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The Intersection of Kinesthetic Empathy and Observation in Concert Dance Performance

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Abstract

When watching concert dance, observers unconsciously process movement information by forming reflections of their own experiences, resulting in an emotional connection. The artist, however, also has a part in forming meaning around something they create. If meaning is formed in the creation of the work by the artist, and also through observation by an audience, where does meaning reside? The relationship shared between the artist and their audience is valuable, so something must connect these two groups. An artist's job is to suggest meaning through their work, but once the piece is subject to observation, the process of kinesthetic empathy takes over. As Dee Reynolds and Matthew Reason write in their book, *Kinesthetic Empathy in Creative and Cultural Practices*, kinesthetic empathy is "the ability to experience empathy merely by observing the movement of another human being" (Reynolds and Reason). Kinesthetic empathy is possible through motor simulations, which act as an individual's personal code for processing movement visually. The outcome is new meaning informed by the unique histories of individuals. This paper examines kinesthetic empathy through a study in which participants provide feedback on a dance film. These responses demonstrate the ability of observers to possess kinesthetic empathy, leading to intersubjectivity, resulting in the formation of empathy. Audience feedback exhibits truths that are direct extensions of the dance. Empathy acts as the binder that connects the perspectives of artists and viewers alike. This study applies research on kinesthetic empathy to concert dance practices and demonstrates how connections are built through communal experiences based in movement.

The Intersection of Kinesthetic Empathy and Observation in Concert Dance Performance

I have always been captivated by the power of movement. As a dancer, I find the experience of creating and performing so exciting. There is also nothing like being a viewer and allowing the power of movement to sweep over you. Both sides of the concert dance experience are special and different from one another even if rooted in the same experience. Our perspective as a viewer is automatically informed by our personal experiences. This is what makes the human relationship to movement powerful. If both the choreographer and viewer form their own interpretation of a dance work, where is meaning formed? The relationship shared between dancers and viewers is valuable and there must be something that connects these two in the shared performance. This connector is kinesthetic empathy. Through creative research, on the process of choreography, performance, and feedback, kinesthetic empathy can form intersubjectivity and form the basis of empathetic connection.

I have been dancing since the age of four, studying a variety of styles ranging from competition dance to ballet, jazz, modern, and hip hop. When I was younger, I did not often put much thought into what the dances I performed were about. I was focused on having fun, smiling on stage, and continuing to improve. As I grew older, now speaking as a dance practitioner of eighteen years, I noticed that my attention to the intent behind dance works grew. When I started performing concert dance works, I suddenly felt a responsibility to make the piece as clear as I could. I began applying corrections physically, but mentally I added layers of intention behind the movements. Dancing was no longer just to have fun, as the movements were intended to say something informed by the choreographer's intent. One of the most exciting parts for me became hearing the reactions of those who attended my performances. Would they like it? What stood out to them? I was eager to know whether the performance would succeed in making the

audience understand. I quickly realized that the viewer's ability to understand was not the same as seeing the work through the eyes of a dancer or choreographer who was inside the creative process.

Oftentimes, I would come from backstage and be met by audience members who said, "What was the dance supposed to be about? Because I don't think I can understand. I don't get dance." When I heard this, I felt so confused, but more than that, curious. I was not bothered by the fact that they couldn't perfectly articulate the choreographer's intent, but rather that my family, friends, and most visitors felt like their personal takes on the dance were wrong. I started to wonder, if artists make dance for an audience, and if that relationship is so important, where does meaning actually reside? Is it in the choreographer's intent, the viewer's interpretations, or both?

Isn't it the purpose of art to make audiences feel something? As an artist, I had the notion that my work was not effective unless the choreography was obvious in concept and intent for the viewers. In reality, no viewer has the ability to read the mind of a choreographer. Every person is going to process information differently and concert dance is not excluded from this. In his book, *Time and Free Will*, Henri Bergson describes the role of art by saying that "art aims at impressing feelings on us rather than expressing them; it suggests them to us…" (Bergson 16). The idea that artists can create a suggestion for the audience is meaningful because it acknowledges the very tangible power an artist has to shape a viewer's experience. However, it is impossible for art to "express," because truth found within the work will be different through the lens of each individual observer. The artist aims "at giving us a share in this emotion," but this does not guarantee understanding or validation of the artist's intent from the observer. In other words, the role of the artist is to create "purposeful action" that provides information that

has the potential to "convey emotion" (Reynolds and Reason 13). The audience member who feels like they should be able to fully understand the art's purpose is not necessarily wrong in their perspective. The concept that art itself can shape observers' thoughts and feelings is understood, but the art-feeling relationship does not fully explain how concert dance and the human observer relate.

How is it possible that observers can so clearly be impacted by viewing dance? Often when watching dance, one may feel like they are experiencing the movements of the dancers within themselves. An observer may begin to sense an emotional response, forming a connection between the movement and themselves. The present connection must have something to do with the sharing of the moment between dancer and viewer during a performance. What process makes this possible? Philosophers Edith Stein and Maurice Merleau-Ponty were interested in exploring this question. In her work, *On the Problem of Empathy*, Stein describes empathy as the "bodily experience of feeling connected to the other, while at the same time knowing that one was not experiencing directly the other's movements or feelings" (Foster 164). The same connection was looked at by Maurice Merleau-Ponty who speaks to this in his work, *The Phenomenology of Perception*. He believed that "Physicality served as the fundamental medium in which consciousness and world were continually co-produced" and that, "the entire body worked actively to synthesize multiple forms of sensation in order to produce information about the world, and he emphasized the ongoing nature of that process" (Merleau-Ponty). Further, Merleau-Ponty "identified the experience of bodiliness as the grounding for all conscious experience. As a result, intention and action were inseparable in others as in oneself" (Merleau-Ponty). The bodily experience Stein and Merleau-Ponty speak of can generally be described as kinesthetic empathy. The term kinesthetic empathy has a full history with some ideas that have

remained and others that have been contested. Before using kinesthetic empathy to discuss possible implications within concert dance, it's important to distinguish some defining aspects of the term.

The term kinesthesia (originally spelled kinaesthesia) was created and defined by British neurologist Charles Bastian in 1880 (Reynolds and Reason 124). In his work, he argued that there are two components to processing movement in the brain, the first being a sensed response. First, this was unconsciously activated, then informed the motor receptors to send impulses to perform a movement. Bastian "believed muscle sense must be received before a motor act was possible, and muscle sense acted on the motor cortex that was the site of movement. Thus, the motor cortex was a kinaesthetic cortex for stored images, which in turn determined patterns of movement" (Pearce). In defining kinesthesia, Bastian connected the acts of sensing and acting upon the impulse. The process he describes as "stored images" is unlocked by the human power of kinesthesia and therefore acts as the building block for how humans understand, relate to, and create meaning from movement alone.

Later in the history of kinesthesia, the early twentieth century New York modern dance critic, John Martin, further engaged with the concept through his commentary upon the growing power of dance performance and what this means for a viewer. The bulk of his theories argued that there was an undeniable relationship between dancer, viewer, movement, and emotion. Martin was among the first to contribute ideas around kinesthetic empathy related to concert dance. He based his theory on the premise that by experiencing a kinesthetic response, a viewer could "mimic" the movement they observe, and from this, form a similar emotion (Reynolds and Reason 123). Martin believed this might be due to an inner self that created its own interpretation of the dance expression (Foster 2). He states, "nevertheless, a sixth sense, whether it exists

officially or not among those who live by the book, functions most serviceably" (Foster 112). In this statement, Martin imagines an inner self or sixth sense, that is responsible for a kinesthetic response to viewing movement. In exploring this curiosity, Martin was ambitious in his lack of boundaries related to emotions. Martin stated that dancers move "in generally the same way and for the same reasons," and this encapsulates dances' ability to "communicate across all cultures, classes, and ages" (Foster 45). He also argued that because of "neuromuscular coordination" being based on previous experience, another person's feelings should already be familiar to us because that physicality is pre- stored with meaning (Foster 113). This perspective does not take into account present day awareness of differences across cultures. Martin's proposed universalism does not account for movement traditions beyond primarily White and Eurocentric views, that influences early modern dance in the United States.

In recent years, neuroscientists and psychologists have discovered potential explanations for the relationship between dancer, viewer, movement, and emotion. Contemporary scientists generally disprove Martin's idea of an "inner self" capable of being omniscient, given that the idea of selfhood is ever evolving, and this implies that an inner self is incapable of being all knowing (Foster 2). However, some neurophysiologists argue that this intrinsic connection between movement and emotion can be attributed by mirror neurons. In the early 1990s, Vittorio Gallese, a neuroscientist specializing in social findings and implications, discovered what he and his team considered a clear explanation for how the brain processes and responds to observation. He studied the brains of macaque monkeys and coined the term, mirror neuron. Characteristics of this discovery involve the involuntary nature of this neuron type, including automatic reactions to certain stimuli. The crux of this discovery can be demonstrated by finding neurons that consistently fire in both the performance and viewing of an action.

> A fundamental concept is that the mirror matching mechanism is activated in relation to a stimulus or stimuli outside the self, that is, in relationship to another. The catalyst might be visual observation of motor actions, or of facial expressions such as disgust, joy, fear, et cetera. In effect, this specialized class of brain cells is believed to be located in parts of the brain that respond to sensorimotor stimuli (visual, auditory, olfactory, tactile, et cetera) … Thus, mirror neurons are currently being linked to psycho-affective, social and cognitive development, attachment, attunement, empathy, social cognition and morality (Berrol).

The presence of mirror neurons is an appealing possibility to describe the connection between kinesthesia and empathy, and movement and emotion, but the belief that the same mechanism in the macaque monkey is replicated within humans is contested (Berrol). American psychologist, Alison Gopnik, has been a trailblazing researcher to question Vittorio Gallese's definition of mirror neurons. She discusses myths of the discovery in her Slate article entitled, "Cells that Read Minds? What the myth of mirror neurons gets wrong about the human brain." Gopnik states that finding mirror neurons in macaque monkeys isn't satisfactory evidence to prove that the same must be true in the human brain. She states that, "we know that almost everything about the brain, including the tuning of individual neurons, is shaped by experience" (Gopnik). Gopnik provides examples for how experience may be applied to the macaque monkey theory. She states that when a monkey moves their hand, they can see this action within their own vision, and that this action/ experience alone is enough for them to associate any action of a hand moving (of another monkey) with their own experience. The same idea of this example can be applied to humans.

Based in this knowledge, the experiences of the individuals play a bigger role than Gallese accounted for in the application of mirror neuron research to humans. Gopnik explains that "knowing that everything is shaped by experience is important to provide perspective on the shaping of empathy and can be further explored." With the aforementioned being true, "cells that fire together wire together" and this process creates an inherent connection between "seeing and doing" which lays the groundwork for the role of mirror systems, rather than mirror neurons, in the human brain (Gopnik). Gopnik goes on to describe how studies that argue to prove the presence of mirror neurons via functional magnetic resonance imaging (FMRI) technology are faulty. FMRI is a type of imaging that detects changes in oxygen usage in certain areas of the brain, based on the principle that if a part of the brain is being activated, blood will flow to that area and, therefore, it can be visually detected. In Vittorio Gallese's research on macaque monkeys, he tested neuron activity using electrodes. FMRI testing on the human brain cannot determine the presence of specific mirror neurons, but this single-occupation neuron theory is disproven by Gopnik on the basis of experiences forming mirror systems via multiple neurons. While functional magnetic resonance does not show individual neurons, it can show parts of the brain that are activated based on stimuli, and with scientific knowledge of brain functions, FMRI can shed light on how kinesthetic empathy may be shown in the brain, and therefore can illuminate the presence of mirror systems.

In the article, "Neuroscience Meets Dance/Movement Therapy: Mirror Neurons, the Therapeutic Process and Empathy," Cynthia Berrol proposes an anatomical approach that further explores the potential for mirror systems in the human brain. The first structure to discuss is the insula. Located in the cerebral cortex "the insula is associated with visceral functions and integration of autonomic information" (Berrol). The insula is "responsible for converting

incoming sensory information into motor instructions or actions". The pre-motor cortex is also active in processing motor information in terms of simulation. These findings, though present in multiple brain regions with varying occupations, indicate the presence of mirror systems rather than mirror neurons. Cynthia Berrol used FMRI technology to visualize activation in the brain resulting from stimuli. In her study, one person was presented with a series of olfactory or smell stimuli. The goal of this study was to create a reaction of emotion; disgust, pleasure, etc. that could be read potentially via facial expressions. A second participant "simply witnessed the facial reactions of the one exposed to the stimuli." The results of the study are as follows: "In the conditions of both 'disgusting' and pleasing scents—but not the neutral stimuli—the researchers report that both the amygdala (associated with emotions) and the insula (a structure possessing extensive connections to the amygdala as well as other somatosensory areas) of the observer were activated." This study very clearly demonstrates the presence of a mirroring process within the brain's functions and further proves this as a relationship to brain centers connected to emotion and simulation (Berrol).

In both Alison Gopnik's counter argument against mirror neurons and Cynthia Berrol's anatomical approach to the mirror system in humans, FMRI technology is discussed. In Gopnik's opinion, FMRI is unsuccessful when used to target individual neurons to prove the single-occupation theory in the case of Vittorio Gallese's now contested discovery. However, FMRI is more accurately used in the studies by Berrol in which FMRI is appropriate technology to visualize activated brain structures as a result of various stimuli. The same technology that acted as Alison Gopnik's kryptonite is successful through completely different research approaches by Berrol for the same curiosity: where is the mirror system present within the human brain? When examining this research as it informs kinesthesia, I will use the term mirror system, as

distinguished from Gallese's mirror neuron. The presence of a mirror system lends itself to the role of experience and observation, and therefore the brain's capacity to fire in multiple brain structures, all acting to mirror stimuli evoking a tangible response and empathetic potential. Referencing the mirror system speaks to "the orchestration of millions of nerve cells radiating throughout both hemispheres, as well as the active participation of brain regions" that can shed light on how humans process movement observed and performed (Berrol).

Mirror systems, as they work with kinesthetic awareness, act as the "neural mechanism underpinning our ability to perceive as a cross-disciplinary dialogue between the arts, humanities and sciences, proposing a physiological basis for empathy, language, culture and morality" (Reynolds and Reason 35). "Dance scholar Deidre Sklar asserts that kinesthesia is 'felt experience' of the mover" (Berg 8). Reynolds and Reason define kinesthesia as "sensations of movement and position… informed by senses such as vision and hearing as well as internal sensations of muscle tension and body position" (Reynolds and Reason 18). Kinesthesia is our ability to sense how it feels to perform movement within our own body. Think of this concept as how we observe ourselves. Where mirror systems come into play is in the two-fold quality of kinesthetic experience. I cannot directly experience another person's kinesthetic sensations, however I may share kinesis perception with others, for instance, if we watch the same gesture. After watching a gesture, that visual stimuli is processed via mirror systems. As a result, one "may infer kinesthetic sensations in another person on the basis of the kinetic signals (they) perceive in her movements. In an act of kinesthetic empathy, I may then internally simulate what these sensations may possibly feel like, via my own kinesthetic memory" (Reynolds and Reason 145). Kinesthetic sense has a role in the human body in a reflective means and informs the human act of observation. This is explained by the idea of intramodality, meaning that

kinesthesia is “constituted across sense modalities.” “This intramodality (of kinesthesia) means that a movement or action can be experienced, for instance, both as a visual image and as a movement sensation; when perception of another’s action is also experienced as one’s own movement sensation, this process becomes empathetic” (Reynolds and Reason 124). Mirror systems, as they interact with kinesthesia, create relatability, understanding, and empathy.

The term empathy came into practice around the same time as kinesthesia. Translated into English by Edward Titchener in 1909, the term was first spelled, einfühlung, which is German for empathy. Studies around empathy were first explored in the context of visual art and sculpture. Robert Vischer (1872) described empathy as being “used in its modern sense of projecting oneself into the object of contemplation and was later promoted by Theodor Lipps in his writings on aesthetic experience” (Reynolds and Reason 19). John Martin developed ideas about empathy, within dance performance, and therefore in the context of living breathing humans. Martin wrote about “new modern dance” which included work of artists like Martha Graham, whose dances featured “nonrepresentational movement.” In this way, she did not create dances depicting characters engaging in pantomimic gestures telling a story” (Foster 158). John Martin was interested in how movement may be key to a human’s ability to develop empathy through dance observation.

To best understand empathy, the term can be placed within the context of its predecessor in the English language, sympathy. Murray Smith, a professor of film, art, and philosophy at the University of Kent, presents one approach. He differentiates the two terms by saying that empathy is “central imaging,” and sympathy is “a-central imaging.” In his understanding, empathy is an experience in which, “the viewer puts themselves in the place of the character, and in doing so potentially simulates the character’s emotional state (voluntary).” In contrast,

sympathy is defined as an experience in which, "the viewer is put in the position of the imaginatively understanding a character's plight." In simpler terms, Murray limits the word sympathy to our understanding of narrative, whereas empathy has some element of duplication of the character's emotions and is understood by the viewer (Reynolds and Reason 161). Sympathy was historically discussed as a facet of empathy only in respect to forming moral thoughts around feelings specifically associated with connecting to those in less fortunate positions. Drawing on the thoughts of Murray Smith, this may translate to, "I 'feel for you' because based on the information (inferring from the behavior) I understand you are grieving, sad, distressed… but I myself am not feeling those things" (De Vignemont and Singer). Empathy is described as an expansion on the development of feelings, which sympathy is limited to, and further explores the process through which humans can make connections with objects, still paintings, architecture, and sculpture.

> Neuroscientists are claiming that empathy is the most fundamental capacity of our minds, foundational to the very way that knowledge is acquired. They argue that we are, prior to establishing an individualized sense of identity, constantly inhabiting the worlds of others, and through mirroring their actions, learning to give shape and significance to our own identity (Foster 178).

In the words of neuroscientist, Paul Eslinger, "Empathy refers to the cognitive and emotional processes that bind people together in various kinds of relationships that permit sharing of experiences as well as understanding of others." While this definition touches the overall basis of empathy, saying that it "permit(s) sharing of experiences as well as understanding of others" is a broad statement (Reynolds and Reason 125). The practice of empathy can colloquially be described as an act of putting oneself in another's shoes, but this is

not possible. When using this term and considering its implications in concert dance and life, it is important to note the limits of empathy. The thought that one can fully understand a person's perspective is incorrect, and the expectation of that belief within art making is unproductive. Perhaps the transaction that occurs between individuals connected by empathy can more clearly be described as an act of "recognition of otherness within myself. That is, the empathy I experience paradoxically combines putting myself in the place of the other being with not imposing myself on this being" (Reynolds and Reason). More simply put, empathy is a negotiation between the known and the unknown. Empathy is not a process of reprojecting the feelings of another, but the contemplation of kinesthetic cues to form sensations with empathetic potential. Due to kinesthetic empathy, humans have the capacity to recognize movement based on our own stored movement experiences that allow us to place meaning or context around the things we observe, therefore the movement itself does not require being coded with "universal" meaning.

In the book, *Kinesthetic Empathy in Creative and Cultural Practices*, edited by Dee Reynolds and Matthew Reason, the authors discuss how one cannot witness art without empathy and kinesthetic awareness (Reynolds and Reason). The viewer places themselves within the context of the performance and further imagines the bodily experience of someone within the art, and this process develops empathy. What is worth noting here, is that viewers make their responses to what they see personal without occupying the role of a performer or creator. Research suggests that our kinesthetic capabilities are key to how we move through the world, process art, and produce meaning as a result. When witnessing concert dance and life alike, humans have a "physical reaction" that is involuntary and somewhat automatic. Kinesthetic empathy is "the ability to experience empathy merely by observing the movements of another

human being" (Reynold and Reason). Kinesthetic empathy works through motor simulations. When someone watches concert dance, corresponding actions are represented within that subject (Reynolds and Reason 75). Motor simulations are cornerstone to how we understand one another throughout the day. This truth strengthens the role of concert dance and other intentional forms of physicality. These representations are our personal code for understanding what we absorb kinesthetically, and are the ingredients needed to understand how a performance may impact us emotionally. The unique histories and experiences that each individual holds are necessary to form empathetic response. This solidifies the idea that no one response is correct or capable of recreation or understanding.

Influenced by my findings on kinesthetic empathy, I thought back to my original inspiration. I still wondered why many audience members believed the meaning of a dance work is in the choreographer's intent, and outside of their own interpretation. There could naturally be many questions to follow this curiosity, but what stood out to me was a questioning of how dance is presented. I started to consider that feedback, a general opportunity for people to comment on concert dance, or an acknowledgement of the viewer's role in meaning (through kinesthetic empathy) was often not available. Without even an indirect acknowledgement of kinesthetic empathy, viewers may form an embedded response: a belief that an observer must understand the dance exactly as it was intended to be seen by the choreographer. Kinesthetic empathy is present regardless of if feedback is involved, but I did begin to consider what this shift in presentation might look like in concert dance and how, in practice, it might support the potential kinesthetic empathy has. If the science behind kinesthetic empathy says that the meaning is in each individual, then why not acknowledge this more often?

What might occur by placing this knowledge into the hands of the observer? I imagine this process as an extension of the creative life cycle. In this way, the term life cycle is used to describe the moment a creative work is conceptualized, through its creation and presentation, and then extended to include forms of feedback or reflection for the audience. An addition to the creative life cycle opens the possibility for learning, shared perspectives, and experiences. It can also inform the meaning of the work beyond the choreographer's intent. Whether or not feedback or reflection is shared among the participants, feedback offers a chance for reflection, participation, and a validation of individual ideas, backing the power of kinesthetic empathy.

To apply these ideas, I developed a project, acting as a creative life cycle in practice. Through creation, practice, and reflection, this project would combine research on the limits of art and the power of kinesthetic empathy. The project started with the creation of a ten-minute-long dance film (see Appendix A). I choreographed, directed, and performed in the work. The film was then attached to an anonymous online survey, which was shared with potential participants. After consenting to participation and watching the dance film, participants were asked to answer an eleven-question survey. The questions were formulated to allow the viewers the opportunity to reflect on the dance film and share their perspectives. This study used a mixed-method approach, yielding both quantitative and qualitative survey results. Guided prompts allowed participants to write and expand on their ideas. Multiple choice questions were also used. Participants were not required to complete all questions, but were encouraged to do as many as possible to the best of their ability. As a result, not all questions were answered by all fifteen participants, and some results reflect this accordingly. The only required sections were the informed consent and the viewing of the dance film. Fifteen participants consented to participation in the study, completed the viewing, and submitted written responses.

First, participants were asked to select two words that best represented their reaction to the film. The words provided were: anger, fear, surprise, disgust, happiness, and sadness (see Appendix B). These six words were chosen from psychologist Paul Ekman's six basic emotions model (Paul Ekman Group). The goal here was not to dig into the meaning of any individual emotion or to suggest that these might be the only ones possible, but instead to provide a starting point for viewers to think about their emotional state following the viewing. Results of this question show that 12 participants (80%) chose sadness, and 9 participants (60%) chose fear, followed by 6 participants (40%) selecting surprise and 2 participants (13.3%) selecting happiness. Anger and disgust were not represented. The word sadness was later reflected by the participants' responses to the question asking them for five words to describe their experience watching the dance film. Seven out of the thirteen responses used sad or sadness as one of their five descriptive words. This was a distinct commonality among the results as the other repeated words were only used two (challenging, limiting, beautiful, painful, stressed, and frustrating) and three times (lonely). Some other words used to describe the experience included anger, depressing, worried, powerful, comforting, tired, relatable, ongoing, universal, and unceasing (Walker 2024).

Next, participants were asked if they recognized any gesture(s) in the dance film that are performed in everyday life. Out of the fifteen responses, one hundred percent answered yes. Following this, they were asked to provide a few examples that resonated with them and share why they related. Participants noted gestures associated with eating, getting ready, dressing themselves, working on a computer, sleeping, and socializing. Many of the responses also described a shift in how they viewed the dance film because of changing gestures. One person noticed gestures that were indicative of something being wrong with the dancer's health. These

same gestures resonated with another participant in the form of showing uncertainty in life as a result of degrading health and an inability to control one's body. Participants connected this to an inability to do what they love, support their family, or live independently. One person said they were afraid of what was going to happen next and that the dancer changing clothes from a dress to more drab clothes made them feel panic. Finally, one response to this question said, "I resonated with the performance of these cyclical repetitions of gestures due to my personal familiarity with habitual daily schedule." In the process of identifying gestures, the participants connected what movements could represent and how that representation resonated with their lives and emotions (Walker 2024).

In another question, this idea was taken a step further by asking if the film made them think of any experience in their life. 85.7% of the participants said yes. These results demonstrate a strong relatability between the dance film and experiences of the participants. Following this, they were asked if the dance film made them think of an experience they have heard of from another person's life. Out of the 15 responses, 93% answered yes. This series of questions shows that in this study more people could connect the dance film to something outside of themselves compared to an experience they have had in their own lives. These responses indicate the activation of kinesthetic empathy within an audience observing concert dance. Further, the participants were asked if they ever felt worried or concerned for the dancer. Out of the 13 responses, 86.7% answered yes, and the remaining 13.3% responded with no. Those who did feel worried or concerned said this was because it made them wonder what would happen in the end. They connected to the feeling of bad news, racing thoughts, and concern for one's body. One participant said, "I felt the anxiety and almost dread creep up throughout the entire film. As the ritual began to be altered, I felt concern for what the dancer may have experienced to make them

feel what they are feeling and how it brought up times that I may have felt similar." Others said they felt sad or sorry for the dancer in the film and like they wanted to help. The two participants who answered no to this question had differing perspectives on the depth of worry or concern within a medium outside of themselves. On person said, "She's portraying a decline, not experiencing one. It's an artistic expression, not a documentary" (Walker 2024).

One of the most important questions within this study was asking the participants to describe what they believe the choreographer's intent was for the dance film. A few responses spoke to the choreographer's intent being to "demonstrate the stages we go through in life and our response to them" and also "to have the audience reflect upon their own lives and see the connection between what's being shown and their own personal experiences." Other participants said the choreographer's intent might have been "to make me (the viewer) feel scared, vulnerable and frightened," to show "how quickly a person can go from happy and healthy to sad and unhealthy," and to share "the futility of life." As predicted, all fifteen of the responses were unique. As informed by the present research, individuals process kinesthetic empathy based on the diverse life experiences each viewer holds. However, more than half of the responses to this question used similar language to articulate their view of the choreographer's intent. The phrases, "debilitating condition, medical diagnosis, living with Parkinson's disease, health challenge, loss of control in physical ability, and declining motor function" were all used by separate people to describe intent within the dance film (Walker 2024).

My choreographic intent for making the dance film was to show the progression of living with Parkinson's disease and the impacts this can have on an individual. I was inspired by my life experiences of living alongside a loved one with Parkinson's disease. I had a desire to work with movements that speak to this neurological disease and specifically in showing progression

through time. This dance film is my attempt at creating concert dance representative of this diagnosis and an opportunity to share this with others.

Many of the survey responses used language distinctly close to how my intent as the choreographer was described. What's not necessarily anticipated, but interesting to note, are the similarities in the viewer responses compared to the artistic intent. The dance film was created about Parkinson's disease and the progression of experiencing declining health. As previously noted, participants used phrases like, "debilitating condition, medical diagnosis, health challenge, loss of control in physical ability" (Walker 2024). In this study, it happened that many viewer responses reflected the intent. Looking at the process of kinesthetic empathy as it applies to observation and concert dance, it is not necessary or important that feedback be similar to the artist intent. Rather, kinesthetic empathy verifies the distinct differences, uniqueness, and variability within individual perspectives on concert dance. Furthermore, this process was intended to examine kinesthetic empathy through feedback on the dance film. Dance is an experience shared between the performers and audience. The relationship creates the potential for both subjects to be impacted as a result of the dance's happening. "In these circumstances, 'kinesthetic empathy' as a mode of relating to choreographed movement in a performance, can be described as engagement with kinesthetic intentionality, which inheres in the choreographed movement, rather than in the psychology of individual dancers or even the characters they may embody" (Reynolds and Reason 124). Kinesthetic empathy in concert dance speaks to the inevitability that the work is subject to emotional processing by the viewers.

The purpose of this study was not to compare the responses to the choreographer's intent but to demonstrate the implications of kinesthetic empathy through intersubjectivity. Created by philosopher Edmund Husserl, the concept of intersubjectivity can be described as "the shared

understanding and subjective experience between individuals (Cooper-White 2014). It is the process by which we bridge the gap between our own subjective reality and that of others, allowing for mutual understanding, empathy, and connection" (ProActive Approaches n.d.). Like previously discussed in sections discussing the role of the viewer in dance performance, the crux of intersubjectivity is an acknowledgment that one's perception of the world is shaped by an individual's experiences, culture, and beliefs. This references the core of the word, subjectivity, which is the "perception or experience of reality from within one's own perspective (both conscious and unconscious) and necessarily limited by the boundary or horizon of one's own worldview" (Cooper-White 2014). This being said, what makes intersubjectivity an important outcome of kinesthetic empathy in concert dance performance can be found in the word's prefix. Inter, meaning between or among, characterizes intersubjective as something existing not within one subject but between multiple (Merriam-Webster n.d.). Intersubjectivity involves understanding that "the world is not solely based on our individual perceptions, but is shaped through shared interactions and mutual influence" (ProActive Approaches n.d.). One way that intersubjectivity functions is through observing human movement such as body language and facial expressions (ProActive Approaches n.d.). The dance film created for this study, acting as an intentional form of movement, is processed by the viewer's ability to possess kinesthetic empathy. This was observed in the study by asking participants if they recognized any gesture(s) in the dance film that are performed in everyday life (see Appendix B). One hundred percent of the participants answered yes (Walker 2024). This demonstrates the presence of "motor-based understanding" (Reynolds and Reason 21). Kinesthetic empathy is possible through mirror systems which simulate movements, like a gesture, within the individual. Motor simulations are stored within the person and are coded with associations from the person's life, therefore

embedding the movement with meaning. In another part of the survey, participants were asked if the film made them think of any experience in their life. 85.7% answered yes, demonstrating the presence of kinesthetic empathy and the first half of intersubjectivity (Walker 2024).

The second half of intersubjectivity reaches beyond the "subjective" and involves the "ability to take on the perspective of another person… recognizing that others have their own thoughts, feelings, and beliefs, separate from our own" (ProActive Approaches n.d.). This aspect of intersubjectivity is demonstrated through the question that asked participants if the dance film made them think of an experience they have heard of from another person's life. 93% of people answered yes, which is more than the number of people who said the film made them think of an aspect of their own life (Walker 2024). These responses show the presence of intersubjectivity within those who view dance. Intersubjectivity is "recognizing the subjective experiences and perspectives of others" and this allows for empathy to take form (ProActive Approaches n.d.).

The formation of intersubjectivity through movement observation shows the inherent value held within dance performance. Concert dance "demonstrate(s) the many ways in which the dancing body in its kinesthetic specificity formulates an appeal to viewers to be apprehended and felt, encouraging them to participate collectively in discovering the communal basis of their experience" (Foster 218). Kinesthetic stimulus is information that when processed by a viewer, can form empathy. Empathy is the binder that can connect people whether perspectives match each other or the artistic intent. The job of concert dance is to suggest concepts for the viewer to process, and that is where its role in forming meaning ends. From there, it is the process of kinesthetic empathy that takes over. The science of kinesthetic empathy tells us that "meaning" is held within the perception of each observer. Each individual forms truth informed by their experiences. Feedback is a tool that assists in synthesizing these perspectives demonstrating

intersubjectivity and empathy. Utilizing feedback post dance performance is not a new concept, but this research positions feedback within the context of kinesthetic empathy and asserts the two as deeply connected to one another. An expanded creative life cycle for a dance work, with the addition of audience feedback, acknowledges the role viewers have in forming meaning through kinesthetic empathy, which supports the facilitation of intersubjectivity resulting in empathy.

Appendix A

Link to dance film

https://www.youtube.com/watch?v=lqjBcMgUfHg

Appendix B

The Intersection of Kinesthetic Empathy and Observation in Concert Dance Performance Survey

Survey questions:

1. Informed consent information

Choices: I agree to be in this study or I don't want to be in this study

2. Select TWO words that best represent your reaction to this film.

Choices: anger, fear, surprise, disgust, happiness, sadness

3. Did you recognize any gesture(s) that are performed in everyday life?

Choices: yes or no

4. If yes, please provide a few examples that resonated with you and share why this might be.
5. Did this work make you think of any experience in your life?

Choices: yes or no

6. What are FIVE words that describe the above experience (using adjectives).

7. Did this work make you think of an experience you have heard of from another person in your life?

Choices: yes or no

8. Did the film make you think differently about any topic, idea, or experience?
9. In one sentence, describe what you think the choreographer's intent was for this work?
10. Did you at any point feel worried or concerned for the dancer?

Choices: yes or no

11. Expanding on your answer to the previous question: why or why not?

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