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## VISUAL & PERFORMING ARTS | RESEARCH ARTICLE

# Kinesthetic empathic witnessing in relation to embodied and extended cognition in inclusive dance audiences

Vipavinee Artpradid<sup>1\*</sup>

**Abstract:** This paper explores the connection between kinesthetic empathy, embodied cognition, and abstract thought and language as a form of extended cognition in audiences of inclusive dance. The exploration grounds itself in the analysis of primary data collected from interviews with audience members of an inclusive dance performance that studied their critical engagement with the concept of disability. Drawn from the interviews are specific choreographic moments and emotions evoked in those audience members, and associates the choreography and emotions with possible experiences of kinesthetic empathy and ways of understanding ability and disability in the context of dance. The analysis contributes to a greater understanding of the impact that takes place when watching inclusive dance performances, and other dance performances that resist or challenge dominant social identity categories. The research contributes to the reduction of the intrinsic instrumental divide in creative work, expanding the spaces into which cultural value can be considered.

**Subjects:** Anthropology - Soc Sci; Disability Studies Sociology; Theatre & Performance Studies

**Keywords:** kinesthetic empathy; embodied cognition; extended cognition; disability; audiences

## 1. Background

### 1.1. Reasoning and terminology

The aim of this paper is to clarify the relationship between kinesthetic empathy in audience experiences of watching dance, the processes of embodied cognition in audiences, and the manifestation of that experience of kinesthetic empathy and embodied cognition. These processes are extended in the form of expression through speech and utterances during interviews as part of audience engagement research.

## ABOUT THE AUTHOR

Vipavinee Artpradid is an Assistant Professor at the Centre for Dance Research (C-DaRE), Coventry University. She recently published a short article exploring integration and inclusion in dance in *Routledge Companion to Audiences and the Performing Arts* (Routledge, 2022). Her Ph.D. was titled "Dance, disability, and the pluralistic audience: A phenomenographic engagement". Her main research interests are the application of embodied research methodologies to social change approaches and diversity, equity, and inclusion practice and policies.

Kinesthetic empathy is the experience of “a re-living or an epistemological placing of ourselves ‘inside’ another’s kinesthetic experience” (Parviainen 2003, 152), or in more basic terms, moving with the person whose movements you are watching. “Epistemological placing” or empathy can also be understood as a form of knowing (Stein, 1989). The concept of embodied cognition broadly suggests that “abstract thought and language [are] grounded in interactions between mind, body, and world” (Foglia & Wilson, 2013), particularly in circumstances where thought and language are recorded as data in qualitative research and audience engagement research using technological devices. In this sense, cognition is also extended, “that is, memory may be stored outside of the brain” (Zlotnik & Vansintjan, 2019, 1).

An additional angle to cognition as being extended refers to language providing a means of “extending our cognitive reach” (Dove, 2014, 371), where “new symbolic abilities emerge through the sensorimotor activities associated with language, enabling it to function not only as a medium of communication but also as a medium of thought” (371). In the context of this research, the “new symbolic abilities” can refer to expanded or alternative ways of understanding the phenomenon known as disability.

Before going into the discussion specific to my research into audiences of the dance work *Face In*, it may be helpful to consider critiques of the role of the body and brain cells called “mirror neurons” in experiences of kinesthetic empathy.

In the approach proposed by this paper, kinesthetic empathy would fall under the range of “ways in which the body plays a role in shaping cognition” (Gallagher, 2018, 354). There are theorists who prefer to take a “body in the brain” (Berlucchi and Aglioti 1997) approach. While these theorists use the term “embodied”, they reason that it is “‘body-formatted’ representations in the brain [that do] most of the work” (Gallagher, 2018, 355), suggesting a focus on the brain over the body. According to Goldman (2012, 73), these body-formatted neural representations “represent states of the subject’s own body ... from an internal perspective”. However, given that kinesthetic empathy involves the perception of bodily movement, which in embodied theorist Prinz’s (2009, 420) reasoning would be “a representation and process that that represents or responds to the body”, the centrality of the brain does not take away the vital role of the body. In fact, that centrality reinforces the importance of both bodies—the body that is perceived, and the body that is perceiving.

“Mirror neurons are a type of brain cell that respond equally when we perform an action and when we witness someone else perform the same action” (Winerman, 2005). Given its definition, it would be reasonable to see a relationship between kinesthetic empathy and the proposed role of mirror neurons in cognition. The proposition is that these brain cells respond when we observe someone else move. Gallese et al., (1996) have been influential in proposing that it is mirror neurons that provide us with “the capacity to recognize that an individual is performing an action, to differentiate this action from others analogous to it, and to use this information in order to act appropriately” (606). This capacity is also known as “action understanding” (Rizzolatti et al., 2001). Hickok (2009) raises “eight problems for the mirror neuron theory of action understanding”, which include the lack of evidence in monkeys (Point 1), that humans have not been conclusively proven to possess mirror neurons (Point 4), and that “action understanding can be achieved via non-mirror neuron mechanisms” (Point 2). Hickok further goes on to point out that “a motor representation cannot distinguish between the range of possible meanings associated with such an action” (Conclusion). In the context of this paper, Hickok’s point raises the question, “If an action can have a range of meanings, how can audience researchers be certain that the meaning that the audience member says they associate with a specific movement or motor representation is actually directly associated with that movement?” The discussion would return to Meekums (2012) point about how verbalisation cannot provide the whole experience—that verbalisation can only offer a representation of experience, “and as such words may remain an inadequate representation of the kinds of knowledge that arise through the moving body” (55). It is for this

reason that in an ideal scenario, embodied responses would be combined with verbalised responses to give an understanding that is as much as possible, *moving in the direction of completeness*. The value of the awareness of the non-completeness of audience responses that are received can inform the design of audience engagement questions and tools for data collection.

For example, audience engagement research design can consider affect, which is “a short term, spontaneously raised feeling or emotional state of high intensity and associated with distinct expressive behavior” (Fletcher, 2019, 8). “Affect is the collective term for describing *feeling states* like emotions and moods” (Niven, 2012). Taking into account “how we feel what we see” (Rubidge, 2010) when we watch an artistic form such as dance, as well as “the strength of non-representational thought ... and the power of affect” (Ibid.) would take researchers’ studies of embodied responses in that desired direction of completeness.

At this point, we return to the relationship between kinesthetic empathy, embodied cognition, and the manifestation of that experience of kinesthetic empathy and embodied cognition in audiences. The chronological succession or simultaneity of these experiences is not the focal point of this paper. When viewed as a holistic process, embodiment plays a constitutive role in audiences’ critical engagement of socially constructed concepts that arise from the dance work, such as “disability” when watching performances by disabled dance artists. Unpacking this layered process bridges the gap between the performance of dance and critical engagement of those performances by dance audiences. The main implication of more clearly articulating this relationship is in providing corporeal evidence of the link between watching dance and what audiences say about being affected by a dance work. The evidence closes the intrinsic and instrumental divide in the *raison d’être* of creative work and the gap between producers and consumers of creative work, expanding the spaces into which cultural value can be considered. Cultural value in this sense refers to the various components that inform decisions made by funding bodies, such as the Arts and Humanities Research Council (UK), on what programming and activities are culturally valuable enough to provide funding for in the arts (Crossick & Kaszynska, 2016, 6). Evidencing the impact of performances thus extends into the “methodologies and the evidence that might be used to evaluate these components of cultural value” (Ibid.).

The first section of this paper will consist of a theoretical discussion connecting the concepts of kinesthetic empathy, embodied cognition, embedded cognition, and speech. The second part will draw from data collected from audiences interviewed as part of my PhD research (see [Author] 2020) to provide examples of possible associations between choreographic moments, experiences of kinesthetic empathy, emotions, and speaking about those moments. Thus, I will not be discussing the research methodology used in my PhD research as it would take away from the theoretical focus of this paper. The examples serve to support the theoretical discussion that precede them. However, appropriate informed consent was obtained from all participants of that research, which includes the use of their anonymized data in subsequent research papers related to that project.

The need for the clarification of this process arose as I conducted a phenomenographic audience engagement data collection and analysis as part of my PhD research on variation in audiences’ understanding of the phenomenon of disability in their experience of watching live dance that was performed by disabled artists (henceforth known as inclusive dance). The qualitative nature of the research design meant that the data was collected through interviews. Transcriptions of those interviews formed the basis of the analyses. This meant that the work was entirely dependent on utterances, speech, and verbal and typed words. I have since considered how such a dependency on language in qualitative research surrounding as embodied an artform as dance might be balanced out through considerations of the role of the being present in one’s body in such experiences. The term “body” in this sense is beyond its literal sense—it serves “as a metaphor for the ways that social factors shape physical mores, experience, and expression” (Elliott, 2007, 9).

Of note are the variations in terminology that share a space—but are not the same—to kinesthetic empathy. These include “embodied resonance” (Gallese & Sinigaglia, 2018), “embodied affectivity” (Fuchs & Koch, 2014), “intercorporeality” (Merleau-Ponty, 1964) “motoric resonance” (Rova, 2017), “relational embodied experiences” (Rova, 2017), “embodied perspective taking” (Best, 2005; Parker & Best, 2005), “kinesthetic intersubjectivity” (Allegranti 2015, Samaritter and Payne 2013), “corporeal semiotics” (Sheets-Johnstone, 2019), and “movement as metaphor” (Meekums, 2012). The nuances within these terms may offer the study of kinesthetic empathy within the field of dance an expanded vocabulary with which to refer to the phenomenon. Of note are the aspects of experience of interest that are shared between these concepts across the field of dance, movement, embodied practice, somatic practice, and cognitive science that have been developed to explain experiences where embodiment, cognition, movement, and the environment are deeply intertwined and inseparable.

A key concept that provides an explanation for the connection between kinesthetic empathy, embodied cognition, and speech, is a concept widely discussed in cognitive science, that of enactivism, and that cognition is enacted. “Enactivism ... entails that cognition is both ‘embodied’ (realized, enacted, or “brought forth” not just by the brain but by the whole organism) and ‘embedded’ (realised by the organism in interaction with the environment)” (Colombetti, 2020, 571–572). To use Colombetti’s terms in the context of kinesthetic empathy, the latter is both “brought forth ... by the whole organism” and “realised by” the audience member “interacting with the environment”, that is, when watching the performance. As Maturana and Varela (1987) summarise, “All doing is knowing, and all knowing is doing” (26), and kinesthetic empathy as a form of embodied and embedded cognition rooted in the experiences of the body of the viewer can be understood as a form of “doing”. The next section briefly discusses the notion of kinesthetic empathy when watching dance, linking kinesthetic empathy to the experience of witnessing, which adds an additional layer to watching and empathy.

## **2. Kinesthetic empathy and kinesthetic empathic witnessing when watching dance**

In basic terms, kinesthetic empathy is the experience of moving with the person whose movements you are watching. Some fields involving the watching of movement where kinesthetic empathy has been theorised and empirically researched to be present include creative and cultural practices (Reason & Reynolds, 2012) such as dance (Parviainen 2003, Reason & Reynolds, 2010), theatre (Grant, 2017), and visual arts (Knoth, 2012; Miyoshi, 2019), and film (D’Aloia, 2012; Donaldson, 2012), to name a few. In her research within the context of Dance Movement Psychotherapy (DMP), Meekums (2012) recognises mirroring as form of kinesthetic empathy, where an “answering movement in similar forms” (Chaiklin & Schmais, 1986, 27) is harnessed as a way to bring participating individuals closer, which in Meekums’ case was the therapist and the client. The notion of empathy here which means “sharing the essence of all non-verbal expression” (27) can be applied to the kinesthetic empathy experienced by audiences when watching dance as well. However, in addition to the “kinesthetic empathic engagement” (Meekums, 2012, 57) that takes place in DMP, the act of kinesthetically empathising with dance artists whose works address, challenge, question, or change a social issue can be understood as a kind of “kinesthetic empathic witnessing”, with witnessing understood as an attentive, aware, and conscious “attending” to another’s movement through the act of viewing or observing.

Providing more nuance to the process of witnessing, Felman and Laub (1992) have described witnessing as a result of the intersubjective relationship between speaker/analyst and listener/analyst—which I will adapt to the context of artist and audience as “artist/analyst” and “viewer/analyst”—where the artist brings unintentionally, intentionally, or unavoidably to their being, presence, and expression, the constructs and concepts of a particular social issue. The movement and performance enables the issue to be offered in the form of a movement narrative or externalization that might be too deep to arrive at an understanding of. In viewing and engaging the artist, the viewer/analyst is offered the opportunity to engage with the constructs, concepts, or social issue in their own experience, forming a core part of the process of witnessing. Their own

experience about a social issue, is of course, informed by their social and cultural background, as well as the society/societies within which they live and operate. Thus, the individual that bears witness is not someone who simply moves knowledge around, but they must engage with it within themselves, how they respond, and within everything that has happened to them. Bearing witness to the phenomenon known as disability in the context of inclusive dance is a specific kind of witnessing—one that is experienced through kinesthetic empathy, and thus is a form of viewing that is embodied. It is a corporeally involved way of watching that may open an entryway into a space of inquiry and critical engagement of those constructs, concepts, and social issues. This notion of witnessing forms a crucial link between the corporeal experience of empathy and the cognitive inquiry that is triggered through the embodied nature of the audiencing experience.

### **2.1. Kinesthetic empathy in relation to cognition that is embodied**

If kinesthetic empathy involves “the sensation of moving whilst watching movement, where the viewer can sense, as Ivar Hagendoorn points out, the “speed, effort, and changing body configuration” of the dancer, as if performing the movement themselves (Wood, 2015, 1), kinesthetic empathic *witnessing* has the potential to position the body “as a place of learning and experience” (Perry & Medina, 2011, 62) through watching movement. This is because engaging the constructs, concepts, or social issue(s) addressed in the viewer’s own experience is a key part of witnessing. Researchers in the fields of dance and movement have established both forms of knowing (Beardall, 2017; Nyberg & Meckbach, 2017; Sheets-Johnstone, 2019). If kinesthetic empathy is a form a movement whilst watching someone else move, is it not then a form of knowing as well? This embodied experience and knowing through the body can be shared with others through speech and utterance. However, as Meekums notes of the incomplete nature of verbalisation —“like movement metaphor, is also an attempt to symbolise experience, and as such words may remain an inadequate representation of the kinds of knowledge that arise through the moving body” (2012, 55). It is for this reason that in an ideal scenario, embodied responses would be combined with verbalised responses to give an understanding that is as much as possible, moving in the direction of completeness.

### **2.2. Kinesthetic empathy in relation to critical engagement in audiences**

The main issue that needs to be addressed is whether or not there exists evidence of kinesthetic empathy (and how kinesthetic empathy is captured), where the viewer sensing the movements of the dancer, as if experiencing the movements themselves (Wood, 2015). As my audience engagement research did not involve EEG tests to measure neurological activity between performer and audience, I cannot refer to neuroscientific aspects of the process. However, research into kinesthetic empathy in the area of Dance and Movement Psychotherapy (DMP) has provided evidence that experiences of kinesthetic empathy can be empirically captured by measuring oscillations of an EEG rhythm known as Mu—which are associated with mirror neuron system activation<sup>1</sup>—and also further “language” by the participants (Rova, 2017, 168).<sup>2</sup> The “language” of experiences of kinesthetic empathy is given clarity in the following point about the difference in “motoric resonance”<sup>3</sup>—“the perception of another’s actions and sensory experiences produces brain activity very similar to what would be observed if we’d perform the same actions and make the same experiences ourselves” (Social Interaction and Motivation Lab n.d.)—between participants who are experienced movers and those who are non-experienced movers:

“This variability in different participants’ motoric resonance, before the intervention, was echoed in the way they *language* their empathic responses. For example, experienced movers used a more specialised movement vocabulary to describe their relational embodied experiences compared to non-experienced movers.” (Rova, 2017, 168-169)

The purpose of highlighting Rova’s observation about the movement vocabulary used by experienced and non-experienced movers about their relational embodied experiences is to illustrate that such relational embodied experiences can be described, albeit using a range of vocabulary.

### 2.3. *Choreographic moments, emotions, and kinesthetic empathy*

In my research exploring variation in ways of understanding the phenomenon known as disability in audiences of Candoco Dance Company's *Face In* (Artpradid, 2020), I did not directly ask audiences to describe their experiences of kinesthetic empathy or kinesthetic empathic witnessing multiple. However, the focal points in some utterances from audiences illustrated a potential association between experiences of kinesthetic empathy whilst watching the dance artists and critical engagement of the construct of disability. The source of kinesthetic empathy was identified through moments identified by the audience member in which the choreography was linked to the emergence of emotions.

The relationship between intersubjectivity and emotions has been explored by multiple researchers (Agarwal, 2021, Koch & Fischman, 2011, Gallese, 2001 and 2003, amongst others). Gallese's *shared manifold hypothesis* of intersubjectivity (2003) explains that "when we enter in relation with others there is a multiplicity of states that we share with them ... We share emotions, our body schema, our being subject to pain as well as to other somatic sensations" (44). Gallese further categorises three levels upon which intersubjectivity is shared, namely (my interpretation is in parentheses) the phenomenological (experiential-observation), functional (physical modelling-action), and subpersonal (neural mirroring) levels. Supporting the hypothesis with existing empirical research by Hutchison et al. (1999), Calder et al. (2000), and Jarvilehto (2000), Gallese summarises the multi-state sharing in the following way—"the representation and understanding of the observed behaviour of others is made possible through a simulation mechanism that matches action observation and execution onto the same neural substrate" (45). This summary links the experience of viewing with kinesthetic empathy and the shared emotional experience in kinesthetic empathy via neural mirroring.

As I have yet to conduct empirical research into motor neuron system (MNS) activation in audience members of the specific performances, the approach I am taking in this analysis is the verbalised association that the audience members make between dancers' movements and the audience members' own emotions. If indeed viewers of dance experience similar movements to the performers that they are watching, there is a possibility that the relationship between the dancers' movements, the audience member's experience of kinesthetic empathy, and the audience members' emotions at particular moments of the performance can be explored.

Further, Sheets-Johnstone (1999) has provided a structured discussion on the groundedness of emotions in a "neuromuscular dynamic" (262), complementing empirical studies of emotions by Jacobson (1929, 1967, 1970), Darwin (1872/1965), Bull (1951), Joseph (1977) with her own research that provides a

"phenomenological elucidation of the fundamentally qualitative structure of movement ... [where movement is] a structure that grounds the relationship between movement and emotion in a qualitative dynamics and formal dynamic congruency [such that] motion and emotion—kinetic and affective bodies—are of a dynamic piece" (260).

Sheets-Johnstone illustrates the "dynamic congruency" (269) between emotion and motion using language-based excerpts of the experience of movement through phenomenological-style descriptions or "kinetic accounts" (1999, 269) of walking and of running with fear. Through these she shows the relationship between emotion and movement through word-based accounts.<sup>4</sup> As such, emotions are a form of "qualitatively experienced temporality" (259)—a felt experience that takes place in a particular place and time. Audiences' linguistic utterances about those experiences of emotions thus provides an extended, verbalised version of the qualitatively experienced temporalities—namely the potential experience of kinesthetic empathy—which can then be captured via audio-visual means and interpreted.

With the connection between kinesthetic empathy, emotion-triggering moments in a performance, and speaking about these experiences established, the following section focuses

on the complexity of embodiment in the context of audience experience and cognition—and thus critical engagement with the socially constructed concept of disability.

#### **2.4. Embodiment in the context of audience experience and cognition**

Recognising the relationship between cognition—language in relation to cognition—and embodiment, Bergen et al., (2014, 12) lay out the different definitions of embodiment that are used in cognitive linguistics which are relevant to my interest in the intermeshing of concepts, locating embodiment in phenomenographic audience engagement research.<sup>5</sup>

One definition that stands out in terms of encapsulating the nuances of the relationship between cognition and embodiment—and one that is able to identify that vital link between the kinesthetic empathy experienced in audience members and shifts in their understanding between variations of conceptions (ways of understanding) towards particular phenomenon—such as disability—is Lakoff and Johnson's:

In an embodied mind, it is conceivable that the same neural system engaged in perception (or in bodily movement) plays a central role in conception. That is, the very mechanisms responsible for perception, movements, and object manipulation could be responsible for conceptualization and reasoning. (Lakoff & Johnson, 1999, 38)

Lakoff and Johnson recognise that perception, movement, and “conceptualization and reasoning” share “the same neural system”. When a system is shared, the parts are inextricably linked—as would the nutrient and energy cycles in an ecosystem or as would the ear, nose, and throat which practically function as one unit. To clarify the connection between kinesthetic empathy and conceptualization, the following definition of kinesthetic empathy elaborated within the context of watching dance is useful:

Kinesthetic empathy can be loosely defined as the sensation of moving whilst watching movement, where the viewer can sense, as Ivar Hagendoorn points out, the “speed, effort, and changing body configuration” of the dancer, as if performing the movement themselves (Wood, 2015, 1)

If movement shares the same neural system as perception (watching/audiencing) and conceptualization and reasoning, the experience of a form of empathy that is akin to “performing the movement themselves” is also part of that neural system and is connected to movement between conceptions in an outcome space. Therefore, embodied cognition—and cognitive embodiment—offers a way to understand the space where kinesthetic empathy and movement as knowing and learning (where learning is defined in phenomenography as a shift in or change in awareness of conceptions of a phenomenon) takes place. The resulting concepts would be kinesthetic empathy based cognition and kinesthetic empathy based cognitive embodiment.

In their research exploring how “both physical and psychological embodiment of metaphors for creativity promoted convergent thinking and divergent thinking ... in problem solving”, Leung et al. (2012) present “evidence that embodiment can also activate cognitive processes that facilitate the generation of new ideas and connections” (502) based on findings from five research projects. They engaged embodiment in two ways—hard embodiment and soft embodiment. Of the five studies in relation to these two types of embodiment, they explain that the first three studies “focused on the embodiment of metaphors for creativity through actual bodily movement”, whilst studies four and five were based on the hypothesis that “mentally embodying metaphors for creativity by imagining bodily motions would have effects similar to those of physically enacting such metaphors ... [Thus] embodied cognition can also be derived from the psychological representation of the body interacting with the world” (Leung et al., 2012, Study 3) In more basic terms, if an individual can see it in their mind, they can enact it in the world.



Following this line of reasoning, in watching dance where phenomena that have socially constructed conceptualizations created around them are engaged in a way that challenges, resists, troubles, or interrogates those conceptualizations, the experience of embodiment of that challenging, resisting, troubling, or interrogation through the dance artists via kinesthetic empathy (as a kind of movement as knowledge) “activates cognitive processes that [can] facilitate the generation of new ideas and connections” (Ibid.). Thus, audience engagement research creates the opportunity for audience members to express and describe that experience.

The following section provides examples of *potential* experiences of kinesthetic empathy based on dancers’ movements and the choreography, as linked to emotions, which are then associated with the embodied cognition involved in critical engagement with particular ideas, lines of thought, or concepts.

### 3. Analysis of emotion-triggering points in interviews with audiences of candoco dance company’s *Face In*

The following dialogue comes from the experience of Respondent 1 (R) and R2. They discuss a sequence where one of the dancers in a duet takes the end of one of the sleeves of the jacket of the other dancer with her teeth, bites down on the sleeve, and starts pulling away with force and guttural growls and barking sounds. They bring up a combination of “biting”, of the sticking out of tongues, and of facial expressions, “picked up animal imagery” which leads to a questioning of whether the dance artists were exploring the animal side of their humanity and relationship through physicality, parody, or extremes/exaggeration of disability to shock the audience. Consider the flow between specific movements and the emergence of emotions:

*Interviewer [I]:* What emotions did it evoke?

*R:* Well, I said there was sort of loving between the two females, you said more tenderness, didn’t you?

*R2:* But that was offset with the biting and the ...

*R:* And the tongues, the facial expressions.

*R2:* I picked up the animal imagery but we weren’t quite sure whether they were exploring the animal side- the physicality or ... a parody

*R:* Or extremes of disability almost to shock us perhaps or almost exaggerating some aspects of some disabilities. Like you said parody, didn’t you?

*R2:* I mean, one of the things we like a lot, and it’s about what the company’s about really, isn’t it, is the way the movement works with able-bodied [sic] and people with disabilities and how fluid that is and how [simple?] it is.

In this dialogue, the components of the qualitatively experienced temporality could be laid out as follows:

*[movement] Biting (tongues and facial expression) → grounding structure for the relationship between movement and emotion → [emotion] loving offset by the animal imagery of the biting*

Note that in the process of talking about that qualitatively experienced temporality, the audience members make connections with concepts significant to them in relation to that temporality, that is, the “physicality” or “a parody [of disability] by “showing extremes of disability” or “exaggerating some aspects of some disabilities”. This can be associated with the embodied and enactive cognition that potentially takes place in relation to the experience of kinesthetic empathy.

In another audience member's experience, a category of movement—that is, “interaction between the dancers ... able-bodied and disabled”—was the source of expressing “it's just so beautiful the way they were able to sort of work off each other”. This connected to a critical engagement with the equality of support and strength from both dance artists involved. There is the suggestion that the audience member expected the support to be weighted on one of the dancers. But it was not. There are two sequences in the choreography of *Face In* to which the audience member could have been referring. The first sequence involves the dance artist who uses a wheelchair bending over in his wheelchair to create a flat surface with his back and supports another dancer by allowing her to sit—balancing—on his upper back. The second sequence involves a dance artist standing on both thighs of the dance artist who uses a wheelchair, holding each other's right hand as they both lean back into a moving frame of balanced weights.

I don't know if it was anything specific, but I really enjoyed the interaction between the dancers, the sort of able-bodied and disabled- it's just so beautiful the way they were able to sort of work off each other. And not that the able-bodied dancer was supporting, it was both ways and just sort of completely using that amazing strength where you're just like, how are you doing that- I don't know how you're doing that. I don't know ... To me it was almost like the two sides of a conscious thought.

What is particularly significant about this audience member's response is that they make the very literal link to “conscious thought”, that is, “To me it was almost like the two sides of a conscious thought”. There is critical engagement with the mechanics of the movement, an experience of dissonance with the expectation of who should be the supporter and who should be the person being supported, and dissonance with the unexpected equality of support between both dancers.

In the following response, the audience member speaks of a feeling of fascination. Fascination can be considered an emotion in the sense that the experience of fascination has been described as “a very active encounter with an evaluation of the object” (Chorell, 2021, 250) to the extent that it is a “[moment] of total absorption, even submission to these works of art” (249). This audience member speaks of another category of movement, that is, the movements that involve balancing and counterbalancing of body weight between dancers.

D'you know what I find really fascinating, was, because, the dance that I have done, so much of it is about your body's weight and balance so I was really fascinated by if your body must be slightly balanced weight-wise, how perhaps you have to counter that as a dancer? I just found that really interesting because so much of how you move when you're dancing is about your balance and your placement. You know, you use right to the end of your fingers for your balance, so how that changes, I think, yeah, that was fascinating.

There is a critical engagement with their understanding of balance and dance, involving a cross-comparison between the audience member's own experience of balance in dance and a questioning of how that countering would take place. Speaking specifically about using “right to the end of your fingers for balance” suggests a twinning of their experience with that of the dancers when performing movements involving balance.

The term critical engagement extends further into the cognition around the social and cultural practices of which audience members are a part. This includes variation in ways of understanding the phenomenon known as disability. Johnson and Lakoff and Johnson (1980) “propose that our conceptual systems are fundamentally metaphorical and embodied, and linked with cultural value” (Meekums, 2012, 53). A good example of the relationship between world view and embodied expression is in a study on gestures in relation to the culturally specific metaphorisation of time by Núñez and Sweetser (2006). They found that Western cultures always gesture towards the back when referring to the past, whilst the Aymara of the South American highlands made such gestures towards the space in front of the speaker (435). This is because they believe that the future is behind the ego and the past is in front of the ego (401). Black (2011) emphasises that

“[although] each of us has the same capacity for hand use based on musculoskeletal structure and physiology, the choice and meaning of hand usage and activity are unique to the individual and influenced by sociocultural values, beliefs, and expectations” (104).

Audience awareness of the variation in—or even possibility of variation in—social and cultural embodied expressions is helpful in their own critical engagement with a performance. Such an awareness applies critical pedagogy to audiencing practices. It refers to experiences of recognition and questioning of, and resistance to social, cultural, political meanings, structures, institutions, and practices that may reinforce oppressive, prejudiced, and discriminatory values and views in response to viewing or participating in a creative work. Experiences of kinesthetic empathic witnessing bring about this questioning with and through the body. The questioning can then be articulated through linguistic forms. The following audience member shares their experience of dissonance through their own body and through expectations of bodies in society and dance. They initially highlight the expected physicality—“all four limbs”—and then in response to their audiencing of the performance, they state they “stop seeing it”. The “stop seeing it” in this case refers to identifying dancers with “all four limbs” and dancers who do not have “all four limbs”. Through the experience of coming to “not see it”, the audience member’s understanding of the concepts associated with the phenomena of bodies and ability was brought to the fore for critical engagement.

After ... somewhere into the performance, I couldn’t remember ... I was like, how many people have all four limbs, and how many don’t in the company? I can’t remember because you stop seeing it. After you’ve seen everyone in the company being on the stage, leaving the stage, coming back on, then it all gets a blur because you sort of stop seeing it. And the extension of that, the auxiliary to that. The term able-bodied really stops meaning sort of very much after a while because you just start seeing these bodies and a lot of these extremely able bodies. All of them were very able bodies, whether or not all four limbs or in a wheelchair or not. They’re more able than most people.

This example brings the discussion to the corporeal nature of concepts in relation to “ability”—“able-bodiedness”, that is—and “disability”. It also raises considerations of how embodied these concepts are within the viewers’ own bodies. The embodiedness and embeddedness of concepts extends into individuals’ identities, behaviours, and utterances.

Spatz (2018) describes the significance of embodiment, with embodiment (note, not the body) as “the first site at which the dialogue between agency and materiality takes place ... Embodiment in this sense is a teeming, lively thing ... more than the body but less than a full ecology.” (Spatz, 2018, 148). Linking embodiment to cognition, Varela et al. (1991, 173) use the term “embodied” in cognition to emphasize “that cognition depends upon the kinds of experience that come from having a body with various sensorimotor capacities” and “that these individual sensorimotor capacities are themselves embedded in a more encompassing biological, psychological, and cultural context” (Shapiro, 2010, 52). This would suggest that if the concept of disability that embeds itself in our “biological, psychological, and cultural” bodies and actions is cultivatable, (un) learnable, and (re)generatable, its understanding and manifestation can be changed through kinesthetic empathic witnessing.

I have illustrated in the examples above how the potential association between kinesthetic empathic witnessing, cognition being embodied, and the experience of embodiment being cognitive—thinking through the body—creates a pathway for audiences watching inclusive dance to extend their cognition by critically engaging the social constructs and ways of understanding around the phenomenon known as disability.

#### 4. Future research and implications

While the existing data that I have does not provide a data platform from which to identify specific occurrences of kinesthetic empathic witnessing, future research would either ask audiences

directly to describe their experiences of “moving with” the dance artist whom they were watching or employ empirical research into motor neuron system (MNS) activation using functional brain imaging (fMRI) throughout the time that audience members are watching a performance. A study of MNS activation would show “sensorimotor neurons that fire both during the execution of purposeful, goal-related actions [by an individual] and when [the individual] observes similar actions performed by another agent” (Pacherie, 2018, 380). These moment-specific—and therefore movement or choreography specific—measurements could then be compared with audience members’ descriptions of emotions and thinking associated to specific moments of movement and choreography.

This theoretically oriented paper draws from empirical research conducted in my earlier research on variation in ways of understanding disability in audiences of an inclusive dance performance. It offers an approach to capturing corporeal evidence of the link between watching dance and what audiences say about the way they understand phenomena and concepts in relation to that dance work.

Positioning embodiment as an integral part of critical audience engagement research narrows the intrinsic and instrumental value divide in the arts. It does so by removing the pressure from artists to make their work instrumental to increase the likelihood that funding bodies and venues will consider their work as offering more “value”. The discussion also provides a theoretical contribution to closing the gap between producers and consumers of creative work, highlighting how producers of the work can develop a better understanding of the impact of and how people consume their work.

Being able to identify an association between kinesthetic empathy and embodied cognition expands the notion of cultural value. It does so by showing the relationship between watching an inclusive dance performance and the generation of variation in the way the phenomenon known as disability is understood can be evidenced. Providing an approach to making more tangible the possibility of variation creates a wider space within which artists’ work can be considered for funded, which increases the chances of works being funded.

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#### Notes

1. The oscillations are agitated when movement is being processed, which is linked to activation of the somatosensory cortex, which is “said to be an index of mirror neuron system (MNS) activation” (Rova, 2017: 166).
2. In her neuroscientific, practice-based, and phenomenological research investigating kinaesthetic empathy,

Rova identified six components of the phenomenon and developed four “kinaesthetic stories”. These six components form the Wheel of Kinaesthetic Empathy. They are kinetic attunement, mirroring, familiarity, intersubjectivity, socio-political dynamics, and embodied knowing (Rova, 2017: 167).—The four kinaesthetic stories were (i) the knowing body, (ii) the performance journey, (iii) inter-connectedness and (iv) being moved’ (167)—based on performer and audiences’ post-show reflections.

3. “Motor resonance (MR) is the activation of matching motor representations during observation of action(s) made by others” (Hogeveen & Obhi, 2012: 2984).
4. She also makes the significant distinction that “[an] emotion may thus be corporeally experienced, on the one hand, even though it is not carried forth into movement, and it may be mimed, on the other hand, but not actually experienced.” (Sheets-Johnstone, 1999: 270)
5. There is a shift, however, from audience engagement to audience reception research as it “focuses on processes involved in the reception of an artform and the resultant experience as reflection” (Wood, 2015: Section “Approach”).

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