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DANCING IN TIME

Aili Bresnahan

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This chapter will analyze the experience and, in particular the conscious experience, of dancing in time from the perspective of the trained dancer *while performing*. The focus is thus on the experience and consciousness of a dancer who is moving her body in time rather than on the experience of a seated audience member or dance appreciator who is watching a dancer move. The question of how temporality is experienced in dance by the appreciator will therefore not be addressed here. The primary kind of “experience” that will be the focus of my discussion of temporal experience comes from classical pragmatists William James, Charles Sanders Peirce, and John Dewey, for whom experience is “a series of purposive bodily activities immersed in the ongoing flow of organism-environment interactions” (Johnson 2006: 48). The mind-body engaged in this experience, according to the pragmatists, is one that is sensate to its environmental stimuli and interactions while acting within it. Both Peirce and Dewey, for example, view the person as a “psycho-physical” organism – one that is conscious of both qualitative experiences such as feelings towards the environment (attraction, repulsion, and the like) as well as physical sensations (see Peirce 1998/1892: 263 and Dewey 2008/1925: 229). James acknowledges that we are aware of qualitative aspects of our experience such as sensations of difference or change (see James 1950/1890a: 495). My account of the experience of dancing in time will also include conscious aspects of this experience (what-it-feels-like-to-the-dancer herself) as well as any sensorimotor pre-conscious or

non-conscious processes of which she is not aware by virtue of her bodily engagement with the world (cf. Maurice Merleau-Ponty 2008/1945: 235-239).

In short, the experience of dancing to be addressed here takes place in both the dancer's consciousness of it and in the temporal and spatial parameters that have been set for the dancing. It is thus not strictly analogous to the sort of consciousness involved in other sorts of bodily experiences where there are no such explicit parameters (e.g., taking a walk without a clear destination or route in mind and without any time limitations). In addition, dancing is a thinking-while-doing process that involves the sort of temporal consciousness that is itself either both thoroughly embodied and spatial in an integrated way or in which embodied and spatial experiences occur concurrently. The hope here is that analyzing the experience and consciousness of temporality while dancing will be useful for those who are interested in understanding the full range of temporal experience, including the sort of experience that thinkers engage in while active and moving in a structured way.

To what extent temporal experience while dancing is inextricably bound up with, accompanies, depends on, supervenes on, or forms the base or floor of physical and spatial experience will be left to specialists in philosophy of mind, psychology, neuroscience, and cognitive science to articulate. The sections that follow will just take the first step of explaining how the temporal experience of dancing arises with spatial and bodily movement experience, and take some steps towards analyzing how it appears in and in relation to the dancer's subjective consciousness.

How Dancers' Training to Dance in Time affects their Temporal Consciousness

When a dancer steps into a ballet class and takes a position at the barre his experience of dance is already spatially located. When he begins to move through space this spatiality is explored in a more particularly embodied way, through his toe's movement across the floor or through his leg's extension from one place to another. This takes place within a duration of time that is set for the movement and that the dancer must comply with in order to meet the requirements of the classroom exercise. Both temporal and spatial factors are focused on during this movement, as there is a duration and area that is set for it. Sondra Horton Fraleigh points out that that for the dancer "[m]ovement, space, and time are only abstractions until they are embodied" (1987: 182). Thus the dancer's consciousness of time and space arises with and is influenced by his dynamic and embodied experience, and this is one of interacting with the world outside of himself.

Most dance classes involve dancing on the beat of either melodic or percussive music, which is either played by a live musical accompanist or on a sound system from a recording. Dancers are typically trained to count the beats of music in sets of 8. To begin, a dance instructor may start with "And..." or "5-6-7-8..." with the dancers beginning their exercises on the downbeat right after that. This starting point shows how integral the temporality of music is to the dancer's process of learning to move in time. A dancer's movement limits, at least at first and for a large portion of her training, thus have thoroughly temporal parameters. If the dancers are struggling with completing the steps in musical time, if they are unable to accent each beat with the appropriate movement, the music or beat may be slowed down until the dancers can accomplish the movements with the requisite speed. In any event, dancers learn where the beats and limits of the musical

phrases are, and how to stay within (or to violate, whether intentionally or not) those parameters.

Dances made for performance are usually not quite this conventional in aligning movements to the temporal parameters of music. Here a dancer may accent a beat or arrive early or late for a musical cue for certain artistic and stylistic effects. Doing this intentionally and skillfully, however, still requires a dancer to know where and what the temporal parameters of the music are. A dancer's physical movement training, then, and any accompanying consciousness that arises as a result of this training, is often inherently connected to musical tempo, a certain kind of temporality.

Some dancers, particularly in contemporary dance, may train without music (using breath, foot or body impacts for the beat, for example) or to less beat-driven music, but even here there is usually some sort of time parameter that emerges. In addition, timing of movements and rests may be set by the choreographer for performance or left open or more variable (as in improvisational dance). Dancers may also experience the temporal parameters of moving in synchronization with or in conjunction with other dancers. Dancers rehearsing and training together for extended periods of time will also experience “a palpable sense of anticipation, synchrony, or ‘felt time’” (Stevens et al. 2009: 451).

In general, fast tempos require what dancers call “attack” and energy in the movements. For a movement to be quicker in tempo a dancer might need either a smaller movement or a greater amount of force behind the movement (so that a bigger jump or leg movement, for example, can span a larger amount of space more quickly). In all cases

a dancer's movements occur in space and what is needed to traverse the available or designated space is essential for a dancer to know in order to be in time.

Once a dancer has trained to do certain movements in a certain tempo his body and brain become accustomed to that tempo and the movements become easier to perform. Performing repeated longer-duration movements that allow for greater extension, for example, make it easier and easier for the dancer to perform those movements. In general, thorough dance training will include both *lento* or *adagio* (slower), and *andante* or *allegro* (faster) movements so that a dancer will end up with a body that can perform both fast and slow movements well. Some dancers, however, have a greater capacity for faster or slower physical motion by virtue of their training, their individual body type and genetic makeup, or all three. (Some people are better suited for long-distance running and some fare better with sprinting for similar reasons.)

What happens as a result of this training is that a dancer often learns to *feel* (physically and often consciously) what it would be like to perform the same movement in variable time durations, such as performing a sequence of turns in either a three-second or one-second duration. If the music's tempo changes mid-dance the trained dancer can usually adjust accordingly and still be "on the music" as long as the movement to the new tempo is within her physical repertoire. A dancer who wishes to dance with music, then, needs to be able to hear (among other things) the temporality in music. She also needs to be able to navigate the available space in accordance with the musical and other temporal parameters. (For more on how this is done in contemporary dance see Stevens et al. 2009.)

Thus dancing in time requires the dancer to both focus on and to have a deep understanding of how her own body can move physically in both time and space. The dancer's experience of time is therefore either inherently spatial or occurs in close congruence with her experience of space. (For a theory that movement thoroughly integrates time and space together see Fraleigh 1987, particularly chpt. 10.) As mentioned earlier, this physical-spatial awareness is a precondition for fitting within a prescribed temporality. A dancer may need to shorten the height of a jump if it needs to fit within a quick time period – or she may allow it to soar but then have to adjust the rest of the phrase to catch up. This is true whenever there is a particular beat or note or part of the music on which the sequence must stop. If a conductor of a live orchestra is asked to follow the dancer's timing lead then the dancer needs to know this (and usually does) ahead of time. In either case, though, the temporal-spatiality of the movement must be fully understood by the dancer or her movements will be “off,” which means that they are out of sync with the spatio-temporal parameters of the choreography and performance space. Thus in the initial stages of creating or performing a particular dance, a dancer needs to be conscious of what Fraleigh calls the moving “time-space” of a dance (1987: 179 and 183-184). Once she has performed the same dance numerous times, however, she can move within the correct parameters in a faster way and need not be as reflectively conscious of particular temporal and spatial markers.

Bettina Bläsing et al. confirm the account provided above, noting that the dancer's ability to synchronize her movements with others' or to the music is an essential part of dance performance (2012: 302). They point to a study by Honisch et al. (2009) focused on temporal accuracy in ballet movement. Here the results showed that expert ballet

dancers (as opposed to novices) had greater accuracy synchronizing the dynamics of their movements to both temporal markers and to others' movements. A trained dancer, for example, is better able to either perform a movement at a particular temporal point in the music, or after, before, or with the movement of one or more other dancers (which itself may or may not be temporally guided by the parameters of the dance). This demonstrates that a dancer's timing skills are affected by motor experience and training with particular movements. "In addition," Bläsing et al. point out, expert "dancers' anticipation of target positions may enable faster detection and rapid adjustment to errors that may be performed by other dancers" (2012: 303; see further Washburn et al. 2014). What this shows is that expert dancers are better able to both synchronize their movements with temporal and other parameters in the present moment and are better able to use their ability to make on-the-fly adjustments during performance based on knowing which position in the dance will arrive next.

For the dancer this understanding feels bodily, or what Maxine Sheets-Johnstone would call part of a "kinesthetic consciousness" that is highly subjective and in which "the streaming present is a dynamic flux that we experience *qualitatively*," by which she means with an awareness of features such as grace, tension, energy, or beauty as perceived by the dancer both consciously and through bodily feelings and sensorimotor responses (2011:131). It is within this qualitative experience that Sheets-Johnstone says that temporality arises for dancers (ibid.). Dancers move first, and through movement come to be conscious of time and space – through how it feels to us as our bodies move through it (see Sheets-Johnstone, 2011:139).¹ In addition, this kinesthetic, bodily, motor awareness includes what dancers, musicians, athletes, and others often term "muscle

memory” – over time it can occur without the sort of conscious direction or thought that involves planning first and movement second, the way one can physically manipulate a combination lock or drive to a particular destination without knowing at which numbers one should stop or how to map the trip (see Sudnow 1979 and 2002, Bläsing 2010: 82-83, and Bresnahan 2014 for more on how this entrained mind-body capacity is at the heart of improvisation and live performance of many kinds).

To sum up our conclusions thus far, the dancer’s consciousness and experience of dancing in time includes qualitative conscious and kinesthetic awareness. It is also embodied in a sensate, physical vehicle that is simultaneously moving through and inhabiting space. Temporal consciousness and experience does not arise for dancers in isolation from its embodied and spatial experience. This chapter will now connect this idea of dancers’ moving, embodied, and temporal-spatial consciousness to one line of thinking in the philosophy of temporal consciousness, which can be traced from William James to Antonio Damasio and Marc Wittmann, in order to see what fits and what still remains to be explored.

Dancing Within (and Beyond) the Specious Present

William James provides an account of consciousness in which thought, among other things, is personal, sensibly continuous, and appears to deal with objects independent of itself (1950/1890a: 225). He also notes that when we are engaged in thinking we are not always aware of the fact that we are thinking (1950/1890a: 275-276). Thus thought itself need not be self-conscious even though it is a self that is doing the thinking.

Further, James considers consciousness to be something that occurs in a stream in which the future and present move into the past so continuously that we are aware that the present is something that “*must* exist, but that it *does* exist can never be a fact in our immediate experience” (1950/1890a: 608-609). He uses the term “specious present,” which he says he has borrowed from E. R. Clay, to characterize this phenomenon, quoting him at length:

The present to which the datum refers is really a part of the past—a recent past—delusively given as being a time that intervenes between the past and the future. Let it be named the specious present, and let the past, that is given as being the past, be known as the obvious past. All the notes of a bar of a song seem to the listener to be contained in the present. All the changes of place of a meteor seem to the beholder to be contained in the present. At the instant of the termination of such series, no part of the time measured by them seems to be a past (1950/1890a: 609; see also Anderson 2014: 290, who observes that E. R. Clay is a mistaken attribution and that the actual author is E. Robert Kelly).

James later characterizes the specious present as a “duration-block” that makes us aware of a succession lasting from a few seconds to not more than a minute in which one part is perceived as earlier and one as later (1950/1890a: 642). This does not, however, mean that we are not also aware of moments as they pass. James says that we perceive time through our awareness of change, that “we tell it off in pulses. We say ‘now! now! now!’

or we count ‘more! more! more!’ as we feel it bud” (1950/1890a: 620). In addition, when the experience is over, we can remember and keep in mind the successions of “nows” and use them to inform our current conscious awareness, as when a trained and practiced musical performer plays a piece from memory with ease (see James 1950/1890a: 117 on habit). This squares well with the consciousness and experience of the dancer while dancing in performance.

The expert dancer who is moving in time has both the memory of the past and the imagination of the future. She experiences in consciousness the step she has just taken and anticipates the one she will take next. As noted earlier, this is part of her ability to synchronize her movements with the temporal and spatial parameters of the dance as well as with the other dancers. (See Bläsing 2010 on memory in trained dancers and Bläsing et al. 2012 for how expertise in dance allows for heightened imagination of future movement. See also Stevens et al. 2009 and Stevens et al. 2011 for how contextual factors such as music affect dancers’ long-term memory.) This is similar to the phenomenon that James noticed with trained musicians, where he describes the “*acquired aptitudes*” that he says are due both to memory and to “the guiding sensations derived from the muscles themselves” (1950/1890a: 117, quoting Carpenter 1874: 217). Thus James has set the stage for the later studies in entrained motor abilities that are informally called “muscle memory”.

It is true both that a dancer’s memory and consciousness can contain a whole dance, while dancing, and that the dancer is extremely and excruciatingly aware of passing from one step or movement to the next in both time and in space. The moment she is in *at the moment* is made vivid by the physical sensations of dance – the twinge of

a toe in a pointe shoe or the feel of a thigh muscle as the dancer calibrates the landing from a jump. It is this physicality, among other things, that marks the temporal moments as significant for the dancer and they come forward in her consciousness *as* moments and she feels them as part of a whole dance. In addition, thinking-while-dancing takes place in an ever-changing present of which she is aware even while it is constantly changing, even if this is specious rather than the precise dividing line between future and past. This is particularly true during dance improvisations or in improvisational moments of a set dance. Sheets-Johnstone points out, for example, that thinking-while-dancing takes place “within the experience of an ongoing present” rather than as a pre-danced plan that the dancer then executes (1981: 401). (For more on this point see Merritt 2015: 106-107.)

Of course, the dancer’s moving through time and space together makes it difficult to determine what is coming forward into the dancer’s consciousness as the experience of time and what as the experience of space. James thinks that time, for example, is necessarily ordered (and, indeed, that this is what music is about), but that space need not have any order in it at all (1950/1890b: 145 and footnote). For a dancer moving in time from point A to point B on the stage, however, space has marks that are ordered in time (he will try to hit point A at temporal musical marker X, for example, and point B at temporal music marker Y). This makes the dancer’s experience of space an ordered one even if what orders it is temporality. It also makes the dancer’s experience of time feel and seem spatial.

James does acknowledge that movement helps perception of space. “A fly is sitting unnoticed,” he points out, “—we feel it the moment it crawls. A shadow may be too faint to be perceived. As soon as it moves, however, we see it” (1950/1890b: 174).

Indeed, James says with emphasis that “*in the education of spatial discrimination the motions of impressions across sensory surfaces must have been the principle agent in breaking up our consciousness of the surfaces into a consciousness of their parts*” (1950/1890b: 175). He also acknowledges that perception of space occurs in a sensory, bodily way that includes not just vision but tactile perception via the muscles, the skin and the joints (1950/1890b: 176 and 268). Again, though, for the dancer who experiences space and time together while moving to music, the movement through space feels as if he is simultaneously moving through the music as well. It may be the case that the feeling of moving in music (while hearing it and feeling its rhythmic vibrations through the body) is thus an experience of time and space that is so integrated that it seems artificial to say that the experience of dancing to music is *either temporal or spatial or* even that two separate things are happening together. What this means is that to the dancer they arise in consciousness as one singular and fused process. Therefore, it is not clear what to make of the fact that James treats “the perception of time” and “the perception of space” in two separate and so-named chapters in *The Principles of Psychology* (chpts XV and XX respectively). Perhaps he would acknowledge that felt and lived experience does fuse processes together in consciousness that can be treated discretely for the purposes of philosophical analysis even though they are not discrete in experience. This would be one broadly pragmatist way of handling this apparent disjunction between the dancer’s experience and subjective consciousness, and James’ treatment of the consciousness of time and space as separate. Indeed, there are other instances of temporal-spatial fusing in experience of which James was probably aware. For example, a deaf person may feel music’s temporality through the floor (some deaf dancers have reported feeling the beat

through their bare feet) rather than perceiving it via their ears in sound in a way that seems not all that different from how James says that a blind person perceives space through a sort of “locomotor feeling” (1950/1890b: 207). Thus there is a bodily aspect of the experience of perceiving both time and space that adds to the analysis of how time shows up for the dancer in consciousness that seems at least consistent with James’ philosophy of the consciousness and experience of space, even though James didn’t connect time and space together explicitly.

In *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* Antonio Damasio provides a theory of how emotion is bodily and how much of what occurs at this bodily level happens before we are conscious of it. He does not address dance, specifically, or temporal experience, but this section will now mine his idea of how consciousness works in order to show how his account is consistent with James’. In short, his view affirms that it is possible for a dancer to be both conscious of the experience of dancing in time in the present (even if it is of a specious rather than actual present) and contain the consciousness of the dance in all its physical, spatial, and temporal aspects, as a whole.

Damasio uses the example of a performer stepping into the light after a door to the stage opens as a metaphor for consciousness (1999: 3). What he is trying to capture with this metaphor is “the sense of a self in the act of knowing” (11). A person dancing in time is precisely that – a conscious, embodied agent who is acting in time and space (see *ibid*: 145 and 148 for his account of consciousness as part of agency; see Montero 2016, chpt. 2, for an account of expert cognition-in-action; see Bresnahan 2014 and Merritt 2015 for more on conscious agency in dance). Dancing in time involves the sort of

consciousness that is a self in the act of knowing what he has been trained to know – how to move so that he meets the temporal, spatial, and other parameters of the dance. A dancer thus follows the rules of dancing the dance “as it comes into being at this particular moment at this particular place” (Sheet-Johnstone 1981: 399).

Damasio attributes the elements that occur automatically in the present (and the moment just before) to what he calls the “core consciousness,” a biological function of human beings that includes no memory, reasoning, or language, and that remains stable throughout a person’s lifetime (1999: 16 and 195). The core consciousness is the basic biological substrate upon which other forms of more complex consciousness operate (ibid.). This level of consciousness is shared with animals, according to Damasio – it is not trained, culturally influenced, or part of any expertise or acquired aptitudes. For trained expertise, a developed cultural understanding and knowledge, and for language, memory, imagination and everything else that makes human expert action and creativity possible Damasio says that one needs to make recourse to the “extended consciousness,” an awareness that extends forwards and backwards over a longer duration of time, that has multiple levels of complexity, and that changes and grows across a person’s lifetime (1999: 16-17).

Although the time duration of what the core consciousness can apprehend is similar to James’ consciousness of the specious present the two are not identical. James did not, for example, divide consciousness into the biologically base (core) and culturally developed (extended) forms that Damasio does. In general, though, Damasio claims that the properties of James’ view of consciousness – being selective, continuous, personal,

and related to objects other than itself – are evident in both core and extended forms of consciousness (1999: 126 and endnote 4 at 346).

A more significant difference between the two views arises when we consider the trained aptitude of performing dance at issue in this chapter. Damasio, like James, uses a musical performance reference that we can adopt for dance purposes. “It may be helpful to think of the behavior of an organism as the performance of an orchestral piece whose [sic] score is being invented as it goes along,” Damasio says, where “the behavior of an organism is the result of several biological systems performing concurrently” (1999: 87). Here it seems clear that Damasio would agree that *both* core and extended consciousnesses are at work simultaneously – the core consciousness is noting basics such as “the concurrent stacking of musical parts” and the extended consciousness is evaluating “mental streams of images” that connect these to “an orchestral score in the private mind” (88). In James there is similar multi-layering: We are aware of both the specious present (in James it is not clear if this is culturally rich or biologically basic because he does not make that distinction) and can use memory, past training, and imagination to inform the ease and quality of the performance.

We can now add Damasio to our list of implicit supporters for our claim that a dancer can both be aware of the moment while dancing as well as have a consciousness of what has just taken place and what is to come. The dancer maintains the whole dance in his mind’s eye and sensorimotor system and develops a skilled and bodily consciousness as a dancer that may last for the entire duration of his dance life. The reason these core and extended forms of consciousness are possible is that they are tied to the repository of a self that has what Damasio would call genomic components

(biological attributes) and cultural ones that are developed over time as the human self encounters and learns from his environment (see Damasio 1999: 228-229; see also the distinction between natural and artistic style in Bresnahan 2014). There is more than one “self” for Damasio – a core, an autobiographic, and a proto-self, but this essay holds that there is just one self with various aspects and capacities (see Damasio 1999: 174 for more on this).

Thus dancing in time involves at least two aspects of a self from which consciousness springs and these two can exist together without contradiction. Dancing in time involves an acting self who is both a biological person who is dancing and a trained *dancer* who can encompass the entirety of a dance in her consciousness and alter her planned movements to fit the contingencies of what may be a changing temporal flow – the tempo of music played by a live orchestra let us say. In conclusion, then, both forms of consciousness (core and extended) are derived from the experience of dancing in time. It involves the dancer’s ability to both think and move on-the-fly, to use her memory of previous experiences of dancing in time, and to use her imagination of what to do in the future.

In an essay entitled “Embodied Time: The Experience of Time, the Body, and the Self” Marc Wittmann has a view that fits with that of both James’ and Damasio’s above. He claims that “[t]he bodily self, the continuous visceral and proprioceptive input from the body, which is a basis for our mental self, is the functional anchor of phenomenal experience” (2014: 512; see also Damasio 1999: 153). Curiously, Wittmann does not believe that time is a property of the external world but is instead part of a “mental construct” (512-513). Despite this, he claims that “[s]ubjective time emerges through (or

is bound to) the existence of self across time as an enduring and embodied entity” (ibid.). Wittmann uses the example of tapping one’s finger to a regular beat as an example of the capacity that we have to integrate bodily movement in a way that “defines the present moment in experience” but notes that we can only do this with short intervals of time between beats (514). And yet he acknowledges that we can learn to match “the duration of external events with interoceptive afferent activity” (our internal neuronal processes), which begs the question of what this “duration of external events” is if there is not a sort of temporality that exists in the world outside of ourselves (see 516).

We turn now to where the account of dancing in time developed thus far fits within the standard terminology used in the temporal consciousness literature.

A Broadly Retentional Model of Subjective Consciousness

James, Damasio, and Wittmann all have views that fit to some extent with what is known as “the Retentional model” of temporal consciousness in the sense that they treat experience that represents extended intervals of time as showing up for us in at least some cases in moments of consciousness that are not themselves extended (see Dainton 2014: section 1 and Wittmann 2011: 1). In *The Principles of Psychology*, for example, James acknowledges that even the feeling of past time is a present feeling (1950/1890a: 627-631). This evidences a focus on the sort consciousness that is separable from the initial event (the past time) that has taken place, which he likens to “a sort of *perspective projection* of past objects upon present consciousness, similar to that of wide landscapes upon a camera screen” (1950/1890a: 630). James also says, however, that we can register *actual* duration-blocks in our consciousness, which seems to suggest that the content of

our consciousness has some sort of matching relationship with duration-blocks as they occur in the world outside of consciousness or that it can match them or make room for them at times. If by “actual” he means that the outside world can and does match our phenomenological consciousness of it in some ways then it suggests that his view of consciousness is one that might be friendly to an *inheritance* view in which our subjective consciousness can sometimes inherit temporal properties of experience itself but that need not do so in all cases or for all experiential objects (see Phillips 2014 for more on the inheritance view).

Damasio declares his view to be consistent with James’, as well as with the views of Locke, Brentano, Kant, and Freud, who he says “...believed as I do that consciousness is ‘an inner sense’” (1999: 126). He clarifies in an extended endnote that by this he means that “[c]onsciousness pertains to objects other than itself. There is an object, on the one hand, and there is consciousness of the object, on the other, separable from it although clearly related to it” (346). Damasio’s example of the musician complying with the temporality of an orchestral score and Wittmann’s finger-tapping example demonstrate that this relationship can be adjusted and fine-tuned – that our consciousness can adapt to certain kinds of external parameters. Remember too that on Damasio’s view core and extended consciousnesses can operate in a multi-layered way at the same time. In that same endnote he says that as complex organisms we can engage perceptually with the outside world, produce “internally recalled images,” or do both at once (ibid.). This sounds very much like a contemporary analogue of James’ past feeling recalled in the present moment.

As we have seen, the dancer while dancing is often aware of the “now!” of experience in a way that appears to extend beyond the non-experienced and mathematically precise instant in which “now!” actually occurs. This fits with the Retentionalist approach. The performing dancer is also engaged in matching her movements to temporal and spatial parameters as they take place, with an unfolding of consciousness that has to adjust in order to do this accurately. Here some sort of inheritance from the world outside of her own consciousness may also be taking place, but this suggestion is offered merely as a speculative possibility that would require further work to articulate and to support.

Conclusion

In conclusion, the trained dancer’s consciousness and experience of dancing in time in performance has sensorimotor, kinesthetic, and spatial aspects. The dancer’s body, with all its sensory awarenesses and neuromuscular sensations of moving, is a large component of her experience of time either in conjunction with or combined with her experience of space. While dancing certain moments are marked in her conscious awareness by both the perception of change and by the feeling of hitting a mark in a temporal parameter that is linked to a physical movement and a spatial location. This is conscious in the sense that she is aware of this “now,” in a least a specious present and a core consciousness way, even if she is not conscious of the mathematical present as experiential. In addition, her extended consciousness remembers, anticipates, and imagines where she has just been, where she is now, and where she is going. She can thus incorporate the entire dance in her self-aware consciousness. The performing dancer’s

trained ability to synchronize her movements with external temporal, spatial and other parameters as a performing dancer seems to also suggest that the dancer's consciousness can be trained to match extended and external events. Indeed, it is only after numerous attempts to synchronize her movements with external temporal parameters, failing, and noticing the failure of congruence that the dancer becomes better able through practice and trial and error to dance in time. Thus dancing in time in performance introduces a kind of thinking-while-doing that involves acquired and developed aptitudes, sensorimotor skills, kinesthetic awareness, and coordination with external temporal and spatial parameters and persons. It also provides evidence of a phenomenon that might make use of more than one aspect of consciousness.

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ⁱ Here Sheets-Johnstone is developing a dance-centered account of consciousness based on the body-first theory of consciousness put forth by Merleau-Ponty 2008/1945.