science*, 11 (2012), 30.

²³ Jola, 31.

²⁴ *Ibid*, 33.

shown through fMRI studies.²⁵ Mirror neurons and their possible relationship to embodiment could explain why frequent viewers of dance and dancers themselves have increased cortical responses, and subsequent positive experiences watching dance. Since the practice of dance involves both experiential and observational components, choreographers could have stronger mirroring responses to movement from dance training or frequent viewing of a variety of dance. Recognition through mirroring could explain positive responses to movement and instinctive choices that lead to the crafting of meaning.

The choreographer, as a specialized viewer of dance, is able to understand aesthetics of their work because of previous embodied experience through physical practice and viewing of other dance works. This could affect the aesthetic valuing of the work because the choreographer is aware, through viewing their work multiple times, what aesthetic qualities they are valuing for the work in question. For example, deciding to abstract movements from classical dance techniques to fit a different aesthetic or choosing to make a dance formed by virtuosic movement sensibility are options that the choreographer understands because of aesthetic valuing, which may be the result of mirror neuron activation and subsequent mirroring. This impacts the viewing of intuitive choices during the choreographic process.

The knowledge of mirror neurons enabling embodied experience, kinesthetic empathy, and aesthetic valuing has implications for the choreographic process as a whole. For choreographers working collaboratively with performers, phrase work

²⁵ Calvo-Merino, 169.

created by the performer can become part of the choreographer's overall vision for the work because the choreographer understands the movement in a bodily sense (how it is initiated, place in space it is directed, shifting of weight to facilitate movement, etc.) even if they have not performed the movement. The choreographer also understands how the movement feels (texture of the space, qualitative differences, muscular effort required, etc.) without needing to perform the movement. This information give the choreographer a myriad of choices to experiment with in terms of how the movement looks or is related to what has come before it and after it all through the act of seeing. Further crafting and manipulating of the material comes from a deep sense of knowing beyond intellectual recollection and gives the choreographer a sense of ownership over the work being created.

The myriad of inferred choices and the consideration over aesthetic appearance of a work may also affect the amount of time required for choreographic process. Observation of movement and internal mirroring represents an initial step of the choreographic process. While these brain activities may present an important step since dance is inherently a kinesthetic art form, the process from motor recognition through mirror neuron activation to the intellectual understanding of intent or creation of meaning does not appear to be directly connected because it is likely a multi-step process. Therefore, the amount of time needed to engage the cognitive processes may vary depending on the familiarity of the movement aesthetic, the memory of past movement experience, and the understanding of how the movement occurs: all processes supported by preliminary mirror neuron activation.

The research on mirror neurons and their function in embodiment, kinesthetic empathy and aesthetic evaluation has produced some inconclusive results. However, the possibility of mirror neuron involvement indicates a biological mechanism for choreographic process. Dance, as inherently kinesthetic art form, suddenly becomes an analytic art form through the implications of mirror neuron activation. The understanding of instinctual choice-making by simply observing movement material is profound because it proves the analytical rigor with which dance makers engage to produce work with intent and meaning.

Chapter 2: Space Theories and their Impact on Choreographic Process

The choreographic process contains a number of steps involving choice-making. Mirror neurons and their possible contributions to embodiment represent an early step in choice-making during the choreographic process. In my process, this is a crucial first step because it explains my visceral reactions and subsequent connections to original movement material even though I may not know what the movement means or represents. Subsequent steps of choice-making involve additional cognitive processing, including theoretical thinking. Choreographers apply a variety of theories to craft their work. However, space and its interaction with the moving body are the primary interest in my choreographic work.

Spatial design (arrangement of bodies in space, orientation of bodies, patterns of bodies and pathways through space) and physical location of the movement are central components of choreography because they are recognizable components through viewing. The audience is able to recognize spatial patterning or specific locations in the performance space. One of the things I look at when making choices about movement material is where in space they occur. The reading of movement material is influenced by its location in space: where the audience views the material, how close they are to the dancers, the angle of the body in which the audience sees the dance affects the meaning of the work. I will be considering two broad subcategories of space: the performance location and the mapping of bodily orientation and events. The conventions and connotations of use of performance

space will be explained in more detail later in this chapter. However, the other definition of space, the location physically occupied by the body, is more intricate.

A predominant and widely accepted theoretical frame for analyzing and understanding choreographic space is Laban Movement Analysis (LMA). LMA is a form of analysis developed by German movement analyst and choreographer Rudolf Laban. It has been highly researched and codified by Western-thinking movement practitioners and is a highly accepted theoretical framework for analyzing not only dance, but movement in general.²⁶ LMA is a system built off of two broad categories of study: the internal, energetic qualities of movement, and the external, observable interactions with the environment.²⁷

While Laban originally defined two broad domains of movement classification, and these broad domains have been further developed by the contributions of many into other categories, Laban's theorizing of physical movement through external space is the category of discussion for this chapter. Through his years of observation and study, Laban believed movement through space follows "an underlying logic governed by the anatomical structure of the human body and the nature of terrestrial or gravity-bound space itself."²⁸ In other words, movement through space is not random, and the dynamic way in which a body moves could give insight into psychological shifts of mood.²⁹ Through this theoretical lens – a highly

²⁶ Carol-Lynne Moore, "Preface" in *The Harmonic Structure of Movement, Music and Dance According to Rudolf Laban*, Edwin Mellen Press, (2009) xi.

²⁷ Moore, "Space: The Outer Domain of Human Movement" in *The Harmonic Structure of Movement, Music and Dance According to Rudolf Laban*, 109-110.

²⁸ Ibid, 110.

²⁹ Ibid, 110.

researched set of rules – the choreographer is able to convey messages inherent in (spatial) movement choices. This idea of the synchronicity of the inner mood and the outer movement is the basis for Laban’s theory of Space Harmony. While Laban’s theories of inner expression and outward movement are thoroughly interconnected in Space Harmony, the focus of this chapter will be the considerations of the outer realm of movement and how the physical body moving through space is applied to create a dance work.

One of the key elements of Space Harmony is the kinesphere. Kinesphere, a word coined by Laban, is defined as the space around the body that can be reached without taking a step.³⁰ Through his years of theorizing and observation of movement, Laban employed numerous geometric forms to define the kinesphere, preferring to use the five platonic solids as his mathematical models.³¹ Through these geometric forms, specific spatial directions around the body, corresponding to the vertices of the geometric form, have been clearly defined and affinities of the moving body for particular pathways through these spatial landmarks have been explored.³² These affinities for particular landmarks are meant to explain commonly seen movement pathways around the body, not only in dance, but in daily life. As the observed mover becomes physically skilled more spatial landmarks (or vertices of the geometric forms) are added to the kinesphere, approaching a movement space that is

³⁰ Moore, “Space: The Outer Domain of Movement,” 111.

³¹ Ibid, 113-118.

³² Moore, “Tone, Scale, Interval and Transposition” in *The Harmonic Structure of Movement, Music and Dance According to Rudolf Laban*, (2009) 219-220.

roughly spherical in nature.³³ Theoretically, a trained or experienced mover has the capability to access any place in their sphere and so additional pathways than are typically observed in commonplace situations can be discovered. These pathways provide more choices for movement (and therefore intent) in choreography.

Kinesphere can be a multitude of sizes, indicating the amount of space the body can reach away from its center and ways the body moves through the kinesphere have also been defined.³⁴ Kinesphere can be explored using three types of pathways defined by the relation of the center of the body to the edge of the sphere of movement space. Central approach to kinesphere describes motion that radiates from the center out toward the edge of the kinesphere. Peripheral approach to kinesphere describes motions that define the edge of the space. Transversal approach to kinesphere describes motion through the intermediate area between the central body and the periphery of the kinesphere, and is described as stirring the space.³⁵ Each trajectory through the kinesphere describes a different dimensional area of the kinesphere, ultimately defining the three-dimensionality of the kinesphere. In addition, the idea of psychological kinesphere has been added to the Laban framework.³⁶ This addition expands the idea of personal space to include not only the moving body, but the energetic quality that can be intuited by an observer. As with the movement kinesphere, it can have a variety of sizes, and does not need to match

³³ Moore, "Space: The Outer Domain of Movement," 111.

³⁴ Ciane Fernandes., *The Moving Researcher: Laban/Bartenieff Movement Analysis in Performing Arts Education and Creative Arts Therapies*, Jessica Kingsley Publishers, (2014).

³⁵ Moore, "Space: The Outer Domain of Movement," 124-125.

³⁶ Fernandes, *The Moving Researcher: Laban/Bartenieff Movement Analysis in Performing Arts Education and Creative Arts Therapies*, Jessica Kingsley Publishers, (2014).

the perceived size of the movement kinesphere. This is significant because energetic quality can help define the size of the kinesphere even if the movement does not occupy a large kinesphere.

Although Laban's idea of kinesphere is highly codified and quite specific, kinesphere has been widely adopted in the dance community in a broad fashion. While Space Harmony focuses on symmetrical geometric forms that approach a sphere that encompasses the whole body, the dance community approaches kinesphere with a less codified interpretation. Kinesphere, while still defining the size of the body and how it takes up space, can be considered to form more closely to the shape of the body, as well as defining the body's personal bubble of movement.³⁷ This version of kinesphere expands options for the moving body: the whole body no longer has to have the same size or the same attention to kinesphere. Each body part can have its own kinesphere and can move in its own way, creating a harmonious idea of movement that deviates from Laban's own idea of total body congruency.³⁸ Additionally, I posit the kinesphere can continually morph in an asymmetric way, reaching farther into space, shrinking back in on itself, contacting and morphing with other kinespheres. The inclusion of energetic kinesphere also affects the reading of the morphing kinesphere. The creation of meaning or intent relies on both the energetic outreaching of the movement and the physical reaching of the movement.

³⁷ Moore, "Space: The Outer Domain of Movement," 111.

³⁸ Ibid, 136-137.

This broader acceptance of kinesphere served as a choreographic device of sorts, particularly in the second section of my work as a way of developing a movement idea. Original material was a solo created using a prescribed sequence of points in Laban's codified kinesphere. The body parts directed toward the specific points of the kinesphere were left up to the individual dancer, and as a result there was a wide range of kinespheric size and approaches to kinesphere. Some of the movement consisted of far-reaching arms and legs defining a larger physical kinesphere with peripheral approaches to kinesphere. Other movements consisted of torso-driven undulations that seemed to define a smaller physical kinesphere. It is also important to note that physical kinesphere was felt like a medium-sized kinesphere, and felt unimportant to the movement at this point in process. This fits with thinking about kinesphere as a morphing three-dimensional bubble that fits to the body since the changes are occurring rapidly in the same phrase. However, my initial viewing of the material fit Laban's approach to kinesphere as a three-dimensional, symmetric kinesphere because of the consistency of the energy in the movement. As a result, even though the separate body parts are tracked through their individual movements through space, the overall kinesphere still appears spherical in nature.

As a way of researching and developing the material, several versions were created thinking about the size of kinesphere. The movement was shrunk with the intent of making the kinespheres small enough that the dancers could be in a tightly knit group without hitting each other. I was interested in looking at how much space

between each other the dancers needed in order to move in a clear and intentional way while still maintaining their personal space. This attention to kinesphere felt more along Laban notions of kinesphere since it created a tight sphere or egg-like shape around the full body. Both version of the phrase material, small and varied, were performed one after the other to see the juxtaposition of the two types of kinesphere with the same material. The smaller version before the original version brought attention to each individual body within the group that moved in conjunction, while the original phrase material brought attention to a unified group of bodies that fell, shifted and traveled together. The small version introduces the viewer to each individual, while the original phrase introduces the viewer to the group as a whole.

Further research employed the notion of isolation of body parts to further condense the kinesphere by utilizing just the positions and movements of the head while the rest of the body remained stationary. This research further broke the body into individual parts of the people, as if it was introducing you to not just five individual bodies, but five bodies that have their own uniquely moving parts. This iteration of the material returned to a broader view of kinesphere because it created an asymmetric kinesphere, with the head moving through a larger kinesphere than the fixed body. A slightly more full-bodied version adds the movement of the upper torso with the movements of the head. These versions of the phrase train the eye of the viewer to focus on specific parts of the body that are moving through the kinesphere, an idea that became an important theme through the rest of the work. Each of these iterations of the movement material ultimately introduces the viewer to different

types of space. As the movement of the body becomes bigger, the use of general space also becomes bigger, introducing the viewer to the environment in which the dancers are exploring.

Another version of the phrase plays with the movement of the body's kinesphere through the performance space, with each dancer taking a turn to pull their kinesphere away from the group clump and then back toward the clump. This movement of the kinesphere has the effect of taking the body and its resulting kinesphere off of a conventional vertical axis. Each dancer's kinesphere seems to come into contact with one another. Instead of solely increasing the size of the movement space for each dancer, it suddenly appears through viewing that the dancers really are sharing the same movement space, which opposes the closeness of bodies in personally confined spaces. This shift in the connections and interactions of kinespheres is particularly apparent because the dancers remain in the same spatial proximity to each other throughout this whole sequence. This follows Laban's theories of harmonious movement because the bodies that fall away return to the center of the kinesphere, whether the kinesphere is the singular space of the individual dancer, or the shared kinesphere of multiple dancers. A democracy of space exists in which there is an anchor in the center that provides stability for movement to the edges of the space.

As the movement becomes more full-bodied the kinespheres appear to not only interact, but to morph in ways that combine kinespheres of multiple dancers; the dancers start to share a kinesphere instead of inhabiting their own. The unison nature

of the movement and its increased volume in close proximity to each other is not the only reason the dancers appear to share a kinesphere. The expansive kinesphere allows the dancers to have greater range of motion of each body part introducing the viewer to new movement pathways of the body. In addition, the dancers, who had been relatively confined to one area of the performance space, now have the ability to travel their kinesphere to new areas. As the cluster of dancers moves forward through space their spatial arrangement and proximity remains the same. To do this they must have a visual and physical sense of where each body is in the general space. The attention to each other's location in space creates a shared energy and bodily focus toward one another. As the shared physical and energetic kinesphere develops and expands there is a logical progression of the movement material to include partnering and lifts. The dancers have developed and learned how to feel each other's presence energetically, and so physical contact and support can now be established. The physical contact between the dancers continues to develop the pouring into and out of the center of their shared kinesphere as the dancers move to support each other. Their shared kinesphere ultimately provides a means for increasing complexity of movement and three-dimensional attention to their surroundings.

Another concept that considers the complexity of movement in my work is Laban's idea of spatial pulls. While there is not concise definition associated with these terms, spatial pulls refers to the "changes in muscular activation and sensations related to shifts in the mover's relationship to the plumb line of gravity."³⁹ In other

³⁹ Moore, "Space: The Outer Domain of Movement", 121.

words, spatial pulls provide an explanation for how the body moves through space by utilizing both physical and imagistic tools to maintain or disrupt the body's center of balance. The concept of spatial pulls also defines complexity of motion by dividing lines of motion into "1-, 2-, and 3-directional inclinations."⁴⁰ The three spatial pulls run along the anatomical axes (vertical, horizontal and sagittal), in opposing directions and the combination or loss of any of these pulls results in differences in stability or mobility of the body in motion. If there are more spatial pulls present in a movement, the movement becomes increasingly complex and additions of counter-pulls are utilized to reestablish balance in the body.⁴¹ In other words, spatial pulls provide a way to view and analyze intricate movement using the dimensions of the body and spatial environment.

While Laban's theorizing of spatial pulls is quite complex and dense, the concept centers around the use of a grid system. Similar to motion of points along the x-, y-, and z-axes in math, the body moves in a three-dimensional way. The body's movement can be tracked as a whole through space, or through the motion of its parts in opposition (counter-pulls) or in other combinations (along the spatial pulls). According to Laban, "harmonious," whole body motion is achieved by the mathematical balancing of the parts. This is not a new concept in the field of art: the rule of thirds defines focal points and guidelines for visual art like photography and painting by dividing the field of view into a grid system⁴² and musical tone and

⁴⁰ Moore, "Space: The Outer Domain of Movement", 121.

⁴¹ Ibid, 123.

⁴² Lenman R. and Nicholson A., *Composition* in The Oxford Companion to the Photograph, Oxford University Press

octaves are determined through the division of a string into proportional lengths.⁴³

Ultimately, we are returning to general, mathematical principles of the world to look at movement.

Spatial pulls represent a methodology for compositional analysis. When considering spatial pulls in the choreographic process, according to Laban, we are really looking at what is missing or what is shared. If we consider a stable or balanced position as an equal attention to all three spatial pulls, then mobility occurs when there is a shift in the equalization of one or more of the spatial pulls.⁴⁴ For example, if we take away the upward pull of the vertical spatial pull, the body would move toward straight toward the ground. If we combine the attention to the downward pull with the forward pull of the sagittal plane, there is a sense of falling down in a diagonal trajectory toward the ground. Of note is the mathematical attention to how the body moves in space, and how the adjustments, removal or combination of those mathematical lines of energy pull the body off its center. This way of analyzing is intended to explain something inherent in all movement and is not creating a new technique for how the body can move.

Spatial pulls are important in dance because the theory provides a logical language for discussion of aesthetics in dance. Showing stable bodies in space or making bodies fall through space is a choice by the choreographer which presents a

(2005).<http://www.oxfordreference.com.brockport.idm.oclc.org/view/10.1093/acref/9780198662716.01.0001/acref-9780198662716-e-330#>. Accessed 28 April 2017.

⁴³ Moore, "On Harmony" in *The Harmonic Structure of Movement, Music, and Dance According to Rudolf Laban*, The Edwin Mellen Press (2009) 190.

⁴⁴ Moore, "Space: The Outer Domain of Movement," 123-124.

certain satisfaction during viewing and may communicate a specific meaning by representing movements that occur naturally in daily activity. While the idea of moving off center of gravity is readily discussed using descriptive language, spatial pulls provide a clear and concrete description for how the body moves. Additionally, having an understanding of spatial pulls created opportunities for different ways of falling and moving through space. For example, the first solo in my work, performed by Claire Fisher, demonstrates the different ways spatial pulls are applied to create qualitative difference in the same movement material. The solo is performed twice; the first time the solo has a softer and more contemplative quality while the second performance showcases a bolder and more dynamic quality. The original phrase was created using spatial landmarks of the kinesphere, but the movement was developed using spatial pulls to explore the ability of the body to suspend, collapse, float or crumble between returns to the center of gravity. Each version of the solo also differs in the size of kinesphere, both energetic and qualitative.

The first version of the solo has a softer quality partly because of the smaller kinesphere, but also because Claire does not pull off her center of gravity as much. There is equal attention to all three spatial pulls with any deviations off the equilibrium of those spatial pulls occurring steadily and with a sense of suspended time. For example, there is a moment of slight forward falls, occurring because of increase in the attention of the pull forward. There is only a very slight additional pull forward, and Claire easily recovers by quietly stepping her feet together underneath herself. Similarly, all the movement occurs with slight changes in the amount of

attention to each spatial pull: a sideways fall to the ground melts the body to the ground as a slow deviation away from equilibrium occurs; a slight reach toward the ground with the right arm is countered by a reach of the left toes into the ground to return to stable vertical.

The second iteration of the solo has a daring quality because the imbalance of the spatial pulls is more extreme. The slight falls forward now fall all the way to the ground as Claire catches herself on her hands. The first of those falls has a very distinct shift of spatial pulls as we watch a brief moment of suspension at the top of her fall before everything drops to the ground. This suspension, similar to top of the swing of a pendulum, is only possible because of an attention to both the pull forward toward the ground and an attempt to remain upright from the back space. This form of the solo has more drastic changes in balancing of the body because of the larger reaches of the body in general into space and the quick shifts of balance in the spatial pulls. In addition, the more extreme use of spatial pulls travels Claire farther through the performance space. Ultimately, the change in spatial pulls between the first iteration and the second iteration produces a more dramatic version of the solo. Applying spatial pulls to movement material changes the energetic quality and size of the movement, producing an entirely different intent or meaning through viewing. This affects the design of the piece by considering how repetitions of movement can be important for the development of meaning throughout the arc of the piece.

A final consideration leaves the theorizing of Space Harmony and contemplates the conventions of the performance space. Use of the performance

space can be considered part of a choreographer's style and placement of bodies in space can follow particular conventions determined through dance's history.

Movement that occurs in the center of the performance space is typically considered more important than movement placed at the periphery of the stage.⁴⁵ This is a common tactic in romantic ballets. The main character often dances around the stage framed by a *corps de ballet* of similarly dressed dancers. In addition, paths crossing through the center of a non-proscenium performance space are associated with gradating importance as the movement moves toward or away from center.⁴⁶

Although these may be accepted and widely used conventions of the performance space, I prefer to challenge these notions of space as part of my choreographic process. It is also worthy to note that working against conventions in dance choreography and performance has been a part of the creation and history of modern and postmodern dance forms, and so my process is following the lineage of contemporary dance.

The development of the opening material focused on the dancers' spatial arrangement and investigates the use of conventional uses of the performance space. The whole work opens with the five dancers equidistant in a straight line in the center of the performance space. The movement material demonstrates very specific geometric shapes by referring to precise zones of the kinesphere while setting up a precise rhythmic quality. The performance of this movement sequence is important to

⁴⁵ Susan Leigh Foster, "Reading Choreography" in *Reading Dancing: Bodies and Subjects in Contemporary American Dance*, University of California Press, (1986), 85.

⁴⁶ *Ibid*, 86.

the work because it introduces unison movement that is not performed exactly the same way among the dancers. It also introduces a distinct attention the dancers have toward each other since the movement occurs in silence and the defined rhythm of the movement relies on internal, collective timing. Placing the line in the center of the space therefore is appropriate, following previously defined stage conventions while introducing the viewer to key concepts that will be explored and expanded throughout the piece.

The line formation appears multiple times, but in different parts of the stage. The second repetition follows a more conventional angle, with the dancers forming a diagonal line in the upstage left corner of the performance space. The new view of the dancers allows the movement to be seen from a forty-five degree angle. This feels like a familiar angle in viewing dance performance since dancers moving down the diagonal of a proscenium stage has been seen in works throughout the history of the dance performance.⁴⁷ The next two times the dancers perform the movement material, they move the line to form two less conventional diagonals, one that forms a sharp division from the back of the performance space to the front and the other almost flat against the back wall of the performance space. These diagonals are also slightly off from the center of the space. These diagonals oppose traditional uses of the performance space and they were a clear choice when composing the work. The use of convention first shows the audience how spatial design has been typically utilized in dance performance to describe the geometry of the space. The departure

⁴⁷ Foster, *Reading Choreography*, 86.

from these conventions introduces the audience to new ways of describing the geometry of the space while thwarting expectations about how movement occurs in space.

While there are many theories used to contemplate space and its effect on the overall work, the important theme to note about the theories discussed above is the idea of the center. Whether discussing the center of the performance space or the center of the body in relationship to gravity, I, the choreographer, am ultimately making decisions about how far off-center the movement is taking the body and how and when the movement returns back to the stability of the center. These decisions are not random because I understand how being off-balance or off-center feels through personal embodiment from hours of viewing. The understanding, through viewing, of how center and off-center differ and the effects these states of being have on meaning-making results in a dynamic work crafted through distinct choices. My aesthetic choices around the moving body and its interactions with the changing stability of space has the ability to clearly convey the meaning of the work as a cohesive whole.

Chapter 3: Analyzing a New Creation

After a five-month process culminating in an independently-produced concert at Visual Studies Workshop in Rochester, NY, I sat down to consider the aspects that were important for creating intention in my work, *Passages of (non)conformed Inclinations*.

It is important to note the differences in rehearsal space and performance space. Rehearsal spaces included the studios at The College at Brockport, SUNY. Despite the desire to create conditions that would most feel like the performance space, my dancers and I often rehearsed in varied spaces. Some provided more width than depth producing the effect of watching the work unfold in very close proximity. Other spaces provided equality in depth and width with vastly high ceilings, affecting the dancers' feelings of being contained in a less constricted way. Familiarity of the studios from class space or previous rehearsals created a routine feel; the rehearsal space feels wholly different from the electricity or feeling of excitement of a performance venue. For the majority of our rehearsals, the only viewer was myself as the choreographer, and although I watched from varied angles throughout the different spaces, the presentation of the movement always seemed to be toward a front audience that I believe was designated by the dancers, perhaps from familiarity or some community-inspired inclination to use a side of the room as the front (typically the mirrors). This feels like a familiar convention when preparing for performance since traditional proscenium stages designate a front by the presence of the audience.

The performance space, in contrast, an unfamiliar space, and was created with a chosen design to contain the audience on three sides of the performance space. The dancers helped create the space, which acted as a reminder of the unconventional nature of the space: the dancers placed the audience in a way that felt appropriate for the movement instead of adjusting to a fixed space. The realization of the closeness of the viewing bodies also creates a sense of the audience as part of the space. The high ceilings created an echo, generating a feeling of expansiveness despite the nearby placement of viewing bodies in space. I also admit even though I always imagined pictured the audience viewing my dancers from such close proximity, I did not realize how close the dancers actually were until the dress rehearsal in the space. Observing my dancers from the actual view of the audience during dress rehearsal affected my viewing of the work as a whole.

The work, although episodic in nature, contains a clear choice of energetic shifts making the piece feel like one whole instead a separation of its constituent sections. The dancers, frequently moving into and out of unison movement phrases, appear homogenous in general quality and movement, and yet maintain their independence from each other in their approach to the movement. Although the rhythmic quality, visual focus and the spatial intent of the movement was thoroughly coached and attended to, the specifics of how the movement should feel were ultimately left up to the dancers. While precise shapes and spatial intent create a uniformity in movement material, the dancers appear individualistic in their movement because of their own exploration and research through months of

rehearsal. Each dancer has a unique connection to the movement being performed. A distinct magnetism toward each other is apparent, even in sections where they spread and fall away from each other in physical space. These elements were created through a series of precise choices in arrangement of dancers in space, selected relationships between the dancers, the overall volume of the performance container, and the direction and development of the dancers' treatment of kinesphere. These active and precise choices establish a visual contract with the audience; these choices at the beginning of the work prepare the audience to engage with the themes that appear throughout the work.

The piece begins with a clear line of dancers designating the middle of the space. This central line represents something that is known: a splitting of the space into equal parts in shape and size. It also creates a focus for the viewer: the bodies in space in this orientation to each other, performing this movement phrase is significant as designated by placement in the center of the performance space. The dancers are equally spaced, and performing unison material containing a distinct internal rhythm. This exact sequence (a line of five dancers, equally spaced from each other, performing this unison phrase work) is repeated after a shift to a diagonal line in the upstage right corner of the stage. The dancers are now seen at a forty-five-degree angle from where I originally saw them. This orientation also feels familiar. Instead of facing the side of the stage, the dancers face the corner. I understand the ease the dancers have with finding the corner because traveling down the corner at this angle is a previously defined spatial design. Their symmetricity of negative space between

them remains the same. I employed these conventions early in the work with the intention of disrupting these conventions later in the dance.

About halfway through the work, this same sequence is reprised, but with different diagonals. The dancers start to go back to their original center line. However, they then turn to face the opposite side of the performance space (stage right) and set up a line in space that is angled a few degrees counter clockwise in relation to the space than their original center line. The second diagonal follows suit, returning to the same corner of the first section, but with a much less prominent forty-five-degree facing; the dancers are practically facing the upstage wall. In short, less conventional diagonals than are typically utilized in performance are seen.

My attraction to these unconventional diagonals is linked to their less frequent use in dance design. The unpredictability of the diagonals interest me because of their disruption of expectation in spatial design. They do not spoke directly from a corner, or connect two sides of the rectangular space to each other, forming a clear triangular shape. It was my choice to utilize something less familiar, and to not conform to some conventions that my dancers and I understand from past viewing experience. It was particularly interesting for me to observe my dancers attempt to find these particular diagonals during rehearsals: they had great difficulty locating the precise angle I was interested in and would often conform to a diagonal that was a familiar angle in space, perhaps stemming from exposure to convention. Not only am I experiencing them as unfamiliar through observation, but my dancers are also feeling them as unfamiliar. A variety of unconventional diagonals appear throughout the piece,

accumulating complexity in spatial design. Instead of unison in a uniform line, the dancers face different directions, alter their distance away from each other, and leave or replace each other in the line. These additions of spatial complexity disrupt expectations of spatial design because there is no predictability of where in space the dancers will face next, if the spatial relationship of the dancers will remain the same throughout each section, or where their visual focus will be, despite the movement material being familiar to the viewer.

The familiar central line created a two-dimensionality in the bodies in space, that corresponded to a performance space that felt more rectangular, despite its width, depth and height. I became attuned to either the front, back, or side surfaces of the dancers. The unconventional diagonals introduce different surfaces of the dancers. There is no longer clear front, side or back; there is now all the spaces in between. It is as if we see the bodies as they would be in real life: three-dimensional beings that are seen from a multitude of nondescript angles that happen to be performing instead of doing their daily activities. They become less geometric and more distinctive in their shape and structure. Even when we form lines in life, each person stands their own way, faces a precise direction, and moves through the line differently than any other person would. In effect, the dancers more closely mirror real-life situations through their unique quiriness, and there is a clear sense of who they are as people as well as performers.

Another spatial and choreographic idea that provides contrast to the linearity of the spatial design is the use of clumped formations with the dancers in close

proximity to each other. The space in between each dancer is less defined: instead of lining up side-to-side, equidistant from each other, their goal is to get as close to each other as possible. The bodies, occupying both width and depth in the performance space, define the space in a different way than the lines and diagonals through the space.

The clusters of bodies create an effect of viewing a pack or a community of individuals. Observing groups of different bodies moving throughout the performance space in unison, but with their own particularities in movement, reflects people in commonplace situations. Whether crossing the street, squeezing into the subway, or gathering for a cause, humans form groups regularly. The ability to recognize masses of groups moving together while understanding the individualized parts that make up the whole group is a learned social convention. I conceived the piece as a group of people going through a particular situation together. As a mini community of individuals they experience the space together, but could never have the same feeling toward the experience because they are each distinctive in their embodiment, just as each person in society is unique.

Besides viewing the dancers in more realistic ways through utilizing grouping and unusual diagonals, the dancers' formations in space also affect their personal kinespheres, which in turn affects the viewing of their movements. Over the course of the dance, the dancers' individual reach space grows from top to bottom, resulting in larger kinespheres. Grouped together in the corner of the space toward the beginning of the dance, the dancers move only the head, with clear intentionality of where

different parts of the head or face are directed in space. The movement is slowly carried down the body to the feet, bringing attention to different zones of the kinesphere for each individual dancer. The accumulating number of moving parts of the body invites the viewer to witness more areas of the kinesphere and as a result the kinesphere appears to get larger. Not only does the movement become more full-bodied, but the psychological kinespheres of the dancers also become larger so that the audience becomes more involved in witnessing the dancers' bodies and energies.

The expanding psychological and bodily kinespheres steadily introduces the audience to the whole moving person. Starting with small head and upper spine movements and isolating these body parts brings attention to the intricate movement capabilities of the body as a whole. Instead of relying on the placement in the performance space to bring attention to the bodies moving, the movement is crafted to teach the audience how to focus their eyes to see how each different part of the body can move on its own. The attention to an expanding kinesphere also trains the viewer to understand how all the parts contribute to the whole, enabling the viewer to switch back and forth between seeing the whole person moving through space, and focusing on only one body part moving at a time. The psychological kinespheres of the dancers also expands, giving the dancers a larger presence in the performance space.

Ultimately, the increasing reach of the kinesphere invites the audience to lean in and become invested in the small movements that support the full-bodied movement while the expanding psychological kinespheres invite the audience to witness the energetic experience of the dancers.

Attention to the three-dimensionality of the kinesphere and the relationship of the body parts to each other within the kinesphere helps maintain the intentionality of the whole body. Although the visual emphasis is often on a particular part of the body reaching toward a defined part of the kinesphere, counter tensions in opposing parts of the kinesphere create a way for the rest of the body to actively participate without external movement. In other words, although one part is physically reaching toward a specific place in the kinesphere, the viewer is aware that the full body is present in space, and therefore the whole person is important for assigning meaning, not just the moving part. The ending section, a mostly unison floor section utilizing quick time and a mentally difficult retrograde (reversal) of earlier movement material, required attention to counter tensions to be performed successfully. The dancers do not have time during this section to think about how they are balancing or moving around the space. Instead they must have an understanding of the precise points of the kinesphere, the parts of the body that have specific spatial direction, and the body parts that are subsequently grounding through oppositional pull to facilitate their swift movement into and out of the floor. Although this section is mentally and physically taxing (and somewhat anxiety-inducing for my dancers) the choice to speed up the internal rhythmic structure and the reversal of the movements was possible because of the cultivation of three-dimensionality through knowledge and embodied experience with spatial tensions.

As their kinespheres enlarge, the relationship between the dancers changes. Each dancer starts the piece with their own kinesphere whose radius expands. At

times the kinespheres may overlap because of the close proximity created by their assemblage in one section of the performance space, but the dancers remain in their distinct bubbles. The discrete kinespheres create a way to see each dancer's individuality as a mover, particularly because the kinespheres were partially designed by the reliance of dancers' individual movement generation. As the piece goes on and the radius of each dancer's kinesphere continues to increase, the kinespheres begin to converge, forming a large container of space for the dancers to exist together. The creation of this singular large kinesphere creates a shared space while also generating a magnetism between the dancers. Besides a functional necessity for lifting and partnering, the shared kinesphere brings their awareness to each other at all times. Each dancer understands where they are in space in relation to each other, and there is a full consideration of each other's movement and energy. In addition, the psychological kinesphere is shared amongst the group and invites a sense of collaboration whether or not the dancers come into physical contact.

Although this magnetic attraction between the dancers could evolve out of functional necessity for timing or safety, I believe this type of relationship was crafted through the use of space in process. Some of the material was generated using the idea of spatial tensions and counter tensions in improvisation. This creates a full body awareness, not only to where in the kinesphere body parts are directed, but also to the three-dimensional sensing of all zones of the kinesphere simultaneously to carry out movement. I also posit the explorations in the early stages of process trained the dancers to be aware of their entire surroundings, including the other bodies in space.

Since visual focus is not directly on each other for a large portion of the dance, the dancers were able to utilize their embodied attention toward each other to “feel” each other in space, which aids in the creation of magnetism toward each other. For example, in the last retrograde section the timing is reliant on the dancers’ internal sensibility instead of on the beat of the music. There are no moments where everyone can see each other, and the movement occurs so quickly that the dancers cannot rely on looking at each other for timing. Instead, they must rely on feeling each other’s movements and speed which is a result of their magnetic energies combining.

The shared kinesphere also creates a container for the dancers, which affects a viewer’s perspective of where the dance takes place. The shared kinesphere crafted for the dancers never reaches beyond the space in which they are performing. In effect two clearly defined spaces exist: one for the performers and one for the observers. The group kinesphere never reaches into the audience to include them, despite coaching the dancers to be aware of the audience viewing them. However, the coaching of dancer focus, the proximity of the audience to the performers, and the three-sided viewing experience allows the audience to see the dancers in a particular environment without intruding on the dancers’ experience. The viewer does not enter the performance space, but is welcomed to witness what is occurring. The desire to lean in to catch small individual details is encouraged, without feeling voyeuristic in the observation of the dancers.

It is important to note the piece was crafted with a particular viewing space in mind. I knew from the beginning that there would be audience members on three

sides of my dancers. I also typically watched my dancers from a seated position on the floor with a set distance between myself and what was designated the rehearsal space. I never watched my dance from only one angle, and I never watched it from a distance, as if they were on a proscenium stage. I posit that the viewing experience created by the dancers' collective kinesphere would have been different had the dance been presented in a different venue. The kinesphere may not have been as far-reaching and may have caused the audience to view the dancers far outside the world crafted by myself and the dancers. Had I crafted the dance watching from a different distance or viewpoint, or even through videos, the viewing of the piece may have changed.

Passage of (non)conformed Inclinations was performed in the same show as a quartet created last year for a proscenium stage. Some of the concepts explored in the quartet were the same as concepts that were used to create the thesis work: grouping, close proximity of bodies in space, growing individual kinesphere, shared kinesphere, and spatial design of the performance space. Although I did return to the quartet to adjust it for a different performance space, the similarities in conceptual or analytical thinking during the process produced pieces that felt related but were not redundant. Although the works appear distinct from one another, I think it is important to acknowledge the deepening of research from one process to the next. The quartet, crafted through a shorter process than *Passages of (non)conformed Inclinations*, has the same movement signature since my aesthetic interests are still present in both works and therefore, it has a less articulate communication of ideas. The return to

these concepts and ideas for the new work enabled me to better understand how I use space and moving bodies to inform my choreography. Watching both works in the same show makes the quartet seem like a prologue of sorts, and the use of space and its effect on the intent of the choreography gains clarity in my thesis work.

Passages of (non)conformed Inclinations is an example of my approach to the choreographic process. As the choreographer, but not the performer, the most important part of the process is to be able to engage with the work physically, emotionally and analytically. Through observation I am able to embody the movement, the interactions between dancers, and the interactions between dancers and their space. It was important for this process, as it is for many of my processes, to be outside the work since spatial design and clarity is of great interest to me. Therefore, it is important that I understand that I am having a bodily response that enables me to be inside the work as I am witnessing from the outside.

My external approach to experiencing the work permits me to think about space in both conventional and unconventional ways. Seeing the spatial design and my dancers' comfortability or awkwardness to the chosen spatial design was imperative to crafting the performative environment they would come to experience. In addition, through the relationships crafted through play in both physical and energetic kinespheres I was able to develop community among the performers that is unexpected since they do not make eye contact with other, or physically support each other frequently in the piece. Despite the lack of these obvious choices for creating relationships among the dancers, there is a clear attention to each other throughout the

entire body. This three-dimensionality forms a clear world that the dancers exist in together as they make their way through the piece.

The purpose of the previous analysis is to demonstrate the analytical thinking that is carried over from earlier stages of the choreographic process. The performance of the *Passages of (non)conformed Inclinations* represents yet another stage in the process of making a work. The instinctive realizations, possibly attributed to mirror neuron activation, and the early musings of theoretical ideas about the use of space in choreography are further developed and deepened as a result of viewing the work in a performance setting. The addition of lights, audience members, and the surge of energy from the dancers affects the viewing of the work and as a result, further analysis of the performed work reveals the intent of the piece in a clearer fashion.

The realization of analytical thinking before and after performance is important to the undertaking of a creative work. The consideration of spatial design, how the dancers feel and interact with their personal movement space in the moment, and the overall effect created by how the space feels are all necessary considerations that occur and are applied in different ways at various stages in process. These contemplations ultimately produce a unified picture. From primal choices via mirror neurons to inclusion of analytical theory pre- and post-performance, the choreographic process ultimately invites deep thought and consideration to communicate intent.

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