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“Perceiving Live Improvisation in the Performing Arts” by Aili Bresnahan

I. Introduction

This chapter will explore the ways that live improvisational performances by professional-level actors, musicians, and dancers (who I accept as experts in their respective domains) take place at both cognitive and sub-cognitive levels in ways that are relevant for understanding perception and appreciation of the performing arts. First, evidence from cognitive science will be used to show that we often process visual stimulus at the same time or slightly later than when we prepare the body for action. What this means is that improvising, as in a dance or a music jam session or a scene in theatre, may involve physical responses that occur before we are conscious of the event to which we are responding. Second, this chapter will demonstrate how understanding these cognitive processes of the performers can help audience members to pinpoint why live improvisational performances have aesthetic value. The properties that create aesthetic value include the aesthetic qualities of immediacy and “being in the now,” as well as other qualities that provide emotional and intellectual pleasure and satisfaction. Next, this understanding of the performative process of improvisation by audience members will serve to introduce a consideration of the extent to which critical appreciation involves the enrichment and supplementation of perceptual experience with interpretive practice. Like the improvising performing artist, the audience member, too, has cognitive processes that occur before conscious articulation of what they have perceived. It is only after a self-reflective and conscious process of considering what they have perceived and experienced in live performance that a critical appreciator can provide a critical analysis of the performance. This means that evaluative

judgments of live improvisation in the arts, like the improvisatory decisions that are made by the performers in the performances that they are judging, are not made at the purely perceptual level.

Let us begin by a discussion of how perception and proprioception work together in the motor action of performing artists engaged in live improvisation.

II. Perception and Proprioception in Motor Action

One of the ways that our bodies prepare for motor action is via proprioception, which can be roughly defined as our internal sense of where our bodies are located and positioned in space.¹ For purposes of this chapter I will use the term *proprioception*, following James Gibson, to describe internal experiences of the body that may rely on but that are not solely limited to experiences of the environment outside of the body.² As such, proprioception is not identical to perception, which is more commonly defined as limited to experiences of the outside environment.³ Proprioception, however, usually accompanies perception in motor action, as will be described more fully below.

We can either be consciously aware of our proprioception or it can operate at a level below our conscious awareness. This is true of perception as well. For example, we can choose to focus our vision on a flowering tree, in an attitude where we consciously hone in on the tree,

1. See Ellen Fridland, "The Case for Proprioception," *Phenomenology and the Cognitive Sciences* 10, no. 4 (Dec. 2011): 523.

2. See James J. Gibson, "A Theory of Direct Visual Perception" in *Vision and Mind: Selected Readings in the Philosophy of Perception*, edited by Alva Noë and Evan Thompson (Cambridge, MA: MIT Press, 2002), 77-78.

3. Gibson, 78. Cf. Ellen Fridland, "The Case for Proprioception," *Phenomenology and the Cognitive Sciences* 10, no. 4 (Dec. 2011): 521-540, who argues that proprioception is a form of perception.

or we can just orient ourselves towards the world in a way that includes the tree as part of our sensory field at large. Maurice Merleau-Ponty provides this example:

If I wish to enclose myself in one of my senses and, for example, I project myself entirely into my eyes and abandon myself to the blue of the sky, soon I am no longer aware of gazing and, at just the moment I wanted to give myself over to vision entirely, the sky ceases to be a “visual perception” in order to become my current world. Sensory experience is unstable and wholly unknown to natural perception, which is accomplished with our entire body all at once and opens onto an inter-sensory world. Like the experience of the sensible quality, the experience of isolated “senses” takes place only within an abnormal attitude...⁴

“Seeing,” then, can be cognitive awareness of seeing something specific, although it need not be in every case. At the heart of all perception, for Merleau-Ponty and for many philosophers of mind and cognitive scientists in his wake, is motor action – a body oriented and interacting with the world, with the agentive person one who is not separable from their body (as the captain of a ship is separate from the ship) but a necessary part of this body – a moving-thinking-doing live organism (we are more like a whale, perhaps, than like a captain of a ship).⁵

We can think of proprioception in a similar vein. British neuroscientist, Karl J. Friston, has this account of how perception and proprioception work together in motor action, as quoted by philosopher of mind, Andy Clark:

In motor systems error signals [incoming signals that do not match our predictions of what we will encounter in the environment] self-suppress, not through neuronally mediated effects, but by eliciting movements that change bottom-up proprioceptive and sensory input. This unifying perspective on perception and action suggests that action is both perceived and caused by its perception.⁶

4. Maurice Merleau-Ponty, *Phenomenology of Perception*, translated by Donald A. Landes, London and New York: Routledge, 2014 (originally published in 1945), 234 (271).

5. See, e.g., Alva Noë, *Action in Perception*, 2, Cambridge, MA: MIT Press, 2004, who treats perception “as a species of skilled bodily activity.”

6. Andy Clark, “Whatever Next? Predictive Brains, Situated Agents, and the Future of Cognitive Science,” *Behavioral and Brain Sciences* 36, no. 3 (2013): 186, quoting Karl J.

A dancer, for example, can be consciously aware of taking no more than three small turns towards the edge of the stage to avoid falling over the edge, a decision that would entail conscious processing. During the course of these turns, however, they will also be using unconscious proprioception to maintain and fine-tune their balance. And in the case of noticing the edge of the stage it is usually the case (except perhaps in the case of the vision-impaired dancer or if the dance takes place in utter darkness) that their vision aids their proprioception in avoiding danger.⁷

An additional wrinkle is that after many, many performances of focusing on three small edge-avoiding turns, the turns become so habitual that part of their operation becomes unconscious, even if the dancer is still directing some of what occurs on the conscious level.⁸ This happens because, as Benjamin Libet and his colleagues discovered in the 1980s, there is a neuroscientific basis for the idea that we plan and start to execute movements unconsciously before we are aware that we have “decided” to do them.⁹ Neuroscience has thus corroborated the

Friston, “Learning and Inference in the Brain,” *Neural Networks* 16, no. 9 (2003): 1349; bracketed material mine but it provides a shortened paraphrase of Clark’s discussion at 181-185.

7. See discussion of perceptual adaptation and the role of proprioception and vision in Noë, *Action in Perception*, 93-95, and 100. See also Bence Nanay’s discussion of action-oriented perception in “Perception, Action, and Identification in the Theater,” in *Staging Philosophy: Intersections of Theater, Performance and Philosophy*, edited by David Krasner and David Z. Saltz, Ann Arbor: The University of Michigan Press, 2009, 246-249.

8. For an interesting debate over to what extent expert or “esoteric” rather than everyday or “ubiquitous” motor action is “automatic” (Hubert Dreyfus 2007), marked by conscious directed thought (Barbara Montero 2010), or “spontaneous,” which can include “instructional nudges” (his own view) see Joshua A. Bergamin, “Being-in-the-Flow: Expert Coping as Beyond Both Thought and Automaticity,” *Phenomenology and the Cognitive Sciences* 16 (2017): 403-412.

9. Benjamin Libet et al., “Time of Conscious Intention to Act in Relation to Onset of Cerebral Activity (Readiness-Potential): The Unconscious Initiation of a Freely Voluntary Act,” *Brain* 106 (1983): 623-642. Patrick Haggard and Martin Eimer have corroborated this research in

earlier account of intentional motor action given by Maurice Merleau-Ponty nearly forty years earlier. “When I motion to my friend to approach,” Merleau-Ponty explains,

my intention is not a thought that I could have produced within myself in advance, nor do I perceive the signal in my body. I signal across the world; I signal over there, where my friend is. The distance that separates us and his consent or refusal are immediately read in my gesture. There is not first a perception followed by a movement, the perception and the movement form a system that is a modified whole. If, for example, I realize that my friend does not want to obey, and if I thereby modify my gesture, we do not have here two distinct conscious acts. Rather, I see my partner’s resistance, and my impatient gesture emerges from this situation, without any interposed thought.¹⁰

Shaun Gallagher, a “4e” philosopher of mind (one who believes that the mind is embodied, extended, enactive, and embedded), whose work builds on that of Merleau-Ponty, has a similar account of how motor action is prepared via pre-conscious awareness, pointing out that “we’ve known for a long time that anticipatory processes are hugely important for perception and action.”¹¹ He notes that work in predictive coding accounts for this in neuronal terms:

There is general agreement that the process is a hierarchical one involving synaptic inhibition based on an empirical prior – something that depends on the organism’s previous experience and context-sensitive learning. This means that specific neural networks, currently in a particular state because the organism has previously encountered a particular stimulus or environment, or has a particular history, determine ongoing processes that lead to top-down synaptic inhibition (a modulation of connections) anticipating further processing consistent with prior processing. Such inhibitory patterns constitute a prediction which is then matched against ongoing sensory input. If there is a mismatch, i.e., if the new stimulus generates a different firing pattern than the one anticipated, prediction errors are

“On the Relation Between Brain Potentials and the Awareness of Voluntary Movements,” *Experimental Brain Research* 126 (1999): 128–133, as have Michel Desmurget and Angela Sirigu in “A Parietal-Premotor Network for Movement Intention and Motor Awareness,” *Trends in Cognitive Sciences* 13, no. 10 (2009): 411–419.

10. Merleau-Ponty, *Phenomenology of Perception*, 113 (141).

11. Shaun Gallagher, “Making Enactivism Even More Embodied,” *AVANT V*, no. 2 (2014): 240. For a corroboratory account of “action-oriented predictive processing” see Andy Clark, “Whatever Next? Predictive Brains, Situated Agents, and the Future of Cognitive Science,” *Behavioral and Brain Sciences* 36, no. 3 (2013): 185–186.

sent back up the line and the system adjusts dynamically back and forth until there is a relatively good fit. So on the predictive coding model, this or something like this is going on when we perceive the world.

If that's the case, if these are the kinds of things that are happening in the brain, it's not clear that we need to think of it as a kind of inference rather than a kind of dynamic adjustment process in which the brain, *as part of and along with the larger organism*, settles into the right kind of attunement with the environment—an environment that is physical but also social and cultural.¹²

An example from driving can be used here to flesh out this idea a bit more. We can drive a familiar route home, for example, without necessarily focusing consciously on where and how to take each turn. Indeed, we may hit the brakes when a car in front of us stops unexpectedly (to avoid hitting a child, say) and only realize after we have stopped what has occurred.¹³ This is particularly likely to occur where the actions require split-second processing that does not allow time for conscious decision-making and planning. Someone who has to make a conscious decision to hit a brake or wait to recognize that they have seen the child in the road before hitting the brake is far more likely to get into an accident. This is why experience in common car-related motor actions is necessary to drive a car safely and why experienced motorists get into fewer accidents than do novices. Indeed, highly skilled motor actors (who may not have just experience but excellence in the domain at issue – such as professional racecar drivers or the performing artists at issue here) can rely on unconscious neural processes that regulate simpler physical tasks *while also* focusing on more complex, higher-level tasks (such as expressive nuances in artistic

12. Gallagher, “Making Enactivism Even More Embodied,” 241. Note here that he cites Jelle Bruineberg and Erik Rietveld. “Self-organization, Free Energy Minimization, and Optimal Grip on a Field of Affordances,” *Frontiers in Human Neuroscience* (12 August 2014), <https://doi.org/10.3389/fnhum.2014.00599>, for this last claim that environmental affordances include social and cultural affordances.

13. In “The Case for Proprioception,” 527, Fridland provides a similar example from Fred Dretske of the sort of minimal consciousness required by driving.

performance) because these latter tasks require working memory and direction.¹⁴ This is where live improvisation in professional-level performing arts comes in.¹⁵

One common misconception about improvisation is that it is entirely spontaneous *ad hoc* activity. In fact, nothing could be further from the truth.¹⁶ A professional-level artist who is making and doing something for audience appreciation, whether there are aspects of their activity that are newly improvised or not (those aspects that make the performance or part of it “improvisation”), embodies a complex set of bodily, perceptual, and cognitive motor schemas for action that have been trained along the pathways necessary for expertise in their art(s). These “schemas” include the *body schema*, “the prereflective, automatic, and sensorimotor ‘know how’ that the body possesses in familiar action.”¹⁷ This “body,” following Merleau-Ponty, is not a puppet-like object to be manipulated by a thinking brain but “the power for a certain world.”¹⁸

Antonio Damasio’s view that a live organism’s behavior is a multi-levelled operation that involves several concurrent biological processes assists this account by explaining how it is that

14. See Juan Pablo Bermúdez’ “attention-control” account of skillful motor actions as relying on both automatic and reflective processes in a dual-levelled way in “Do We Reflect While Performing Skillful Actions? Automaticity, Control, and the Perils of Distraction.” *Philosophical Psychology* 30, no. 7 (2017): 900-901. See also Bergamin, “Being-in-The-Flow,” 410. Cf. Barbara Gail Montero’s discussion of what she calls “the just-do-it principle” versus her choice of “cognition-in-action”, *Thought in Action: Expertise and the Conscious Mind*, 32-40, Oxford: Oxford University Press, 2016.

15. See Aili Bresnahan, “Improvisation in the Arts,” *Philosophy Compass* 9, no. 10 (September 2015): 573 for improvisation in the arts in general and 576-577 for an account of improvisation in the performing arts.

16. For a further discussion of this claim see Bresnahan, “Improvisation in the Arts,” 574.

17. Michele Merritt, “Thinking-is-Moving: Dance, Agency, and a Radically Enactive Mind,” *Phenomenology and Cognitive Science* 14 (2015): 98. Cf. Merleau-Ponty, *Phenomenology of Perception*, 100-103 (127-130).

18. Merleau-Ponty, *Phenomenology of Perception*, 109 (137).

we can both know that we are acting, as in the course of improvising, and yet not cognize every part of our performance. “It may be helpful to think of the behavior of an organism as the performance of an orchestral piece,” Damasio points out, “whose [sic] score is being invented as it goes along.”¹⁹ Joshua Bergamin’s discussion of the experience of performing music corroborates this idea. Jazz soloists, he points out, have active decisions that “presuppose a ‘smooth, almost automatic’ use of their instrument.”²⁰ He further notes that “expert musicians cope smoothly in performances while their minds focus on different thoughts that may or may not be relevant to their playing, with one informant describing the experience as like having ‘two tracks running’.”²¹

Thus, an actor, musician, or dancer who is improvising, whether an entirely new piece or a section or portion of a performance, can rely on many of the trained tricks of the trade – such as projecting one’s voice or executing a step or playing a note – in an unconscious way while focusing on new embellishments.²² These embellishments may include where to add a humorous aside while reading set lines in a play, for example, a musical rhythm change for expressive purposes, or an extra moment of suspended “hold” in a dance jump. Any actions that become

19. Antonio Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*, San Diego: Harcourt, Inc., 1999, 87.

20. Bergamin, “Being-in-the-Flow,” 410, quoting Pike 1974 at 94, n. 6.

21. Bergamin, “Being-in-the-Flow,” 401, quoting Høffding 2014 at 65; cf. 58.

22. See Charles J. Limb and Allen R. Brain, “Neural Substrates of Spontaneous Musical Performance: An fMRI Study of Jazz Improvisation,” *PLoS ONE* 3, no. 2 (February 2008): 3, and Eckhart Altenmüller, “Focal Dystonia: Advances in Brain Imaging and Understanding of Fine Motor Control in Musicians” in *Hand Clinics* 19, no. 3 (August 2003): 523-538.

habitual parts of a performer's unconscious repertoire, that become automatic motor schemas or programs, will rely less on vision and other sensory perception accordingly.²³

An artist can also become an expert on improvising within an artistic performance domain due to habitual rehearsal and practice in similar, even if not identical, performance contexts because they can rely on modes of performance they have employed before. In this case, such an artist has a motor schema (a body-brain-performance-environment habit of action in a live performance context) that I think of as an *artistic schema* because of the importance of the artistic context of this training.²⁴ As established by Bruineberg and Rietveld, social and cultural influences such as artistic practices do, indeed, affect us as part of the environmental affordances upon which our “brain as an intrinsically active and unstable organizing system” interacts.²⁵ They note, for example, that our interactions with the environment are often *skilled* developments of habits and practices that are part of our customary ecological niches, which include socio-cultural affordances and choices of “only the *relevant* affordances in a given situation.”²⁶ All of this is consistent with the account provided by Merleau-Ponty, for whom the

23. See Julie Doyon, Pierre Bellec et al., “Contributions of the Basal Ganglia and Functionally Related Brain Structures to Motor Learning,” *Behavioural Brain Research* 199 (2009): 61-75.

24. Cf. Crease, “The Improvisational Problem,” 191, who holds that motor action in artistic performances come not from “habitual, familiar and considered pathways” but that they “visit us out of our entire being-in-the-world.”

25. Jelle Bruineberg and Erik Rietveld, “Self-organization, Free Energy Minimization, and Optimal Grip on a Field of Affordances,” *Frontiers in Human Neuroscience* (12 August 2014), <https://doi.org/10.3389/fnhum.2014.00599> (section under heading “Anticipation and Selective Openness.”)

26. Bruineberg and Rietveld, “Self-organization, Free Energy Minimization, and Optimal Grip on a Field of Affordances,” <https://doi.org/10.3389/fnhum.2014.00599> (section under heading, “Skilled Intentionality and Optimal Grip on a Field of Affordances.”)

body is both a vehicle of understanding and a sense-giving and dynamic organism that gives meaning to both natural and cultural objects.²⁷

A stand-up comic, for example, might develop a stylistic way of dealing with hecklers – finding something to make fun of about their clothing, their inebriation, or something else about them etc. – even if each specific heckler address is particular to that situation. For example, “Oh, you don’t like that, Idaho? (where someone is wearing an Idaho t-shirt) Would you prefer to watch the potatoes grow back home?” A jazz pianist might find when improvising with high-volume brass musicians that they want to simplify the accompaniment and lower the volume to highlight the brass (or take the opposite tack). And a ballet dancer who is dancing a series of “farewell” performances before retirement might decide to add different short excerpts from their past repertoire into their *reverences* (bows at the end) each night to delight those fans who will recognize the reference. These motor actions all take account of cultural and social artistic contexts in how they operate.

We turn now to how understanding the cognitive motor processes involved in improvisation in the performing arts, including perception and proprioception as part of the development of trained motor and artistic schemas as described above, can help to enrich audience appreciation.

III. Understanding Performers’ Cognitive Processes Assists Audience Appreciation

Audience members who appreciate live improvisation often do so because of the feeling of excitement and on-line action that happens when neither the audience nor the performers themselves know precisely what will happen next, although all (especially the performers) have

27. Merleau-Ponty, *The Phenomenon of Perception*, 244-245 (282).

some idea.²⁸ The feeling, as an audience member, is a communal one of sharing a live experience with both the performers and other audience members. The fact that at least some aspects of what happens on stage are a surprise to the performers as well as the audience enhances the excitement of anticipation and suspense. It adds vicarious delight in the performers' discovery of what they have created at the same time that the audience is experiencing pleasure in their own experiencing of discovering the surprise. Thus, there is joy when comedic performers, as in *Saturday Night Live*, break "the fourth wall" and laugh at their own improvisational antics as well as that of other performers. We enjoy the performers' enjoyment of each other's performances while enjoying the performances ourselves; in part, perhaps, because we recognize the performers as expert appreciators of exceptional achievement.²⁹

Erum Naqvi notes that appreciation of trained improvisational achievement is the aesthetic ethos of the *radif* tradition in Iranian music. She explains:

Achieving improvisational creativity within the stringent structural parameters of the *radif* is considered the hallmark of artistry in this tradition. Traditional instruction involves one-to-one transmission by rote through observation and bodily mimicry over the course of several years. This process is thought to enable an intuitive absorption of the *radif*, taken as the structuring framework that implicitly guides improvisation. Under the traditional ethos, apprentices become musicians when they find themselves able to spontaneously reproduce and

28. See Susan Leigh Foster, "Taken by Surprise: Improvisation in Dance and Mind," in *Taken by Surprise: A Dance Improvisation Reader*, 3–12, Middletown, CT: Wesleyan University Press, 2003, for an account of how this works in dance, particularly at p. 4. See also Bresnahan, "Improvisation in the Arts," 579–580 for more evidence of this live improvisation phenomenon in music and theatre. Cf. Robert P. Crease, "The Improvisational Problem," *Man and World* 27 (1994): 183, who discusses performances as valued for their own sake as well as because they are enthralling.

29. Reason and Reynolds' research has shown that a major component of the audience response to watching dance is what they have termed, "admiration of virtuosity." Matthew Reason and Dee Reynolds, "Kinesthesia, Empathy, and Related Pleasures: An Inquiry into Audience Experiences of Watching Dance," *Dance Research Journal* 42, no. 2 (Winter 2001): 58.

rearrange motifs in a manner consistent with the *radif*'s structure without needing to actively think about the structuring of a performance.³⁰

This example attests to both the aesthetic value of achievement and the account of entrained expert motor skills described in Section II. There is a sort of cognitive, appreciative pleasure – appreciating *that* something difficult has occurred – but it is also attunement to a feature of performance that also allows for the sort of fine perceptual discriminations that increase pleasure in the perceptions themselves. This is not unlike being able to appreciate notes of floral, of oak, and of wood, in a wine where before one could only taste fruit. It is not *just* the fact that one can discriminate tastes that creates the pleasure but now there is a variety of experiential pleasures where before there was only one. This is how cognition and perception merge to create enhanced perceptual aesthetic pleasure.

Gary Peters notes, in his second book on the philosophy of improvisation, that Jimi Hendrix's famous guitar solos were exceptional precisely because of his great achievement as an improviser within those solos.³¹ Indeed, he records the pleasure of being a participant in the aesthetic experience that such improvisation provides by using the example of witnessing one of Hendrix's guitar solos at the Woburn Pop Festival on July 6, 1968. He explains that Hendrix arrived late, without his band, and proceeded to play an (ostensibly) improvised guitar solo:

...at this moment Jimi simply stood, solitary and stationary to one side of the stage in semi-shadow. He neither said nor did anything except play. In truth, he didn't even play; he simply allowed his guitar to resonate and emit a slowly increasing howl of such despairing intensity that the druggy love-in that had been so happily unfolding all day in the Bedfordshire sunshine suddenly became as trivial as its tinkling bells and faux Buddhist chanting.

30. Erum Naqvi, "Musical Aesthetics in Iran," *The Philosophers' Magazine* 82 (3rd Quarter 2018): 64.

31. Gary Peters, *Improvising Improvisation: From Out of Philosophy, Music, Dance, and Literature*, Chicago: University of Chicago Press, 2017, 177.

My memory tells me this continued for at least thirty minutes, thirty minutes when (in philosophical retrospect) the Kantian concept of the sublime as the *experience* of the pleasure and pain associated with witnessing that which exceeds all experience, was *itself* experienced.³²

Here Peters reports feeling something directly – an aesthetic experience (indeed, the sublime is a traditional aesthetic quality) – that was itself pleasurable. The guitar solo Peters describes above also lent itself to his own appreciative contemplation in the form of the philosophical account he provided in addition to this case study in his book. This is a sort of intellectual pleasure and good in connection with aesthetic and artistic pleasure. This experience of arts improvisation contains emotional pleasure as well.

Jenefer Robinson has pointed out that “judgement theorists” of emotion find that experiencing an emotion like joy can come from cognitive judgements like the idea that this performance is an outstanding achievement, or sublime, or “beyond words!”³³ An audience also might find that they experience a *catharsis* of the emotions of pity or fear during Sophocles’ *Oedipus Rex* that is triggered (at least in part) by sharing the realization with Oedipus that he has killed his father and slept with his mother despite his extreme efforts to avoid doing both.³⁴ If the actor’s expressions of grief are improvised in whole or in part, we may feel the shock and surprise even more keenly, as the actor to some extent feels the grief afresh as we do.

Robinson has also provided evidence to show that emotional responses that include motor action, like jumping or screaming out of surprise or fear, for example, can occur before we are

32. Peters, *Improvising Improvisation*, 171-172.

33. See Jenefer Robison, *Deeper Than Reason: Emotion and its Role in Literature, Music, and Art*, Oxford: Clarendon Press, 2005, 8-9.

34. See Aristotle’s *Poetics* for his view of *catharsis* in tragedy and *Politics* for his view of *catharsis* in the experience of music.

consciously aware of them. She calls these “non-cognitive affective appraisals.”³⁵ Her list of theorists who hold that physiological changes are a central part of emotion (which is not motor action but related to motor action) include Aristotle (who discusses the “boiling of the blood” and “hot stuff about the heart” in *De Anima*) and William James (who correlates certain physiological changes with emotion in his *Principles of Psychology*).³⁶ Robinson specifically endorses James’ idea here, holding that “indeed we don’t call a response *emotional* unless it is a physiological response that has been produced in a certain way.”³⁷ Further, Robinson shows throughout her book how literature, music, and the other arts can trigger these non-cognitive affective appraisals. This shows how audience responses are similar (though not identical) to performers’ in the sense that they include both conscious and unconscious perceptual and other processes at the same time.

In dance, understanding the cognitive processes of the performers also serves to aid the research being done by dance philosophers who study kinesthetic and empathetic responses to dance as part of understanding the nature of dance appreciation. In short, kinesthetic responses are those that involve felt, bodily experiences of watching dance. These include visceral responses such as feeling the vibrations of the dancers’ jumps and feeling one’s pulse quicken when a dancer makes a terrifying plunge from a great height. When responses include feeling (in an imaginative if not literal way) certain movements witnessed onstage in one’s muscles and the emotional experience of what we imagine performing that movement would be like then our

35. Robinson, *Deeper Than Reason*, 58. See chapters 1 and 2 for a further discussion of some of the brain processes that occur during these responses.

36. Robinson, *Deeper Than Reason*, 28-29.

37. Robinson, *Deeper Than Reason*, 57-58.

kinaesthetic response becomes empathetic as well. Empathetic responses include awareness that we can “get” and affirm through our own experience and imagination what it is that we understand the dancers are undergoing.³⁸ Finally, they can include a sense of anticipation for what will come next.³⁹

The main thesis of this chapter – that understanding the scope and nature of perceptual and cognitive processes in live improvisation in the performing arts can assist us in understanding this phenomenon in philosophically relevant ways – has now been elucidated. We turn now to the sort of appreciation of live improvisation in the performing arts that is either entirely or mostly cognitive – what I have termed “critical appreciation” elsewhere.⁴⁰ This is relevant for purposes of this chapter because it is a type of intellectual appreciation that builds upon, but is not limited to, perceptual and kinaesthetic experience.

IV. Critical Appreciation Involves both Perceptual Experience and Interpretive Practice

As canvassed in Section III, above, the audience’s experience of a live improvisation event in the performing arts is similar to the performing artist’s experience in the sense that they have cognitive, emotional, kinaesthetic, and empathetic responses that occur before conscious articulation of what they have perceived. At the purely perceptual level, what I have elsewhere

38. For more on kinesthetic and empathetic responses in general see Reason and Reynolds, “Kinesthesia, Empathy, and Related Pleasures,” 49-75. See also Renee Conroy, “Responding Bodily” *The Journal of Aesthetics and Art Criticism* 71, no. 2 (Spring 2013): 203-10, and Noël Carroll and William P. Seeley, “Kinesthetic Understanding and Appreciation in Dance,” *The Journal of Aesthetics and Art Criticism* 71, no. 2 (Spring 2013): 177-86.

39. See, for example, Reason and Reynolds, “Kinesthesia, Empathy, and Related Pleasures,” 60 and 64.

40. Aili Bresnahan, “Dance Appreciation: The View from the Audience,” in *Aesthetics: A Reader in the Philosophy of the Arts*, 4th edition, 347-350, edited by David Goldblatt, Lee Brown, and Stephanie Patridge, New York: Routledge, 2017.

called “innocent eye appreciation,” the audience member perceives in a way that is “innocent” in the sense that biological perception can operate as it does in animals (cows or pigeons for Danto) or others without cultural, art-historical or semiotic understanding of the artwork or practice at issue.⁴¹ At the base level of perception an audience member has no developed expertise in taking this appreciation to the deeper level of cognitive and art-historical reflective understanding. Expert interpretation, like expert performance, requires training and practice in the domain at issue – it requires its own entrainment and habit-forming practice in order to truly “see” all that is there to be seen.

Of course, there *is* no actual person who exists only at the level of *homo sapiens*, the term Joseph Margolis uses to denote a human person at the level of biology only. All human beings exist in culture, which is why they are “persons” rather than merely *homo sapiens*.⁴² The issue is therefore not one of distinguishing between cultured and uncultured persons (no one is uncultured who lives in human society) but whether or not the culture in which the person lives has provided training and enculturation in the performing arts practice at issue. If not, properties of the performance may be there that the audience member simply does not “perceive” because

41. Bresnahan, “Appreciating Dance: The View from the Audience,” 347-348, citing Danto’s “Animals as Art Historians: Reflections on the Innocent Eye” in *Beyond the Brillo Box: The Visual Arts in Post-Historical Perspective*, 15-32, Berkeley: University of California Press, 1992 and “The Pigeon Within Us All: A Reply to Three Critics,” *The Journal of Aesthetics and Art Criticism* 59, no. 1 (Winter, 2001): 39- 44.

42. Joseph Margolis, *Historied Thought, Constructed World: A Conceptual Primer for the Turn of the Millennium*, Berkeley: University of California Press, 1995, 190, and *The Cultural Space of the Arts and the Infelicities of Reductionism*, New York: Columbia University Press, 2010, 10. For more on Margolis’ theory of the human person as it connects to interpretation in the arts see also his books: *Interpretation Radical but Not Unruly: The New Puzzle of the Arts and History*, Berkeley: University of California Press, 1995; *Selves and Other Texts: The Case for Cultural Realism*, University Park, Pennsylvania: The Pennsylvania State University Press, 2001; and *What, After All, Is a Work of Art*, University Park, PA: The Pennsylvania State University Press, 1999.

they cannot appreciate them. To hear a sound, for example, is not to hear the sound as music; something with semiotic meaning in culture. Indeed, Naqvi is correct that if one isn't trained in Iranian classical music, for example, one would not be familiar with the structure of the *radif* (a "canon of motifs," a "theoretical model," or "a musical grammar of sorts") and thus would not be able to detect the improvisational creativity within it.⁴³

Here too it is not difficult to find analogues in the arts of dance and theatre as well. In dance, an untrained audience member might see a dancer spinning around but they would not understand or appreciate the significance of Odile's thirty-two *fouetté* turns. And in Shakespeare, much of the comedy – what is there to understand as funny – is lost for anyone who does not understand the double entendres, as when Hamlet tells Ophelia "get thee to a nunnery," where "nunnery" (in Shakespeare's time) meant both convent and bordello.

V. Conclusion

In conclusion, perception of live improvisation in the performing arts is not a matter of pure perception, by which I mean the idea that it could exist in isolation from motor, physiological, emotional, kinaesthetic, empathetic, interpretive, and appreciative modes of accessing it. This is true because both improvising performers and appreciating audience members are complex live organisms with many levels of information processing who are situated in a cultural environment that includes multiple affordances for action and uptake that occur prior to perception. This accounts for the all-encompassing richness and live vitality that experiences of the performing arts provide. It is no wonder, then, that we value and seek out such experiences.

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43. See Naqvi, "Musical Aesthetics in Iran," 64.

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