

PHILOSOPHY

SHAUN GALLAGHER

PERFOR- MANCE / ART

THE VENETIAN LECTURES

EDITED BY CARLOS VARA SÁNCHEZ

MIMESIS
INTERNATIONAL



MIMESIS

INTERNATIONAL

PHILOSOPHY

n. 41

SHAUN GALLAGHER

PERFORMANCE/ART: THE VENETIAN LECTURES

Edited by Carlos Vara Sánchez

MIMESIS
INTERNATIONAL

© 2021 – MIMESIS INTERNATIONAL
www.mimesisinternational.com
e-mail: info@mimesisinternational.com

Isbn: 9788869773365
Book series: *Philosophy*, n. 41

© MIM Edizioni Srl
P.I. C.F. 02419370305

CONTENTS

ON SHAUN GALLAGHER'S PHILOSOPHY	9
<i>Carlos Vara Sánchez</i>	
1. On the general dynamics of Shaun Gallagher's thinking	10
2. On Gallagher's understanding of cognition, the self, and the environment	13
2.1 Cognition as embodied, situated, and action-oriented	13
2.2 The pattern notion of the self	16
2.3 Interaction as the driving feature of our relation with the world and others	17
3. On Shaun Gallagher's aesthetics	18
References	23

PERFORMANCE/ART: THE VENETIAN LECTURES

INTRODUCTION	27
LECTURE 1. MINDFUL AND MINDLESS PERFORMANCE	31
Two theoretical extremes	31
The phenomenology of performance	36
Meshing on the vertical	41
Intrinsic control and horizontal meshing	44
Intrinsic control	45
Affect and Horizontal integration	49
The question of aesthetic experience in performance	55

LECTURE 2. MEDIA, MOVEMENT AND MATERIAL ENGAGEMENT	65
Performance and intelligence	65
How movement can be intelligent	66
Gestures	68
Full-body enactive engagement	69
Marking	71
Blocking	73
Dancing	75
Why not all movement is thinking	76
Dances and <i>affordances</i> : The role of material engagement	80
The aesthetic mesh	84
 LECTURE 3. NOT ONE, NOT TWO: ACTING AND ART	 99
Setting the stage: Two debates about empathy	100
The psychological approach	101
The hermeneutical approach	102
The phenomenological approach	103
Acting oneself as another	109
Acting out and acting in: Methods of empathy	115
A twofold conception	119
Aesthetics and kinaesthetics	123
The enactive aesthetics of the performer	134
 REFERENCES	 139

To Julia

CARLOS VARA SÁNCHEZ

ON SHAUN GALLAGHER'S PHILOSOPHY

An Introduction

In the introduction to his recent book *Action and Interaction*, Shaun Gallagher explains his philosophical *modus operandi* in a very pragmatic way: “My strategy is simply to jump into the middle of it with philosophical hammer, some sharp nails, and some other tools borrowed from developmental studies, phenomenology, and neuroscience”.¹ This ‘middle’ he refers to, in the case of these “Venetian Lectures” is the aesthetic experience of performers, and the text we are presenting here can be regarded as a precise example of this strategy.

This edition of the *Venetian Lectures*, originated from a suggestion by Roberta Dreoni, was presented by Shaun Gallagher on September 3, 4 and 5, 2019 at Ca’ Foscari University in Venice. Devised by Luigi Perisinotto, the *Venetian Lectures* have become a particularly prestigious tradition at Ca’ Foscari. On this occasion, I had the great honor of organizing the lectures with the support of the European Union’s 2020 Marie Skłodowska-Curie research and innovation programme,² the Associazione Culturale Pragma, and the Cognition, Language, Action and Sensibility–Venetian Seminar (CLAVeS) of Ca’ Foscari University’s Department of Philosophy and Cultural Heritage.

In these pages I will briefly sketch some key aspects of Gallagher’s thought, before framing the main aesthetic ideas developed in the *Lectures* themselves. I will proceed in concentric circles, progressively narrowing the focus down to his understanding of performers’ aesthetic experience. Firstly, I will introduce what I consider to be some general dynamics in Shaun Gallagher’s thinking. Secondly, I will present some specific aspects, namely his strongly embodied and action-oriented notion of enactive cognition,

1 Shaun Gallagher, *Action and Interaction* (Oxford: Oxford University Press, 2020), p. 3.

2 This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement no. 794484. The paper reflects only the author’s view and the Research Executive Agency is not responsible for any use that may be made of the information it contains.

his pattern notion of the self, and some relevant aspects of his interaction theory of social cognition. It is my belief that these theoretical aspects will help readers grasp the implications of the precise topic of these lectures: the double attunement between different cognitive components meshed into a cohesive Gestalt that Gallagher considers to be specific to performers' aesthetic experience.

1. *On the general dynamics of Shaun Gallagher's thinking*

One of the implications of the shift to embodied theories is that we need to re-conceive the concept of mind. It's not enough to say simply that it should be non-Cartesian; we need a positive vocabulary to describe something that is not the mind in the traditional sense of that term.³

The range and depth of Shaun Gallagher's philosophical work can be certainly intimidating. Over the last few decades, he has provided some remarkable and influential contributions to contemporary philosophy, including in fields such as philosophy of mind, philosophy of cognitive science, developmental psychology, and social science. However, Gallagher is not content with just occupying different fields. He always goes several steps further by carrying out research that is truly interdisciplinary both in its methods and in its subjects. Examples of these efforts include: a study of the mechanisms of the embodiment of cognition,⁴ a pattern theory of self,⁵ an interaction theory of intersubjectivity,⁶ and in the case of the present book a theory of performers' aesthetic experience. Yet, no matter the particular goal, he has a penchant for delivering books and papers that clear the path for subsequent research on these topics. He is not an armchair philosopher seeking to offer definitive answers to long-standing questions, but a curious explorer who likes to enter territories no matter how shaky and seemingly

3 Przemysław Nowakowski et al., 'Interview with Shaun Gallagher. Part I: From Varela to a different phenomenology', *Avant: The Journal of the Philosophical-Interdisciplinary Vanguard*, 2, 2 (2011), p. 81.

4 Shaun Gallagher, *How the Body Shapes the Mind* (Oxford: Oxford University Press, 2006).

5 Shaun Gallagher, 'A pattern theory of self', *Frontiers in Human Neuroscience*, 7, 443 (2013), pp. 1-7.

6 Shaun Gallagher, 'Understanding Interpersonal Problems in Autism: Interaction Theory as An Alternative to Theory of Mind', *Philosophy, Psychiatry, & Psychology*, 3, 11 (2004), pp. 199-217.

hanging in midair they may be. His recipe is as deceptively simple as it is difficult to achieve: a keen eye for identifying promising borders between different approaches to a particular notion, precise terminology rooted in sound philosophical notions and scientific results, and perfectly articulated processes of reasoning and exploration able to tackle the most thorny issues. These are some reasons why Gallagher is among the most influential contemporary philosophers; however, going into more detail, I would argue that the philosophical work which Gallagher has developed in the last few decades can be understood as a growing oeuvre that presents a common root, rejects different facets of the same idea, and is directed toward theoretical territories marked by one particular feature. The common root would be his thinking at the intersection of phenomenology and cognitive science. As Gallagher already wrote almost twenty-five years ago:

that the mind is embedded in a world that is social as well as physical, and that the explanation of consciousness has to take into consideration this embeddedness, is the lesson that cognitive scientists can draw from existential phenomenology.⁷

Together with other researchers who share this idea such as Francisco Varela or Dan Zahavi, as well as on his own, Gallagher has produced extremely influential publications featuring work that combines phenomenology and cognitive science. His background as a phenomenologist is evident right from his first publications, where we find papers devoted to analyzing Edmund Husserl's phenomenology of time-consciousness⁸ and Maurice Merleau-Ponty's non-dualistic concept of the body.⁹ Both philosophers continue to be among those most cited in Gallagher's recent work. Yet, one might wonder, how does this phenomenological aspect relate to cognitive science? In Gallagher's case, they are combined within the framework of enactivism, understood as a philosophy of nature. Enactivism "takes seriously the results of science, and its claims remain consistent with them, but it can reframe those results to integrate them with results from many sciences".¹⁰ The enactive approach, first defined by Varela, Thompson,

7 Shaun Gallagher, 'Recent Phenomenology in cognitive science', *Journal of Consciousness Studies*, 3, 4 (1997), p. 212.

8 Shaun Gallagher, 'Suggestions towards a revision of Husserl's phenomenology of time-consciousness', *Man and World*, 4, 12 (1979), pp. 445-464.

9 Shaun Gallagher, 'Lived body and environment', *Research in Phenomenology*, 16 (1986), pp. 139-170.

10 Shaun Gallagher, *Enactivist Interventions: Rethinking the Mind* (Oxford: Oxford University Press, 2017) p. 22.

and Rosch is an explanatory framework of cognition articulated around two main tenets: (1) perception consists in perceptually guided action and (2) cognitive structures emerge from the recurrent sensorimotor patterns that allow action to be perceptually guided.¹¹ Although enactivism has evolved into several related branches, according to Gallagher, it can be characterized by a series of background assumptions:

first, cognition is not simply a brain event. It emerges from processes distributed across brain-body-environment. Second, the world (meaning, intentionality) is not pre-given but is enacted by cognition, action, and social interaction. Third, our understanding of cognitive processes has to be in view of their role in worldly contexts where they acquire meaning rather than as a representational mapping or replicated internal model of the world. Fourth, enactivist approaches have strong links to dynamical systems theory, and they emphasize the relevance of dynamical coupling and coordination across brain-body-environment. Fifth, cognitive systems are extended, intersubjective, and socially situated, but the concept of extension is not equivalent to the functionalist extended mind. Sixth, higher-order cognitive functions, such as deliberation, reflective thinking, and imagination, are exercises of skillful know-how and are closely coupled with situated and embodied actions. And seventh, such complex cognitive functions are grounded not only in sensorimotor coordination, but also in affective and autonomic aspects of the full body.¹²

This understanding of enactivism as a philosophy of nature is at the roots of Gallagher's thinking. Yet, another relevant aspect in his work is the resonance between some of Gallagher's enactive ideas and pragmatist thinking. Indeed, pragmatism –especially John Dewey's and George Herbert Mead's oeuvre– has become a recurrent presence in Gallagher's work. This multi-layered pragmatic enactivism allows him to face what could be said to be his main philosophical foe: neurocentric, dualistic, and computational approaches to cognition in mainstream philosophy of mind and cognitive science, as represented, for example, by Jerry Fodor and Zenon Pylyshyn.¹³ Of course, it is expected that neuroscientists are to be somewhat neurocentric. Yet, with respect to the interdisciplinary project of cognitive science, as Gallagher himself argues:

11 Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience. Revised Edition* (Cambridge: The MIT Press, 2017), p. 173.

12 Shaun Gallagher, 'Precis: Enactivist Interventions', *Philosophical Studies*, 176 (2019), pp. 803-804.

13 Jerry A. Fodor, Zenon W. Pylyshyn, 'How direct is visual perception?: Some reflections on Gibson's "Ecological Approach"', *Cognition*, 2, 9 (1981), pp. 139-196.

one can acknowledge the importance of what the brain is doing, operating as part of a larger circuit that includes body and environment. The brain is not at the center of a circle with radii of control extending to other elements; it is one component arranged in the circuit.¹⁴

That is, the brain is part of the larger story of what cognition is, but it is not the whole story. Gallagher has always been adamant with regard to this issue: “the standard computational, representational, or functionalist models of the mind, no matter how complex they become, remain oversimplified because they start without considering the prenoetic effects of embodiment”.¹⁵ Yet, Gallagher is not a philosopher who limits himself to pointing to what he considers to be wrong in others’ theories: he takes risks by proposing notions, concepts and frameworks that widen the explanatory landscape.

In this regard, the particular research territory in which Gallagher frequently travels is that of interaction: interaction between body-mind and world, between different agents in intersubjective couplings, between intentionality and temporality or action and perception. Gallagher likes to place himself at these crossroads. He does not look for stable abstractions, but for dynamical mechanisms of interaction between areas that are often considered disconnected. And this is where he puts to good use his scientific nails and his philosophical hammer, to dethrone classical cognitivist approaches.

2. *On Gallagher's understanding of cognition, the self, and the environment*

2.1 *Cognition as embodied, situated, and action-oriented*

Body snatchers have invaded theories of embodied cognition and have replaced bodies with ‘sanitised’ body-formatted [...] representations in the brain.¹⁶

I perceive the world in terms of how I can engage with it; and I perceive others in terms of how I can interact with them, even if I am not intending to interact with them.¹⁷

14 Shaun Gallagher, ‘Decentering the Brain: Embodied Cognition and the Critique of Neurocentrism and Narrow-Minded Philosophy of the Mind’, *Constructivist Foundations*, 1, 14 (2018), p. 17.

15 Gallagher, *How the Body Shapes the Mind*, p. 244.

16 Shaun Gallagher, ‘Invasion of the body snatchers: how embodied cognition is being disembodied’, *The Philosopher's Magazine*, April 2015, p. 98.

17 Shaun Gallagher and Julia Gallagher, ‘Acting Oneself as Another: An Actor's Empathy for her Character’, *Topoi*, (2019), p. 4.

It could be argued that Gallagher and other proponents of strongly embodied and embedded theories of cognition have contributed to bringing back the body and the environment to the very center of cognitive research. They have recovered the body from the body-snatchers. In Gallagher's words, "narrow-minded views have been challenged by 'wide' E-approaches – that is, embodied, embedded, extended, enacted, ecological approaches to cognition, which in various ways argue that the unit of explanation ought to be brain-body-environment".¹⁸ According to strongly embodied and embedded theories such as enactivism, cognitive processes are partially constituted by –not just dependent on– processes that are located not only in the brain, but in the body and the environment as well. These processes shape and regulate cognitive processes before we know it –prenoetically in Gallagher's terminology–, since they "do not normally enter into the phenomenal content of experience in an explicit way, and are often inaccessible to reflective consciousness".¹⁹

Speaking specifically of embodiment, the body not only shapes cognition through its anatomical structure, the influence of body-schematic processes, the enactment of sensorimotor contingencies, or through skill and action capabilities. From an enactive perspective, there is another essential aspect: the body's affective life. The body modulates the brain through affective mechanisms, related to bodily physiological processes that involve hormones and neurotransmitters, peripheral and autonomic systems, such as heart function and respiration, all of which are subject to environmental conditions. Neurocentric theories often neglect, or completely ignore, these aspects and, as a consequence, they are incapable of completely explaining aspects as relevant as perception, action, agency, the self, or social cognition. Practitioners of embodied research frameworks such as enactivism remind us that the brain is not alone on a throne, ruling over the body and the world, but that these three dance together to the sound of a melody that they themselves play.

Of course, just as when listening to a concert we can focus on the contributions of particular instruments, in studying cognition one can focus on processes originating in the brain, the body or the environment; but even in these circumstances, the three remain integrated across diverse variations, in the same fashion as an orchestra that can play a diversity of music.

From an enactivist point of view, there is no way of understanding what life is without considering it an embedded process that always takes place in

18 Gallagher, *Decentering the Brain*, p. 9.

19 Gallagher, *How the Body Shapes the Mind*, p. 2.

relation to a physical and social environment. Physical environment refers to the fact that we exchange energy as we are coupled to and materially engaged with the medium that surrounds us. Social environment, in Gallagher's words, refers to this "complex mix of transactions that involve moving, gesturing, and engaging with the expressive bodies of others; bodies that incorporate artifacts, tools, and technologies that are situated in various physical environments, and defined by diverse social roles and institutional practices".²⁰ Of course, neither the body nor the physical or social environment can be considered an isolated entity. Together they enact a common system in which changes in one part of the system provoke changes in other parts.

One specific point that sets enactive approaches apart from more weakly embodied frameworks is the idea that perception and cognition are action-oriented. In other words, the agent is coupled to the environment in a way that provides meaning to actions. This enactive tenet has phenomenological and pragmatist roots, but it also has an undeniable ecological influence. Indeed, Gallagher contends that we perceive things in terms of affordances – the term coined by the father of ecological psychology James Gibson. This means that what we perceive are possibilities for actions. We perceive the possibility of sitting in a chair or smiling at another's smile. Yet, affordances are not absolute but relational: they invite actions depending on numerous circumstances such as the agent's action capabilities, evolutionary aspects, cultural aspects, and personal history,²¹ but also on social circumstances and cultural influences. Affordances, for Gallagher, are essential for understanding our social interactions: "I see your action as an affordance that motivates my own action – I see it as something I can respond to in broader contexts of social interactions, joint actions, cultural practices, etc. and that is precisely how I understand your action".²² Another important feature of affordances is that they are interconnected. The different affordances perceivable at a given time constitute the 'field of affordances' of a situation and this field constrains our whole experience. The notion of affordance is steadily becoming an essential aspect in enactivism for it makes it possible to productively develop the action-oriented nature of perception and cognition.

20 Gallagher, *Enactivist Interventions: Rethinking the Mind*, p. 20.

21 Rob Withagen et al., 'Affordances can invite behavior: Reconsidering the relationship between affordances and agency', *New Ideas in Psychology*, 2, 30 (2012), pp. 250-258.

22 Gallagher, *Decentering the Brain*, p. 16.

2.2 *The pattern notion of the self*

Historically, the self has been located in the brain. Considering Gallagher's criticism of neurocentric theories, we should not be surprised to learn that he has developed a theory of the self that takes into consideration many aspects not reducible to brain activity. This theory is known as the 'pattern theory of the self' and it contends that the self is a dynamic gestalt made up of different aspects that are interrelated in a non-linear equilibrium. In other words, the self is not the result of the addition of different individual aspects, but is the pattern that emerges from the interrelation between different components, in such a way that changes in one component of the pattern will provoke changes in others. That is, modulations in one particular aspect of the pattern can lead to other changes within a relational equilibrium. Certainly, neural patterns influence these changes in the self, but this is not the only mechanism involved. According to Gallagher and Daly, the different elements that constitute the self-pattern are: (1) embodied elements that allow the system to distinguish between itself and what is not itself; (2) minimal experiential elements including a sense of ownership and a sense of agency; (3) affective aspects ranging from bodily affects to typical emotional patterns; (4) behavioral aspects that reflect our character; (5) intersubjective interactions responsible for social self-consciousness, joint actions and communicative practices; (6) psychological and cognitive elements ranging from explicit self-consciousness to a conceptual understanding of the self as self; (7) reflective capacities related to the ability to reflect on one's experiences and actions; (8) narrative capacities; (9) extended and situated elements connected to the action possibilities of objects and technologies, and (10) normative factors and practices originating at the family, institutional, and cultural contexts that define our way of living.²³

As contended by Gallagher and Daly, this pattern theory of the self presents a series of advantages: it advances an understanding of self, not as something separate, but as immersed in a meaningful world, and it accommodates context-dependent changes and adaptations, while acknowledging a coherent organization as the locus of experience and self-ascription. Within this framework, the self emerges as something that is not possessed by a being, but that *is* that being. And this self-pattern that constitutes the being is not an abstraction to be found encoded in the brain,

23 Shaun Gallagher and Anya Daly, 'Dynamical Relations in the Self-Pattern', *Frontiers in Psychology*, 664, 9 (2018).

but “a pattern of generative dynamics coordinated across the elements of brain, body and environment”.²⁴ One of the essential aspects in this unstable, plastic, and self-organizing set of processes that for Gallagher constitutes the self-pattern is the agent’s interaction with other agents in the physical and social environment.

2.3 Interaction as the driving feature of our relation with the world and others

In recent decades, there has been a lot of debate in psychology, philosophy of mind, and neuroscience about the mechanisms that enable us to understand others and interact with them. The two prevalent approaches to questions about social cognition and mind are the ‘theory-theory’ (TT) and the ‘simulation theory’ (ST). According to TT, we understand others through the process of generating theoretical inferences based on common-sense psychology. That is, we do not have access to the contents of others’ minds; rather, we attribute specific mental states to others because we are instinctively good at mind-reading. On the other hand, ST theorists contend that we use our own experiences to simulate the mental states of others: I understand the other by simulating how I would feel if I were in his situation. Of course, there are several versions of each approach, and hybrids that combine aspects from both theories; yet, both TT and ST share one essential supposition: the idea that mental states of others are unobservable. These states purportedly remain private and hidden. There is always a gap between me and the other that requires an inference or a simulation.

This conceptual framework has been increasingly called into question by philosophers influenced by embodied and situated approaches. Gallagher is counted among them. In his recent book *Action and Interaction*, Gallagher carries out a detailed analysis of the standard proposals from the TT and ST camps and notes several problems that, according to him, afflict these theories of mind. Yet, as in other situations, Gallagher is not content with showing the weaknesses of existing theories; he offers something to replace them. His proposal is the ‘interaction theory’ (IT). IT rejects the existence of hidden mental states. Instead, it develops an account of others’ postures, movements, gestures, facial expressions, vocal intonations, communicative practices and actions in socially and culturally contextualized situations. According to Gallagher, we do not observe

24 Gallagher, *Decentering the Brain*, p. 14.

others by default from a third-person perspective (as defended by TT and ST). We participate in second-person interactions that build on three sets of processes: primary intersubjectivity, secondary intersubjectivity, and communicative and narrative competencies.²⁵

Starting from birth, infants coordinate and align embodied practices such as movements, gestures, and speech acts, entering into synchronized resonance with others. This primary intersubjectivity constitutes a significant part of our capacity to understand others, even during adulthood. Eventually, infants acquire the capacity to enter into the contexts of shared action and attention that constitute secondary intersubjectivity. Yet, these embodied, sensorimotor, and affective processes that allow us to perceive and understand others within the pragmatic context of everyday actions and experiences, do not tell the whole story. There is an outer layer of communicative and narrative actions driven by language. These practices are connected and modulated by processes of primary and secondary intersubjectivity but take place within specific contexts. Some of these contexts are particularly open to determination by social and cultural rules and codes. This is the case with performers of artistic practices.

Accordingly, in the particular case of an actress on a stage, for example, Gallagher considers that the different interactions that take place in this situation (an actress with other fellow performers, the actress with the rehearsed role, the performers with the audience, or the members of the audience among themselves), do not occur in a sanitized vacuum. There is a complex, evolving, dynamic set of interacting networks of primary and secondary intersubjectivity upon which the precise and specific set of communicative and narrative competencies in this particular context is built and evolves.

For this reason, I believe that to understand Shaun Gallagher's aesthetic thinking, one has to look at the full picture of his enactive theory of cognition, his pattern theory of the self, and his interaction theory.

3. *On Shaun Gallagher's aesthetics*

Shaun Gallagher does not claim to be, and is not usually regarded as an aesthetician. Yet, any reader familiar with his work will experience a clear and distinct resonance between the texts of these *Lectures* and the key ideas that we find in his other works. I suggest that this circumstance is consistent

25 See Gallagher, *Action and Interaction* for a thorough presentation of IT.

with the fact that Gallagher does not regard aesthetics as separate and independent from other philosophical fields, but rather as a way to approach a certain continuous connection between everyday actions and specific art-related activities. In this regard, his understanding of aesthetics is clearly influenced by John Dewey's thought. Dewey's main aim of restoring "continuity between the refined and intensified forms of experience that are works of art and the everyday events, doings, and sufferings that are universally recognized to constitute experience"²⁶ –as stated in *Art and Experience*– is echoed by Gallagher in the introduction to the *Lectures*. However, Gallagher's aesthetic thinking presents certain peculiarities: most notably, his emphasis on the capacity of art to suspend our habits of thought. This idea, based on Merleau-Ponty's philosophy, means that art-related experiences –whether from the point of view of the creator or of the viewer– set themselves apart from other everyday encounters thanks to their capacity to reveal something as strange. These two aspects – the continuity with everyday experience, and the capacity to detour our expectations – could be considered contradictory, but they can also be regarded as two competing features at work within aesthetic contexts. The tension between familiarity and strangeness is one element that distinguishes art and its experience from other human narratives and communicative products.

In my opinion, the reason why these seemingly conflicting aspects withstand inner conceptual tensions and become a fertile ground for interaction is Gallagher's understanding of an aesthetic experience as an embodied kinaesthetic event. In other words, aesthetic experiences, like most daily life experiences, are grounded in the capacity or incapacity to perform certain movements. They offer context-specific possibilities of action; that is, they offer certain particular affordances, even as they block others.

According to Gallagher, in the case of visiting a museum, "presented with a portrait, I can't interact with the 'person' in the painting the same way that I can interact with a real person. Would my emotional response to the image of a tiger be the same as it would be if I confronted a real tiger?"²⁷ He argues that this embodied-enactive theory of art perception, consistent with phenomenological approaches to aesthetics, implies that "aesthetic experiences offer affordances that short circuit – in a way that comes back to the perceiving agent, disrupting ordinary engagements,

26 John Dewey, *Art as Experience* (New York: Penguin Group, 1980), p. 2.

27 Shaun Gallagher, 'Aesthetics and Kinaesthetics', in *Sehen und Handeln*, ed. John Michael Krois (Weinheim: John Wiley and Sons, 2011), p. 102.

and creating possibilities that are not realizable in current or established frameworks".²⁸ These short-circuited or re-routed affordances are the reasons behind the differences between an encounter with a given object in a context where we experience it as a work of art and another one in which we experience it as non-artistic. It seems that during an aesthetic experience we find ourselves in a revolving tension caused by the sudden inefficiency of habit-shaped affordances and those perceivable affordances specific to the artistic context. We remain on the verge of an affective response that does not fully flesh out as a meaningful and complete action. To be clear, however, in the specific case of the topic of these lectures –the aesthetic experience of performers– this tension is significantly different. There is no blockage of affordances caused by facing a represented object instead of a real one, or a real object situated in an artistic context that turns the affordances we perceive into non-realizable ones. Rather, the performer necessarily finds herself in need of acting.

The key idea presented by Gallagher in these lectures is that a performer's aesthetic experience is a form of empathic mindfulness developed through a process of double attunement in which the self and the other are distinguishable yet inseparable, situated within a meshed architecture that incorporates a vertical axis of minded and embodied-affective processes and a horizontal axis of extended and contextual scaffolding.

Gallagher's point of departure in the first lecture is a thorough analysis of the polemic between Hubert Dreyfus and John McDowell regarding the mindless or mindful nature of action and expert performance. Between these two camps, Gallagher makes room for the view according to which the experiences of expert performers involve, at least, a minimal yet decisive degree of mindfulness. This trace of mindfulness is what retains some sense of mineness or ownership of the experience. According to his pattern theory of the self, this minimal sense of ownership is necessary for being able to report the experience as one's own. A performer may not be paying attention to this recessive degree of mindfulness, but there has to be the possibility of grabbing this thread, for it is the anchor that allows the performer to be aware of how she is performing and of the relation between her 'how-she-is-performing' and other contextual aspects that modulate her aesthetic experience. Gallagher resorts to the model of meshed architecture²⁹ to explain how different mindful experiences integrate with

28 Gallagher, *Aesthetics and Kinaesthetics*, p. 113.

29 Wayne Christensen, John Sutton, and Doris J. F. McIlwain, 'Cognition in Skilled Action: Meshed Control and the Varieties of Skill Experience', *Mind & Language*, 1, 31 (2016), 37-66.

embodied and affective structures on a vertical axis that encompasses a dynamic interaction between attentive, perceptual processes and motor-control processes attuned to the physical and social environment. This vertical line is traversed by a horizontal one that incorporates physical, social, cultural and normative factors involved in both rehearsing and actual performance.

In the second lecture, Gallagher explores one enactive aspect which is essential for the aesthetic experience of a performer: the way certain movements, actions, and movement-constraining practices inform the cognitive processes that take place during processes of rehearsing and performing. Yet, his insights also have consequences for general discussions on cognition. He goes on to argue that much could be gained from the realization that processes of marking and blocking, found in the performing arts, are not limited to this specialized context. In other words, an analysis of the way social practices and institutions, as well as spatial and architectural arrangements make us move would certainly help us to understand their effect on the way we think and behave. The reason for this, according to Gallagher, is that even though not all movement coincides with thinking, different types of movements can either constrain or enable our thinking processes or even be regarded as constitutive forms of thinking. This enactive affirmation, backed by empirical research, offers potentially promising venues for future research.

In the third lecture, Gallagher expands a previously published paper jointly written with his daughter Julia Gallagher³⁰ in which they discuss the actor's possibility for empathizing with the character being played. This exploration leads Gallagher to find a particular feature that sets the performer's aesthetic experience apart from everyday ordinary experience. After a detailed analysis of different notions of empathy, he advances the notion of double attunement as the dynamic process within which the performer has a unitary experience that encompasses the actor's perspective on her character and her own acting processes. This concept derives from Richard Wollheim's notion of twofoldness, which distinguishes what is represented in a painting from the technique used to represent it.³¹ Gallagher argues that in performance this double attunement is characterized by a double awareness: on the one hand, the awareness of the character being portrayed, the music being played, the dance being danced, and so forth; on the other, the self-awareness involved in the meshed

30 Gallagher and Gallagher, *Acting Oneself as Another*.

31 Richard Wollheim, *Painting as Art* (London: Thames and Hudson, 1987).

architecture that characterizes the performance, the playing, the dancing. This double attunement is “not one, not two; not identity, but not complete distinction”. It expands, questions, and brings to the verge of collapse the meshed architecture from which it emerges and to which it comes back. For this reason, it is neither externalist nor internalist: it is structured by the enactive, embodied, and embedded set of dynamical factors that constitute the horizontal and vertical axes of the meshed architecture.

To conclude, one consequence of Gallagher’s understanding of the aesthetic experience of the performer –that he himself acknowledges in the final pages of the third lecture– is the impossibility of considering aesthetic experience a single unitary type of experience. He notes that we should not think of the aesthetic as something that can be reduced to one particular phenomenological framework or one signature neural pattern. At least from Gallagher’s enactive perspective, the aesthetic seems to be too rich and strange to immobilize it as one thing within a fixed dynamic pattern of body, brain, and environment.

References

- Christensen, Wayne, Sutton, John, and McIlwain, Doris J. F., 'Cognition in Skilled Action: Meshed Control and the Varieties of Skill Experience', *Mind & Language*, 1, 31 (2016), pp. 37-66.
- Dewey, John, *Art as Experience* (New York: Penguin Group, 1980).
- Fodor, Jerry A., Pylyshyn, Zenon. W., 'How direct is visual perception? Some reflections on Gibson's "Ecological Approach"', *Cognition*, 2, 9 (1981), pp. 139-196.
- Gallagher, Shaun, *Action and Interaction* (Oxford: Oxford University Press, 2020).
- Gallagher, Shaun, 'Precis: Enactivist Interventions', *Philosophical Studies*, 176 (2019), pp. 803-806.
- Gallagher, Shaun, 'Decentering the Brain: Embodied Cognition and the Critique of Neurocentrism and Narrow-Minded Philosophy of the Mind', *Constructivist Foundations*, 1, 14 (2018), pp. 8-21.
- Gallagher, Shaun, *Enactivist Interventions: Rethinking the Mind*, (Oxford: Oxford University Press, 2017).
- Gallagher, Shaun, 'Invasion of the body snatchers: how embodied cognition is being disembodied', *The Philosopher's Magazine*, April 2015.
- Gallagher, Shaun, 'A pattern theory of the self', *Frontiers in Human Neuroscience*, 7, 443 (2013), pp. 1-7.
- Gallagher, Shaun, 'Aesthetics and Kinaesthetics', in *Sehen und Handeln*, ed. John Michael Krois (Berlin: Oldenbourg Verlag, 2011), pp. 99-113.
- Gallagher, Shaun, *How the Body Shapes the Mind*, (Oxford: Oxford University Press, 2006).
- Gallagher, Shaun, 'Understanding Interpersonal Problems in Autism: Interaction Theory as An Alternative to Theory of Mind', *Philosophy, Psychiatry, & Psychology*, 3, 11 (2004), pp. 199-217.
- Gallagher, Shaun, 'Lived body and environment', *Research in Phenomenology*, 16 (1986), pp. 139-170.
- Gallagher, Shaun, 'Suggestions towards a revision of Husserl's phenomenology of time-consciousness', *Man and World*, 4, 12 (1979), pp. 445-464.
- Gallagher, Shaun and Daly, Anya, 'Dynamical Relations in the Self-Pattern'. *Frontiers in Psychology*, 664, 9 (2018), pp. 1-13, doi:10.3389/fpsyg.2018.00664.
- Gallagher, Shaun and Gallagher, Julia, 'Acting Oneself as Another: An Actor's Empathy for her Character', *Topoi*, (2019), pp. 1-12, doi:10.1007/s11245-018-9624-7.

- Nowakowski, Przemyslaw et al., 'Interview with Shaun Gallagher. Part I: From Varela to a different phenomenology', *Avant: The Journal of the Philosophical-Interdisciplinary Vanguard*, 2, 2 (2011), pp. 77-84.
- Varela, Francisco. J., Thompson, Evan, and Rosch, Eleanor, *The Embodied Mind: Cognitive Science and Human Experience. Revised Edition*, (Cambridge: The MIT Press, 2017).
- Withagen, Rob et al., 'Affordances can invite behavior: Reconsidering the relationship between affordances and agency', *New Ideas in Psychology*, 2, 30 (2012), pp. 250-258.
- Wollheim, Richard, *Painting as an Art*, (London: Thames and Hudson, 1987).

PERFORMANCE/ART:
THE VENETIAN LECTURES

INTRODUCTION

In the following lectures I explore some ideas concerning performance and art from the various perspectives offered by phenomenology, embodied cognition and enactivism. My focus will be on the performing arts, especially dance, musical performance and acting. I pursue some of the themes mentioned by Merleau-Ponty when he builds on his idea that language accomplishes thought.

The musical signification of the sonata is inseparable from the sounds that carry it.... During the performance, the sounds are not merely “signs” of the sonata; rather the sonata is there through them and it descends into them.... Aesthetic expression confers an existence upon what it expresses, installs it in nature as a perceived thing accessible to everyone, or inversely rips the signs themselves—the actor’s person, the painter’s colors and canvas—from their empirical existence and steals them away to another world...the expressive operation actualizes or accomplishes the signification and is not merely a matter of translating it.¹

Merleau-Ponty is here suggesting, with explicit reference to performance and art, the enactment of meaning out of movement and material engagement, such that significance and aesthetic experience flows through them, constituted rather than caused.

I won’t try to lay out in any scholarly detail the connections between phenomenology and embodied cognition, or the specific version of philosophy known as enactivism. I’ve done so elsewhere where I’ve argued that a phenomenologically informed enactivism is not just about cognition narrowly construed, but is a philosophy of nature that has close ties with pragmatism.² I could line up a cast of characters to trace a line that starts in

-
- 1 Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 2012), p. 188.
 - 2 Shaun Gallagher, *Enactivist Interventions* (Oxford: Oxford University Press, 2017).

the neighborhood of Edmund Husserl, and connects with Merleau-Ponty, James Gibson, Hubert Dreyfus, Francisco Varela, and some thinkers in the last 20 years who have extended phenomenological enactivism across a number of disciplines and in ways that emphasize not just action-oriented (body-schematic) processes, but also narrative, meaning, affect, material engagement and intersubjectivity.³ Further productive connections have been made between these lines of thought and pragmatism, especially with thinkers such as Charles Sanders Peirce and John Dewey.⁴

With Dewey, for example, we find not only a clear emphasis on embodiment and material engagement, but also on the aesthetic dimensions of everyday life. My plan is to follow this emphasis and to trace out an aesthetic continuity between everyday action and expert artistic performance, which can be seen in movement and gesture, in our engagements with material aspects of the environment, and in our interactions with other people. Aesthetic experience is variable across these different kinds of doings, and across different circumstances that may be defined as variations in fields of affordances; it may also reduce to zero in some precarious situations. But here I'm getting ahead of myself.

To be clear, however, in approaching the question of aesthetic experience, as I do in these lectures, I am almost exclusively focused on performance. I'm interested in the aesthetic experience of the performer – the musician, the dancer, the actor, etc. Whether and how the concept of aesthetic experience discussed in this context can carry over to questions about the aesthetic experience of the audience, or, seemingly the further removed experience of the observer/viewer of paintings or other plastic arts – these are questions I raise at the end of the final lecture but I don't claim to answer in any definitive way.

3 See Giovanna Colombetti, *The Feeling Body* (Cambridge: MIT Press, 2014); Hanna De Jaegher and Ezequiel Di Paolo, 'Participatory sense-making', *Phenomenology and the cognitive sciences*, 6, 4 (2007), 485-507; Daniel D. Hutto, *Folk Psychological Narratives: The Sociocultural Basis of Understanding Reasons* (Cambridge: MIT Press, 2012); Lambros Malafouris, *How Things Shape the Mind* (Cambridge: MIT Press, 2013); Alva Noë, *Action in Perception* (Cambridge: MIT Press, 2004); Claudio Paolucci, *Cognitive Semiotics* (Berlin: Springer, 2021); Evan Thompson, *Mind in Life: Biology, phenomenology, and the sciences of mind* (Cambridge: Harvard University Press, 2007).

4 See Marta Caravà, 'Une rencontre entre la philosophie et la sémiotique de Peirce, l'Énactivisme et l'Esprit Étendu'. Perspectives sur un débat contemporain', *Interrogations*, 27, <http://www.revue-interrogations.org/Une-rencontre-entre-la-philosophie>; Paolucci, *Cognitive Semiotics*.

This book is based on the *Lezioni Veneziane di Filosofia*, an invited series of 3 lectures at Ca' Foscari University of Venice, which I delivered during the Venice *Biennale Arte* in September 2019. The Biennale took up what in hindsight (after the more recent biblical-scale flood in Venice, and now a world-wide pandemic) can only be called an understated theme: “May You Live in Interesting Times.” My time in Venice, however, was both interesting and beautiful thanks to Roberta Dreon and Carlos Vara Sánchez, who I now thank for providing the opportunity, and for their work in arranging my visit. I also acknowledge several colleagues and co-authors from whom I have learned a lot about the issues discussed in these lectures: Mia Burnett, Julia Gallagher, Simon Høffding, Jesús Ilundáin-Agurruza, Christian Kronsted, Kevin Ryan, and Alessandro Salice. Also, I thank my wife, Elaine, who, trained in art history, has been inspiring me for years. I should also mention, relevant to the particular topics covered in these lectures, my interactions with Dan Hutto, Katsunori Miyahara, John Sutton, and when he was still in the flow of life, Hubert Dreyfus. My research for this project was supported by an Australian Research Council grant, *Minds in Skilled Performance* (DP170102987).

Here is a short preview of the three lectures.

In Lecture 1, *Mindful and Mindless Performance*, I begin by focusing on different types of performance, ranging from athletics to the performing arts. I explore the phenomenology of attention and self-awareness during these different performances, and ask whether we should describe them as mindless (lacking self-awareness), as Hubert Dreyfus has suggested, or mindful, and in the latter case, what that would mean. I review empirical and phenomenological studies that suggest different degrees of mindful awareness operative in expert performance such as dance, and including group (intersubjective) performance, as in cases of playing music together. I build on some recent work on the concept of a meshed architecture⁵ that I propose to make more complex and dynamic.

In Lecture 2, *Media, Movement and Material Engagement*, I consider some ideas from enactivist embodied cognition about how different types of movement either contribute to thinking or can be regarded as forms of thinking. Gesture is an obvious candidate and I'll show that research on gesture aligns with Merleau-Ponty's idea that speech ‘accomplishes thought’. I'll also provide evidence that movement (including whole-body

5 See especially Wayne Christensen, John Sutton, and Doris J. F. McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’, *Mind & Language*, 1, 31 (2016), pp. 37-66.

movement) can scaffold learning and problem solving. I'll further consider three forms of movement connected with the performing arts of dancing and theatrical acting (specifically the movements involved in marking, blocking and dance itself). Movement in this regard can be meaningful and intelligent; a form of sense-making. I'll conclude, however, by arguing, with reference to embodied narrative, that not all movement should be considered a form of thinking.

In Lecture 3, *Not One, Not Two: Acting and Art*, I explore the notion of an empathic mindfulness in performance. I do this by focusing on the very special circumstance of theatrical acting. The question is whether an actor can empathize with her character. In answering this question I point to a complex form of empathic mindfulness that involves a twofold or double attunement during performance. This notion of a twofold attunement comes from Wollheim⁶ (1987) in his analysis of painting, there involving awareness of both what is represented and the technique of representation. I explore this idea in light of Freedberg and Gallese's⁷ (2007) proposal that the experience of art involves a form of simulation, which again relates to empathy. The question, however, is whether this model explains aesthetic experience in performance. I argue that it does not, and that the performer's aesthetic experience is very different from aesthetic experience in the observer/audience perspective. For the latter, at least in some cases, art short circuits our ordinary engagements, places us at the "edge of action",⁸ and makes us aware of possibilities not realizable in current or established frameworks. For the performer, however, aesthetic experience cannot involve short-circuited affordances or an aesthetic stance that remains disengaged or at the edge of action.

6 Richard Wollheim, *Painting as an Art* (London: Thames and Hudson, 1987).

7 David Freedberg and Vittorio Gallese, 'Motion, emotion and empathy in esthetic experience', *Trends in Cognitive Sciences* 11, 5 (2007), pp. 197-203.

8 Maria Brincker, 'The aesthetic stance: On the conditions and consequences of becoming a beholder', in *Aesthetics and the Embodied Mind: Beyond Art Theory and the Cartesian Mind-Body Dichotomy*, ed. Alfonsina Scarinzi (Dordrecht: Springer, 2015), pp. 117-138.

LECTURE 1

MINDFUL AND MINDLESS PERFORMANCE

Two theoretical extremes

Hubert Dreyfus is well known for thinking of action and expert performance as mindless rather than mindful. Dreyfus' conception of expertise takes expert performance to involve a highly proficient bodily coping.¹ He defines a set of stages involved in achieving expert performance. Whereas a novice, at the start, may depend on rigidly following a set of rules or plans, an expert practitioner, in the end, has an intuitive grasp of the situation which is grounded on deep but tacit understanding. The expert knows what to do without thinking, and without having to explicitly follow rules. On Dreyfus's account engagement in embodied practice leads to habit formation where doing becomes automatic, without the necessity of reflection or thought. That is, the expert practitioner, in any realm, from playing tennis, to playing chess, to doing mathematics, does not have to think about what to do – she has an intuitive and automatic insight into how to move or what needs to be done. Indeed, reflective consciousness of one's doing may in fact disrupt the practice.² A description from the elite Sri Lankan cricketer Kumar Sangakkara captures this view precisely:

Basically in batting, you have to be mindless. You've done all the practice, you have your muscle memory and your reflexes are more than quick to deal

-
- 1 See Hubert L. Dreyfus, 'Overcoming the myth of the mental: How philosophers can profit from the phenomenology of everyday expertise', *Proceedings and Addresses of the American Philosophical Association*, 79, 2 (2005), 47–65; Hubert L. Dreyfus and Stuart E. Dreyfus, 'From Socrates to expert systems: The limits of calculative rationality', in *Philosophy and Technology II: Information Technology and Computers in Theory and Practice*, ed. Carl Mitcham and Alois Huning (Boston: D. Reidel Publishing Company, 1985), pp. 111–130.
 - 2 Sian Beilock, *Choke: What the Secrets of Brain Reveal about Getting it Right When You Have To* (New York: Simon and Schuster, 2010).

with any kind of delivery. You've got to let your body do all those things by itself without letting your mind take control.³

For Dreyfus, accordingly, expert performance is mindless, if we understand "mind" in the traditional way. For example, Dreyfus argues that for practiced or skillful intentional action one does not require representation.

A phenomenology of skill acquisition confirms that, as one acquires expertise, the acquired know-how is experienced as finer and finer discriminations of situations paired with the appropriate response to each. Maximal grip [a concept discussed by Merleau-Ponty] names the body's tendency to refine its responses so as to bring the current situation closer to an optimal gestalt. Thus, successful learning and action do not require propositional mental representations. They do not require semantically interpretable brain representations either.⁴

Dreyfus associates the idea of representation with the traditional concept of mind, and with a failed Cartesian philosophy – bound up with epistemic states of knowing-*that* (propositional knowledge), when everything about intelligent action and knowing-*how* depends on being-in-the-situation (rather than standing back and representing the world).

Dreyfus models this conception of expert performance on Aristotelian *phronesis*, which, he explains, is the result of practice, and involves the ability to be mindlessly in the flow. In one example, he suggests that the downhill skier who is engaged in expert performance is in the flow and requires no reflection. Once reflective thinking is introduced, for example, if the skier consciously anticipates possible changes in the texture of the snow, and possible ways to accommodate that, the skier loses his expertise.⁵

I think there are several problems with Dreyfus's concept of *phronesis* as he uses it in his discussion of expertise. I'll indicate two problems directly relevant to our considerations. First, for Dreyfus, in contrast to Aristotle, *phronesis* is seemingly without a social dimension. Aristotle indicates that we gain *phronesis* only by hanging around with the right sort of people,

3 Shirin Sadikot, 'Mindlessness is crucial in batting: Sangakkara', *Board of Control for Cricket in India*, 9 November 2014, <http://www.bcci.tv/news/2014/features-and-interviews/8893/mindlessness-is-crucial-in-batting-sangakkara>. In Christensen, Sutton, McIlwain.

4 Hubert Dreyfus, 'Intelligence without representation: Merleau-Ponty's critique of mental representation', *Phenomenology and the Cognitive Science*, 1, 4 (2002), p. 367.

5 See Gallagher, *Enactivist Interventions* for this example.

and this intersubjective dimension is an important aspect that comes to be embodied in this virtue. Dreyfus, as a number of critics have pointed out,⁶ ignores the importance of the intersubjective dimension in his account of gaining expertise or exercising it.⁷ As Selinger and Crease put it:

From Dreyfus's perspective, one develops the affective comportment and intuitive capacity of an expert solely by immersion into a practice; the skill-acquiring body is assumed to be able, in principle at least, to become the locus of intuition without influence by [social and cultural] forces external to the practice in which one is apprenticed.⁸

Second, whereas Aristotle allows for the idea that the person with *phronesis* is someone who may deliberate in order to discern between possible actions, and indeed is someone who is excellent at this practice of deliberation, Dreyfus emphasizes only the non-deliberative, mindless aspect of an immediate intuitive sense within performance.

Related arguments about the nature of *phronesis* also arise in the debate that Dreyfus has with John McDowell – a debate that starts with Dreyfus' American Philosophical Association Presidential Address, and McDowell's response to it.⁹ McDowell argues that perception (and agency) and embodied

6 See Harry Collins, 'Interactional expertise as a third kind of knowledge', *Phenomenology and the Cognitive Sciences*, 3, 2, pp. 125-143; Iris Young, 'Throwing like a girl', in *Body and Flesh: A Philosophical Reader*, ed. By Donn Welton (Oxford: Blackwell Publishers, 1998), pp. 259-273; Maxine Sheets-Johnstone, 'Kinetic tactile-kinesthetic bodies: Ontogenetical foundations of apprenticeship learning', *Human Studies*, 23 (2000), pp. 343-370.

7 In 2005, in San Francisco, Dreyfus delivered the American Philosophical Association's Presidential Address (Dreyfus 2005). On this occasion he also organized a panel discussion on action and perception, specifically focused on Samuel Todes's re-published book *Body and World* (Samuel Todes, *Body and World*, (Cambridge, MA: MIT Press, 2001)). Todes had provided an analysis of perception and action with an exclusive emphasis on embodied practices. In the panel discussion I argued that one problem in Todes's account was its complete lack of any mention of intersubjectivity, and that this problem carries over into Dreyfus's account of expertise (Gallagher 2009). Since Dreyfus provides no explanation of the role of intersubjectivity or social interaction, his account of expertise is, at the very least, incomplete.

8 Evan Selinger and Robert P. Crease, 'Dreyfus on expertise: The limits of phenomenological analysis', *Continental Philosophy Review*, 35, 3 (2002), p. 245.

9 See Shaun Gallagher, 'The practice of thinking: Between Dreyfus and McDowell', in *The Extended Theory of Cognitive Creativity – Interdisciplinary Approaches to*

coping is conceptual/rational, and not as ‘mindless’ as Dreyfus contends. Dreyfus thinks McDowell ignores non-conceptual, situated embodied coping. McDowell responds, however, that rationality does not have to be situation independent, and this can be seen in the Aristotelian notion of *phronesis* as a model for situated rationality. According to McDowell, however, *phronesis* involves an initiation into conceptual capacities. In contrast, Dreyfus cites Heidegger’s concept of *phronesis* as “a kind of understanding that makes possible an immediate response to the full concrete situation”.¹⁰ For Heidegger, the situation does much of the work. Although McDowell does not deny this, he doesn’t take it to decide the issue of whether perception/action is conceptual/rational or not. Indeed, he acknowledges the influence of Heidegger on his formulation of Aristotle’s view: “the practical rationality of the *phronimos* is displayed in what he does even if he does not decide to do that as a result of reasoning”.¹¹ For McDowell, reasoning is the activity of explicitly deciding which affordances to respond to and how to go about responding to them. He calls this our ‘means-end rationality’ which involves a reflective stepping back.

Although Dreyfus agrees that we do have the possibility to step back and reflect, he challenges the idea that this is part of the process that constitutes expertise.

Such stepping back is intermittent in our lives and, in so far as we take up such a ‘free, distanced orientation’, we are no longer able to act in the world. I grant that, when we are absorbed in everyday skillful coping, we have the capacity to step back and reflect but I think it should be obvious that we cannot exercise that capacity without disrupting our coping.¹²

Dreyfus also points to Merleau-Ponty as his inspiration for the notion of a mindless absorbed coping. In my view, however, Merleau-Ponty defends the idea of a *minded* coping where the notion of mind is not the traditional disembodied notion, but rather an embodied mind. Mind and reason are not excluded from movement or performance, but redefined as the expression of an embodied intelligence.

Performativity ed. by Antonino Pennisi and Alessandra Falzone (Berlin: Springer, 2016), pp. 134-146 for a detailed discussion.

10 Hubert Dreyfus, ‘Overcoming the myth of the mental: How philosophers can profit from the phenomenology of everyday expertise’, p. 51.

11 John McDowell, ‘What myth?’, *Inquiry*, 50, 4 (2007), p. 341.

12 McDowell, ‘What myth?’, p. 354.

I have tried, first of all, to re-establish the roots of mind in its body and in its world, going against doctrines that treat perception as a simple result of the action of external things on our body as well as those which insist on the autonomy of consciousness.¹³

Phenomenology shows us that there are different kinds of mindful self-awareness practices, and not all involve ‘stepping back’. The term ‘reflection’ is too strong in this context. Gilbert Ryle¹⁴ offers a better phrase: ‘being heedful’. The down-hill skier pays heed to just those things he needs to attend to, in a way that is not disconnected from the performance, but part of expertise, part of his skill – a dimension of the flow rather than something different from it – a practice in continuity with embodied coping. It seems reasonable to think that the expert skier should know when to be self-aware, when to be aware of the snow, and when not to; and what to pay heed to – this just is the model of *phronesis*. The debate between Dreyfus and McDowell is related to another ongoing debate about the nature of know-how. Ryle made a well-known distinction between *knowing-that* and *knowing-how*. On his view, knowing how, or having the skill or ability to do something, is different from knowing a particular fact: “the general assertion that all intelligent performance requires to be prefaced by the consideration of appropriate propositions [or rules] [= the intellectualist view] rings unplausibly”.¹⁵ This intellectualist view, however, has been defended more recently by Jason Stanley and Timothy Williamson¹⁶ in a way that is not unrelated to McDowell’s position. They argue that knowing-how to do something is a species of propositional knowing-that, and skill depends on having such knowledge. Motoric processes are “perfectly general,” reflex, automatic and dumb, and they need to be guided by specificity of propositional knowledge.¹⁷

13 Maurice Merleau-Ponty, *The Primacy of Perception* (Evanston: Northwestern University Press, 1964a), p. 3.

14 Gilbert Ryle, *The Concept of Mind* (London: Routledge, 2009).

15 Ryle, *The Concept of Mind*, p. 30.

16 Jason Stanley and Timothy Williamson, ‘Knowing how’, *Journal of Philosophy*, 98, 8 (2001), pp. 411-444; Jason Stanley and Timothy Williamson, ‘Skill’, *Noûs*, 51, 4 (2017), pp. 713-726; Jason Stanley, *Know-How* (Oxford: Oxford University Press, 2011).

17 For a critique of this kind of intellectualism see Ellen Fridland, ‘Automatically minded’, *Synthese*, 194, 11 (2017), pp. 4337-4363; Ellen Fridland, ‘Skill and motor control: Intelligence all the way down’, *Philosophical Studies*, 174, 6 (2017), pp. 1539-1560; Shaun Gallagher and Benjamin Aguda, ‘Anchoring know-how: Action, affordance and anticipation’, *Journal of Consciousness Studies*, 27,

On one side, then, Stanley and Williamson understand the mind to be characterized primarily as rational, intelligent, and concept-driven, in contrast to bodily, motoric processes which are dumb, reflex, and automatic. On the other side, Dreyfus argues that skilled coping is mindless. In this regard he accepts the same characterization of mind as McDowell, Stanley and Williamson but then denies that skill or know-how involves the rational, concept-driven mind. In doing so, he treats (or comes close to treating) motoric habits as mindless, reflex and automatic. There is room, however, between these two extremes, mapped out by those who defend an embodied concept of mind; those who think of mind as including action-oriented, sensory-motor processes, where motoric processes are smart, not-so-automatic, and attuned to the particular situation in ways that are not automatic.

The phenomenology of performance

I think we can find good phenomenological evidence for this kind of middle ground – a non-intellectualist, but nonetheless mindful practice of *phronesis* in performance. In contrast to Dreyfus who *over-emphasizes* the lack of heedful awareness in expert performance, we can find studies of expert performance in athletics, dance, and music performance that suggest a mindful practice.

John Sutton et al. have studied athletic performance and developed a model according to which expert performance is not without some sort of self-awareness. For example, in order to hit a shot with extraordinary precision through a slim gap in the field a cricket player, with less than half a second to execute hitting a hard fast ball traveling at 140 km/h, draws not only on smoothly-practiced batting, but also on his awareness of context and conditions relevant to the game.

[The performance] is fast enough to be a reflex, yet it is perfectly context-sensitive. This kind of context-sensitivity, we suggest, requires some forms of mindedness – [an] interpenetration of thought and action exemplified in open skills.... Expert performers precisely counteract automaticity, because it limits

3-4 (2020), pp. 3-37; Charles Wallis, 'Consciousness, context, and know-how', *Synthese*, 160, 1 (2008), pp. 123-153.

their ability to make specific adjustments on the fly.... Just because skillful action is usually pre-reflective, it does not have to be mindless.¹⁸

Automatic control has limited ability to cope with variability; skill and innovative performance requires flexibility. Sutton contends that the expert cricket player is aware of the specifics of the situation and is capable of on-the-fly, considered awareness which allows for strategic decision making in the flow of performance. This is elective “target control for some features, such as goal, one or more parameters of execution, like timing, force, a variation in the sequence, and so on”.¹⁹ Accordingly, the expert player is not on automatic pilot – she has trained up her body-schematic control of movement, but what she needs to do in the context of a game is not automatic. On the Dreyfus model, finely tuned motor control processes (an attuned body schema) is all the expert needs. Skill within a context of a game involves more – some mindful strategic sense of where she is going to put the ball. The cricket player can see the potential shot in the situation and “can ‘feel’ when her motor system has the right configuration”.²⁰ These researchers suggest the model of a “meshed” architecture which integrates perceptual and cognitive elements with body-schematic control. This is an important concept to which I will return.

Just as cricket is different from football, different types of awareness may be involved in different types of performance. Richard Shusterman, for example, argues that explicitly conscious somatic self-awareness, including “distinct feelings, observations, visualizations, and other mental representations of our body and its parts, surfaces, and interiors” can play an important role in performance. Such “mindfully conscious somatic perceptions can help us to perform better. A slumping batter, by looking at his feet and hands could discover that his stance has become too wide or that he is choking up too far on the bat. A dancer can glance at her feet to see that they are not properly turned out”.²¹ Shusterman argues that both explicit exteroceptive consciousness, and more implicit proprioceptive and kinaesthetic awareness can help to improve performance. Concerning the latter, he claims that “through systematic practice of somaesthetic

18 John Sutton et al. ‘Applying intelligence to the reflexes: embodied skills and habits between Dreyfus and Descartes’, *J British Society Phenomenology*, 42, 1 (2011), p. 80.

19 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill Experience’, p. 50.

20 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill Experience’, p. 59.

21 Richard Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, (Cambridge: Cambridge University Press, 2008), p. 53.

awareness this proprioceptive consciousness can be significantly improved to provide a sharper and fuller picture of our body shape, volume, density, and alignment without using our external senses".²² With respect to explicit consciousness he identifies two types: conscious somatic perception and reflective somatic perception with explicit awareness. The first includes a visual or proprioceptive sense of one's body parts, their relations with other body parts, posture and with objects in the environment. We can also be aware of breathing, or of tensions in the body. In the second type of explicit reflective consciousness "we are not only conscious of what we perceive as an explicit object of awareness but we are also mindfully conscious of this focused consciousness as we monitor our awareness of the object of our awareness through its representation in our consciousness".²³ That is, we are self-consciously aware of our own perceptual monitoring.

In some sports that involve high-speed action, there may not be time for measured reflection, but that does not imply mindlessness, nor does it rule out some amount of self-awareness or attention.²⁴ In long-distance running, self-awareness of one's body may be important. Gunnar Breivik quotes ultra-marathoner Bernd Heinrich:

I often noticed that muscle tenseness could be relaxed by conscious effort. I then focused attention on my calves, thighs, arms, trying to relax them even during training runs, so that the most essential running muscles would be exercised. For a mile or so I would monitor and hence try to control the kick of my arm swings, to make sure no energy was wasted in side-to-side motion.²⁵

Olympic swimmer Jim Montgomery provides another example.

As soon as I jump in the water, I begin to concentrate on my stroke deficiencies. Am I carrying my head too high, dropping my right elbow midway through the pull, or not finishing through with my left arm? All these things can occur in my freestyle stroke when fatigue sets in.²⁶

22 Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, pp. 53-54.

23 Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, p. 55.

24 Jørgen W. Eriksen, 'Mindless coping in competitive sport: Some implications and consequences', *Sport, Ethics and Philosophy*, 4, 1 (2010), pp. 66-86.

25 Gunnar Breivik, 'Skillful coping in everyday life and in sport: A critical examination of the views of Heidegger and Dreyfus', *Journal of Philosophy of Sport*, 34, 2 (2007), p. 129.

26 Jim Montgomery and Mo Chambers, *Mastering Swimming* (Champaign: Human Kinetics, 2009), p. 35.

In studies of dance performance, the philosopher Barbara Montero, drawing on her own experience as a professional ballet-dancer, rejects the idea that expert performance somehow is effortless or thoughtless. She argues that although certain types of bodily awareness may interfere with well-developed skills, it is typically not detrimental to the skills of expert athletes or performing artists. Montero²⁷ examines a number of scientific studies that purport to show that paying attention to certain bodily aspects of performance will interfere with performance. She contends that these studies are not ecological – that is, they introduce types of cognitive efforts that are simply not found in usual practice – e.g., the instruction to pay constant attention to your feet as you dribble a soccer ball.²⁸ Montero also cites qualitative studies that indicate that certain types of conscious monitoring (different in different performances) improve performance.

For experts, when all is going well, optimal or near optimal performance frequently employs some of the following conscious mental processes: self-reflective thinking, planning, predicting, deliberation, attention to or monitoring of their actions, conceptualizing their actions, control, trying, effort, having a sense of the self, and acting for a reason. Moreover, such mental processes do not necessarily or even generally interfere with expert performance, and should not generally be avoided by experts.²⁹

Martin Norgaard cataloged a variety of experiences among jazz improvisors that included planning, focused attention, drawing from prior knowledge, and conscious monitoring that involved evaluation of notes just played. A piano player describes “monitoring a bunch of different things in the music ... the line, [chord] changes ... [...] form, and if one of them becomes a problem that screen [the scope of awareness] gets bigger ... you zoom in to it....”³⁰ If things are going smoothly, however, no thinking or conscious monitoring is necessary. Beginners, however, are more deliberative.

27 Barbara G. Montero, ‘Does bodily awareness interfere with highly skilled movement?’, *Inquiry*, 53, 2 (2010), pp. 105-122; Barbara G. Montero, ‘Thinking in the zone: The expert mind in action’, *The Southern Journal of Philosophy*, 53, S1 (2015), pp. 126-140.

28 See Paul R. Ford, Nicola J. Hodges, and Andrew M. Williams, ‘Online Attentional Focus Manipulations in a Soccer-Dribbling Task: Implications for the Proceduralization of Motor Skills’, *Journal of Motor Behavior*, 37, 5 (2005), pp. 386-394.

29 Barbara G. Montero, *Thought in action: Expertise and the conscious mind*, (Oxford: Oxford University Press, 2016), p. 38.

30 Martin Norgaard, ‘The interplay between conscious and subconscious processes during expert musical improvisation’, in *Music and Consciousness 2: Worlds*,

The descriptions provided by and cited by these researchers involve clearly cognitive processes: reflective consciousness, attention, thinking, planning, deliberation. Some phenomenologists argue for a more minimal grade of self-awareness, closer to what Shusterman calls somaesthetic or proprioceptive awareness. Dorothee Legrand, for example, distinguishes *performative self-awareness* from opaque and transparent awareness. By opaque she means a thematic, reflective awareness that objectifies the body – something that would characterize a novice performance when someone is learning to move in dance or music. By transparent she means that the body is experienced nonthematically, prereflectively and as an aspect of the acting subject – as in everyday walking. Legrand describes performative self-awareness as follows: “while dancing [a dancer] is intensively attending to [his body]. But he is not attending to it reflectively as an object. Rather, his [pre-reflective] awareness of his body as subject is heightened”.³¹ The way we are self-aware during expert performance, such as in dance, however, may also involve a prereflective self-awareness that is pragmatic rather than somaesthetic, that is, a performative self-awareness that does not take the body as an intentional object, but rather involves “a sense that one is moving or doing something, not in terms that are explicitly about body parts, but in terms closer to the goal of the action”.³²

Although Montero allows for the possibility that expert performers, in dance or musical performance, stay prereflective, and even occasionally enter a mindless zone, she also thinks that optimal performance often coincides with thoughtful performance, involving a step up from heightened prereflective performative or pragmatic awareness. Shusterman proposes that one reason these explicit kinds of self-awareness can improve performance is due to the inaccuracy involved in prereflective awareness. On the basis of prereflective awareness, or simply not having an awareness at all, “I may think I am keeping my head down when swinging a golf club, though an observer will easily see I do not. I may believe I am sitting

Practices, Modalities, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), p. 189.

- 31 Dorothee Legrand, ‘Pre-reflective self-consciousness: on being bodily in the world’, *Janus Head* 9, 2 (2007), p. 512; see also Dorothee Legrand and Susanne Ravn, ‘Perceiving subjectivity in bodily movement: The case of dancers’, *Phenomenology and the Cognitive Sciences*, 8, 3 (2009), 389–408.
- 32 Shaun Gallagher, *How the Body Shapes the Mind* (Oxford: Oxford University Press, 2005), p. 73.

straight when my back is rounded”.³³ Without a trained explicit attention to one’s posture, performance could easily decline.

It is quite possible that elite performers can discriminate among stimuli that may be lost as a blur for others.³⁴ They can shift across a full register between explicit conscious control and prereflective consciousness, between automatic and spontaneous focus, improvising in some cases to adjust their attunement to changing conditions. In contrast to Dreyfus, then, the phenomenology of performance suggests variable and trained forms of awareness. The idea of trained awareness suggests that not just any old form of awareness will do. Trained awareness may include a range of possible foci posited in varying circumstances, as in the thick of a performance or competition, from kinaesthetic-proprioceptive prereflective awareness, to something closer to a reflective attention to a movement or body part.

Meshing on the vertical

We’ve seen that, according to Sutton et al, automaticity is not enough; there needs to be some form of mindful or heedful situated awareness.

Skill is not a matter of bypassing explicit thought, to let habitual actions run entirely on their own, but of building and accessing flexible links between knowing and doing. The forms of thinking and remembering which can, in some circumstances, reach in to animate the subtle kinaesthetic mechanisms of skilled performance must themselves be redescribed as active and dynamic.³⁵

Two questions arise at this point. First, what precisely is meant by explicit thinking and remembering? In the various accounts rehearsed above it seems that what Christensen, Sutton, and McIlwain (2016) call situation awareness could involve a range of cognitive and experiential forms, from thoughtful, reflective consciousness, to a thin performative prereflective awareness, with different gradations in between, allowing for such variations as

33 Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, p. 64.

34 Shaun Gallagher and Jesús Ilundáin-Agurruza, ‘Self- and other-awareness in joint expert performance’, in *Routledge Handbook on Skill and Expertise*, eds. Ellen Fridland and Carlotta Pavese (London: Routledge, 2020), pp. 378-393.

35 Sutton et al., ‘Applying intelligence to the reflexes: embodied skills and habits between Dreyfus and Descartes’, p. 95.

- self-reflective thinking, planning, predicting, deliberation
- selective target control
- conscious monitoring
- a sense of one's rightly configured body
- enhanced prereflective awareness (proprioceptive, performative or pragmatic)

The second question: how precisely does thought “reach in” to the basic body-schematic processes of skilled performance?

Christensen, Sutton, and McIlwain offer a helpful answer to the second question: the model of a meshed architecture which integrates perceptual and cognitive elements with body-schematic control. On this view performance is neither fully automatic nor fully cognitive. They define this as a hybrid view according to which “cognitive control reduces during skill learning as automatic control comes to play an increasing role, but cognitive control continues to make a substantial positive contribution at advanced levels of skill”.³⁶ Although it remains unclear how hybrid control operates, they outline two possibilities: (1) an *autonomous* functioning that describes “abbreviated forms” of conscious reasoning during performance – e.g., a quick decision on strategy that then allows automatic processes to take over the execution of action.³⁷ Their own preference is for (2) a *meshed* functioning which involves “a broadly hierarchical division of control responsibilities, with cognitive control usually focused on strategic aspects of performance and automatic processes more concerned with implementation”.³⁸ At first glance the meshed architecture seems similar to the autonomous approach, but they specify that there is a close integration so that cognition directly influences motor control in some cases. This integration is mediated by situation awareness that does not require explicit inferences, but rather is an awareness that is “constructed” over time with the help of attentional control. The cognition involved in this process is not at the high-level of

36 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’, p. 41.

37 For this model see e.g., David Papineau, ‘In the zone’, *Royal Institute of Philosophy Supplements*, 73 (2013), pp. 175-196; Sian L. Beilock and Rob Gray, ‘Why do athletes choke under pressure?’, in *Handbook of Sport Psychology*, eds. Gershon Tenenbaum and Robert C. Eklund (London: John Wiley and Sons, 2007), pp. 425-444.

38 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’, p. 43

deliberation or the formation of prior intention, but closer to an intention-in-action that specifies an action in context, directly shaping the action.

I think that the model of a meshed architecture is a promising one, and it can apply more generally to many different forms of performance, including dance and musical performance. But different interpretations of the meshed architecture are possible, depending on how we answer the first question about how to understand explicit thinking and remembering found in some of the above descriptions.

In some theorists, like Shusterman and Montero, we find a high-order cognitive interpretation. Evelyn Tribble³⁹ points to another example in her discussion of theatrical performance. In discussing the notion of meshed architecture she cites Robert Cohen's *Acting Power*, where he refers to the actor's "preparatory thinking as she readies herself for the role, and in-performance thinking, which, in an ideal situation, is 'aligned' with the [performer's] action".⁴⁰ For Cohen, when the actor's thinking is "properly aligned, her tasks are integrated".⁴¹ As Tribble indicates, this is a top-down process for Cohen; we can say a strictly vertical integration between a low-order flow of embodied coping (ala Dreyfus), and higher-order, reflective cognitive aspects.

One could think of this type of vertical alignment between higher-order cognitive processes and lower-order motor control processes, as involving different degrees of integration between the higher and lower processes. This seems to be what Christensen, Sutton and McIlwain have in mind as they describe the mesh as a combination of cognitive (= control-related processes) and automatic motoric processes. As they put it, "controlled and automatic processes are closely integrated in skilled action, and ... cognitive control directly influences motor execution in many cases".⁴² This kind of top-down control, can be "smooth," "adaptive," or "effortful".⁴³ As such, this model divides the vertical into two poles: cognitive control and motoric automaticity – cognitive at the top, descending to do its job; automatic at the bottom waiting for instruction or guidance from the top.

39 Evelyn Tribble, 'Distributed cognition on mindful bodies and the arts of acting', in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), pp. 133-140.

40 Robert Cohen, *Acting Power* (London: Routledge, 2013), p. 33; cited in Tribble 2016.

41 Cohen, *Acting Power*, p. 16.

42 Christensen, Sutton, and McIlwain, 'Cognition in skilled action: Meshed control and the varieties of skill experience', p. 43.

43 Christensen, Sutton, and McIlwain, 'Cognition in skilled action: Meshed control and the varieties of skill experience', p. 52.

In the remainder of this lecture I'll suggest a more complex conception of the meshed architecture by adding three features:

- (1) a concept of *intrinsic control*: control is not entirely top-down, but rather, on the vertical axis there are important bottom-up processes that are not automatic;
- (2) affectivity;
- (3) a *horizontal integration* of environmental, social and normative factors.

The first idea is that the integration processes can work from the bottom-up. Practiced and habitual movements (which are not straightforwardly or fully or necessarily automatic) play an important role in dance and performance more generally. Variations in heedful and targeted (attentive, perceptual) awareness are constrained and enabled by a consolidation of fine, detailed motor control (body-schematic) processes (which, I'll argue, are not perfectly general or automatic, but attuned to the specifics of the situation). Second, this attunement is not purely motoric; affect or affectivity is also involved. Third, if these accounts of the meshed architecture in performance focus on variations in vertical integration of cognition and movement, there is some evidence that the mesh is even more complex and that we need to consider a form of horizontal integration.

Intrinsic control affectivity and horizontal meshing

We can get a better idea of both the constraints imposed by bottom-up processes, and by a horizontal integration by considering an example of musical performance. Simon Høffding's⁴⁴ study of the Danish String Quartet provides some evidence that the meshed architecture involves both vertical and horizontal integration. Thus, for example, on the vertical line, we can find similar considerations about the role of thoughtful performance ranging from explicit reflective thinking to prereflective awareness, and in some cases, a form of deep absorption where *close-to-automatic* processes of the body schema do most of the work. Along this line Høffding and Satne⁴⁵ interpret the notion of a meshed architecture as focused on mediating processes between the all-or-nothing automatic versus "full cognitive"

44 Simon Høffding, *A Phenomenology of Musical Absorption* (London: Palgrave-Macmillan, 2019).

45 Simon Høffding and Glenda L. Satne, 'Interactive expertise in solo and joint musical performance', *Synthese*, (2019), pp. 1-19.

control. Whereas automatic *versus* full cognitive control is an all-or-nothing matter, they suggest degrees of mediation, borrowing terminology from Christensen, Sutton and McIlwain, to describe distinctions between “smooth control”, “adaptive control”, and “effortful problem solving,” each of which shade into one another.⁴⁶

Such conceptual work helps resolve the dichotomies that haunt the expertise debate and is compatible with other phenomenologically informed expertise accounts for instance of how musicians employ different kinds of control functions in musical interaction.⁴⁷

Specifically, Høffding and Satne suggest that the integration should be conceived more as a fusion – more like an okapi (an animal born of zebra and giraffe) than a hybrid car that alternates between the current of automaticity and the high-octane fossil fuel of full throttle cognition.⁴⁸

Intrinsic control

Høffding’s analysis helps to anchor the phenomenology of performance in deeper structures, those prenoetic processes that occur below the surface, body schematic processes that are attuned by practice and that allow the performer to forget about the complex motor details of performance. Such processes provide the freedom to pay mindful attention to relevant

46 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’, p. 52.

47 Høffding and Satne, ‘Interactive expertise in solo and joint musical performance’, p. 5. See Alessandro Salice, Simon Høffding, and Shaun Gallagher, ‘Putting plural self-awareness into practice: The phenomenology of expert musicianship’, *Topoi* 38, 1 (2017), pp. 197-209.

48 Høffding and Satne (Høffding and Satne, ‘Interactive expertise in solo and joint musical performance’), building on the notion of meshed architecture (Christensen, Sutton, and McElwain, ‘Cognition in Skilled Action: Meshed Control and the Varieties of Skill Experience’), and enactivist conceptions of interaction (Hanna De Jaegher, Ezequiel Di Paolo, and Shaun Gallagher, ‘Does social interaction constitute social cognition?’, *Phenomenology and the cognitive sciences*, 6, 4 (2010), pp. 441-447; Gallagher, *Enactivist Interventions*), as well as extended notions of affect in music (Dylan van der Schyff and Joel Krueger, ‘Musical empathy, from simulation to 4E interaction’, in *Music, Sound, & Mind*, ed. A. Ferreira (Rio de Janeiro: Editora da ABCM Brazilian Association of Music Cognition, 2020)) propose an expanded notion of meshed architecture, which they call ‘arch’, that is very close to what I am proposing here.

surrounding factors – to heedfully focus on selective target control if and when that is required.

One central question: are these body-schematic processes fully automatic? Christensen, Sutton, and McIlwain mention this issue with reference to Fitts and Posner who think that it is primarily component processes which automate;⁴⁹ Logan⁵⁰ who likewise argues that automaticity is not all or nothing, but is relative or by degree; and Jonides et al.⁵¹ who explicitly argue that motor control processes overall do not automate. But Christensen, Sutton and McIlwain leave this issue undecided and, as I read them, they treat body-schematic processes as fully automatic, and therefore in need of cognitive control in the performance situation. We find a similar conception in two-system approaches.⁵² System 1 is taken as unconscious and automatic; System 2 is taken to be conscious and controlled. Norgaard notes that “this account is in accordance with the traditional view of information processing and motor learning in which automaticity is attained through practice”,⁵³ so that, citing Fitts and others, at least “some elements of the task become automated”.⁵⁴

Such views on automaticity push us back closer to the intellectualist conception of know-how defended by Jason Stanley.⁵⁵ Although Stanley acknowledges that sensorimotor attunement rests on a form of motor acuity that is not a form of knowledge-that, propositional knowing-that is required to control performance.⁵⁶ That is, motor acuity is still considered automatic and “perfectly general” and in need of guidance from propositional

49 Paul M. Fitts and Michael I. Posner, *Human Performance* (Belmont CA, Wadsworth, 1967), p. 14.

50 Gordon D. Logan, ‘Skill and automaticity: relations, implications, and future directions’, *Canadian Journal of Psychology/Revue Canadienne de Psychologie*, 39 (1985), pp. 367-386.

51 John Jonides, Moshe Naveh-Benjamin, and John Palmer, ‘Assessing automaticity’, *Acta Psychologica*, 60, 2-3 (1985), pp. 157-171.

52 See Jonathan St. B. T. Evans, ‘Dual processing accounts of reasoning, judgment, and social cognition’, *Annual Review of Psychology*, 59 (2008), pp. 255-278; Norgaard, ‘The interplay between conscious and subconscious processes during expert musical improvisation’.

53 Norgaard, ‘The interplay between conscious and subconscious processes during expert musical improvisation’, p. 190.

54 Norgaard, ‘The interplay between conscious and subconscious processes during expert musical improvisation’ p. 190.

55 Jason Stanley, *Know-How* (Oxford: Oxford University Press, 2011).

56 Jason Stanley and John W. Krakauer, ‘Motor skill depends on knowledge of facts’, *Frontiers in Human Neuroscience*, 7, 503 (2013), doi.org/10.3389/fnhum.2013.00503.

knowledge in any specific case.⁵⁷ The control arrow, so to speak, goes strictly from the top down.

Evidence from kinematics, however, suggests that body-schematic processes are perfectly specific, adaptive and highly dynamical in order to facilitate movement aligned with particular situations and for specific intentions. To align with a particular action intention or goal, there are, in fact, lots of moving parts that require controlled integration, across varying timescales, many of which are too fast for conscious control.⁵⁸ In contrast to what Stanley⁵⁹ argues, body-schematic processes are neither fully automatic (once set off by a stimulus, blindly or inflexibly doing the same thing in each circumstance, and therefore requiring propositional guidance), nor “perfectly general,” but rather include a specificity that involves an “enormous number (which often reaches three figures) of degrees of freedom”,⁶⁰ as well as a complex temporal-dynamical organization

57 For a critical discussion of this point, see Ellen Fridland, ‘Knowing-how. Problems and considerations’, *European Journal of Philosophy*, 23, 3 (2015), pp. 703-727, and Gallagher & Aguda (2020). It can be noted that at least according to some of the literature on automaticity automatic processes involve very narrow generalization, which is to say, they remain quite specific. With automaticity the agent does not become better at X in general, but better at X in very specific circumstances (see e.g., Logan 1985). Logan also discusses problems in assuming that automaticity is the opposite of control, something clearly assumed by the intellectualist model.

58 One pervasive issue that I do not focus on in these lectures concerns time, intrinsic temporality, and the various timescales involved in experience, action and affect. These are important issues that are implicit in any discussion of the kinds of dynamics that characterize the meshing of different factors. Affect, in many cases, tends to run on a slower clock than action. I discuss such issues in Gallagher, *Enactivist Interventions* and Shaun Gallagher, *Action and Interaction* (Oxford: Oxford University Press, 2020).

59 Stanley, *Know-How*.

60 Nikolai A. Bernstein, ‘Some emergent problems of the regulation of motor acts’, in *Human Motor Actions: Bernstein Reassessed*, ed. H. T. A. Whiting (Amsterdam: North Holland, 1984), pp. 354-355. Here’s a more recent description of this complexity: “The hand has a very complex anatomical structure. Functionally, movements of the hand require a coordinated interplay of the 39 intrinsic and extrinsic muscles acting on 18 joints. Among all the joints of the hand, of particular importance is the carpometacarpal joint of the thumb. This joint is of a saddle type and its immense significance for the hand function emanates from the extra mobility this joint is endowed with, resulting in the opposition of the thumb to the other fingers. The plethora of bones, joints, and muscles of which the hand is constituted gives to this structure amazing biomechanical complexity. From the kinematic perspective, the hand has over 20 degrees of freedom” Vassilis Raos et al., ‘Functional properties of grasping-related neurons in the ventral premotor area F5 of the macaque monkey’, *Journal of Neurophysiology*, 95, 2 (2005), p. 709.

involving anticipatory processes across skeletal geometry, kinematic phase constraints, muscular geometry, and the dynamics that characterize the relationship between kinematics and geometry.⁶¹ The important point here is that the complex organization of all these factors is not blind or repetitive or always the same; adjustments are made relative to task, environment, bodily position, and the agent's intention. What Merleau-Ponty calls motor intentionality is already part of the motoric process. These complex processes come to align with a particular intention, not automatically but in heedful sensory-motor attunement with the particularities of the situation. Body schematic processes are attuned to the specifics of the situation via kinaesthetic-proprioceptive and ecological information that shapes our pragmatic prereflective awareness of what we are doing.

Practice within such constraints may tune motoric organization to the point where it can become habitual – which may mean *close to* automatic, or automatic *in some aspects*, but not fully automatic. Merleau-Ponty argues that a habit is developed when the body “acquires the power of responding with a certain type of solution to a certain form of situation”.⁶² This is a discriminatory conception of habit different from that found in Ryle (1949), who equates habit with blind repetition, or Sutton et al.,⁶³ where habit is equated with automaticity. Rather, habit involves intelligent response, where intelligence is built into the movement. Instead of blind automatic repetition, habit is an open and adaptive way in which the body learns to cope with familiar or unfamiliar situations. John Dewey likewise distinguishes between intelligent and routine habit.

Repetition [i.e., automaticity] is in no sense the essence of habit.... The essence of habit is an acquired predisposition to *ways* or modes of response.... Habit means special sensitiveness or accessibility to certain classes of stimuli, standing predilections and aversions, rather than bare recurrence of specific acts.⁶⁴

On this view, performance involves not simply a top-down integration of cognition constraining or guiding automatic processes. Motoric processes in

61 See Alain Berthoz, *The Brain's Sense of Movement*, trans. G. Weiss (Cambridge, MA: Harvard University Press, 2000); Gallagher and Aguda.

62 Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald Landes (London: Routledge, 2012), p. 143.

63 Sutton et al. ‘Applying intelligence to the reflexes: embodied skills and habits between Dreyfus and Descartes’, p. 95.

64 John Dewey, *Human Nature and Conduct* (New York: Henry Holt & Co., 1922), p. 42.

the case of expert performance, are not characterized by automaticity, but are already context-sensitive, smart, open and adaptive, and they may elicit or shape or enable the cognitive elements that may be in the mesh. This is not to deny that there may be such cognitive elements – heedful and goal-oriented forms of (attentive, perceptual) consciousness, selective target control, conscious monitoring of action, a sense of one’s rightly configured body, a heightened prereflective awareness. But in such cases the mindfulness is not simply imported from the top; it’s already built into the bottom, and, again in some cases, such habitual processes may be what guide any need for more reflective cognitive processes. That habitual, body-schematic processes elicit and guide reflective processes is what I mean by intrinsic control. The control arrow doesn’t necessarily go from the top down.

Affect and Horizontal integration

Høffding’s analysis of musical performance highlights these body-schematic processes. He also shows that in addition to the reciprocal vertical integration of cognition and body-schematic attunement, other factors are important. The other factors include affect, but also the music itself, and intersubjectivity, i.e., in the case of playing music together, the other players.⁶⁵ The latter two factors as clearly on a horizontal axis. Affect may define an intersection.

Affect, or what Michelle Maiese⁶⁶ calls “affective framing,” shapes our ability to cope with the surrounding world. In the broadest sense it includes emotion processes, but also more general and basic bodily states such as hunger, fatigue, pain.⁶⁷ Affect works differently in different types of skilled actions, for example in various athletic performances and in the different performing arts. The important differences may have to do with the way that affective factors are integrated with motoric/agentive factors

65 See Høffding, *A Phenomenology of Musical Absorption*; Simon Høffding, ‘Performative passivity: Lessons on phenomenology and the extended musical mind with the Danish String Quartet’, in *Music and Consciousness 2: Worlds, Practices, Modalities*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 127-142; Salice, Høffding, and Gallagher, ‘Putting plural self-awareness into practice: The phenomenology of expert musicianship’; Høffding and Satne, ‘Interactive expertise in solo and joint musical performance’.

66 Michelle Maiese, ‘Getting stuck: temporal desituatedness in depression’, *Phenomenology and the Cognitive Sciences*, 17, 4 (2018), pp. 701-718.

67 See Colombetti, *The Feeling Body*; Matthew Ratcliffe, ‘The feeling of being’, *Journal of Consciousness Studies*, 12, 8-9 (2005), pp. 43-60.

– the kinetic and kinaesthetic feelings associated with body-schematic processes. Affect may involve emotion-rich expressive movement, as in dance – movement that is like gesture and language but that nonetheless depends on motor control, although it goes beyond simple motor control or instrumental action. There are different mixes or integrations of expressive and instrumental movements in athletics, dance, or musical performance.

In all of this, it's not that the body schema carries on autonomously, delivering technically proficient movement, to which we then add an affective or expressive style that may be occasion relative. Affective processes directly shape body-schematic processes – slowing down or speeding up such processes, for example, or leading to the adoption of certain initial postures that may influence the performance and how the agent is functionally integrated with the world. Affect and body-schematic processes are integrated – still part of the vertical mesh in expert performance – but they also allow for an integration attuned to targets and environmental features, taking us into horizontal features in the performance situation.

Once we start to think about the music itself, and the other performers, for example, we come to an enriched conception of the meshed architecture that incorporates a form of horizontal integration. In this respect ecological, normative, cultural and intersubjective aspects of the physical and social environment, including physical and social affordances play a role. As one engages in a particular performance one's agency (or sense of agency) may be modulated by affect but also by the quality and quantity of affordances available. The musical instruments, the performance space, and the music itself can shape the musical performance.

Just as we incorporate tools and instruments into our body schema,⁶⁸ in musical performance we incorporate our instruments so that body-schematic processes add to the music itself as mediated *via* movement on the instrument. But it also goes the other way: material engagement with the instruments elicit specific kinds of movements, and the music moves us; it is something that engages the body schema through its links to rhythm, material resonance, muscle, movement, and action. As Martin Rosenberg puts it, “different instruments have agency in shaping the spatial cognition and proprioceptive behavior of the individual musicians in startlingly different ways”.⁶⁹ The music itself enters into the regulation of performance, even in a novice musician. One such musician expresses this in an interview.

68 See Angelo Maravita and Atsushi Iriki, ‘Tools for body (schema)’, *Trends in Cognitive Science*, 8, 2(2004), pp. 79-86.

69 Martin Rosenberg, ‘Jazz as narrative’, in *Narrative Complexity: Cognition, Embodiment, Evolution*, eds. Marina Grishakova and Maria Poulaki (Lincoln NE:

[When I perform] it is kind of becoming one with the music itself, so you do not just listen to the music. I do not even listen to the music, I feel [it]. When I am playing guitar for example [I feel] a kind of reaction in my body, and a reaction to the music itself. It is actually more [than that] so, it is not just that ears give me this feedback from music; it is also my body. And, for sure, if you play for example a wrong tone, you feel uncomfortable in a [specific] way [...] it is like getting a cramp.⁷⁰

Shepherd⁷¹ also suggests that music, unlike other artistic or cultural forms, enters the body as it is auditorily sensed, felt, and experienced. The coupling between music and the body, understood in terms of the ecological conception of resonance,⁷² can explain how affect mediates vertical and horizontal integration. The individual performer, for example in the case of jazz improvisation, affectively resonates with and through the music. Playing the musical notes initiates a resonance between the sounds one creates and the musical sounds in the environment made by other musicians.

[This resonance] may be driven by (1) consciously anticipated,⁷³ and sometimes planned, notes and/or (2) feedback from awareness of the sounds that are actually created during performance. On one hand, as the music unfolds, the performance environment is constituted as a niche of musical affordances. The sounds that a musician produces could thus successfully or unsuccessfully resonate with the affordances in the environment. On the other hand, anticipatory processes and any short-term planning involved

Nebraska University Press, 2019), pp. 338-357.

- 70 Cited in Andrea Schiavio et al., 'By myself but not alone: Agency, creativity and extended musical historicity', *Music Perception* (under review).
- 71 John Sheperd, 'How music works: Beyond the immanent and the arbitrary', *Action, Criticism, and Theory (act) for Musical Education 1-2* (2002), <http://mas.siu.edu/ACT/index.html>
- 72 James J. Gibson, *The Senses Considered as Perceptual Systems* (Oxford: Houghton Mifflin, 1966).
- 73 Anticipation applies not only to the motoric and musical process of producing notes when the musician is playing, but to hearing what is produced – which means that the musician is not passively hearing, but actively listening, which, in this context, is part of what Gibson (1966, 271) calls a self-tuning involved in resonance. In this context, for the difference between hearing and listening, understood as intelligent and selective, see Roland Barthes, 'Listening', in *The Responsibility of Forms*, trans. R. Howard (Berkeley : University of California Press, 1985), p. 247; and for an enactive understanding of this, John Carvalho, 'Music and emergence', in *The Oxford Handbook of Sound and Imagination* vol. 2, eds. Mark Grimshaw-Aagaard, Mads Walther-Hansen, and Martin Knakkegaard (Oxford: Oxford University Press, 2019), pp. 77-95.

while playing suggest intra-organism resonant loops constantly underlying the performance.⁷⁴

The combination of these respective elements is the mesh between anticipatory control, practiced/skilled bodily movements, and the affordances presented by the music.

Like other artistic and cultural forms, music, even as it is being played, remains part of the affordance structure of the environment. The style of music, whether one is playing from a score, whether improvisation occurs – these factors define different dynamics and can lead the musician in different directions. All of this, in line with embodied-enactive conceptions of action and experience, helps to show that what makes performance what it *is* is not entirely inside the performer, whether she be musician, dancer, athlete, or expert in everyday affairs.⁷⁵ When, for example, the performer “can ‘feel’ that her motor system has the right configuration”⁷⁶ this configuration is just the right one to mesh with the specifics of the performer’s physical and social environment. Neither body-schematic processes nor affective processes are isolated from the agent’s environment; rather they are attuned to both stabilities and variations in environmental factors, including other agents.

The environment where performance takes place is not only physical, but also socially, culturally, and normatively defined. Performance in a concert hall or in a church may be quite different from performance in a stadium or a pub or in the open air. Playing from a written score in contrast to improvising or playing “by ear” involves differences not only in the external arrangements of performance but elicits quite different neural processes.⁷⁷ That we are playing music with others, and who those others are, how skilled they are, and how long we have interacted with them – all of these factors can impact the dynamics of brain-body-environment in

74 Kevin J. Ryan Jr. and Shaun Gallagher, ‘Between ecological psychology and enactivism: Is there resonance?’, *Frontiers in Psychology*, 11, 1147 (2020), p. 7

75 For the close connection between affect and musical affordances see Joel Krueger, ‘Affordances and the musically extended mind’, *Frontiers in Psychology*, 4, 1003 (2014).

76 Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’.

77 See Robert Harris and Bauke M. de Jong, ‘Conscious and non-conscious perception and action in musical performance’, in *Music and Consciousness 2: Worlds, Practices, Modalities*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 200-214.

performance.⁷⁸ These are not high-church cognitive decisions that we make – as if what is required is a thinking or reflective contemplation of the sort “I’m in the concert hall playing with my quartet; therefore I should play in this style.” It is rather that the concert hall, the physical arrangements, and the people I’m making music with elicit a specific affective feeling and style. Even in the case of solitary musical activity,

there is always a deep multi-level social participation that situates each set of actions involved within an extended community of practice that develops historically.... [M]usical practices such as playing an instrument or singing, learning a new piece, or composing a song are also deeply associated with other subjects, their agency, and various layers of causation and context such as ritual, work, and play.⁷⁹

In some cases one requires a form of musical joint attention, a shared sense of the music, and a kind of entrainment and sensorimotor synchronization with the other players that produce a joint musical experience that approaches Merleau-Ponty’s notion of intercorporeity. Høffding and colleagues call this ‘interkinaesthetic affectivity’.

The intercorporeal inclusion of the other musician can be said to alter and expand the sense of agency, such that I no longer primarily attend egoically to my agency, my movements, my interpretation, but see the entire setting, music, body, instrument, and even fellow musicians as one large agent. This is an affective and bodily we-intentionality: a musical intercorporeity or musical interkinaesthetic affectivity.⁸⁰

The meshing of the horizontal and vertical axes may also take the form of “joint body schemas” in practices that have been shown to extend an individual’s peripersonal space to include the other person, evidenced in

78 See Eric Clarke, Tia DeNora, and Jonna Vuoskoski, ‘Music, empathy and cultural understanding’, *Physics of Life Reviews*, 15 (2015), pp. 61-88.

79 Schiavio et al., ‘By myself but not alone: Agency, creativity and extended musical historicity’; See also Eliot Bates, ‘The social life of musical instruments’, *Ethnomusicology*, 56, 3 (2012), pp. 363-395; Kevin Dawe ‘The Cultural Study of Musical Instruments’, in *The Cultural Study of Music*, eds. Martin Clayton, Trevor Herbert, and Richard Middleton (New York, NY: Routledge, 2012), pp. 195-205.

80 Høffding, *A Phenomenology of Musical Absorption*, p. 244; see also Høffding and Satne, ‘Interactive expertise in solo and joint musical performance’; Salice, Høffding, and Gallagher, ‘Putting plural self-awareness into practice: The phenomenology of expert musicianship’.

changes to neuronal and behavioral processes.⁸¹ On one view, it may be that what changes are simply processes in each individual – individual body schemas expand, altering subpersonal processes that generate an *individual* sense of joint agency – a feeling of being in sync with the other. On another, more enactivist, reading, it may be that the two bodies form a larger dynamical action system, so that the joint body schema belongs only to this larger system (two parts constituting a larger whole). One finds indications of this in accounts of the role of gestures and motor actions in joint musical performance,⁸² supporting the idea of an established entrainment or sensorimotor synchronization in performance.⁸³

As Soliman and Glenberg show, these body-schematic effects are not simply modulated top-down by cultural practices (the neuronal and behavioral details are different for participants from western “independent” versus Asian “interdependent” cultures) but rather, such social and cultural factors are incorporated, meshed into body-schematic processes which, in turn, express them in motoric performance.

[C]ulture enters the scene not as a self-contained layer on top of behavior, but as the sum of sensorimotor knowledge brought about by a bodily agent interacting in a social and physical context. As such, culture diffuses the web of sensorimotor knowledge, and can only be arbitrarily circumscribed from other knowledge.⁸⁴

81 Tamer Soliman and Arthur M. Glenberg, ‘The embodiment of culture’, in *The Routledge Handbook of Embodied Cognition*, ed. Lawrence Shapiro (London: Routledge, 2014), pp. 207-220. See also Rajiv Ranganathan and Les G. Carlton, ‘Perception-action coupling and anticipatory performance in baseball batting’, *Journal of Motor Behavior*, 39, 5 (2007), pp. 369-380 for details about kinematic coupling between batter and pitcher in baseball. They describe an intercorporeal coupling where batters engage in stepping patterns in relation to the pitcher’s kinematics.

82 See Donald Glowinski et al., ‘The movements made by performers in a skilled quartet: a distinctive pattern, and the function that it serves’, *Frontiers in Psychology*, 4, 841 (2013), doi: 10.3389/fpsyg.2013.00841; Giorgio Gnecco et al., ‘Towards automated analysis of joint music performance in the orchestra’, in *International Conference on Arts and Technology* (Heidelberg: Springer, 2013), pp. 120-127.

83 Bruno H. Repp and Yi-Huang Su, ‘Sensorimotor synchronization: A review of recent research (2006-2012)’, *Psychonomic Bulletin & Review*, 20, 3 (2013), pp. 403-452.

84 Soliman and Glenberg, ‘The embodiment of culture’, p. 209.

Performance thus involves distributed and temporally extended processes that include all relevant variables – embodied, ecological, intersubjective/social and cultural. These are not the accomplishments of narrow processes taking place just in-the-head, or strictly on a vertical axis, but are processes that extend into the world, meshed with the structures of our intercorporeal and material engagements.

The question of aesthetic experience in performance

I want to conclude this first lecture by shifting to a phenomenological question that I will try to answer in later lectures. All of the processes we've discussed as characterizing the meshed architecture of performance come along with or correlate to some kind of performer experience. If a performative mesh can be characterized as “smooth,” “adaptive,” or “effortful”,⁸⁵ these are phenomenological characterizations and not just mechanical ones. One experiences the flow of performance differently if the mesh is smooth rather than effortful, for example, if I am struggling to play my instrument. What is it that would allow us to say that the experience of the performer is an aesthetic experience? Do all of these different kinds of performer experiences in some way count as aesthetic experiences? What is it, in these different experiences, that we might consider the aesthetic? To be clear, here I'm asking about experience *in* performance (i.e., the experience of the performer) – not about the aesthetic experience *of* the performance or of the art (i.e., the experience of the observer). If the notion of the aesthetic were tied to the concept of beauty, the question would be about the intrinsic beauty in the performer experience, rather than about the apparent beauty that might be experienced by the observer. This is not to say that the latter is not connected with the former. Indeed, one might think that the aesthetic experience of the observer may in some way replicate, or derive from, or contribute to the aesthetic experience of the performer, as we find in some simulationist accounts. That's a question to which I'll return. For now I just want to ask (without necessarily settling on an answer) about the performer's aesthetic experience.

The question about what makes performance experience aesthetic is motivated here because of a seeming continuity between everyday ordinary experience and what counts as aesthetic experience. A case for this continuity

85 Christensen, Sutton, and McIlwain, 'Cognition in skilled action: Meshed control and the varieties of skill experience' p. 52.

can be made phenomenologically, theoretically and pragmatically. For example, Dreyfus suggests that we are all expert, skilled performers even in the most mundane activities. Once the child learns to walk she quickly gains expertise in walking – and the same can be said for reaching and grabbing and other kinds of movement. Should we say, then, that if the expert performance of the athlete, or the dancer, or the musician involves an aesthetic experience in performance, this is something continuous with the expert performance we all engage in when we walk, reach, grasp, etc.? Or is there a line to be drawn between the ordinary everyday performance and the experience enjoyed by the performing artist that we would want to count as intrinsically aesthetic?

Let's make our way quickly from the phenomenology that informs Dreyfus's account, and the various revisions that we have been suggesting, to a pragmatist view about the continuity between everyday actions and aesthetic experience, as envisioned by John Dewey. I want to do this by reinforcing this continuity in two points, and then looking at Dewey's claim about this continuity.

The first point is simply to reaffirm a basic common element that the phenomenologist would find in both everyday experience and anything that would count as aesthetic experience. For the phenomenologists (including Husserl, Sartre and Merleau-Ponty) there is a ubiquitous structure of prereflective self-awareness involved in every experience. For the sake of clarity, let me offer a precise characterization of prereflective self-awareness. Prereflective self-awareness is a minimal (marginal, recessive) awareness of one's own experience, where one's experience is not taken as object. Phenomenologists consider it to be intrinsic to the structure of experience. It is sometimes linked to the sense of mineness or ownership.

A non-observational, pre-reflective awareness of my own flowing consciousness, which delivers an implicit sense that this experience is part of my stream of consciousness. This sense of ownership [or mineness] for the experience involves no reflective, second-order metacognition.⁸⁶

Importantly, the sense of ownership or mineness applies not only to one's body or one's body parts; it also applies to one's movement, one's action, and even to one's experience itself. I may have a sense that this is *my* action, or *my* thinking, or, most basically, *my* experience. The sense

86 Shaun Gallagher and Francisco Varela, 'Redrawing the map and resetting the time: Phenomenology and the cognitive sciences', *Canadian Journal of Philosophy*, Supplementary Volume 29, (2003), p. 108.

of mineness does not require an extra or transitive act of self-awareness that would take experience as an object – it is nothing over and above pre-reflective self-awareness.⁸⁷

As I've indicated, phenomenologists like Husserl and Sartre claim that prereflective self-awareness is ubiquitous – every experience, every consciousness includes as part of its structure a prereflective self-awareness. This is a strong and contentious claim.⁸⁸ Guillot,⁸⁹ for example, argues that in some pathological cases mineness goes missing, for example in depersonalization and schizophrenic delusions of control and thought insertion. If it is true that in some pathologies or exceptional circumstances mineness or prereflective self-awareness is missing, then clearly it's not a necessary or essential aspect of all experience. But this also implies, at least, that prereflective self-awareness does tend to pervade everyday normal experience.

Instead of trying to defend the ubiquity of prereflective self-awareness, however, let me step back and offer a slightly weaker claim, which is this: any *reportable* experience has the structure of prereflective self-awareness. That is, if I can tell you what my experience was like, then I must have been prereflectively self-aware as I was having that experience. I'm going to call this being minimally mindful. If I am minimally mindful that means that I am able to report on my experience. This is consistent with the phenomenological claim that prereflective self-awareness is a necessary condition for reflective consciousness. If we accept that, then cases where there is a missing sense of mineness cannot be reflectively reported. That is, given that prereflective self-awareness puts experience "in the line of sight" for reflection, if prereflective self-awareness is absent then one's report can only be something like, "I blacked out," but not "Here's what I experienced during that blackout." I can't say, for example, "I, myself, wasn't there, but here's what happened."

87 Shaun Gallagher and Dan Zahavi, *The Phenomenological Mind* (London: Routledge, 3rd Ed. 2020); Shaun Gallagher and Dan Zahavi, 'Phenomenological approaches to self-consciousness', *Stanford Encyclopedia of Philosophy* (2019) (at <http://plato.stanford.edu/>).

88 See José Luis Bermúdez, 'Bodily awareness and self-consciousness', in *Oxford Handbook of the Self*, ed. Shaun Gallagher (Oxford: Oxford University Press, 2011), pp. 157-179; Barry Dainton, 'I—The sense of self', *Aristotelian Society Supplementary*, 90, 1 (2016), pp. 113-143.

89 Marie Guillot, 'I me mine: On a confusion concerning the subjective character of experience', *Review of Philosophy and Psychology*, 8, 1 (2017), pp. 23-53.

Høffding⁹⁰ points to one condition that motivates a concern about this. What is the status of self-awareness in what his musicians call “blackout,” or what others call immersion, trance, or non-dual forms of experience? Is this a mindless (self-less) experience? If so, in what sense is it reportable? This is an important point that seems to place limitations on what can be said, phenomenologically, about states of blackout, or the kind of “mindless” in-the-flow experiences that Dreyfus references.

Elsewhere I have taken issue with experiments that claim to provide a clarification of mindless states based on the reports of expert meditators who enter into mindless, selfless, or non-dual states and then report (in subsequent interviews) on what they are like.⁹¹ On the one hand, I note that meditation does not necessarily involve trance or non-dual states of immersion; it can involve very specific forms of mindful experience. Mindful meditation is a good example of embodied and enactive practice;⁹² it has been shown to improve performance in sports,⁹³ as well as attention⁹⁴ and emotion regulation.⁹⁵ Specific types of mindfulness during athletic or artistic performance can be increased using meditation practices.⁹⁶

90 Høffding, *A Phenomenology of Musical Absorption*.

91 Shaun Gallagher, ‘Mindful performance’, in *The Extended Theory of Cognitive Creativity – Interdisciplinary Approaches to Performativity*, eds. Antonino Pennisi and Alessandra Falzone (Berlin: Springer, 2019), pp 43-58.

92 Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1991).

93 Frank L. Gardner and Zella E. Moore, ‘Mindfulness and acceptance models in sport psychology: A decade of basic and applied scientific advancements’, *Canadian Psychology/Psychologie canadienne*, 53, 4 (2012), pp. 309-318.

94 See Antoine Lutz et al., ‘Attention regulation and monitoring in meditation’, *Trends in Cognitive Science*, 12, 4 (2008), pp. 163-169; Fadel Zeidan et al., ‘Mindfulness meditation improves cognition: Evidence of brief mental training’, *Consciousness and cognition*, 19, 2 (2010), pp. 597-605; Adam Moore and Peter Malinowski, ‘Meditation, mindfulness and cognitive flexibility’, *Consciousness and Cognition*, 18, 1 (2009), pp. 176-186.

95 Alessandro Gregucci et al., ‘Mindful emotion regulation: Exploring the neurocognitive mechanisms behind mindfulness’, *Bio Med Research International*, 670724, June (2015), doi:10.1155/2015/670724.

96 Long-term meditators have also been found to improve their skills of reflective thought in ways that allow the practitioner to step back and “re-perceive” his or her own experience in a less reactive and judgmental way (see Shauna L. Shapiro et al., ‘Mechanisms of mindfulness’, *Journal of Clinical Psychology*, 62, 3 (2006), pp. 373-386; Denis Francesconi and Shaun Gallagher, ‘Embodied cognition and sport pedagogy’, in *Handbook of Embodied Cognition and Sport Psychology*, ed. Massimiliano Cappuccio (Cambridge, MA: MIT Press, 2018), pp. 249-272). At the same time, not all meditation practices are beneficial for all people; the

On the other hand, in some specialized cases meditative practices might lead to something like trance or blackout – a selfless or non-dual state.⁹⁷ My intention is not to affirm or deny this possibility, but rather to question whether one who enters into such a state can then report on it. Consider studies of meditational trance states by Dor-Ziderman et al.⁹⁸ and Ataria et al.⁹⁹ They focus on a particular loss of the sense-of-boundary (SB) between “self” and “world.” Specifically, one state (SB3) was defined as “a selfless mode of awareness where the sense of ownership [mineness] disappeared”.¹⁰⁰ In these studies, such states were investigated using both magnetoencephalogram (MEG) recordings, and “a first-person approach where in-depth phenomenological interviews were conducted, and the collected data were analyzed...”.¹⁰¹ Although the researchers acknowledge the phenomenological point that reflective self-consciousness presupposes

depersonalization that may be involved in some non-dual states may be problematic for some (see Jared R. Lindahl and Willoughby B. Britton, ‘I have this feeling of not really being here: Buddhist meditation and changes in sense of self’, *Journal of Consciousness Studies*, 26, 7-8 (2019), pp. 157-183).

- 97 This can also occur during musical performance. David Borgo provides a good description based on his own experience: “There are times after some of my own favourite improvising experiences when I hardly remember what happened. In some of the most powerful moments, I lose a sense of myself, my surroundings, and the passage of time. I might be left with an implicit feeling that, musically speaking, things worked well, that ideas were flowing uninhibitedly, that interactions and transitions happened in an organic fashion; and, at the best of times that a flow state was achieved. But it seems that I only become aware of having been in a flow state by missing it afterwards” (David Borgo, ‘Strange loops of attention, awareness, action and affect in musical improvisation’, in *Music and Consciousness 2*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), p. 114. This is close to some descriptions of driving and the quick forgetting that occurs in the process, an important feature that allows for maintaining a certain perceptual attention in the present. It does not mean that one is unconscious as one is driving, or playing music, or meditating.
- 98 Yair Dor-Ziderman et al., ‘Self-specific processing in the meditating brain: a MEG neurophenomenology study’, *Neuroscience of Consciousness*, 1, niw019 (2016), <https://doi.org/10.1093/nc/niw019>,
- 99 Yochai Ataria, Yair Dor-Ziderman, and Aviva Berkovich-Ohana, ‘How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator’, *Consciousness and Cognition*, 37 (2015), pp. 133-147.
- 100 Dor-Ziderman et al., ‘Self-specific processing in the meditating brain: a MEG neurophenomenology study’, p. 2.
- 101 Dor-Ziderman et al., ‘Self-specific processing in the meditating brain: a MEG neurophenomenology study’, p. 2.

a non-objectifying, prereflective self-consciousness,¹⁰² they nonetheless claim that an expert meditator can (and does) provide reports on the SB3 selfless state such as: “Sensations of all kinds of things flickering... A sort of meditative phenomena and flickering of light and darkness – difficult to describe in words.... Floating above the entrance door, between the room and the lab There was a feeling of a shift in alertness, a cessation of reflectivity. A different kind of quiet”.¹⁰³

These reports are problematic since, if we can get such descriptions of the experience that purports to be non-dual, selfless experience (i.e., without the sense of ownership), then there still must be some minimal pre-reflective self-awareness present. The practitioner even suggests as much: “There’s still a witnessing happening and that witnessing is what’s left of me.... [I]t’s like knowing it is happening without an object, or without a specific object”.¹⁰⁴ The possibility of reporting on such states suggests there is always some degree of prereflective self-awareness with some implicit and minimal degree of “mineness” or ownership for the experience even in such “non-dual,” or “selfless” processes. If that’s right, then these types of experience are never truly mindless or selfless, but rather involve at least a minimal mindfulness.

Should we not reach similar conclusions about what Dreyfus describes as mindless states of being in the flow, or what Høffding’s musicians describe as blackout? If being in the flow involves an experience of flow and I am able to report that “I was in the flow,” then it is not literally a state of mindless performance; it is at the very least, minimally mindful. Short of that, such states would simply be unconscious and not reportable.

All of this is to say that prereflective self-awareness is one characteristic of experience that is present in both everyday ordinary activities and in the skilled performance of expert performers. In this regard there is an

102 Ataria, Dor-Ziderman, and Berkovich-Ohana, ‘How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator’, p. 137.

103 From Ataria, Dor-Ziderman, and Berkovich-Ohana, ‘How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator’ and Yarir Dor-Ziderman et al., ‘Mindfulness induced selflessness: a MEG neurophenomenological study’, *Frontiers in Human Neuroscience*, 7, 582 (2013).

104 Ataria, Dor-Ziderman, and Berkovich-Ohana, ‘How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator’ p. 142. The Buddhist scholar John Dunne (John Dunne, ‘Toward an understanding of non-dual mindfulness’, *Contemporary Buddhism*, 12, 1 (2011), 74) points to more detailed descriptions in the Buddhist literature of ‘reflexive awareness’ (Skt. *Svasa mvitti*, Tib. *rang rig*), which is what phenomenologists call ‘prereflective experience’.

important continuity. Across the variations of experience that we have considered in expert performance, prereflective self-awareness may be minimal, or it may be enhanced. But in any case, where it is completely absent, then we can't know what that state is like, and we certainly can't characterize it as an aesthetic experience.

A second point that reinforces this continuity between everyday experience and aesthetic experience is more theoretical. It is tied directly to an enactivist account of embodied cognition. Studies of performance suggest that we need to rethink the notion of mindful behavior in order to get past the traditional, overly intellectual, high-minded conception of the mind, on the one hand, and an empty notion of mere mindless automatic behavior. We should rather think of a continuity between what Hutto and Myin¹⁰⁵ call basic minds (that involve perception and action) and so-called "higher-order" cognition (including, for example, mathematical reasoning). All such forms of cognition involve skill and habit, understood not as mere repetition, but as intelligent coping.¹⁰⁶ Accordingly, the various forms of mindful performance we have described, include

[...] a directed activity that is neither blind mechanism nor intellectual behavior, and which is not accounted for by classic mechanistic accounts or intellectualism Behavior, inasmuch as it has a structure, is not situated in either of these two orders.¹⁰⁷

In this regard, Merleau-Ponty offers a critique of what Susan Hurley¹⁰⁸ later called the 'sandwich model' of cognition.

Instead of interpreting the character of sensation, idea and action from their place and function in the sensory-motor circuit, we still incline to interpret the latter from our preconceived and pre-formulated ideas of rigid distinctions between sensations, thoughts and acts. The sensory stimulus is one thing, the

105 Daniel D. Hutto and Erik Myin, *Radicalizing Enactivism: Basic Minds without Content* (Cambridge, MA: MIT Press, 2013).

106 John M. Carvalho, *Thinking with Images: An Enactivist Aesthetics* (New York: Routledge, 2019), p. 25 emphasizes the idea that the aesthetic appreciation of observed art – specifically painting – involves skill acquired in the practiced experience of observing art and thinking about it.

107 Maurice Merleau-Ponty, *The Structure of Behavior*, trans. Alden. L. Fisher (Boston, MA: Beacon Press, 1964), p. 45.

108 Susan L. Hurley, *Consciousness in Action* (Cambridge, MA: Harvard University Press, 1998).

central activity, standing for the idea [is another], and the motor discharge, standing for the act proper, is a third.¹⁰⁹

Moreover, what Merleau-Ponty and the enactivists want to say about this conception perhaps had already been best said by Dewey.

What is wanted is that sensory stimulus, central connections and motor responses shall be viewed, not as separate and complete entities in themselves, but as divisions of labor, functional factors, within the single concrete whole, now designated the reflex arc.... Upon analysis, we find that we begin not with a sensory stimulus, but with a sensori-motor coordination.¹¹⁰

What I think the analyses of various forms of performance show is that, beginning with performance, with a minded rather than a mindless behavior, and with a rich (vertical and horizontal) meshed architecture we can start to reconceive what we mean by the embodied mind, and whatever aesthetic experience it may have.

Here again, however, we find a strong claim about the continuity between everyday experience and the aesthetic. Specifically, this is a claim made by Dewey about the strong connection between “actual life experience” and art. As he puts it, the work of art is not the product (the building, the book, the painting or statue), but “what the product does with and in experience”,¹¹¹ and this seems even more the case when we are thinking of performing arts (dance, music-making, theater, etc.).

The task is to restore continuity between the refined and intensified forms of experience that are works of art and the everyday events, doings, and sufferings that are universally recognized to constitute experience.¹¹²

Beyond the (economic and institutional) forces that attempt to separate such things, we have to understand art as in some way continuous with “the ordinary forces and conditions of experience that we do not usually regard as esthetic”.¹¹³ Aesthetic appreciation, he suggests, can be found in the movements of the ball-player, the homemaker, the gardener, the mechanic. Dewey considers art to be a form of material engagement that

109 Merleau-Ponty, *The Structure of Behavior*, p. 13.

110 John Dewey, ‘The reflex arc concept in psychology’, *Psychological Review*, 3, 4 (1896), p. 357.

111 John Dewey, *Art as Experience* (New York: Perigee/Berkley, 1934), p. 1.

112 Dewey, *Art as Experience*, p. 1.

113 Dewey, *Art as Experience*, p. 2.

starts in common and community life, and builds on such things as religious practices, warfare, and the public life of civil society in which architecture, painting, sculpture, music, dance, drama and athletic performance are all integrated together with life practices.

Aesthetic experience is embodied experience. We can note that the original meaning of 'aesthetic' (*aesthesis*) is sensory-perceptual, which means, on the enactive-phenomenological view, the aesthetic is always kinaesthetic – grounded on movement. We can see this most easily in every aspect we described above – in athletics, dance, musical performance; body-schematic kinaesthetic processes are always involved.

Although in acknowledging this continuity Dewey hints at the problem raised above – how then is the aesthetic distinguished from a lot of ordinary experience that is not explicitly aesthetic? – his focus shifts to a slightly different but related problem: "If artistic and esthetic quality is implicit in every normal experience, how shall we explain how and why it so generally fails to become explicit?"¹¹⁴ The implicit-explicit distinction assumes that every experience is an aesthetic experience to some extent, and the question becomes what differentiates experience that is implicitly aesthetic from experience that is explicitly so? It's not clear to me that we should make this assumption. This is not to deny that some everyday experiences could be aesthetic experiences, or to affirm that all skilled or artistic performance involves aesthetic experience. It's not to deny that there is a continuity between everyday experience and the experience of artistic performance; it's just to deny that all experience is aesthetic experience. So the question I am raising here and want to answer in a later lecture, is this. What is it that makes an experience (specifically a performer experience) an aesthetic experience?

114 Dewey, *Art as Experience*, p. 12-13.

LECTURE 2

MEDIA, MOVEMENT AND MATERIAL ENGAGEMENT

Performance and intelligence

I want to continue to think about phenomenology and the question of how to characterize the aesthetic in the context of performative experience. Thinking again about expert, skillful performance, I want to suggest not only that such performance involves a kind of know-how, but that the performance itself *is* a kind of knowing or thinking. In so far as performance involves movement, whether habitual or improvisational, it is a form of intelligence.

I consider different types of movement that either contribute to thinking or can be considered a form of thinking. Gesture and sign language are obvious candidates and indeed they have been considered instances of extended mind. A more enactive view of gesture, however, is that, as Merleau-Ponty says of speech, gestures ‘accomplish thought’. I appeal to David McNeill’s conception of the growth-point to make this argument. I also argue that movement (even whole-body movement) can scaffold learning and problem solving. This is a form of movement that forms an “enactive metaphor” and constitutes an understanding, for example, in science education.¹

I’ll also consider three forms of movement connected with the performing arts. First, a form of movement that in some sense combines dance and gesture – the practice of ‘marking’, where abbreviated body- and or hand-movements used in rehearsals just are a form of thinking through a choreographed performance. Second, I’ll discuss another kind of movement that goes along with the theatrical conception of “blocking” in the rehearsal and performance of on-stage acting. Finally, dancing itself has been equated with a form of thinking – a form of exploring a world of affordances. Michelle Merritt argues that the dancer does not think first,

1 Shaun Gallagher and Robb Lindgren, ‘Enactive metaphors: Learning through full-body engagement’, *Educational Psychology Review*, 27, 3 (2015), pp. 391-404.

and then move, but that “Movement just is thought, and thought, in the case of improvisational dance, consists in the movement”.² Movement in this regard is meaningful and intelligent; it’s a form of sense-making.

I will conclude, however, by arguing that not all movement is thinking. Here I review some claims about the relation between movement and narrative found in specific forms of body psychotherapy, and in developmental psychology. I argue for some subtle distinctions between movement and narrative thinking. In some regards a subject’s movement may allow them to find a new way to think about their life circumstances. But that movement *per se* is not necessarily a form of narrative, as some have argued.

How movement can be intelligent

In contrast to those who think of habitual movement as mere unthinking drill, automatic and repetitive behavior, (e.g., Ryle 1949), Merleau-Ponty, suggests that just as gesture is a “knowledge that is in the hands”,³ habitual movement is more generally a knowledge in the body. As we saw, Dewey,⁴ as part of a long tradition from Aristotle to Hume, also distinguishes between intelligent habit and routine habit. The latter is closer to the automatic behavior that Ryle describes. Intelligent habit, in contrast, can be heedful, caring, attentive, and can involve an attunement to the details of the task, a smart way of responding to specific stimuli. Likewise, for Merleau-Ponty habit involves the acquisition of “the power of responding with a certain type of solution to a certain form of situation”.⁵ Rather than automatic repetition, or as James McGuirk characterizes the traditional conception, something “which is uncritical, unthinking, and disengaged”,⁶ habit allows for an open and adaptive performance in familiar situations. Habitual types of movement can be particularly context-sensitive and adaptive to temporal and spatial contours of the situation. This is well noted by Tailer Ransom.

2 Michelle Merritt, ‘Thinking-is-moving: dance, agency, and a radically enactive mind’, *Phenomenology and the Cognitive Sciences*, 14, 1 (2015), p. 95.

3 Merleau-Ponty, *Phenomenology of Perception*, p. 145.

4 Dewey, *Human Nature and Conduct*.

5 Merleau-Ponty, *Phenomenology of Perception*, p. 143.

6 James N. McGuirk, ‘Metaphysical and phenomenological perspectives on habituality and the naturalization of the mind’, *Analytic and Continental Philosophy: Methods and Perspectives. Proceedings of the 37th International Wittgenstein Symposium*, 23 (2016), p- 204.

My ability to competently drive a car, for example, is not simply about the repetition of actions, otherwise this task would explode into an uncountable series of mini-habits.... To have acquired the motor habit of driving refers, instead, to the prereflective sensitivity that I develop about *how* to respond across all the variant (and sometimes novel) situations in which I drive.... My body inhabits the spatiality of the vehicle, and the demands of my tasks appear in light of my habits of motor vehicle operation—far from a mere repetition of action, I develop a style of coping with the demands of driving, with a general form that is open and responsive to situations.⁷

Habitual movements, then, attuned to precarious differences in the environment,⁸ can be, as Hutto and Robertson⁹ suggest, “a kind of embodied, enactive intelligence.” They can be skillful and “coordinated, world-targeted activities that loop into and are interactively responsive to specific aspects of the environment.” We can add that habitual movements can be not only intelligent, they can be intellectual and part of what we mean by intellectual performance. For example, when I see a quadratic equation I start moving elements from one side of the equals sign to the other. I don’t do it automatically for every equation, or even for every quadratic equation – sometimes I refrain from doing it in order to let my students do it. This habit I have in response to quadratic equations is not automatic, but it is smart (because it helps to solve the equation). It is part of what I would call my mathematical intelligence – part of the way I think about quadratic equations. This way of thinking involves movement and manipulating symbols – sometimes physically, sometimes imaginatively. One can think of this in terms of affordances – specific symbols or equations afford certain operations.¹⁰

7 Tailer Ransom, ‘Artifacts, others, and temporality: An enactive and phenomenological approach to material agency’, *PhD Dissertation, University of Memphis* (2019), p. 76.

8 Ezequiel Di Paolo, Thomas Buhrmann, and Xabier Barandiaran, *Sensorimotor Life: An enactive proposal*, (Oxford: Oxford University Press, 2017).

9 Daniel D. Hutto and Ian Robertson, ‘Clarifying the character of habits: Understanding what and how they explain’, in *Habit: Pragmatist Approaches from Cognitive Neurosciences to Social Sciences*, eds. Fausto Caruana and Italo Testa, (Cambridge: Cambridge University Press, 2020), 204-223.

10 One can use manipulative objects or virtual objects to teach math (Anne Lafay, Helena Osana, and Marion Valat, ‘Effects of interventions with manipulatives on immediate learning, maintenance, and transfer in children with mathematics learning disabilities: A systematic review’, *Education Research International*, (2019), <https://doi.org/10.1155/2019/2142948>). For example, the learning progress of preschool, K and 2nd-grade students significantly improves when engaging with physically manipulative affordances (Patricia Moyer-Packenham and Arla

Gestures

Other types of movement can either contribute to thinking or can be considered a form of thinking. Gesture is an obvious candidate and indeed, as Andy Clark¹¹ suggests, gesture is a good example of extended mind. Consider the well-known experiments by Susan Goldin-Meadow et al.¹² on the role of gestures in mathematical reasoning. Children who are asked to solve simple math problems “in their head” and who are made to sit on their hands preventing them from gesturing perform less well than children who are free to gesture. Gesture doesn’t simply scaffold cognition or “lighten the cognitive load” (as Goldin-Meadow suggests). Rather, following David McNeill’s¹³ theoretical formulation (what he calls the thought-language-hand system), gesture is part of language and (as Merleau-Ponty¹⁴ put it) language (speech) accomplishes thought. Thus, one can say that gesture too accomplishes thought.¹⁵ Gesture, as a form of expressive movement is not

Westenskow, ‘Revisiting the effects and affordances of virtual manipulatives for mathematics learning’, in *Utilizing Virtual and Personal Learning Environments for Optimal Learning*, eds. Krista P. S. Terry and Amy Cheney (Hershey, PA: IGI Global, 2016). Learning is enhanced when, allowing students to drag and manipulate virtual blocks around a computer screen, one makes the correct blocks easier to manipulate and the wrong blocks slightly harder to manipulate. Like material objects, equations reflect affordances. For example, by manipulating various spatial features of equations Landy and Goldstone were able to lead expert mathematicians to perform invalid mathematical operations on equations. Additionally, Landy and Goldstone (David Landy and Robert L. Goldstone, ‘How much of symbolic manipulation is just symbol pushing’, *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society, Amsterdam, Netherlands, July 29-August 1* (2009), pp. 1072-1077) had participants solve equations on a screen against a moving background in order to show that symbol manipulation is a sensorimotor skill in which one understands the physical constraints of the equation. The movements of the background were moving either with or against the direction in which subjects were supposed to move symbols in order to solve the equation. They show that participants had difficulty solving equations when the background was moving incongruently to the direction needed to solve the equation and less difficulty when movements were congruent.

- 11 Andy Clark, *Supersizing the mind: Embodiment, action, and cognitive extension* (Oxford: Oxford University Press, 2008).
- 12 Susan Goldin-Meadow et al., ‘Explaining math: Gesturing lightens the load’, *Psychological Science*, 12, 6, (2001), pp. 516-522.
- 13 David McNeill, *Gesture and thought* (Chicago: University of Chicago Press, 2005).
- 14 Merleau-Ponty, *Phenomenology of Perception*, p. 218.
- 15 Jonathan Cole, Shaun Gallagher, and David McNeill, ‘Gesture following deafferentation: a phenomenologically informed experimental study’, *Phenomenology and the Cognitive Sciences*, 1 (2002), pp. 49-67.

the expression of a pre-formed thought; it is integrated with the movement of speech in a way that generates extra-verbal (visual and motoric) meaning. In what McNeill calls the “growth-point” – the point at which gesture couples with utterance, gesture is shown to anticipate the utterance – the gesture starts just prior to the relevant speech-act. In some cases gesture outruns one’s verbal performance, contradicting current verbal expression, but pre-figuring what the speaker ultimately states, so that the agent seems to know the correct answer in gesture before he knows to say it. Jürgen Streeck¹⁶ argues that this is a form of thinking or conceptualization by-hand, where speakers will work out their abstract concepts through gesture. In this regard gesture is not just for communicative purposes; it serves cognition,¹⁷ it’s a form of what enactivists call sense-making.

Full-body enactive engagement

Various other forms of movement (even whole-body movement) can scaffold learning and enhance, enable or even constitute different forms of cognition and problem solving. If gesture helps to constitute mathematical reasoning, whole-body, situated movement may contribute to learning scientific reasoning. Evidence for this can be found in experiments using simulated environments. A team of researchers led by Rob Lindgren, and including myself, designed a simulated space environment where middle-school children could interact with virtual planetary bodies, controlling movements (of a meteor) using their own bodily movement.¹⁸ The project, “Metaphor-based learning of physics concepts through whole-body interaction in a mixed reality science center program,” helpfully abbreviated as “MEteor,” involved more than a metaphorical self-identification with the meteor. The mixed reality space used wall- and floor-projected dynamic imagery to create a realistic and immersive simulation of planetary astronomy (planets with gravitational properties that support orbiting satellites, etc.) (see Figure 2.1). Children were able to interact with MEteor by using their bodily movement to launch a meteor, for example, with a certain velocity and then predict where it would move based on the presence of planets and associated forces. Children were able to build their understandings around the movements of their own bodies, supported with

16 Jürgen Streeck, *Gesturecraft: The Manu-facture of Meaning*, (Amsterdam/ Philadelphia: John Benjamins, 2009).

17 Gallagher, *How the Body Shapes the Mind*.

18 Gallagher and Lindgren, ‘Enactive metaphors: Learning through full-body engagement’.

external graphs and other visualizations built into the environment in a way that scaffolds learning.



Figure 2.1. A participant enacting an asteroid trajectory in MEteor (from Gallagher and Lindgren 2015)

In controlled studies (involving 312 middle school students) two conditions were distinguished.

1. *Weak embodiment* condition: students used a computer desktop version of MEteor controlled by hand/mouse movements;
2. *Strong embodiment* condition: students engaged in full-body/full-immersion mode with the simulation – entering into the projected simulation, and moving around in it by running, jumping, etc.

The results showed that the strong embodiment condition resulted in better understanding of astronomy concepts, as demonstrated by the production of more dynamical diagrams, less reliance on surface/background features of the simulation, improved scientific reasoning on tests, and dispositional learning effects.¹⁹

19 Robb Lindgren et al. 'Enhancing learning and engagement through embodied interaction within a mixed reality simulation', *Computer & Education* 95 (2016), pp. 174-187. See also Gallagher and Lindgren, 'Enactive metaphors: Learning through full-body engagement'; Robb Lindgren and J. Michael Moshell, 'Supporting children's learning with body-based metaphors in a mixed reality environment', *Proceedings of the Interaction Design and Children Conference* (New York: AMC Press, 2011), pp. 177-180; Robb Lindgren and Amy Bolling, 'Assessing the learning effects of interactive body metaphors in a mixed reality

Marking

We can find similar types of intelligent, thinking movement in the performing arts. For example, the practice of *marking* – a form of abbreviated gesturing used in dance rehearsal. Marking, which consists of abbreviated bodily movements, and sometimes consists simply of hand gestures, is a form of prospective planning or strategizing. “When marking, the dancer often does not leave the floor, and may even substitute hand gestures for movements. One common example is using a finger rotation to represent a turn while not actually turning the whole body”.²⁰ Experiments by David Kirsh²¹ have shown that marking improves performance (including memory, technique and timing), more so than does full-out dance rehearsal, or “in the head” simulation without explicit movement.²²

Kirsh and Edward Warburton think of marking as movement in the abstract. But it is not entirely abstract since the gestures may meet constraints of the physical environment – one imagines the dance, not in thin air, but anchored (staged) in specific locations with specific affordances. This is clear if we consider another technique, this one also used in theatrical acting, namely, blocking (see below).

The use of hands in gesture and in marking points to a more general importance of the hand in an embodied conception of rationality. Anaxagoras observed that humans are wise because we have hands, something that was slightly reversed by Aristotle who claimed that: “Man has hands because he is the wisest of all beings.”²³ Far in advance of our understanding of the intermodal nature of sensory systems, Galileo’s friend, the artist Cigoli, suggested an interaction between visual perception and the motor ability that comes with practiced drawing. According to Cigoli,

science simulation’, paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. (2013).

- 20 Edward C. Warburton, ‘Becoming elsewhere: ArtsCross and the (re)location of performer cognition’, in *Theater, Performance and Cognition: Languages, Bodies and Ecologies*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), p. 100; see also Edward C. Warburton, ‘Of meanings and movements: Re-linguaging embodiment in dance phenomenology and cognition’, *Dance Research Journal*, 43, 2 (2011), pp. 65-83.
- 21 David Kirsh, ‘How marking in dance constitutes thinking with the body’, *Versus Quaderni Di Studi Semiotici*, 112 (2011), pp. 183-214 and 113 (2011), pp. 170-210.
- 22 See also Edward C. Warburton et al., ‘The cognitive benefits of movement reduction: Evidence from dance marking’, *Psychological Science* 24, 9 (2013), pp. 1732-1739.
- 23 Aristotle. *On the Parts of Animals*, http://classics.mit.edu/Aristotle/parts_animals.4.iv.html

Galileo could see better, because he was better prepared by his artistic training and knew how to draw. In an autodidactic process taking place between hand and eye, Galileo was better able to attain knowledge, both because he had learned to perceive the unusual and because he could demonstrate it in the medium of drawing.²⁴

This same kind of dynamic also exists between the tactile/haptic workings of the hand and the auditory dimension of music. In this respect, something like marking was used to support musical learning and performance starting in the middle ages. This is the idea of the Guidonian hand.²⁵ (Zbikowski 2019). Guido of Arezzo, a Benedictine monk of the 11th century developed a system (termed “solmization”) where verbal syllables corresponded to musical pitches, which were later correlated with fingers and finger joints.



Figure 2.2. The Guidonian hand, from a Bodleian Library MS. Public Domain, <https://commons.wikimedia.org/w/index.php?curid=631211>

- 24 Horst Bredekamp, ‘Gazing hands and blind spots: Galileo as draftsman’, in *Galileo in Context*, ed. Jürgen Renn (Cambridge: Cambridge University Press, 2001), p. 180.
- 25 Lawrence M. Zbikowski, ‘Cognitive extension and musical consciousness’, in *Music and Consciousness 2*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 34–53.

The Guidonian hand (Figure 2.2) was a mnemonic diagram of this system. Zbikowski quotes John Cotto from a 12th-century work: “Let him who strives for knowledge of music... accustom himself to measuring off his melody on the joints of his hand, so that presently he can use his hand instead of the monochord whenever he likes, and by it test, correct, or compose a song”.²⁶

Blocking

Blocking is a practice usually attributed to Sir William Gilbert (of Gilbert and Sullivan). He created scale models of the stage and used blocks to represent actors. This helped to facilitate planning and rehearsal. Less explicit, but nonetheless effective blocking practices may be an intrinsic part of the history of the acting profession. Evelyn Tribble,²⁷ for example, employed concepts of extended mind and distributed cognition to explain how actors were able to learn so many roles in the Shakespearean Globe Theatre in what we might call an extended blocking practice that included aspects of the stage or playhouse, the plots, verbal structures, and the instituted practices of the theater companies. In contemporary practice blocking includes the design of the performance space, the placing and movement of objects or props, and especially the positioning of actors for a particular scene. Its major function is to ensure that things and actors are positioned properly *from the audience's perspective* so they can see what's going on. *From the director's perspective*, blocking can affect the specific meaning of a scene. *From the actor's perspective* blocking has an additional function not usually discussed in the textbooks. It not only puts the actors in the right place at the right time, it facilitates the acting process, and scaffolds the actor's cognitive and pragmatic performance.

Specifically it facilitates the memorization of lines and the actor's knowing what to do. Being put in the right place at the right time means that she is put in front of another person, or next to a significant object, or within reaching distance of a particular prop, etc. This lets her know what needs to be done and what needs to be said then and there.

Blocking also includes normative structure: there are directions or rules that can be followed or broken and that allow for the delivery of a

26 Cited in Claude V. Palisca, *Huchald, Guido, and John on Music*, trans. W. Babb (New Haven, CT: Yale University Press, 1978); Zbikowski, ‘Cognitive extension and musical consciousness’, p. 46.

27 See Evelyn Tribble, *Cognition in the Globe: Attention and Memory in Shakespeare's Theatre* (New York: Palgrave MacMillan, 2011); Evelyn Tribble, ‘Distributing cognition in the globe’, *Shakespeare Quarterly*, 56, 2 (2005), pp. 135-155.

performance. Thus, blocking is continuous with and supports activities of planning and imaginative rehearsal and is not divorced from the acting. It constrains movement, imposing a type of syntax that constitutes meaning on stage. Blocking can be described as arranging or re-arranging affordances with a particular goal in mind. In the kind of marking that a dancer might do in rehearsal, the blocking arrangements will be doing some of the work, grounding intelligent movement in a specific situation, and defining the affordances that will guide the motoric and affective processes involved in performance. At the very least, this is cognitive scaffolding. On the extended mind view, much like gesture, the movement accomplishes thought, and taking up of positions in blocking just is a process of remembering one's lines. It's not just that I move to position X and that allows me to recall my lines; moving to X puts me into those lines – the lines come to life in the movement and the setting.

Tribble and Sutton use Edwin Hutchins'²⁸ term 'cognitive ecology' to characterize these kinds of processes. "Bodies, spaces, artifacts, and environments are all coordinated in a cognitive ecological model, and agents both shape and are in turn shaped by their manipulation of objects".²⁹ On their view, "Communication and action are not the mere expressions of the real cognitive processes in the head, but are thinking or remembering in action".³⁰ They hallmark the use of lighting in modern theater, something which requires well planned out blocking practices.

Lighting is a powerful technology for managing attention and manipulating mood and affect. Yet it is also a demanding taskmaster and profoundly alters relationships among actors, audience, and behind-the-scenes theatrical workers. Lighting requires that blocking be planned in advance; the on-the-fly conventions of movement across the stage that governed Shakespeare's actors cannot be employed once movement must be coordinating with lighting technology. The use of lighting requires technical rehearsal and centralized planning of the sort associated with concept-oriented directing. The coordination of the actors with this particular technological system becomes of overriding importance.³¹

28 Edward Hutchins, 'Cognitive ecology', *Topics in Cognitive Science*, 2 (2010), pp. 705-715.

29 Evelyn Tribble and John Sutton, 'Cognitive ecology as a framework for Shakespeare studies', *Shakespeare studies*, 39 (2011), p. 99.

30 Tribble and Sutton, 'Cognitive ecology as a framework for Shakespeare studies', p. 95.

31 Tribble and Sutton, 'Cognitive ecology as a framework for Shakespeare studies', p. 98.

Intervening with different forms of technology, of course, can effect large changes in what actors, dancers, and performers more generally do. Studies of the differences between Renaissance and modern theatrical production clearly demonstrate the importance of blocking, material artifacts, and technology in shaping performance.³²

One could generalize these processes of marking and blocking. They are not just things that happen in the theater. Indeed, as Shakespeare tells us, “All the world’s a stage” – the architectural structures, spatial arrangements, normative structures of everyday or specialized practices and institutions, make us move, and make us think in certain ways. In everyday life we often encounter things that are “staged” to get us to act and to think in a specific way. One can think here about the arrangements of museums, classrooms, supermarkets, courtrooms and so forth.

Dancing

Given the concepts of marking and blocking it may be easier to see why some dancers and dance theorists claim that dancing itself can be a form of thinking. Maxine Sheets-Johnstone³³ calls it a form of “exploring the world.” Michelle Merritt³⁴ argues that the dancer’s thinking is in her movement, especially in her improvisational dance. Movement in this regard is a form of intelligent sense-making.

Empirical studies suggest that “dance enables ... embodied thinking, playful, imaginative problem solving and aesthetic decision making”.³⁵ One way to account for this is to think of dance (especially improvised dance) as a form of affordance exploration.³⁶ Dance allows us to experiment

32 See e.g., Miranda Anderson, *The Renaissance Extended Mind*, (Berlin: Springer, 2015); Tribble, *Cognition in the Globe: Attention and Memory in Shakespeare’s Theatre*.

33 Maxine Sheets-Johnstone, ‘From movement to dance’, *Phenomenology and the Cognitive Sciences*, 11, 1 (2012): pp. 39-57.

34 Merritt, ‘Thinking-is-moving: dance, agency, and a radically enactive mind’, p. 95.

35 Jan Deans, ‘Thinking, feeling and relating: Young children learning through dance’, *Australasian Journal of Early Childhood*, 41, 3 (2016), pp. 46-57; see Miriam Giguere, ‘Dancing thoughts: An examination of children’s cognition and creative process in dance’, *Research in Dance Education*, 12, 1 (2011), pp. 5-28; Sandra Minton, ‘Assessment of high school student’s creative thinking skills: A comparison of dance and nondance classes’, *Research in Dance Education*, 4, 1 (2003), pp. 31-49; for similar claims about musical performance see Malafouris, *How Things Shape the Mind*, p. 47.

36 Christian Kronsted and Shaun Gallagher, ‘Dances and affor-dances: The relation between dance training and conceptual problem solving’, *Journal of Aesthetic Education* (in press).

with affordances and bodily possibilities – new possibilities for action – by heightening our kinesthetic, proprioceptive, haptic, auditory, and other forms of perception. It trains attention – towards the environment, towards the body, and towards others. This may explain what Sheets-Johnstone means in claiming that improvisational dance is an active exploration of one's own possibilities within the environment.

The dancer actively creates shape, form, and force while simultaneously perceiving and investigating those shapes, forms, and forces. Improvisation is a playful engagement with affordances drawn from the music, the environment, and the ever-changing form of one's own body

[Dance movement] is dynamic, ever-shifting, and responsive to context. This dynamism—because it is so intelligent in its responsiveness—seems to require some sort of agent to whom the movement means something.... The movement means something to the persons enacting it.³⁷

Why not all movement is thinking

Let's not move too quickly. I've been arguing that certain kinds of movement – gesture, habitual and improvisational movement, marking, blocking, dance – are intelligent forms of sense-making or thinking. But not all movement is thinking. For example, if we take narrative to involve a reflective form of thinking (Peter Goldie³⁸ calls it 'narrative thinking') about events and actions, and about other people and ourselves (a kind of self-reflection), some theorists make strong claims that bodily movement is itself, already a kind of narrative thinking.

In the context of body psychotherapy, which can include movement therapy, the idea that bodily movement generates narrative leads Christine Caldwell to define such movements as "nonverbal narratives ... the body telling its stories on its own nonlinear and nonverbal terms".³⁹ She explains that "body movements generate a fluid, nonverbal narration of self and identity no less important than the verbal stories we may tell".⁴⁰ Richard

37 Merritt, 'Thinking-is-moving: dance, agency, and a radically enactive mind', p. 96.

38 Peter Goldie, *The Mess Inside: Narrative, Emotion and the Mind* (Oxford: Oxford University Press, 2012).

39 Christine Caldwell, 'Mindfulness and bodyfulness: A new paradigm', *Journal of Contemplative Inquiry*, 1 (2014), p. 89.

40 Caldwell, 'Mindfulness and bodyfulness: A new paradigm', p. 89.

Erskine,⁴¹ likewise describes therapy as “focusing on the body and the unconscious stories requiring resolution.” He understands the body as keeping “unconscious ‘score’ of emotional and physiological memories.” and as storing experiences of a pre-symbolic, implicit, and relational kind that have never been narrated by conventional means but for which there is, nevertheless, “an emotionally laden story waiting to be told”.⁴²

Further along this line, in the context of developmental psychology, Delafield-Butt and Trevarthen⁴³ contend that embodied narratives are part of our lives from very early on, and are even implicit in neonatal movement. If this were true it would lend support to the idea that embodied activity has its own inherent narrative structure. Delafield-Butt and Trevarthen find the origins of narrative in “the innate sensorimotor intelligence of a hypermobile human body”;⁴⁴ in the intentional (planned) movements of the prenatal (midterm) fetus, a kind of movement continuous with postnatal, structured movement in which we can identify distal goals and social meaning.

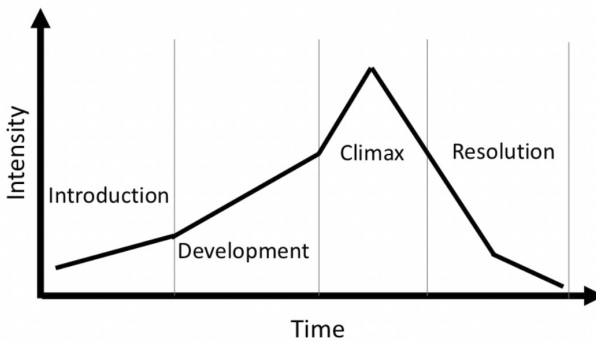


Figure 2.3: Four phases of narrative (based on Trevarthen and Delafield-Butt 2013).

-
- 41 Richard G. Erskine, ‘Nonverbal stories: The body in psychotherapy’, *International Journal of Integrative Psychotherapy*, 5, 1 (2014), p. 25.
- 42 Erskine, ‘Nonverbal stories: The body in psychotherapy’, p. 22.
- 43 Jonathan T. Delafield-Butt and Colwyn Trevarthen, ‘The ontogenesis of narrative: from moving to meaning’, *Frontiers in Psychology*, 6, 1157 (2015), doi: 10.3389/fpsyg.2015.01157.
- 44 Delafield-Butt and Trevarthen, ‘The ontogenesis of narrative: from moving to meaning’, pp. 12-13.

Such movements are further shaped in “early proto-conversations and collaborative play of infants and talk of children and adults”.⁴⁵ The structure in such processes, they propose, is fourfold and temporal, involving introduction, development, climax and resolution (Figure 2.3). Arguably a similar fourfold structure is found in semiotic accounts of narrative (contract; competence; performance and sanction). These stages are taken to constitute the canonical structure of all narratives in semiotics.⁴⁶ Accordingly, the serial

organization of single, non-verbal actions into complex projects of expressive and explorative sense-making become conventional meanings and explanations with propositional narrative power.⁴⁷

The problem with this way of thinking about movement and narrative is that it threatens (if not endorses) pan-narrativism. Galen Strawson,⁴⁸ for example, worries about the claim that all of our structured actions have a narrative character. If making coffee in the morning, for example, is a narrative because there is a structure or order to it, then narrativity is trivial – an unhelpful and uninformative stipulation. Peter Goldie⁴⁹ contends it is always the case that, “a narrative is distinct from what it is a narrative of.” Narrative may indeed be a form of thinking about one’s actions; but those actions are not themselves narrative. Narrative theorists thus want to safeguard a more delineated concept of narrative.

[We need] a principled account of what makes a text, discourse, film, or other artifact a narrative. Such an account would help clarify what distinguishes a narrative from an exchange of greetings, a recipe for salad dressing, or a railway timetable.⁵⁰

45 Delafield-Butt and Trevarthen, ‘The ontogenesis of narrative: from moving to meaning’, p. 3.

46 Algirdas Julien Greimas, *Du Sens II. Essais sémiotiques* (Paris: Seuil, 1970); Brown Martin and Felizitas Ringham, *Dictionary of semiotics* (London: Bloomsbury Publishing, 2000), pp. 31-32; Claudio Paolucci, ‘Social cognition, mindreading and narratives. A cognitive semiotics perspective on narrative practices from early mindreading to Autism Spectrum Disorder’, *Phenomenology and the Cognitive Sciences*, 18, 2 (2019), pp. 375-400.

47 Delafield-Butt and Trevarthen, ‘The ontogenesis of narrative: from moving to meaning’, p. 1

48 Galen Strawson, ‘Against narrativity’, *Ratio*, 17, 4 (2004), pp. 428-542.

49 Goldie, *The Mess Inside: Narrative, Emotion and the Mind*, p. 6.

50 David Herman, ‘Introduction’, in *The Cambridge Companion to Narrative*, ed. David Herman (Cambridge: Cambridge University Press, 2007), p. 4.

Accordingly, it's important to get the order of things right. The developmentalists are right that we learn to form linguistic narratives through interactions with others – specifically when caregivers elicit accounts of just-past actions or events and when as young children around 2-3 years we appropriate the narratives of others for our own stories.⁵¹ It's also clear that the contours of our narratives are shaped by the structures of the actions and events themselves. Thus, narrative starts to emerge in pretend play, typically when engaging with others, where the creation of such narratives is accompanied by, and at least partially achieved through language.⁵²

The point is that narrative derives its structure from action. Actions take time to unfold; they have a beginning, they develop, they accomplish a goal, and they conclude. That's a structure that narratives must reflect if they are going to capture what Bruner⁵³ calls the landscape of action. But that does not mean that actions have a narrative structure; the derivation goes the other way. Narrative is anchored in a pre-narrative (prereflective, non-representational) structure.

51 Jerome S. Bruner, *The Culture of Education* (Cambridge, MA: Harvard University Press, 1996); Maria Legerstee, *Infants' Sense of People: Precursors to a Theory of Mind* (Cambridge: Cambridge University Press, 2005); Katherine Nelson, 'Self and social functions: Individual autobiographical memory and collective narrative', *Memory*, 11, 2 (2003), pp. 125-136; Katherine Nelson, 'Narrative and the emergence of a consciousness of self', in *Narrative and Consciousness*, eds. Gary D. Fireman, Robert J. Gingold, and Ted E. McVay (Oxford: Oxford University Press, 2003), pp. 17-36; Vasudevi Reddy, *How Infants Know Minds* (Cambridge, MA: Harvard University Press, 2008); Vasudevi Reddy, 'Moving others matters', in *Moving Ourselves, Moving Others: Motion and Emotion In Intersubjectivity Consciousness and Language*, eds. Ad Foolen et al. (Amsterdam: John Benjamins, 2012), pp. 139-163; Colwyn Trevarthen, 'Born for art, and the joyful companionship of fiction', in *Evolution, Early Experience and Human Development: From Research to Practice and Policy*, eds. Darcia Narváez et al. (New York: New York University Press, 2013), pp. 202-218.

52 Nelson, 'Self and social functions: Individual autobiographical memory and collective narrative'; see Shaun Gallagher and Daniel Hutto, 'Understanding others through primary interaction and narrative practice', in *The Shared Mind: Perspectives on Intersubjectivity*, eds. Jordan Zlatev et al. (Amsterdam: John Benjamins, 2008), pp. 17-38; Shaun Gallagher and Daniel Hutto, 'Narrative in embodied therapeutic practice: Getting the story straight', in *The Routledge International Handbook of Embodied Perspectives in Psychotherapy*, eds. Helen Payne et al. (London: Routledge, 2019), pp. 28-39.

53 Jerome S. Bruner, *Acts of Meaning* (Cambridge, MA: Harvard University Press, 1990).

Our embodied experiences are ready to be exploited in a narrative of those experiences.... Narratives arise directly from the lived experience of the embodied subject and these narratives can be embellished and reflected upon if we need to find a meaningful form or structure in that sequence of experiences. It is not narratives that shape experiences [or actions] but, rather, experiences [or actions] that structure narratives. Experiences [and actions] are the sequence of events that give structure and content to narratives.... the temporal ordering, the structure is already there in our lived, bodily experience.⁵⁴

A separate question is whether narratives can loop-around and start to shape our actions.⁵⁵ Explicitly, this can happen in mime, in acting, in therapeutic re-enactments – where an agent consciously enacts a narrative through movement. It can also happen implicitly, which is what makes our actions, in some cases, reflective of a narrative thinking.

To summarize, different types of movement can either contribute to (scaffold, enable) thinking or can be considered forms (constitutive) of thinking. There is some evidence that gesture, marking, blocking, dance, and whole-body engagement can scaffold learning, and enhance, enable or even constitute different forms of cognition, such as problem solving, memory, and reasoning ability. But not all movement is thinking.

Dances and affordances: The role of material engagement

As the phenomenon of blocking shows, the movement of performance doesn't take place in thin air, or in the abstract. It's situated. Here, as I have done elsewhere,⁵⁶ I want to draw on John Dewey's concept of the agentive situation. For Dewey,⁵⁷ the situation is not equivalent to the environment that surrounds us. Rather, the situation always includes the agent who is acting in the environment. The unit of explanation is the organism-environment or agent-environment. This is a relational concept that co-defines agent and environment as situation so that if either the agent or the environment

54 Richard Menary, 'Embodied narratives', *Journal of Consciousness Studies*, 15, 6 (2008), p. 79.

55 See Catriona Mackenzie, 'Bare personhood? Velleman on selfhood', *Philosophical Explorations*, 10, 3 (2007), pp. 263-281; Marya Schechtman, 'The narrative self', in *The Oxford Handbook of the Self*, ed. Shaun Gallagher (Oxford: Oxford University Press, 2011), pp. 394-416; J. David Velleman, *Self to Self: Selected Essays* (New York: Cambridge University Press, 2006).

56 Gallagher, *Enactivist Interventions*.

57 John Dewey, *Experience and Education* (New York: Macmillan, 1938).

is missing there is no situation. At least on one interpretation the notion of affordance is relational in a similar way:⁵⁸ a chair affords sitting, but only for an agent of a certain size who has bendable joints. It doesn't afford sitting for an elephant or ant. Rietveld and Kiverstein⁵⁹ have recently defined the "landscape of affordances" as relative to a form of life, so that we can think of affordances existing independently of any one individual, but relative to cultural practices. In performance art affordances are relative in both ways – to the individual agent and to the cultural practice.

Within a particular form of life, agents may develop more highly specific skill sets that lead to skilled action and highly specific affordances. The affordance space of the expert ballerina is going to be very different from the affordance space of the expert potter. Practice, skill acquisition, and the formation of habits lead to changes in affordance fields and in salience, as well as changes in perception and attention. Affordances are also modulated by bodily states such as hunger, thirst, energy level, emotional states, depression, etc. "It's not just whether 'I can' or 'I can't' that modulates affordances, but also whether I have the energy, the interest, or the desire to engage in a particular action. Likewise, psychological changes bring along physical, affective, and social changes that modulate affordances".⁶⁰

We've known for a long time that broad cultural practices and normative structures that pertain to race, gender and class can constrict the affordance spaces of some groups and individuals.⁶¹ The 'I can' quickly becomes 'I cannot', or 'I don't have the opportunity to'. More specific and one can hope less toxic limitations can be introduced by particular cultural institutions associated with skilled and artistic practices and performances. All of the various material constraints connected with performance location, spatial arrangements, equipment availability, as well as particular sets of institutional rules can specify what sort of performance is possible. Even

58 Anthony Chemero, *Radical Embodied Cognitive Science* (Cambridge, MA: MIT Press, 2009).

59 Erik Rietveld and Julian Kiverstein, 'A rich landscape of affordances', *Ecological Psychology* 26, 4 (2014), pp. 325-352.

60 Shaun Gallagher, 'The therapeutic reconstruction of affordances', *Res Philosophica*, 95, 4 (2018), p. 723.

61 See Frantz Fanon, *Black Skin, White Masks*, trans. Charles Lam Markmann (London: Pluto Press, 1986); Young, 'Throwing like a girl'; Gail Weiss, 'The normal, the natural, and the normative: A Merleau-Pontian legacy to feminist theory, critical race theory, and disability studies', *Continental Philosophy Review*, 48, 1 (2015), pp. 77-93; Gail Weiss, Gayle Salamon, and Ann V. Murphy, *50 Concepts for a Critical Phenomenology* (Evanston: Northwestern University Press).

economic factors such as the tendency towards shorter-term contracts or particularities of training can force innovation in dance.⁶²

Thus, performance, from the most basic to the most advanced, happens in the dynamic unfolding of interactions and potential interactions with affordances in cultural frameworks, and in the material environment.⁶³ For example, if I want to sculpt something out of clay, or throw a pot on the potter's wheel, I act upon the material. Each of my actions bring out new possibilities and limitations in the emerging form of the material, and the material contributes to the process, resisting or bending or giving way. As I actively work with the material a dynamic loop forms between possibilities and actions. My intentions are brought forth and are shaped in my interactions with the material. Each time I act on an affordance in the material, the material changes shape and affords new possibilities for my action. This becomes a fluid process in which the material and the performer co-constitute a system that is more than either one. We can think of "material" in this context, not just as the clay or material stuff that is physically present in the environment, but also the dance, the music, the script that we have to work with.

Whether we are sculpting, dancing or engaged in pretend play, the material that we engage with presents us with different possibilities for action. We recognize possibilities in the material as we engage with it, and the performance happens in our interactions with worldly material affordances. This kind of interaction is what Lambros Malafouris calls material engagement. Considering the interaction between potter and her material, he compares it to a dance.

This may allow us to understand the dynamic coupling between the potter and the task environment as a dance between equal partners, the potter leading the dance at some times and the potter's "situation" leading it at other times.... [A]lthough a good phenomenological description can pull us inside this seamless flow of activity and agency ... [t]o be sure, many external factors (from the texture of the clay and its physical properties to the material

62 Melanie Bales and Rebecca Nettle-Fiol, 'Preface', in *The Body Eclectic: Evolving Practices in Dance Training*, eds. Melanie Bales and Rebecca Nettle-Fiol (Urbana and Chicago: University of Illinois Press, 2008), p. viii; Veronica Dittman, 'The New York Dancer', in *The Body Eclectic: Evolving Practices in Dance Training*, eds. Melanie Bales and Rebecca Nettle-Fiol (Urbana and Chicago: University of Illinois Press, 2008), pp. 22-27; Meghan Quinlan, 'Gaga as metatechnique: negotiating choreography, improvisation, and technique in a neoliberal dance market', *Dance Research Journal*, 49, 2 (2017), pp. 26-43.

63 Malafouris, *How Things Shape the Mind*.

affordances of the tools available to the potter) may be allowed to influence or determine some parts of the action.⁶⁴

Malafouris characterizes agency as distributed across the potter and the material so that the work that is produced is not entirely the result of an individual agent's actions, but is the result of an interaction between agent and material world. It takes two to tango, and it is the interaction of the two that constitutes the dance. Even in the solo dance one interacts with the material, the dance itself. In dance the meaning of one's movement is modulated by one's partner, the environment, and the music or the dance itself. Throwing a pot, or dancing, motivates or elicits a series of events "that often take on a life of their own".⁶⁵

What Malafouris says about pottery when he compares it to a dance between potter and material, generalizes to dance itself. The dancer's thinking is enmeshed in the mediated practice that we call dancing and cannot be rigidly defined or circumscribed as traditional cognitive theories of creativity might prefer, where brain or mind simply control bodily movement, as in a simple, one-way vertical mesh. Rather, the being of the dancer, as dancer, is co-dependent and interweaved with the becoming of the dance. The constituents of the creative process are not to be found before or outside of the dance performance; they are in the dancing. The creative process becomes, then, a binding of movement and environment, "a dynamic flow of the organic into the inorganic that can be understood as a new or "surprising" blend of ingredients that can act or be acted upon".⁶⁶

In improvised performance the dancer engages with bodily, environmental and specifically musical affordances. Her movement explores them, attending to where she can go next within the possibility space, and for each exploration a new possibility space is created.⁶⁷ Michelle Merritt argues for an enactivist account of dance. In describing improvisation she writes:

In a nonchoreographed dance ... the dancers ... do not think before they act; they simply begin moving. There might be some prespecified rules to the improvisation—you must maintain contact with a person or an object, e.g.,--but for the most part, movement is spontaneous and unplanned.⁶⁸

64 Malafouris, *How Things Shape the Mind*, p. 220.

65 Malafouris, *How Things Shape the Mind*, p. 222.

66 Malafouris, *How Things Shape the Mind*, p. 213.

67 Kronsted and Gallagher, 'Dances and affor-dances'.

68 Merritt, 'Thinking-is-moving: dance, agency, and a radically enactive mind', p. 98.

For the dancer the movement which is meaningful and intelligent, a form of sense-making, discloses the world and her own body, or more precisely, the agential situation that Dewey describes. In an interactive coupling between agent, music, and environment the dancer acts and reacts so that movement and thoughtful engagement with the world become *interchangeable*. Likewise, according to Ann Albright⁶⁹ improvisers train to pay close attention to kinesthesia, proprioception, and haptic sensation, and this allows them to dynamically couple with their environments and/or their dance partner(s). This heightened awareness allows dancers to create ongoing coherent movements, and as the dancer's movements unfold, new sensory affordances are created carrying the interaction forward. Aesthetic creativity in improvised dance is not unstructured or totally arbitrary. Vida Midgelow⁷⁰ reinforces this idea, arguing that improvisation is a highly attentive activity consisting of different modes of moving dictated by the specific dance form, music, audience, mood, and other constraints – all of these located on what we called the horizontal line of the meshed architecture. Likewise, the dancer's performance is tightly constrained by the various modes of movement that have been perfected in rehearsal, providing modes of moving, and classes of steps that are appropriate to what is being afforded by the environment.⁷¹

The aesthetic mesh

In the study of embodied and situated cognition one important issue concerns identifying precisely what aspects of embodiment and situation are doing some work – both in terms of how we perceive the world and deal with it, affectively, pragmatically and cognitively, and in terms of our social relations. Once we escape internalist thinking which reduces everything of importance to neural processing, and once we start to acknowledge that the whole body as it moves and engages with its environment shapes our existence – then we need to know how

69 Ann Cooper Albright, 'Feeling in and out: Contact improvisation and the politics of empathy', in *Zwischenleiblichkeit und bewegtes Verstehen-Intercorporeity, Movement and Tacit Knowledge*, ed. Undine Eberlein (Bielefeld: Transcript Verlag, 2016), pp. 289-298.

70 Vida Midgelow, 'Improvisation as paradigm for phenomenologies', in *Back to Dance Itself: Phenomenologies of the Body in Performance*, ed. Sondra Fraleigh (Urbana: University of Illinois Press, 2018), ch. 4.

71 See Kronsted and Gallagher, 'Dances and affor-dances' for further discussion.

to map out the dynamics that characterize such processes. Enactivist approaches have placed emphasis on sensory-motor processes, including kinaesthesia and proprioception, body-schematic processes as well as the role of sensory-motor contingencies in perception.⁷² Following the lines of distributed cognition and extended mind approaches, Malafouris⁷³ has also highlighted the role of artifacts and material engagement, tools and technologies,⁷⁴ and the idea that such things can not only extend our cognitive reach, but also constrain it. All of these factors, as we have been arguing, also apply to artistic performance.

I want to continue to pursue the question of aesthetic experience. This question concerns not only what the body, artifacts, tools and technologies do in this regard, but also what social and cultural practices and larger-scale institutions contribute to such processes.⁷⁵ This extends the notion of extended cognition and acknowledges that the distributed aspects of cognition sometimes are not equally distributed but tend to clump or coagulate around established structures and norms. This can be for the good and can extend our knowledge. Science itself is one such social practice and institution.⁷⁶ But institutions and social practices can also introduce distortions and narrow down possibilities – we can find many examples of this in architectural design, educational organization, social and political structures, and so on. Sometimes the really powerful practices and institutions, however, are the ones that we don't notice, or ones that are so intrinsic to our lives that they remain invisible.

In previous work I've used the term 'pre-noetic' to signify certain bodily processes that we are not aware of, but that shape the way that we perceive and move around the world.⁷⁷ Body-schematic processes, for example, work this way; we are for the most part unaware of such motor control processes, but they influence the kinds of things that we are conscious of, and the kinds of actions that are possible for us. Likewise, a large range of bodily affects remain pre-noetic (unknown to us as they occur, but shaping our

72 See Gallagher, *How the Body Shapes the Mind*; Noë, *Action in Perception*; Alva Noë, *Varieties of Presence* (Cambridge, MA: Harvard University Press, 2012)

73 Malafouris, *How Things Shape the Mind*.

74 E. g., Clark, *Supersizing the mind: Embodiment, action, and cognitive extension*; Edward Hutchins, 'The cultural ecosystem of human cognition', *Philosophical Psychology*, 27, 1 (2014), pp. 34-49.

75 Shaun Gallagher, 'The socially extended mind', *Cognitive Systems Research*, 25-26 (2013), pp. 4-12.

76 Jan Slaby and Shaun Gallagher, 'Critical neuroscience and socially extended minds', *Theory, Culture & Society*, 32, 1 (2014), pp. 33-59.

77 Gallagher, *How the Body Shapes the Mind*.

perception of the world and of others), and in some cases we find ourselves making decisions (exercising our *noetic* or thinking abilities) under the influence of such affects. For example, the bodily affects of hunger can bias judicial decisions that ought to be governed purely by legal reasoning.⁷⁸ This notion of the prenoetic can also be extended, along what we called the horizontal axis, to environmental and institutional factors which can affect the way we experience the world. The settings and the norms and the rules that have evolved over time to guide legal processes, for example, shape the way that we make judicial decisions, and many times we are not fully aware of their effects. The proceedings are conducted in *this* way, because “that’s the way it is done,” and has “always” been done; and yet doing it *this* way may in fact lead the judge to make life-altering decisions just before lunch when she is most hungry.

Research into prenoetic effects has to dig deeper into particular examples to learn how these things work. Bodily and social practices and the extended effects of technologies reveal the surprising ways in which they change our perception, our ways of thinking, and also loop around to recursively change our bodily and social practices. We may move and think one way within the situation of an academic institution, or within a set of religious or military practices, and a different way within a set of family or corporate practices.

In like manner, just as material engagement with artifacts and technologies can lead to an incorporation into body-schematic processes, various media may also affect our perceptions and actions, and can filter what we see and how we interpret the world, thereby altering our possibilities for action.⁷⁹ Much of this can happen prenoetically – in the background and without our noticing it. In the same way that, as we speak and communicate with others, we depend on grammar without thinking about it – indeed, we learn to speak without any inkling of grammatical rules and only come to learn there are such things in “grammar” school – so our use of things and technologies involve implicit (I would say, prenoetic) grammars that work in a reflexive way involving looping

78 Shai Danziger, Jonathan Levav, and Liora Avnaim-Pesso, ‘Extraneous factors in judicial decisions’, *Proceedings of the National Academy of Sciences*, 108, 17 (2011), pp. 6889-6892.

79 Matt Hayler, ‘Another way of looking: Reflexive technologies and how they change the world’, in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), pp. 159-173.

effects⁸⁰ that can either expand our affordances for action, or constrict them.

Consider photography as an example. Matt Hayler⁸¹ nicely shows how a certain grammar comes along with specific techniques, such as tilt shift photography, in a way that manipulates our perspectives. Photographic techniques can change the way that we see things; in some cases it can make visible what had previously been invisible. People had been watching the movements of horses for centuries, but they were unable to observe accurately their galloping gait because of its high speed. Even experts had no good understanding of what the gallop was truly like. In the early nineteenth century, for example, Théodore Géricault, the painter and jockey who had gained prominence with his famous 1819 painting of *The Raft of Medusa*, went to the horse races in search of new imagery, and in 1821 he painted *The Epsom Derby* (Figure 2.4), now in the Louvre in Paris.



Figure 2.4 Géricault's Epsom Derby

80 Ian Hacking, 'The looping effects of human kinds', in *Causal Cognition: A Multidisciplinary Debate*, eds. Dan Sperber, David Premack, and Ann James Premack (New York: Oxford University Press, 1995), pp. 351-383.

81 Hayler, 'Another way of looking: Reflexive technologies and how they change the world'.

This painting reveals how Géricault, an expert in both painting and matters equestrian, an expert, therefore, in both visual representation and in what was being represented, saw the horses' galloping gait. At full speed the horses simultaneously stretch their front legs out ahead and their back ones to the rear. Most equine experts also "saw" the horse's legs in this position during a full gallop.

Speed photography changes this perception. As Hayler notes, the exact motion of a galloping horse's legs would only be revealed when Eadweard Muybridge's serial photographs were published. In 1872, he produced a sequence of photographs of a horse at full gallop and then displayed these images in quick succession, creating the effect of a film. This visual sequential depiction of the motion showed unambiguously that Géricault's earlier assumption was wrong; a horse's front and rear legs never simultaneously extend off the ground away from its body during a gallop.

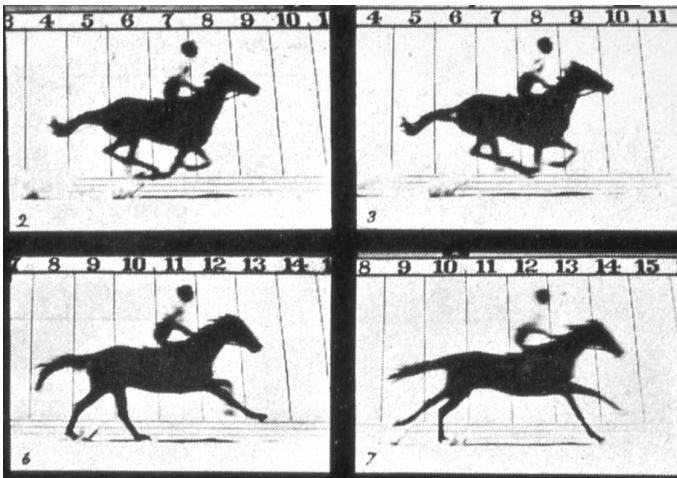


Figure 2.5 Muybridge's serial photographs of galloping horse

The crucial point, however, is that subsequently we all began to "see" horses differently. Anyone who views Muybridge's film *Horse in Motion* will thereafter also see every live horse's galloping gait differently. The film influences the act of seeing.⁸² As Jörg Trempler notes, we do not have

82 Stephen Barber, *Muybridge: The Eye in Motion* (Washington, DC: Solar, 2012).

the feeling of having understood something, but rather the feeling of *seeing* something directly, when before we couldn't see it at all.⁸³

Hayler shows that the use of mirrors, photography, cinema, and video cameras continue to have reflexive (looping) effects on how we see and understand things, and even on how we move. This relates directly to dance. He shows how prior to its time a specific style of dance (he references a stage performance by a Japanese dance group, Wrecking Crew Orchestra) “couldn't even have been *conceived of* in terms of the effects that it deploys because the motivation for those effects emerge from the cultural baggage of over 40 years of digitally tampered-with visual imagery and 200 years of photographic experiments”.⁸⁴ The implicit grammar that allows us to see what we see and know what we know gets built out of that over-exposure, forming “rules that we know, but don't know that we know”⁸⁵ – that is, rules that we follow prenoetically, without knowing that we do so. Such an evolved grammar structures our expectations, shows us different possibilities, and in effect, creates new affordances for action.

We can see this clearly in a recent study of dance. In dance, body postures may express an artist's intentions; they are also aesthetic objects that appeal to audiences. In classical ballet such postures obey the body's biomechanical limits, but also follow rules established by the tradition of ballet. Daprati, Iosa and Haggard showed that the posture of ballet dancers has changed over the course of 60 years, by measuring the angles between body segments in archived material depicting dancers from a leading dance company.

Body positions supposedly fixed by codified choreography were in fact implemented by very different elevation angles, according to the year of ballet production. Progressive changes lead to increasingly vertical positions of the dancer's body over the period studied.⁸⁶

83 Shaun Gallagher et al., *The Science of Awe and Wonder: Neurophenomenology and Non-reductionist Cognitive Science* (London: Palgrave-Macmillan, 2015).

84 Hayler, ‘Another way of looking: Reflexive technologies and how they change the world’, p. 167.

85 Hayler, ‘Another way of looking: Reflexive technologies and how they change the world’, p. 173.

86 Elena Daprati, Marco Iosa, and Patrick Haggard, ‘A dance to the music of time: Aesthetically-relevant changes in body posture in performing art’, *PLoS One* 4, 3 (2009), p. 1.

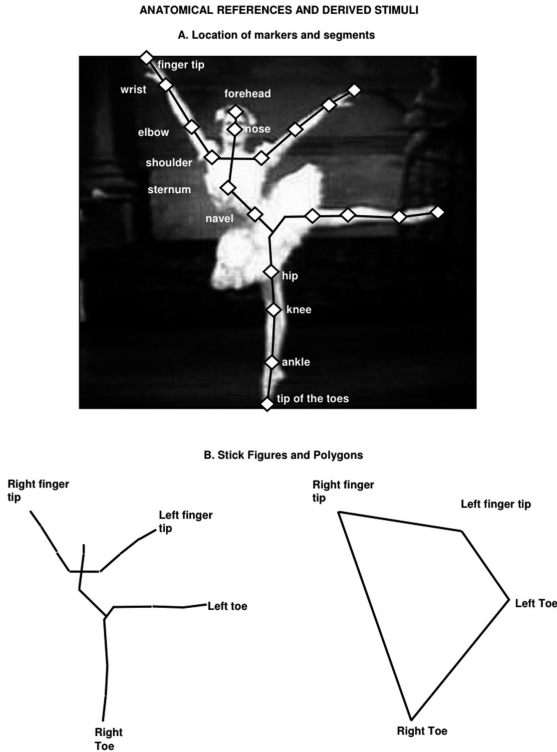


Figure 2.6 from Daprati, Iosa, and Haggard, 'A dance to the music of time: aesthetically-relevant changes in body posture in performing art'.

These changes reflect the aesthetic choices of naïve modern observers – the more vertical postures drawn from later productions were systematically preferred to less vertical postures from earlier productions. This suggests that aesthetic change can arise from ongoing interactions between specific artistic traditions, individual artists' creativity, and a wider social-environmental context, including changing audiences.

What one can say of media and technology, one can also say of certain material designs that are closer to our bodies and constraining of our movement – namely bodily decorations and manners of dress. Beyond the proverb, clothes really do make men and women; clothes impact most immediately how we move, and then how we act and what roles we can

play, helping to construct specific social structures that again loop around to reinforce the customs and costumes that we don. Sarah McCarroll⁸⁷ builds on the distinction between body image and body schema⁸⁸ and shows that the clothes that we wear are not simply a matter of dressing up our body images; they can actually take hold of our body-schematic (motor-control) processes and, within specific social settings, operate prenoetically as a means of colonizing our actions. Clothes can impose a specific behavioral pattern (McCarroll refers to it as a ‘body map’) on our actions by defining (or delimiting) movement. She views

the acquisition of a body map as a largely invisible process as strictures of polite behavior, structures of clothing, and saturation of visual imagery act upon the consciously adopted habits of dress and behavior related to body image, and permeate the preconscious body schema.⁸⁹ (2016, 177).

Clothes can have real physical and social effects and can actually support the norms of institutions. McCarroll demonstrates her point with the example of the corset which acted as something of a straightjacket on the bodies of Victorian women and defined their role in society. The evidence for this is found in J. M. Barrie’s play *The Admirable Crichton*.⁹⁰

In Victorian London the Lazenby daughters in Barrie’s play require intensive attention from their individual maids simply in order to dress. Dresses are buttoned from the back; corsets prevent the women from bending to tie their own shoes, which required stylish and complex lacing up. The corset and everything that goes with it – all the invisible and unmentionable garments – rob them of free movement and prevent them from engaging in certain types of action. The daughters are in effect dressed to be dependent and helpless and are pushed into a very restrictive, corseted social structure. Accordingly, clothes, and more generally, fashions, are like institutions that we wear. They can impose rigid limitations on movement and on daily practices and seriously shape our social customs.

We may think that today we’ve been liberated from these types of clothes – although, of course this is not the case in all cultures, and

87 Sarah E. McCarroll, ‘The historical body map: Cultural pressures on embodied cognition’, in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), ch. 8.

88 Gallagher, *How the Body Shapes the Mind*.

89 McCarroll, ‘The historical body map: Cultural pressures on embodied cognition’, p. 177.

90 James Matthew Barrie, *The Admirable Crichton* (New York: Samuel French, 1918).

particularly there continue to exist strictures on women's dress in the name of modesty, decency, God, or business acumen. We might point to some of those obvious examples and miss the fact that even changing and liberating fashions continue to be imposed, since a woman is still expected to dress like a woman and man like a man – especially in specific settings. Whether it's tight jeans and high heels, or the very loose clothing that seems always to be in danger of falling off, or the traditional business suit – these are standards that shape expectations and define the norm.

Clothes, fashions, and the design of the immediate material world continue to operate as institutions – something that John Dewey noted. Specifically, they continue to be *aesthetic institutions*. Fashion, for example, is an object of intense admiration which “intensifies the sense of immediate living.”

Bodily scarification, waving feathers, gaudy robes, shining ornaments of gold and silver, of emerald and jade, formed the contents of esthetic arts.... Domestic utensils, furnishings of tent and house, rugs, mats, jars, pots, bows, spears, were wrought with such delighted care that today we hunt them out and give them places of honor in our art museums. Yet in their own time and place, such things were enhancements of the processes of everyday life.⁹¹

The larger point here is that institutions, composed of or constituted by materials, designs, media, cultural preferences and practices, continue to be what they are, and we often find ourselves in good ones that operate like loose and comfortable clothing, permitting a lot of free movement, or in bad ones that tie us up in tight and constrictive processes that discourage innovative actions. Institutions, like clothes, and even more clearly like tools and instruments, define an affordance space⁹² – a set of possible actions across a range of physical and social settings.

Here we can return to the concept of a meshed architecture.⁹³ In the previous lecture I characterized the mesh as an integration of varying heedful or mindful experiences with deeper embodied and affective structures. In addition, I suggested there is a horizontal meshing that

91 Dewey, *Art as Experience*, p. 6.

92 Maria Brincker, 'Navigating beyond 'here & now' affordances – on sensorimotor maturation and 'false belief' performance', *Frontiers in Psychology*, 5, 1433 (2014), doi:10.3389/fpsyg.2014.01433.

93 Christensen, Sutton, and McIlwain, 'Cognition in skilled action: Meshed control and the varieties of skill experience'; Sutton et al., 'Applying intelligence to the reflexes: embodied skills and habits between Dreyfus and Descartes'.

incorporates physical, social, cultural and normative factors in both preparation and performance. We now may be able to see some further, perhaps more subtle (prenoetic) nuances in the mesh.

The notion of mesh that we are discussing is an attempt to open what Rosenberg,⁹⁴ in his analysis of jazz improvisation, calls “the black box” in which there is a meeting of memory or intention (“projective apprehension”) and creativity, anticipation and reaction (“proprio-sentience”). He suggests that the thinking through of musical possibilities would remain a hinderance if not eliminated in the moment of improvisation when one needs to allow the “embodied flow” to take the lead. At the same time, Rosenberg allows, some kind of conceptual mastery of the music needs to be operative, so it can’t be a complete forgetting or elimination of mind. The integration (both vertical and horizontal) of various factors involves a meshing organized by forms of alignment, which may be different for different types of performance.

On stage, for example, this horizontal mesh extends to include not just other actors or dancers or musicians, but artifacts, props and placements that are organized in the blocking process and that scaffold the performer’s ability to remember lines, or moves, or notes. As we noted in the previous section, blocking means that when one is in a particular position at a particular time in the play, or in the dance, interacting with another performer, the lines and the movements are also there – lines and gestures and postures and movements are elicited by the details of the scene. In a recent book⁹⁵ I mentioned I once had the opportunity to ask the actor Richard Gere about how this practice of blocking applies to film.⁹⁶ He explained that although blocking is made more complex with the addition of camera position, remembering lines is further assisted by good writing. The quality of the narrative and the flow of the lines also mesh with the flow of the actor’s embodied ability and their understanding of the character.⁹⁷ All of these factors that belong to the institution of acting, on stage or in film, from props and posture and placement to gestures and narratives, as

94 Rosenberg, ‘Jazz as narrative’, p. 342.

95 Gallagher, *Action and Interaction*.

96 In conversation at a meeting with the Dali Lama in Dharamsala, India in 2009.

97 I’ll discuss acting and the role of narrative in *Lecture 3*. I note that Carlos Vara Sánchez (Carlos Vara Sánchez, ‘Raw aesthetics’, in *private circulation*, 2020) in a recent paper links aesthetic experience to self-narrative and a “particular mineness” of an aesthetic affordance. I’ll suggest that we address this sense of mineness in a productive tension with an experience of empathy.

well as the directors, producers and other actors, allow for the aesthetic production of new meanings and new possibilities.

There are thus a range of elements that contribute to alignment, which we can define in a wide, inclusive way that includes the broad range of embodied, ecological and material processes integrated into such events. We should include intentions as well as circumstantial contextual features that define the dynamical balances among the elements of performance, which often include intersubjective elements. On one influential reading, intersubjective alignment involves “a loosely interconnected set of cognitive processes” organized to facilitate social interactions.⁹⁸ Such interconnections are dynamic and adaptive to environmental constraints as well as to higher-order cognitive processes such as individual and shared or collective intentions. Should we think of this as involving bottom-up processes, as Tollefsen, Dale and Paxton suggest? Or should we consider a dynamical meshing of bottom-up and top-down processes, the latter sometimes leading to an inhibition of alignment since alignment is not always something good? Again, this terminology (top-down, bottom-up) suggests a set of vertically organized operations, some higher-order and some lower-order. It may be more productive to think of these dynamical interactions on the model of what I’ve called ‘Goldstein’s gestalt’.⁹⁹ Kurt Goldstein, who made a well-known distinction between abstract (cognitive) and concrete (motoric) processes, suggested that we should view the relation between such processes not on a hierarchical model, but on the model of a gestalt.

Although the normal person’s behaviour is prevailingly concrete, this concreteness can be considered normal only as long as it is embedded in and codetermined by the abstract attitude. For instance, in the normal person both attitudes are always present in a definite figure-ground relation.¹⁰⁰

In the mesh, the dynamical relations themselves shape the *relata*. For example, one can think of memory or imagination, not as separate processes

98 Deborah Tollefsen, Rick Dale, and Alexandra Paxton, ‘Alignment, transactive memory, and collective cognitive systems’, *Review of Philosophy and Psychology*, 4, 1 (2013), p. 49.

99 Gallagher, *Enactivist Interventions*; Shaun Gallagher, ‘What in the world. Conversation and things in context’, in *Minimal Cooperation and Shared Agency*, ed. Anika Fiebich (Berlin: Springer, 2020), pp. 59-70.

100 Kurt Goldstein and Martin Scheerer, *Abstract and concrete behavior: an experimental study with special tests* (Evanston: Northwestern University, 1964), p. 8. Reprint of *Psychological Monographs* 53, 2 (1941).

from movement, but as continuous with and intervening in performance. The kind of coupling described as alignment clearly depends also on basic motoric processes through which we become attuned to a variety of environmental features. This may involve a motoric/neuronal resonance where specific processes join in the formation of a larger interactional system. A good example of this is the formation of a 'joint body schema'¹⁰¹ in synchronic joint action with others, as mentioned in the previous lecture. Coordinated actions produce modulations that show up in both neuronal and behavioral measures.

This meshing of body-schematic (motor-control) factors, on the enactivist reading, means that individual bodies align to form a larger action system, so that the joint body schema belongs only to this larger system (a gestalt in which two parts constitute a larger whole). This would be a form of physically attuned embodied alignment and may very well be limited to synchronous concrete interactions, as Soliman and Glenberg's experiments suggest. Notably, however, not all performances involve just this type of alignment. More generally, the gestalt structure (the meshing process) involves not just brain plasticity, but *metaplasticity*,¹⁰² where changes in brain, body, and environment modulate each other not along strictly vertical or horizontal lines, but in a holistic, gestalt-like fashion. Performance involves material engagement and rich contexts, specified in terms of differences in cultural habitus and artistic practices.

If we try to fit this meshing process entirely within the brain of the performer,¹⁰³ we are immediately directed beyond the brain towards the social and cultural environment. As Rosenberg¹⁰⁴ indicates, again in relation to musical performance, contending top-down and bottom-up processes reflected in brain function seem to be aligned not only with distinct genres of music but also with distinct cultures. Rosenberg suggests a neuro-plastic reuse of certain hard-wired connections from the ear that bypass the auditory cortex, and go directly to motor control centers in the cerebellum, which may originally serve survival by providing startle response to unexpected sounds, but now may also serve aesthetic purposes. Again, however, this would be not only a neural reuse driven by cultural

101 Soliman and Glenberg, 'The embodiment of culture'.

102 Malafouris, *How Things Shape the Mind*.

103 For a summary of the research with respect to musical performance, for example, see Daniel J. Levitin, *This is Your Brain on Music: The Science of Human Obsession* (London: Penguin, 2006).

104 Rosenberg, 'Jazz as narrative', p. 348.

practices¹⁰⁵ but a metaplasticity – an ongoing transformation not only of brain processes but of social, cultural and artistic practices.¹⁰⁶

One can see this dynamical aspect in slow motion, so to speak, in theatrical acting, in contrast to jazz improvisation, for example. Acting clearly involves a distributed expertise. I would add that actors have to be experts in being novices. Actors may have certain techniques that allow them to perform with excellence. But for each character they have to begin from scratch, or more precisely, with whatever knowledge they have. Then they have to unlearn much of that as they take on the new character and the new performance; or as Tribble puts it, “the actor ... must banish certain forms of thought and harness others”.¹⁰⁷ If they have developed habits that make up their skill, the habits they use must be habits of movement and thinking of the intelligent kind rather than anything like automatic movement. On the one hand, the activation of such intelligent habits is in part intrinsic to the performance so that only by being an actor and being inside the process does one discover how it really works. Acting involves a transformed perception that cannot be attained from the outside. One has to get *into* character. Good actors make a difficult process look easy. On the other hand, to get the complete picture means going beyond a snapshot analysis and into the distributed and meshed dynamics of performance that, on the analogy of the horse gallop might only be caught by a Muybridge-style revelation (see *Lecture 3*).

Likewise, to highlight some of the intersubjective aspects of performance, for example, in dance and musical performance, in exploring motor affordances performers learn how different kinesthetic and proprioceptive configurations of their body and their interactions with co-performers provide new possibilities for an ongoing engagement – that is to say new intersubjective affordances. One can see this in the case of dance where there is a heightened awareness not only of one’s own body and the bodies of others but also an awareness of how others perceive and attune to the performer’s body.¹⁰⁸ (Kronstead & Gallagher, in press; Tembrioti

105 See Michael L. Anderson, ‘Neural reuse: a fundamental organizational principle of the brain’, *Behavioral and Brain Sciences*, 33 (2010), pp. 245-266.

106 For more on this see Shaun Gallagher, ‘The brains behind radical ecological and enactive approaches to cognition’, in *Beyond Biology and Culture. Balzan Papers*, vol. 3, ed. Lambros Malafouris (Florence: Olschki Publications), pp. 357-379.

107 Tribble, ‘Distributed cognition on mindful bodies and the arts of acting’, p. 138.

108 See Kronstead and Gallagher, ‘Dances and affor-dances: The relation between dance training and conceptual problem solving’; Lara Tembrioti and Niki Tsangaridou, ‘Reflective practice in dance: A review of the literature’, in *Research in Dance Education*, 15, 1 (2014), pp. 4-22.

and Tsangaridou 2014). This is an attunement to the perspective of the other which can be the basis for empathy (see *Lecture 3*). Alfred Schutz,¹⁰⁹ for example, suggests that working or performing together requires a prereflective sense of the person with whom one is working. This, he suggests, is based upon a prereflective “Thou-orientation”.¹¹⁰ Even if I am not interested in the other person’s behavior, gestures, bodily movements, etc. *per se*, the thou-orientation just is an orientation to such embodied aspects of the other. If this orientation is mutual – if we are interacting in a reciprocal framework – the thou-orientation becomes a ‘we-relation’, which Schutz nonetheless characterizes as a face-to-face relation.¹¹¹ My awareness that we are jointly attending to something, for example, may be based on my perception of “movements of your body and expressions of your face during these movements”,¹¹² and in this fashion “I experience my fellow-man ‘directly’ in a We-relation”,¹¹³ which, for Schutz, is still a prereflective experience.

With respect to our awareness of others, some sports experiences (e.g., closed-skill team sports where performance involves fixed sets of movements) are aligned with Schutz’s characterization, especially when these performances are closer to dance or music, such as rhythmic gymnastics or synchronized swimming. In contrast, however, in open-skill team sports that require adjusting dynamically to competitors, as in football, there are significant differences. In contrast to playing music or dancing together, for example, in most cases there is no score (of the musical sort), choreographed movements, or pre-set action patterns, although there may be some running of plays or practiced patterns that the team draws on in particular situations, more so in American football than in soccer. In such games there is an analogous reciprocity among players on the same team, but that ‘synchrony’ is predicated on the opponent’s very attempt to disrupt the performance. Thus, for example, in the context of analyzing soccer phenomenologically as a kind of theatrical performance Kenneth Aggerholm explains:

In the competitive context of duels, the antagonists act according to (at least) two different scripts and although Sartre ... describes conflict as the original meaning of being-for-Others, the agonistic context of soccer makes

109 Alfred Schutz, *Collected Papers Vol. II* (Dordrecht, Springer, 1976).

110 Schutz, *Collected Papers Vol. II*, p. 24.

111 Schutz, *Collected Papers Vol. II*, p. 25.

112 Schutz, *Collected Papers Vol. II*, p. 25.

113 Schutz, *Collected Papers Vol. II*, p. 26.

this existential condition even more radical. In a sense, it would be more appropriate to describe it as a being-against-the-Other.¹¹⁴

In contrast, acting, dancing and musical performance involve an attunement to how others might receive one's expression not only within a symbolic framework,¹¹⁵ but also within a framework of embodied communication that requires attunement to and understanding of social affordances and the contexts of others.

All of this, to come back to my previous question, helps to show that what makes the intrinsic experience of performance an aesthetic experience is not entirely inside the performer, whether she be actor, dancer, athlete, or expert in everyday affairs. It's a distributed and temporally extended process that includes all of the elements of blocking, made complex by the performer's movement, perception, communication and cognition, which are not the accomplishments of narrow processes taking place in Cartesian minds, but are in-the-world, on-the-stage, meshed with the structures of our intercorporeal and material engagements. Not only expert know-how and artistic expression, but also everyday movement, action, and communication are processes both enabled and constrained, sometimes pushed to the level of superior performance by technological and social scaffolds, sometimes distorted by poorly designed institutions, and sometimes defeated by overly constraining norms that limit affordance spaces. Such elements involve prenoetic effects that in unsuspecting and surprising ways can transform our perception, our way of thinking, and also loop around to recursively change our bodily and social practices. The question still remains: in all of this, in this aesthetic mesh, where precisely do we find the aesthetic?

114 Kenneth Aggerholm, 'Express yourself: The value of theatricality in soccer', *Journal of the Philosophy of Sport*, 40, 2 (2013), p. 211; see also Gallagher and Ilundáin-Agurruza, 'Self- and other-awareness in joint expert performance'.

115 Miriam Giguere, 'Thinking as they create: Do children have similar experiences in dance as in language arts?', *Journal of Dance Education*, 6, 2 (2006), pp. 41-47.

LECTURE 3

NOT ONE, NOT TWO: ACTING AND ART

For an observer it is necessarily the case that whatever he describes (sees, perceives, understands) is a reflection of his actions (perceptions, properties, organization). There is a mutual reflection between described and describer. They are mutually revealing.

Francisco Varela¹

An actor's job is empathy.

Natalie Portman²

[T]o play truly means to be right, logical, coherent, to think, strive, feel, and act in unison with your role.... and thus assimilate a psychological technique of living a part.

Constantin Stanislavski³

In this lecture I first want to rehearse and extend some work I did with my daughter Julia Gallagher, a professional actor.⁴ We posed the following question: can an actor empathize with the character she is playing? If so, what does that mean? We argued that the answer lies somewhere at the intersection between theories of empathy, of which there are many, and a variety of acting methods, of which there are many. This is, accordingly, a complex landscape. Here I'll try to map this landscape and then explain where we ended up on that map. I think that where we ended up offers a way to deal with at least one question that I am trying to address in these lectures – the one I raised, in slightly different ways, at the ends of the first

1 Francisco Varela, 'Not one, not two', *CoEvolution Quarterly*, 12 (1976), §4.2.

2 Quoted at <http://entertainment.inquirer.net/68811/an-actors-job-is-empathy>.

3 Constantin Stanislavski, *An Actor Prepares*, trans. Elizabeth Reynolds Hapgood (New York: Theatre Arts Inc., 1936), pp. 15-16.

4 Shaun Gallagher and Julia Gallagher, 'Acting oneself as another: An actor's empathy for her character', *Topoi* 39: 779–790. (2020) DOI: 10.1007/s11245-018-9624-7

two lectures: what makes a performer's experience aesthetic, especially if there is a continuity between everyday ordinary experience and aesthetic experience? Where precisely in the mesh of performance do we find the aesthetic?

Setting the stage: Two debates about empathy

That there is a connection between empathy and aesthetic experience should not be a surprise to anyone familiar with the history of debates about empathy. Near the very beginning of these debates, the psychologist E. B. Titchener⁵ translated the German term *Einfühlung* by inventing a new term in English, 'empathy'. Theodor Lipps,⁶ who was a major figure in these debates, used the term *Einfühlung* to refer to both our experience of aesthetic objects and our sense of other minds.

With respect to aesthetics, empathy in its initial sense involves the experience or perception of natural objects (or settings in nature) or artworks as affectively animating. Titchener defined it as "the process of humanizing objects, of feeling ourselves or reading ourselves into them.... I feel them. I suppose that's the simple case of empathy, if we may coin the term as a rendering of *Einfühlung*".⁷ For Lipps this meant that when we resonate with some object, we project our feelings into it. An older more Romantic tradition suggests that we attune to the feelings that are in or expressed by the object. Some have interpreted this to mean that the person perceiving art imbues "the art object with human consciousness".⁸ To the extent that these thinkers were characterizing aesthetic experience as empathic experience, this would be in complete opposition to the idea that aesthetic experience involves a disinterestedness.⁹

Even in the debate at the beginning of the 20th century the discussion of empathy started to center on the experience of other persons, rather than the experience of art, and this quickly changed our understanding of empathy

5 Edward Bradford Titchener, *Lectures on the Experimental Psychology of Thought-Processes* (New York: MacMillan, 1909).

6 See Theodor Lipps, *Ästhetik* (Leipzig: Verlag von L. Voss, 1906); Theodor Lipps, *Leitfaden der Psychologie* (Leipzig: Engelmann, 1909).

7 Titchener, *Lectures on the Experimental Psychology of Thought-Processes*, p. 21.

8 W. Ray Crozier and Paul Greenhalgh, 'The empathy principle: Towards a model for the psychology of art', *Journal for the Theory of Social Behaviour*, 22, 1 (1992), p. 69.

9 As in Immanuel Kant, *Critique of Judgment*, trans. Werner S. Pluhar (Indianapolis: Hackett, 1987).

to its more contemporary connotation. Moreover, it is only in this regard, as an experience of others, that philosophers and psychologists develop their theories about empathy.

I'll summarize the early 20th-century debate, which takes place mainly amongst German philosophers, by distinguishing three approaches to the concept of empathy: the psychological, the hermeneutical and the phenomenological.

The psychological approach

The psychological view is best represented by Theodore Lipps. Lipps agreed with other theorists that empathy involved a “transposing” [*Hineinversetzen*] process in which one puts oneself into the situation of the other person. Moritz Geiger, in his 1910 review of the debate, indicates that some theorists considered this kind of empathic transposing to be a form of imagination, while others thought of it as a real instantiation of another person's emotion.¹⁰ Lipps defended the latter view. Rather than just imagining the other's experience, Lipps argued that we come to actually experience the same thing that the other person experiences. Thus, if we experience the anger of the other person, “this anger is not something that is simply objectively there facing us, but we are in it. We live in this anger, it fully gives itself, although for other reasons it does not have the same effectiveness as anger in daily life”.¹¹

The process of transposing involves a form of projection in which we add something of ourselves to our experience of the other's external signs (gestures, facial expressions, etc.): “we add something mental from our own inwardness – here we have a special act of the spontaneity of a mental nature, and not a simple intake of the data transmitted to us from the outside”.¹² In the case of projection there is an elicitation of our own experience that fills in what we cannot access of the other's experience. This involves both a psychological association and a physiological

10 Moritz Geiger, ‘On the essence and meaning of empathy (Parts I & II)’, *Dialogues in Philosophy, Mental and Neuroscience*, trans. F. Gödel and M. Aragonaas, 8, 1 (2015), pp. 19-31 and 8, 2 (2015), pp. 75-8. Original: ‘Über das Wesen und die Bedeutung der Einfühlung’, in *IV. Kongress für experimentelle Psychologie*, ed. F. Schumann (Leipzig: Verlag J.A. Barth, 1910), pp. 29-73.

11 Geiger, ‘On the essence and meaning of empathy (Parts I & II)’, p. 22 (translation revised).

12 Geiger, ‘On the essence and meaning of empathy (Parts I & II)’, p. 24 (translation revised); see Theodor Lipps, *Die ethischen Grundfragen* (Hamburg: Leopold Voss Verlag, 1905), p. 17.

resonance leading to an immediate empathic fusion (*Verschmelzung*).¹³ This is not, according to Lipps,¹⁴ a form of inference by analogy, or an act of imagination, since that would already presume some access to the other's experience.

The hermeneutical approach

Whereas Lipps thought of empathy as an everyday occurrence involving an automatic embodied resonance, Wilhelm Dilthey conceived of it as a methodological tool to be used for historical analysis and more generally in the human and social sciences.¹⁵ Dilthey, writing as a contemporary of Lipps, agreed that empathy involved a "transposing" [*Hineinversetzen*] process.¹⁶ For Dilthey, however, empathic transposition and projection occur at two different levels. He distinguished between "elementary understanding" and higher forms of understanding, both of which involve empathy. Elementary understanding arises in face-to-face communications and in the contexts of everyday practical life. It involves the interpretation of basic expressive or pragmatic behaviors ("such as picking up an object, letting a hammer drop, cutting wood with a saw"), which in turn add up to a complex action. To understand such actions one relies on one's own experience and the "projection of the self into some given expression",¹⁷ which may involve an unconscious inference.¹⁸

The higher form of empathy relies on this elementary projective transposition,¹⁹ but involves context and the connectedness of experience to a larger degree.

13 Paul Stern, *Einfühlung und Assoziation in der neueren Ästhetik* (Hamburg: L. Voss, 1897); Johannes Volkelt, *System der Ästhetik* (München: Beck, 1905).

14 Theodor Lipps, 'Das Wissen von fremden Ichen', in *Psychologische Untersuchungen I*, ed. Theodor Lipps (Leipzig: Engelmann, 1907), pp. 697-698.

15 Karsten Stueber, *Rediscovering Empathy: Agency, Folk Psychology, and the Human Sciences* (Cambridge, MA: MIT Press, 2006), pp. 11-12.

16 Wilhelm Dilthey, *Gesammelte Schriften. Vol. 7, Der Aufbau der geschichtlichen Welt in den Geisteswissenschaften* (Stuttgart: B. G. Teubner Verlagsgesellschaft, 1992).

17 Wilhelm Dilthey, *Dilthey: Selected Writings*, trans. H. P. Rickman (London: Cambridge University Press, 1976), p. 226.

18 Dilthey, *Dilthey: Selected Writings*, p. 220.

19 Wilhelm Dilthey, *Selected Works. III. The Formation of the Historical World in the Human Sciences*, eds. Rudolf A. Makkreel and Frithjof Rodi (Princeton: Princeton University Press, 2002), p. 235.

[It therefore] requires that the understanding go forward with the line of the events themselves. It must advance continually with the course of life itself. The process of transposing oneself or transposition expands to make re-experiencing a creation along the line of the events.²⁰

As I'll argue below, tracing these lines involves a form of narrative framing. This is consistent with Dilthey's suggestion that this fuller or higher sense of empathy is facilitated by artistic expression in poetry or theater, or by fictional or historical narrative. It involves a process of an imaginative re-presentation (*Vergegenwärtigung*) of a particular situation which "stimulates a re-experiencing in us".²¹

This higher-order re-experiencing can be a re-living of the other's feelings in an aesthetic way (*via* a transposing into their circumstances). "Thus human beings who are determined from within can experience many other kinds of existence through their imagination. Confined by circumstances, they can nevertheless glimpse exotic beauties of the world and regions of life beyond their reach".²² In the case of higher-order empathy, context and circumstances matter for gaining insight into others.

The phenomenological approach

Along with the psychological view of Lipps, and the hermeneutical view of Dilthey, phenomenologists such as Edmund Husserl, Edith Stein, and Max Scheler developed a third approach which focused on elementary empathy. They took issue with Lipps, however, and offered an account of empathy grounded in perceptual experience. In contrast to Lipps, for whom we come to experience the same emotion as the other person, according to the phenomenologists, when we perceive that another person is angry, we do not necessarily feel anger ourselves. Likewise, when we see that someone else is fearful, we do not empathize by experiencing fear ourselves. This is an objection that Husserl makes against Lipps.²³ More

20 Dilthey, *Selected Works. III The Formation of the Historical World in the Human Sciences*, p. 235.

21 Dilthey, *Selected Works. III The Formation of the Historical World in the Human Sciences*, p. 236.

22 Dilthey, *Selected Works. III The Formation of the Historical World in the Human Sciences*, p. 237.

23 Edmund Husserl, *Zur Phänomenologie der Intersubjektivität I. Husserliana 13* (Den Haag: Martinus Nijhoff, 1973), p. 188.

recently the phenomenologist Dan Zahavi²⁴ raised the same issue: “How plausible is it to claim that I have to be scared myself in order to understand that my child is scared, or that I need to become furious myself if I am to recognize the fury in the face of my assailant?”

The phenomenologists see another problem with Lipps’ position. It’s not clear that we project (or why we are warranted to project) our own experience onto the other. According to Stein,²⁵ this kind of projection would, at best, explain a form of automatic mimicry/contagion, and this falls short of empathy.

More positively, on the phenomenological account, in empathy we become aware of the other’s affective state as the intentional object of our perception. Specifically, for both Husserl and Stein, empathy is a unique form of perceptual intentionality directed at the experience of others. Rather than attributing, imagining, projecting, inferring, or cognizing the experiences of others, empathy involves a complex form of perception of the other’s intentions and feelings. These are features that are perceptually present in other’s gestures and expressions.²⁶ To clarify, they distinguish between the situation in which I learn about someone’s experiences by reading a letter that describes a sad event in their life (an understanding that would involve a more imaginative or inferential process) and the situation of immediately being with and perceiving that person as they live through the experience.

These different approaches and arguments have been updated in the more recent, and indeed, ongoing debate about empathy. This debate repeats the distinction between elementary and higher-order empathy, and the contrasting views concerning elementary empathy similar to those defended by Lipps and the phenomenologists, respectively, although now in the light of recent advances in the neuroscience of mirror neurons (MNs). MNs activate when an agent engages in particular intentional actions (such as reaching for a glass to take a drink). The very same neurons activate when that agent perceives someone else engaging in those actions. This mirroring has been interpreted as a form of simulation in philosophical and psychological accounts of social cognition. Generally speaking, simulation

24 Dan Zahavi, *Self and Other: Exploring Subjectivity, Empathy, and Shame* (Oxford: Oxford University Press, 2014), p. 113.

25 Edith Stein, *On the Problem of Empathy*, trans. W. Stein (Dordrecht: Springer, 2012).

26 See Stein, *On the Problem of Empathy*, p. 3; Edmund Husserl, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Zweites Buch. Phänomenologische Untersuchungen zur Konstitution. Husserliana 4* (Den Haag: Martinus Nijhoff, 1952), p. 235.

theory (ST) maintains that we empathically understand others by simulating their mental states or feelings: (1) we simulate being in the other person's situation; (2) we ask what we would believe or feel or do in that situation; and (3) then we project our answer into the other's experience. This kind of simulation is considered a form of empathy, where "the term 'empathize' [is] roughly equivalent to 'simulate' (in an inter-subjective fashion)".²⁷

Alvin Goldman²⁸ and Karsten Stueber²⁹ distinguish between low-level (or basic) and high-level (re-enactive) simulation and agree with the neuroscientist Vittorio Gallese³⁰ that basic empathy is linked to the activity of the MN system. In this respect ST is similar to Lipp's account; basic empathy, as an automatic activation of MNs, is a simulative imitation or resonance which allows us to experience (not just imagine) the same thing that the other person experiences. MNs are said to be a subpersonal simulation of the other's actions, intentions and/or feelings since observation of the other person's action activates the same mechanisms responsible for one's own action and first-person agentive and affective experience. On this view, this automatic simulation just is basic empathy.

In contrast to ST, phenomenologists continue to argue that basic empathy involves perception rather than simulation. Understanding basic empathy as a form of perception doesn't rule out a contribution by the activation of MNs.³¹ Understanding this contribution, however, is predicated on an enactivist rather than a simulationist interpretation of what MNs are doing. I've argued, for example, that on the enactivist view MN activation serves action-related motor preparation for responding to the other person, rather than simply representing or simulating the other's mental states or actions.³²

27 Alvin Goldman, *Simulating minds: The Philosophy, Psychology and Neuroscience of Mindreading* (Oxford: Oxford University Press, 2006), p. 17; see pp. 205, 291; also Alvin Goldman, 'Two routes to empathy', in *Empathy: Philosophical and Psychological Perspectives*, eds. Amy Coplan and Peter Goldie (Oxford: Oxford University Press, 2011), p. 34.

28 Goldman, *Simulating minds: The Philosophy, Psychology and Neuroscience of Mindreading*.

29 Stueber, *Rediscovering Empathy: Agency, Folk Psychology, and the Human Sciences*.

30 Vittorio Gallese, 'The 'shared manifold' hypothesis: from mirror neurons to empathy', *Journal of Consciousness Studies*, 8 (2001), pp. 33-50.

31 Shaun Gallagher, 'Simulation trouble', *Social Neuroscience*, 2, 3-4 (2007), pp. 353-365; Dan Zahavi, 'Empathy and mirroring: Husserl and Gallese', in *Life, Subjectivity & Art*, eds. Roland Breuer and Ullrich Melle (Dordrecht: Springer, 2012), pp. 217-254.

32 See Shaun Gallagher, 'Direct perception in the intersubjective context', *Consciousness and Cognition*, 17 (2008); pp. 535-543; Shaun Gallagher, 'Neural

On either ST or phenomenological interpretations, however, basic empathy would not be sufficient to “explain and predict a person’s behavior in complex social situations” or to provide “a full grasp of all mental concepts that we attribute to the typical adult”.³³ We require something more in this regard, namely, re-enactive or higher-order empathy. On a simulationist account this more sophisticated form of understanding requires a higher-order simulation of the other’s thoughts or mental states.³⁴ In this regard simulation is taken to involve a form of imagination and an understanding of the other’s contextualized situation.

According to a detailed and comprehensive simulationist account, higher-order empathy must meet the following five conditions.³⁵

1. *The affectivity condition*: there is no empathy unless both target and empathizer experience some affective state.

2. *The interpersonal similarity condition*: there is no empathy unless the target’s and the empathizer’s affective states stand in a similarity relation to each other (i.e., both experience pain or both experience fear). This distinguishes empathy from sympathy in which one can experience something different from the other person (e.g., I can feel sad that you are in pain).

3. *The vicarious state condition*: the empathic state involves an “as if” or vicarious affective state, generated by the empathizer’s imaginative portrayal of another person’s affective state. This capacity for creating vicarious experiences is based on a simulating imagination (Jacob 2011).

4. *The ascription condition*: there is no empathetic understanding unless the empathizer knowingly ascribes the affective state to the target. This distinguishes empathy from emotional contagion.

simulation and social cognition’, in *Mirror Neuron Systems: The Role of Mirroring Processes in Social Cognition*, ed. Jaime A. Pineda (Totowa, NJ: Humana Press, 2008), pp. 355-371; Gallagher, ‘The socially extended mind’.

33 Karsten R. Stueber, *Rediscovering Empathy: Agency, Folk Psychology, and the Human Sciences* (Cambridge, MA: MIT Press, 2006), p. 147; also see Amy Coplan, ‘Understanding empathy; its features and effects’, in *Empathy: Philosophical and Psychological Perspectives*, eds. Amy Coplan and Peter Goldie (Oxford: Oxford University Press, 2011), pp. 3-18.

34 Goldman, *Simulating minds: The Philosophy, Psychology and Neuroscience of Mindreading*; Stueber, *Rediscovering Empathy: Agency, Folk Psychology and the Human Sciences*; Frederique de Vignemont and Tania Singer, ‘The empathic brain: How, when and why?’, *Trends in Cognitive Science*, 10 (2006), pp. 435-441.

35 de Vignemont and Singer, ‘The empathic brain: How, when and why?’, Frederique de Vignemont and Pierre Jacob, ‘What Is It like to Feel Another’s Pain?’, *Philosophy of Science*, 79, 2 (2012), pp. 295-316.

5. *The caring condition*: the empathizer must be led to care about the target's affective life because of context.

As one might expect, a number of these conditions have been challenged by phenomenologists, including myself.³⁶ Consider, for example, what I've called the 'starting problem'.³⁷ Goldman describes the first step involved in running a simulation routine based on imagination. "First, the attributor creates in herself pretend states intended to match those of the target [the other person]. In other words, the attributor attempts to put herself in the target's 'mental shoes'".³⁸ How do I know which pretend state (belief or desire) matches what the other person has in mind? This first step already seems to assume that we understand the other person. Yet that is what simulation is meant to explain. If I already know what state matches the target, then the problem of understanding or empathizing with others, as defined by simulation theory, would already be solved. Furthermore, it is not clear what a simulationist style imagination would accomplish since it is based on my first-person experience where I ask what I would do in the other person's situation.³⁹ That is, it is not clear that knowing what *I* would do gives me insight into what anyone else might do, or how that would meet the other-oriented caring condition mentioned above.

An alternative account of higher-order empathy, which addresses both of these problems, goes back to Dilthey's hermeneutical argument about the importance of narrative. On this view I can start to imagine the other person's situation (and thereby start to empathize with her) because I draw on a rich store of narratives, derived from both personal and cultural sources. A reliance on narrative competency in such cases actually reduces the need for simulation, and in contrast to viewing the other through the lens of my own experience, it means that I am open to understanding another's life story, and to understanding his experience in *his* context.

36 Shaun Gallagher, 'Empathy, simulation and narrative', *Science in Context*, 25, 3 (2012), pp. 301-327; Gallagher, *Action and Interaction*; Dan Zahavi and Søren Overgaard, 'Empathy without isomorphism: A phenomenological account', in *Empathy: From Bench to Bedside*, ed. Jean Decety (Cambridge, MA: MIT Press, 2011), pp. 3-20.

37 Gallagher, *Action and Interaction*.

38 Alvin Goldman, 'Imitation, mind reading, and simulation', in *Perspectives on Imitation II*, eds. Susan Hurley and Nick Chater (Cambridge, MA: MIT Press, 2005), pp. 80-81.

39 Christian Keysers and Valeria Gazzola, 'Unifying social cognition', in *Mirror Neuron Systems: The Role of Mirroring Processes in Social Cognition*, (ed.) Jaime A. Pineda (Totowa, NJ: Humana Press, 2008), pp. 1-35.

Although Stueber⁴⁰ suggests that narrative simply provides “hints and clues” to enhance the simulation (empathetic re-enactment) process, the narrative view is that we rely heavily on narrative resources, and that this actually opens up the process to a more enriched and non-simulationist narrative practice.⁴¹ Narrative resources include a diversity of our own self-narratives, the narratives of others and more general cultural narratives (novels, plays, films, etc.).

As I mentioned in the previous lecture, we begin to acquire such narratives at a very young age, at around 2-3 years when we appropriate the narratives of others for our own stories. “Children’s first narrative productions occur in action, in episodes of symbolic play by groups of peers, accompanied by—rather than solely through—language. Play is an important developmental source of narrative”.⁴² Indeed, our narrative imagination is exercised as an enactive practice in pretend play.⁴³ Gilbert Ryle provides a nice example: a child pretends to be a bear. He “roars, he pads around the floor, he gnashes his teeth, and he pretends to sleep in what he pretends is a cave”.⁴⁴ That is, the child, in imagining to be a bear, acts out the narrative. The imagining is in the performance of playacting. This kind of playacting, then, is a case of empathically (en)acting oneself as another.

In the light of these debates, and without trying to adjudicate among the different positions, we can summarize the various theories of empathy along the following lines.

(1) Basic empathy. This is a low-level form of empathy that is immediate and automatic, and is the result of either (a) an emotional resonance in which we live through the other’s experience (Lipps); or (b) a simulation instantiated in MN activation (Gallese); or (c), as proposed by the phenomenologists, a direct perception of the other’s experience in their gestures, facial expressions, etc.

40 Karsten R. Stueber, ‘Reasons, generalizations, empathy, and narratives: The epistemic structure of action explanation’, *History and Theory*, 47 (2008), pp. 31-43.

41 Gallagher, ‘Empathy, simulation and narrative’; Gallagher and Hutto, ‘Understanding others through primary interaction and narrative practice’; Daniel D. Hutto, ‘The narrative practice hypothesis: origins and applications of folk psychology’, *Royal Institute of Philosophy Supplements*, 60 (2007), pp. 43-68.

42 Nelson, ‘Narrative and the emergence of a consciousness of self’, p. 28.

43 Zuzanna Rucinska, ‘Basic pretending as sensorimotor engagement?’, in *Contemporary Sensorimotor Theory*, eds. John M. Bishop and Andrew O. Martin (Heidelberg: Springer, 2014), pp. 175-187.

44 Ryle, *The Concept of Mind*, p. 243.

(2) Higher-order empathy. This is a form of empathy that is neither immediate or automatic, but that depends on understanding the context of the other person. This form of empathy is enacted as the result of either (a) a higher-order simulation based on imagining ourselves (using our own first-person experience) in the other's situation (de Vignemont et al.); or (b) a narrative practice where we draw from both personal and cultural narratives to imagine the other person's situation and how they would feel or act in that situation (Dilthey)

Finally, we note that these two different forms of empathy may be causally related, and these relations may go in both directions. It is intuitive to think, as Dilthey did, that higher-order empathy may depend in some way on basic empathy, so that a purely intellectual understanding of a person's context may not elicit a higher-order empathy unless some form of embodied resonance or basic empathy is activated. It is also the case, however, that understanding the other's context or story can modulate more basic resonance processes. For example, subjects who know that a person has either cheated or played fairly at a game show differential "mirror system" (i.e., empathic) responses to the (fictional) punishment of the person – specifically, no or less response to the punishment of the cheater.⁴⁵ Specific types of social knowledge, or knowing the context or the other's story, then, may have an effect on basic empathic processes. In this regard even basic empathy is not automatic. One way to think about such reciprocal causal relations is to think that basic empathy and higher-order empathy are integrated processes (in a meshed architecture) and are thus not always clearly distinguishable.

Acting oneself as another

It is the crudest form of empathy when the actor simply asks: what should I be like if this or that were to happen to me?⁴⁶

To understand the relation between empathy and aesthetic experience I again want to focus on the performer rather than on the art consumer, observer or audience. Here we can find established discussions in reference

45 Tania Singer et al. 'Empathic neural responses are modulated by the perceived fairness of others', *Nature*, 439 (2006), pp. 466-469.

46 Bertolt Brecht, *Brecht on Theatre: The Development of an Aesthetic*, trans. J. Willett (London: Methuen, 1975), p. 195.

to theatrical acting.⁴⁷ The question I want to explore is whether an actor can or does empathize with the character that she plays.⁴⁸ If so, precisely what form does this empathy take, and can we best understand it on the psychological, phenomenological, or hermeneutical model.

Empathic experience may track with the development of skill and the employment of method. Just as in studies of expert performance one can distinguish between novice and expert, over the course of learning a particular role, or over the course of a career, an actor may move through different stages that involve both (or some integrated process of) basic empathy and higher-order empathy. In this regard, this development may not be so different from everyday social engagement. That is, we may start in an initial encounter with an immediate and basic form of empathy, and over the course of our coming to know the other and their situation, we engage in a higher-order form of empathy. With respect to acting, however, one clear and challenging difference is that, in most circumstances, the character to be acted, and with whom the actor would empathize, is not physically present (or perhaps doesn't exist at all in the case of a fictional character).⁴⁹ Interacting with a character that one is playing is different

47 For a discussion of empathy in regard to music, see Eric Clarke, 'Empathy and the ecology of musical consciousness', in *Music and Consciousness vol. 2*, (eds.) Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 71-92; Clarke, DeNora, and Vuoskoski, 'Music, empathy and cultural understanding'.

48 See Gallagher and Gallagher, 'Acting oneself as another: An actor's empathy for her character'.

49 A number of theorists note that empathic experience involving an absent person, i.e., in the absence of co-present social interaction, may be involved in various forms of art. In listening to recorded music, there may be a "persona" empathy with an imagined other, or perhaps with the composer or musician (Tom Cochrane, 'A simulation theory of musical expressivity', *Australasian Journal of Philosophy*, 88, 2 (2010), pp. 191-207; for a simulationist account see Joshua M. S. Bamford and Jane W. Davidson, 'Trait empathy associated with agreeableness and rhythmic entrainment in a spontaneous movement to music task: Preliminary exploratory investigations', *Musicae Scientiae* 23, 1 (2019), pp. 5-24; Tom Cochrane, 'Using the persona to express complex emotions in music', *Music Analysis*, 29, 1-3 (2010), pp. 264-275; Katie Overy and Istvan Molnar-Szakacs, 'Being together in time: Musical experience and the mirror neuron system', *Music Perception: An Interdisciplinary Journal*, 26, 5 (2009), pp. 489-504; for a more enactive account, see Dylan van der Schyff and Joel Krueger, 'Musical empathy, from simulation to 4E interaction', in *Music, Sound, & Mind*, ed. A. Ferreira (Rio de Janeiro: Editora da ABCM Brazilian Association of Music Cognition, 2020), who argue that music can set up empathic spaces or niches that scaffold empathic processes). Likewise, in viewing a painting there may be some kind of empathic connection set up with

from interacting with another person, or another character on stage. One might start with a script that describes the character, or, in the case of an historical figure, reading material or viewing a documentary film. These are different circumstances, but in either case there is no other person present in-person or face-to-face. In what sense would such circumstances elicit anything like an immediate form of basic empathy?

In the case of starting with a script, we do not perceive another person, or see someone engaged in intentional actions. This eliminates the phenomenological idea of a direct perception of the other's experience in their gestures, facial expressions, etc. But there is some evidence that reading about actions activates our motor system, and that, in so doing, reading generates a type of simulation or resonance.⁵⁰ For example, the silent reading of action words (e.g., lick, pick, kick) leads to activation of different areas of the premotor or motor areas involved in the control of mouth, hand, or foot, respectively. This may suggest a very basic motor resonance of the sort that Lipps describes in terms of proprioceptive-kinaesthetic experiences. Even if the mirror neuron system is activated by reading specific words (as Gallese⁵¹ tentatively suggests), this seems a poor relation to having basic empathy for the person we read about, even if the text or script is action packed. Albeit specific for action components (kicking vs licking), it seems more like a typical arousal response that happens for a variety of objects. The sight of a hammer, for example, will activate canonical neurons in the premotor cortex suggesting that we see things in terms of the action possibilities they afford. If something similar happens when we read a sentence such as 'He picks up the hammer', it is not clear that this is empathy for the character, or simply the arousal of a resonating instrumental attitude in relation to the hammer.

There is no doubt, however, that reading a text or watching a film can also elicit intersubjectively related responses – various emotions, empathy,

the painter, as suggested by Brincker, 'The aesthetic stance: On the conditions and consequences of becoming a beholder', and by David Freedberg and Vittorio Gallese, 'Motion, emotion and empathy in aesthetic experience', *Trends in Cognitive Sciences* 11, 5 (2007), pp. 197-203 in cases, for example, when MNs activate in response to abstract paint patterns on the canvas.

50 Olaf Hauk, Ingrid Johnsrude, and Friedemann Pulvermüller, 'Somatotopic representation of action words in human motor and premotor cortex', *Neuron* 41, 2 (2004), pp. 301-307; Marco Tettamanti et al., 'Listening to action-related sentences activates fronto-parietal motor circuits', *Journal of Cognitive Neuroscience*, 17 (2005), pp. 273-281.

51 Vittorio Gallese, 'Mirror neurons and the social nature of language: The neural exploitation hypothesis', *Social Neuroscience*, 3, 3-4 (2008), pp. 317-333.

and sympathy. For example, “[f]ilm experience is embodied: the brain and the body – even viscera and the skin – constantly resonate in accordance with the film’s flow, with changes in muscular tension, perspiration, stomach state, etc.”.⁵² This may be “guided by the narrative and aesthetic orchestration of a film”.⁵³ In addition, MN activation, or a perception-based response, is possible in regard to watching films, as has been suggested by Vittorio Gallese and his research group in Berlin. On this view, we empathize with a character in a film by simulating her actions and emotions. In such contexts there is evidence of physiological changes (galvanic skin response) indicating emotional arousal.⁵⁴ Smith endorses this notion of embodied simulation as a way to explain a viewer’s basic and higher-order empathy with a character. “Mimicry of basic actions and emotions may scaffold the imagination, including the empathic imagination, of more elaborate, finely specified states of mind”.⁵⁵ These studies suggest that an actor who studies her character using such media, that is, by reading a script or other text describing a character’s actions or emotions, or by seeing a documentary film about the character, could get an initial empathic feel for her character – something akin, even if not identical to the immediate and close-to-automatic aspects of basic empathy when encountering a real person.

For an actor engaged in professional practice, this is part of her work. In many cases, especially at the beginning of the process, one needs to engage in practices that lead to a high-order empathy in order to non-judgmentally accept or attune to the character. Here one can distinguish between an empathic understanding of the character, and an evaluative judgment about the character. An evaluative judgment can rob an actor of empathy, creating too much distance or separation between the actor and the character. In the case of evaluative judgment the actor sees the character as “other” as opposed to seeing the possibility of the character in oneself. Instead of seeing the character as “other,” actors will sometimes engage in empathic practices, explicitly setting aside any evaluative judgments, potentially to

52 Torben Grodal and Mette Kramer, ‘Empathy, film, and the brain’, *Recherches sémiotiques/Semiotic Inquiry*, 30, 1-2-3 (2010), 19-35; see also Gal Raz et al., ‘Portraying emotions at their unfolding: A multilayered approach for probing dynamics of neural networks’, *NeuroImage*, 60 (2012), pp. 1448-1461.

53 Grodal and Kramer, ‘Empathy, film, and the brain’, p. 28.

54 See Laura Kaltwasser, ‘Sharing the filmic experience – they physiology of socio-emotional processes in the cinema’, Conference presentation: *Being Moved. Art, Film, Narrative, and the Body-Brain* (June 4-6 2018) Berlin.

55 Murray Smith, *Film, Art, and the Third Culture: A Naturalized Aesthetics of Film* (Oxford: Oxford University Press, 2017), p. 180.

seek out and accept that this character is the way she is because of specific circumstances. Here one possible aim would be to empathize with those circumstances, to see them as one's own. In some cases this may involve creating the character as one goes through a slow, systematic absorption of the material (narratives, scripts, films) explicitly aiming for an empathic understanding in a process of making each word/action of the character one's own.⁵⁶ In this way a higher-order empathy may lead to something like a basic empathy in which one embodies the character.

This higher-order form of empathy, then, may come about as the result of an actor's research about her character with the aim of understanding the detailed contexts or circumstances of a character's life or story. In other cases instead of engaging in this kind of research the actor may simply use her imagination to enact a sense of the physical, mental, emotional feel of what a character would go through in a certain situation. This would be a process closer to the use of a simulative imagination. For example, an actor doesn't need to get physically beaten up to know what it physically, mentally, and emotionally feels like to be in a physically abusive relationship. This type of process, however, is not reducible to the immediate resonance of basic empathy – it requires a more mediated use of either simulative or narrative-based imagination, drawing on personal experience, or on more general narrative resources.

All of this correlates to an actor's work of getting to know her character. In some cases, this work may be harder than in other cases. Consider, for example, a simulationist view of what happens when viewing a character in a film:

Engagement is fed by the viewer's own previous experiences of pain and loss, which can influence the 'like me' framework – depending on the relationship between viewer and character. Sometimes a character will not invite the vicarious sharing of emotions. The character's actions or the situation they are in could be too farfetched for the viewer to allow empathy; in the latter case conscious simulation by the viewer might be required in order to understand the character.⁵⁷

56 Thalia R. Goldstein and Ellen Winner, 'A new lens on the development of social cognition: The study of acting', in *Art and Human Development*, eds. Constance Milbrath and Cynthia Lightfoot (New York: Taylor & Francis Group, 2010), pp. 221-247.

57 Grodal and Kramer, 'Empathy, film, and the brain', p. 27 citing Murray Smith, *Engaging Characters: Fiction, Emotion, and the Cinema* (Oxford: Clarendon Press, 1995).

From the perspective of the actor, however, if a character does not invite the vicarious sharing of emotions, that makes the work of empathy more difficult, but even more important. In some circumstances it may be right to think that the actor fails if they cannot get inside the character's "farfetched" actions, or cannot get the audience to feel empathy for the character.

One might also think that by means of this higher-order empathic process of getting inside the character's "head" or getting familiar with his actions in various situations, one's more immediate feel for the character might be strengthened. Everyday instances of empathy that may be initiated in basic responses involving embodied (motor, kinaesthetic, mirror) processes can progress into higher-order concerns about understanding context (*via* simulative or narrative imagination). In contrast, for the actor who must study and prepare and rehearse her character, the process may begin with higher-order (narrative or imaginative) processes that provide a contextualized empathic understanding of the character that eventually integrates with the more basic empathic processes in her actual performance. In this way, higher-order empathy does not remain purely an intellectual understanding; it may be closer to an emotional understanding, and is described that way by actors. Here is one way to understand this: the higher-order work of empathy leads to a performance that elicits, in the actor, something closer to basic empathy-in-performance, an empathic resonance that allows the character to come alive in the actor's work.

In the actor's performance this is further complicated by the fact that she is typically working with others – the director, and other actors who are playing other characters. Not only might the performances of the other actors interfere with her own performance, but, as Grodal and Kramer⁵⁸ note: "The director's lack of craftsmanship might also fail to encourage empathetic resonance, despite their intentions." Even in instances where the actor is alone on theatrical stage or in soliloquy, there is an audience that responds to the character. Such responses may generate their own intersubjective feelings that can modulate an actor's empathy for her character. If the actor is fully engaged with her performance, however, an audience's empathic or non-empathic response may interfere much less with the actor's resonance with her character. One might argue that if an actor is swayed away from empathic resonance by an audience's reaction, then some form of evaluative judgment is interfering with her performance, and with her empathy for the character in general.

58 Grodal and Kramer, 'Empathy, film, and the brain', p. 27.

Whether this resonance remains a strong form of attunement, or approaches a literal identity with the character, is an issue that may qualify what can be described as empathy. On the one hand, most theorists of empathy maintain that empathy is not equivalent to an identity with the other person; empathy requires that the distinction between self and other is maintained.⁵⁹ Ricoeur⁶⁰ calls this a ‘nonsubstitutibility’ anchored in the use of the first-person pronoun. On the other hand, one might think that when the actor is finished with her research and is actually performing her role, she is bringing the character to life, and her motor system is enacting the character in a way that goes beyond empathy. She is no longer empathically observing or simulating the actions of another; she is enacting them; both the character and the actor are speaking as one and saying only one ‘I’, so that the distinction between self and other diminishes. I’ll return to this question, but first, we should visit some acting schools since much of what an actor does in these regards depends on what method she pursues.

Acting out and acting in: Methods of empathy

Issues pertaining to empathy are discussed in acting theory as much as in psychology and philosophy. Moreover, differences in acting method complicate what we can say more generally about an actor’s empathy for her character. Let’s consider three different acting theories to see how they approach questions about empathy.

(1) One view, which derives from Diderot,⁶¹ is that the actor must remain “cold” and avoid empathy for her character. This was also the position of Bertolt Brecht. Brecht takes empathy to mean matching emotional states, as in the interpersonal similarity condition mentioned above as part of simulation theory. For Brecht, however, this is a risk to be avoided. He advises the use of the “alienation effect,” an intervention, “not in the form of absence of emotion, but in the form of emotions which need not correspond to those of the character portrayed.... The actor should refrain from living himself into the part”⁶² The actor is not meant to be infected

59 Jean Decety, ‘Une anatomie de l’empathie’, *Psychiatrie, Sciences Humaines, Neurosciences*, 3, 11 (2005), pp. 16-24.

60 Paul Ricoeur, *Oneself as Another*, trans. Kathleen Blamey (Chicago: University of Chicago Press, 1992), p. 193.

61 Denis Diderot, *The Paradox of Acting*, trans. W. H. Pollock (London: Chatto and Windus, 1883).

62 Brecht, *Brecht on Theatres: The Development of an Aesthetic*, pp. 94, 137.

with the emotions portrayed; if emotions are to be portrayed, it is not by means of empathy.⁶³

John Metcalf also describes a method that would support alienation *versus* empathy. The actor he suggests, must maintain a double consciousness – “one part of it being devoted to the character portrayed, the other part maintaining a watchful and critical attitude on the part of the actor’s own real self”.⁶⁴ Imagination, according to Metcalf, makes this possible by allowing the actor to remain somewhat distant from a real emotion, which may be a form of protection for the actor.

If the actor cannot vividly represent to himself in imagination the mental attitude of the character he is to portray, it is hopeless for him to try to represent it to other people. Imagining a given mental state tends to stimulate the motor responses appropriate to that state, and these, once produced, are controlled, modified, selected, and developed through rehearsal in the interest of the art of the theatre.⁶⁵

Metcalf follows Titchener in distinguishing the imagined/virtual kinaesthetic response from a real one, where the kinaesthetic image is limited in terms of what motor processes are activated. “Real emotions are out of place on the stage”.⁶⁶ If there are processes that would be empathy in the project of acting, these are to be avoided through a kind of theoretical distancing or a strict quarantining of the imagined states.

(2) Konstantin Stanislavski, in complete contrast to Brecht, endorses a simulationist view insofar as the actor is advised to enter into an empathic state by drawing on her own experience.

Once you have established this contact between your life and your part, you will find that inner push or stimulus. Add a whole series of contingencies based on your own experience in life, and you will see how easy it will be for you sincerely to believe in the possibility of what you are called upon to do on the stage.... The feelings aroused will express themselves in the acts of this imaginary person had he been placed in the circumstances made by the play.⁶⁷

63 Brecht, *Brecht on Theatre: The Development of an Aesthetic*, p. 145.

64 John T. Metcalf, ‘Empathy and the actor’s emotion’, *The Journal of Social Psychology* 2, 2 (1931), p. 236.

65 Metcalf, ‘Empathy and the actor’s emotion’, p. 236.

66 Metcalf, ‘Empathy and the actor’s emotion’, p. 237.

67 Constantin Stanislavski, *An Actor Prepares*, trans. Elizabeth Reynolds Hapgood (New York: Theatre Arts Inc., 1936), pp. 41, 49.

The actor's job, according to Stanislavski is to create the inner life of the character and to express it in artistic form. This is an embodied craft, allowing for controlled responses of vocal and physical apparatus (Stanislavski 1936, 15-17).⁶⁸ Through this method, the actor must draw on personal experience in portraying a character, as Jean Benedetti explains:

Since there is no 'character' out there somewhere, only me on the stage in an imaginary situation, my initial exploration of the play must be as myself, as me. To turn fiction into fact for me, I have to ask myself at every point in the play, 'If this situation were true, what would I do?'.⁶⁹

The actor needs to use her own affective memory so that the fictional character can express real emotion – precisely the thing that Metcalf suggests has no place on the stage.

For Stanislavski this is accomplished through a form of empathy that seemingly involves both a simulation based on the actor's own experience, and a more hermeneutical approach that requires using narrative as the actor (and his company) explore(s) the play to understand its complete narrative context, which is to gain "a sense of the play as a whole, and its meaning".⁷⁰ This approach, then, may be considered consistent with the idea prevalent in Dilthey's hermeneutics, namely that we are able to understand the other, even someone historically or culturally removed from us, because there is something like a universal human nature that we can tap into. Dilthey follows Schleiermacher in appealing to empathy as a shared form of access that is universally human. This was the basis for Schleiermacher's "divinatory" method of interpretation. "The divinatory is based on the assumption that each person is not only a unique individual in his own right, but that he has a receptivity to the uniqueness of every other

68 Stanislavski, *An Actor Prepares*, pp. 15-17; see Roy Connolly and Richard Ralley, 'The laws of normal organic life or Stanislavski explained: Towards a scientific account of the subconscious in Stanislavski's system', *Studies in Theatre and Performance*, 27, 3 (2007), pp. 237-259 for an analysis of Stanislavski from the perspective of embodied cognition, action-orientation, and MNs. Also Elaine Hatfield, Richard L. Rapson Yen-Chi L Le, 'Emotional contagion and empathy', in *The Social Neuroscience of Empathy*, eds. Jean Decety and William Ickes (Cambridge, MA: MIT Press, 2011), pp. 19-30 for the importance of action/posture, etc. in Stanislavski's method. Amy Cook, 'Interplay: The method and potential of a cognitive scientific approach to theatre', *Theatre Journal*, 59, 4 (2007), p. 592 provides interesting examples of how acting can affect both body image and body schema.

69 Jean Benedetti, *Stanislavski and the Actor* (London: Methuen Drama, 1998), p. 8.

70 Benedetti, *Stanislavski and the Actor*, p. 6.

person”.⁷¹ On this view, we are all capable of the same or similar things. Again, reminiscent of Schleiermacher, Dilthey and the historical school of hermeneutics, Stanislavski advises the actor to draw a sense of the character’s inner life from the historical period portrayed in the play. Thus, the actor needs to study the character “from the point of view of the epoch, the time, the country, condition of life, background, literature, psychology, the soul, way of living, social position, and appearance”.⁷² This same idea is echoed in Michael Chekhov.

[As an actor you try to] penetrate [the character’s] thinking without imposing upon [the character] your modern point of view, moral concepts, social principles or anything else that is of a personal nature or opinion. Try to understand them through their way of living and the circumstances of their lives ... try to penetrate the psychology of different nations ... endeavor to penetrate the psychology of persons around you toward whom you feel unsympathetic ... attempt to experience what they experience.⁷³

Empathy allows the actor to see a character as if it were her (the actor) faced with different circumstances. An actor can accept the circumstances as her own because they can and always will be a possibility for her.

(3) Sanford Meisner’s technique can be conceived as a move away from the simulationist view toward a more enactivist method. Meisner recommends that the actor “get out of their head,” i.e., shift away from their own affective memory, or internal thoughts about, or higher-order imaginative simulations of the character, and engage instinctively and emotionally with the present environment and the other actors. The actor, in character, is meant to respond instinctively or improvisationally to the surrounding environment, rather than relying on their own affective memory. “Affective memory has a tendency to make actors more introverted... many actors are inherently introverted. Introverted actors tend to retreat into their thoughts, where they can’t react fully to what goes on around them”.⁷⁴

Getting out of one’s head is an enactivist conception that, as a starting point, understands the agent as dynamically being in a world of

71 Friedrich Schleiermacher, *Hermeneutics: The Handwritten Manuscripts*, trans. James Duke and Jack Forstmann (Missoula, MT: Scholars Press, 1977), §2.6.

72 Stanislavski, *The Actor Prepares*, pp. 20-21.

73 Michael Chekhov, *To the Actor: On the Technique of Acting* (London: Routledge, 1953), pp. 4-5.

74 William Esper and Damon DiMarco, *The Actor’s Art and Craft: William Esper Teaches the Meisner Technique* (New York: Anchor Books, 2008), p. 215.

affordances. John Lutterbie, citing Evan Thompson's⁷⁵ enactivist view of intersubjectivity, frames the acting performance in this way.

This dialogical dynamic is not a linear or additive combination of two preexisting, skull-bound minds. It emerges from and reciprocally shapes the nonlinear coupling of oneself to another in perception and action, emotion and imagination, gesture and speech.⁷⁶

Acting, especially acting face-to-face with other characters, draws on our natural interactional processes and on the affordances provided by our surroundings. A performance that follows such principles just is an empathic performance since, as Thompson suggests, such concrete encounters “of self and other fundamentally involve empathy, understood as a unique and irreducible kind of intentionality”.⁷⁷ In this regard, the enactivist account follows the phenomenological conception of empathy as a “non-inferential bodily [and perceptually-based] pairing of self and other”,⁷⁸ which takes place, not as an inner rehearsal, but in dyadic interactions with others. Just as we become who we are in our everyday situated interactions with others, in the acting performance we become the character who is elicited by the other characters and by the staged situation. The actor, much like Ryle's boy who is playing the bear, has to be “out there” rather than in his own head. According to this interpretation of Meisner's technique, empathy is not a tool to be used by the actor; it is enacted in the acting performance.

A twofold conception

If one were to take Meisner's method to an extreme, one might think that the actor becomes identical with the character – entering into the flow of being-in-character to such a point that she loses herself, much as Dreyfus suggests that the expert performer enters into a mindless state. The philosopher Taylor Carmen, in the film about Dreyfus's work, *Being-in-the-world*, applies this view to action; he mentions the actor “owning it”, which means “putting yourself into it” – i.e., into the process and into the role,

75 Evan Thompson, ‘Empathy and consciousness’, *Journal of Consciousness Studies*, 8, 5-6 (2001), pp. 1-32.

76 John Lutterbie, *Toward a General Theory of Acting: Cognitive Science and Performance* (Berlin: Springer, 2011), p. 102.

77 Thompson, ‘Empathy and consciousness’, p. 1.

78 Thompson, ‘Empathy and consciousness’, p. 9.

and “not wanting to step back and distance yourself.” As we saw in the first lecture, Dreyfus rejected any notion of “stepping back” into a reflective stance since that would necessarily disrupt performance. Here, in regard to acting, we can return to the question of whether, in the meshed architecture of performance, there is any room for stepping back or distancing possible. It’s notable that in the seemingly polar opposition between the Diderot-Brecht theory and the emotional-realist variations that run through Stanislavski, Meisner, and into Lee Strasberg’s method acting, there is a small patch of common (battle-) ground pertaining to the question of what Metcalf calls ‘double consciousness’ – targeting in one way the character portrayed, and in another way maintaining “a watchful and critical attitude” towards the actor’s performance. There is an inordinate amount of ambiguity about the concept of doubleness in these debates spanning issues that include genre (comedy *versus* tragedy) and perspective (audience *versus* performer).⁷⁹

For my purposes here I want to adapt the notion of “twofoldness” that Richard Wollheim⁸⁰ uses to characterize a double aspect of depiction in art, distinguishing what is represented from the technique of representation. Relevant to the current analysis, Murray Smith⁸¹ uses this concept to characterize the distinction between character and actor. In both of these analyses, however, the phenomenon of twofoldness is framed in terms of the observer/audience perspective on the work of art or the theatrical play, respectively, involving a kind of double vision, an ability not only to see the physical aspects of the artwork, or the craft of the actor, but to “see-in” them the object depicted or the character portrayed.

Building on Wollheim’s notion of twofoldness, part of the simulationist story as it applies to the observer/audience perspective is that basic mirror neuron processes activated when we see the character portrayed may also be activated in response to noticing the actor’s portrayal, including details of her technique. This is an argument made by Joerg Fingerhut,⁸² drawing from both Smith⁸³ and the theory of Freedberg and Gallese⁸⁴ about painting

79 For a detailed discussion, see Cary M. Mazer, *Double Shakespeares: Emotional-Realist Acting and Contemporary Performance* (New York: Rowman & Littlefield, 2015).

80 Wollheim, *Painting as an Art*; Richard Wollheim, *Art and its Objects 2nd ed.* (Cambridge: Cambridge University Press, 2015).

81 Murray Smith, ‘On the twofoldness of character’, *New Literary History* 42, 2 (2011), pp. 277-294.

82 Joerg Fingerhut, ‘Embodied seeing-in, empathy, and expansionism’, *Projectionism*, 12, 2 (2018), pp. 28-38.

83 Smith, ‘On the twofoldness of character’; Murray Smith, *Film, Art, and the Third Culture: A Naturalized Aesthetics of Film* (Oxford: Oxford University Press, 2017).

84 Freedberg and Gallese, ‘Motion, emotion and empathy in esthetic experience’.

– the idea that various physical properties of artwork allow the observer to grasp the artist’s style by activating the mirror system, which responds to the physical aspects in the artifact even if no human figure is represented.⁸⁵ Fingerhut summarizes more recent research.

In a recent series of studies, Katrin Heimann and colleagues have applied MNS paradigms to the study of filmic means. They used different edits (continuity versus noncontinuity editing) or different camera and lens movements (zoom vs dolly cam vs steady cam) to film the same scene. As they discovered, those different configurational aspects of the presentation of a scene engage the motor system differentially (see Heimann et al. 2017 for cuts, and see Heimann et al. 2014 for other camera movements). . . . In each of their self-produced scenes, there is an actress/actor present, who is grasping or passing an object.⁸⁶

On this simulationist view the MN system is seemingly activated in a twofold way, attuned to both the character being portrayed and the editorial and filmic techniques that shape the scene’s meaning. These results are also consistent with an enactivist interpretation that takes this MN type of sensory-motor resonance as action preparation anticipatory of how the observer could possibly respond to the scene – a response to affordances offered, even if those affordances are vicarious or virtual (presented in a film) rather than actualizable. Details that pertain to context and are shaped by the camera and filmic techniques clearly affect subpersonal processes and inform our perception. This double work is not a shifting from one focus to another (from observed actor to camera-related effects), or from being absorbed in the character and story line, to noticing the filmic techniques. Rather, specific camera effects (especially with the steady cam) strengthen the motor system response, and can happen even in the absence of an actor in the film.⁸⁷

Rather than a shifting of attention, we can characterize it as a double attunement. Wollheim, in his analysis of painting, makes an important point about the kind of twofold consciousness in which we know that we are not face-to-face with the painted figure, yet we encounter or see-in

85 M. Alessandra Umiltà et al., ‘Abstract art and cortical motor activation: an EEG study’, *Frontiers in Human Neuroscience*, 6 (2012), <https://doi.org/10.3389/fnhum.2012.00311>.

86 Fingerhut, ‘Embodied seeing-in, empathy, and expansionism’, p. 33.

87 Katrin Heimann et al., ‘Embodying the camera: An EEG study on the effect of camera movements on film spectators’ sensorimotor cortex activation’, *PLoS One* 14, 3 (2019), <https://doi.org/10.1371/journal.pone.0211026>.

the painting the character (or subject-matter) portrayed. Specifically he notes that these are “two aspects of a single experience that I have . . . two aspects [that are] distinguishable but also inseparable. They are two aspects of a single experience, they are not two experiences”.⁸⁸ Something like this twofold or double attunement applies even more clearly to the actor’s perspective on the character and on her own acting process. Applied to the actor-character relation, the actor’s empathic consciousness (directed towards the character) needs to be folded into the actor’s sense of technique in portraying this character – for example, whether or not she is getting it right. This double attunement involves work (on the part of the actor) that at some point has to become transparent, folded into an integrated experience of basic empathy, where self and other are still distinguishable, but also inseparable in the performance.

Indeed, the experience that emerges during her performance is likely generated by a more integrated set of subpersonal (motoric, kinaesthetic, mirror) processes since in her performance the motoric aspects of the character’s actions are in fact the motoric aspects of the actor’s actions. The actor is not an observer, and her engagement with the character is not an imitation or mirroring. As Amy Cook points out, “an actor cannot imitate a character. . . . actors perform actions required of their characters—they do not ‘imitate’ this action, they perform it”.⁸⁹ This is a twofold intentionality that constitutes the empathic relation – for the actor, a double attunement that involves an imagined sense of the character and the actor’s self-awareness. We can conceive of this as an enhanced form of prereflective self-awareness similar to that described by dancers, musicians and athletes, although it may involve, depending on circumstances, the variations discussed in *Lecture 1*.⁹⁰ If this kind of double attunement starts out as the actor prepares her role as a shifting of perspectives, during her skilled performance it meshes into one double experience, persisting as a basic empathy in an integrated motoric, kinaesthetic process.

The actor must, at certain points of preparation, distinguish between the character portrayed and her own portrayal effected in her craft. Stanislavski acknowledges this possibility: “An actor lives, weeps, laughs on the stage,

88 Wollheim, *Painting as an Art*, p. 46.

89 Cook, ‘Interplay: The method and potential of a cognitive scientific approach to theatre’, p. 591.

90 See Christensen, Sutton, and McIlwain, ‘Cognition in skilled action: Meshed control and the varieties of skill experience’; Montero, ‘Does bodily awareness interfere with highly skilled movement?’; Salice, Høffding, and Gallagher, ‘Putting plural self-awareness into practice: The phenomenology of expert musicianship’.

but as he weeps and laughs he observes his own tears and mirth. It is this double existence, this balance between life and acting that makes for art”.⁹¹ Or again: “a part of [the actor’s] consciousness must remain free from the trammels of the play in order that it exercise some supervision over whatever he is feeling and doing”.⁹²

Susan Verducci explains this phenomenon as it applies to acting, with some reference to the practice of blocking (discussed in the *Second Lecture*).

Certain technical demands are made on an actor. For example, a film actor needs to hit her “mark”—a spot on the set where the camera waits to film the shot. While juggling the numerous multilayered demands of portraying her character she must, on a particular word or phrase, get herself to that “mark”. Part of the actor’s consciousness watches her own process and copes with these technical demands. It is as though a third eye hovers above, guiding and assessing.... Simultaneously, however, the Method requires that an actor live the part of her character. While one part of the actor’s consciousness observes and guides, another part experiences the character. Her conscious sense of self splits.⁹³

At this point we arrive at the following questions: What precisely is this twofold attunement for the actor? How does it relate to empathy? How does this twofold attunement fit into the meshed architecture of performance? Can we generalize it to apply to any performer? Is it equivalent to Wollheim’s twofold consciousness of the artwork from the perspective of the observer or audience, and if so, how? And how does it relate to the concept of aesthetic experience? It’s true that these seem to be (or seem to be related to) all the questions we’ve been trying to answer in these lectures. I want to suggest, however, that the questions are much clearer now, and that the answers are close at hand.

Aesthetics and kinaesthetics

I started this lecture with the question of whether an actor can empathize with her character. In answering this question I have pointed to a *complex* form of empathic mindfulness that involves a twofold or double attunement

91 Constantin Stanislavski, *Building a Character*, trans. Elizabeth Reynolds Hapgood (London: Reinhart and Evans, 1949), p. 167.

92 Constantin Stanislavski, *Stanislavski’s Legacy*, trans. and ed. Elizabeth Reynolds Hapgood (London: Routledge, 1999), p. 73.

93 Susan Verducci, ‘A moral method? Thoughts on cultivating empathy through method acting’, *Journals of Moral Education*, 29, 1 (2000), p. 94.

(which is nonetheless folded or integrated or meshed into a single or unified experience) during performance. On the one hand, it is empathic in the sense that it involves the actor's basic affective sense or feel for her character, which is often informed by a higher-order contextual understanding. On the other hand it involves a self-awareness – an awareness of how she is doing in her performance, including a sense of her bodily movements and expressions which allows for some degree of intrinsic control for a performance that also meshes with the other actors on stage, and that is likely affected in some way by audience reaction and a variety of cultural and normative factors. In other words, the actor's performance seems to fit well with the model of a meshed architecture that includes intrinsic processes of control, affectivity, and horizontal scaffolding. We might think, then, that the broad structure of this complex form of mindfulness may generalize to apply to other kinds of performances, including dance and music.⁹⁴

I now want to ask whether this twofold attunement in performance is the same as in the case of the observer or audience perspective (as, for example, Wollheim suggests for the viewer of paintings). At first glance it seems similar since both the observer-audience perspective, and the performer's perspective apparently involve awareness of both what is represented and the technique of representation. I'll consider this in light of Freedberg and Gallese's proposal that the experience of art involves a form of simulation. I think that in answering this question we get closer to answering the question about the nature of aesthetic experience.

David Freedberg and Vittorio Gallese have extended the research on MNs to the study of art and aesthetic experience. This particular application follows in the tradition of Theodore Lipps, who, as we saw, attributed our capacity for empathy to a sensory-motor mirroring, an involuntary, "kinesthetic" inner imitation of the observed vital activity expressed by another person. For Lipps and others, our kinaesthetic imitation also informs our experience of art. Seeing an artwork initiates a sense of empathy in the perceiver.

Extending this idea, Freedberg and Gallese write:

[A] crucial element of esthetic response consists of the activation of embodied mechanisms encompassing the simulation of actions, emotions and corporeal sensation, and ... these mechanisms are universal.⁹⁵

94 For the idea that dance and musical performance involve an empathic component, for example, see Van der Schyff & Krueger (2020).

95 Freedberg and Gallese, 'Motion, emotion and empathy in aesthetic experience', p. 197.

The category “embodied mechanisms” includes both MNs normally activated when we do or perceive intentional actions in others, and canonical neurons (CNs), when we use or perceive familiar instruments or tools.

According to Freedberg and Gallese, when we empathically engage with a work of art, such as a painting, we have “a sense of inward imitation of the observed actions of others in pictures and sculptures”,⁹⁶ if, for example, it is a painting or sculpture of someone engaged in some action, or of possible uses of represented objects, for example, when viewing a painting of a hammer. MNs and CNs, respectively, are activated so that viewers “might find themselves automatically simulating the emotional expression, the movement or even the implied movement within the representation”.⁹⁷ This is also the case for architecture and abstract paintings.

Simulation occurs not only in response to figurative works but also in response to the experience of architectural forms, such as a twisted Romanesque column. With abstract paintings such as those by Jackson Pollock viewers often experience a sense of bodily involvement with the movements that are implied by the physical traces – in brushmarks or paint drippings – of the creative actions of the producer of the work.⁹⁸

I have expressed two worries or objections in regard to these claims.⁹⁹ But first let me say that I am not a mirror-neuron skeptic. There is good science to show that something like a mirror system does play a role in human social cognition and understanding of actions.¹⁰⁰ In addition, there is some evidence for MN activation when we view images. For example, when subjects view still photos of dynamic actions *versus* static poses, there is more activation in MN areas: ventral premotor and

96 Freedberg and Gallese, ‘Motion, emotion and empathy in aesthetic experience’, p. 197.

97 Freedberg and Gallese, ‘Motion, emotion and empathy in aesthetic experience’, p. 197.

98 Freedberg and Gallese, ‘Motion, emotion and empathy in aesthetic experience’, p. 197.

99 Shaun Gallagher, ‘Aesthetics and kinaesthetics’, in *Sehen und Handeln*, ed. John Michael Krois (Berlin: Oldenbourg Verlag, 2011), pp. 99-113.

100 See Trevor T. J. Chong et al., ‘fMRI adaptation reveals mirror neurons in human inferior parietal cortex’, *Current Biology* 18, 20 (2008), pp. 1576-1580; Valeria Gazzola and Christian Keysers, ‘The observation and execution of actions share motor and somatosensory voxels in all tested subjects: single-subject analysis of unsmoothed fMRI data’, *Cereb Cortex* 19, 6 (2009), pp. 1239-1255; Roy Mukamel et al., ‘Single neuron responses in humans during execution and observation of actions’, *Current Biology* 20, 8 (2010), pp. 750-756.

inferior parietal cortices -- but also the dorsal premotor, SMA, middle cingulate, somatosensory, superior parietal, middle temporal cortices and the cerebellum.¹⁰¹ Accordingly, there is good reason to accept the idea that there is MN and CN activation in humans in the case of viewing an image, painting, sculpture, and as mentioned above, when viewing films, and perhaps even architecture.

Nonetheless, I still have two worries. The first is an overarching and general objection to the simulation model. The second is more specific to the analysis of art. My objection to the simulationist interpretation of MN activation is part of a larger debate between simulation theory (ST),¹⁰² and enactivist views¹⁰³ of social cognition. Gallese expresses the simulationist view clearly in his claim that activation of MNs involves “automatic, implicit, and nonreflexive simulation mechanisms ...” and that such activation is the basis for understanding the mental states of others.¹⁰⁴ Rather than rehearse my objections to ST, let me just briefly list them,¹⁰⁵

1. The idea of a subpersonal simulation resulting from MN activation does not involve pretense or instrumental control, which is how simulation was originally defined in ST.

2. If one shifts the definition of simulation (as Goldman, Gallese and others have done) to define it in minimal terms as a simple matching effect, it turns out that there is significant behavioral and neurological evidence that MN activation is not equivalent to matching.¹⁰⁶ In brief, activation

101 Gazzola and Keysers, ‘The observation and execution of actions share motor and somatosensory voxels in all tested subjects: single-subject analysis of unsmoothed fMRI data’; Alice Mado Proverbio, Federica Riva, and Alberto Zani, ‘Observation of static pictures of dynamic actions enhances the activity of movement-related brain areas’, *PLoS ONE* 4, 5, e5389 (2009), pp. 1-8.

102 Gallese, ‘The ‘shared manifold’ hypothesis; from mirror neurons to empathy’; Vittorio Gallese, ‘Before and below ‘theory of mind’: embodied simulation and the neural correlates of social cognition’, *Philosophical Transactions of the Royal Society, B-Biological Sciences*, 362, 1480 (2007), pp. 659-669; Vittorio Gallese and Alvin Goldman, ‘Mirror neurons and the simulation theory of mind-reading’, *Trends in Cognitive Sciences*, 2 (1998), 493-501.

103 Gallagher, ‘Simulation trouble’; Gallagher, ‘Direct perception in the intersubjective context’; Gallagher, ‘Neural simulation and social cognition’.

104 Vittorio Gallese, “Being like me’: Self-other identity, mirror neurons and empathy’, in *Perspectives on Imitation I*, eds. Susan Hurley and Nick Chater (Cambridge, MA: MIT Press, 2005), p. 117.

105 See Gallagher, *Action and Interaction* for more detailed arguments.

106 See Caroline Catmur, Vincent Walsh, and Cecilia Heyes, ‘Sensorimotor learning configures the human mirror system’, *Current Biology*, 17, 17 (2007), pp. 1527-

of broadly congruent mirror neurons may initiate a (non-matching) complementary action rather than a similar action.¹⁰⁷

3. There are larger philosophical issues concerning the framework in which ST has been developed since it is based on assuming that our access to other minds is via a kind of observational mindreading rather than via wider bodily-environmental interactions.

The alternative interpretation of MN activation, as I mentioned, is the enactivist one. On the enactivist view our motor systems are not required to go into matching or pretend states to understand another person's action. Rather, as we engage and interact with others in our everyday meaningful contexts, we understand the meaning of their actions by seeing them in terms of our possible responses; we see them in terms of social affordances. MNs, instead of backward-facing to match an action that has already occurred, are forward-facing, anticipating possible responses to that action. They are activated in an anticipatory mode attuned not only to the ongoing action of the observed agent,¹⁰⁸ but in a preparatory mode, attuned to my possible responses to the other's actions.

A study by Caggiano et al. supports this interpretation. Rhesus monkeys were presented with a display of action in two different conditions: in one case, the action is presented in the monkeys' peripersonal space (that is, reachable space), and in the other case, in extrapersonal space, which they could not reach without locomotive movement. Brain imaging showed differential activation of MNs in premotor cortex for peripersonal space *versus* extrapersonal space. In effect, agents afford different possibilities if I can reach them, in contrast to if I cannot reach them. As the authors suggest,

1531; Ilan Dinstein et al., 'Executed and observed movements have different distributed representations in human aIPS', *The Journal of Neuroscience*, 28, 44 (2008), pp. 11231-11239; Gergely Csibra, 'Action mirroring and action understanding: an alternative account', in *Sensorimotor Foundations of Higher Cognition. Attention and Performance XXII*, eds. Antonia Hamilton and Scott Grafton (Oxford: Oxford University Press, 2008), pp. 435-459; Marco Iacobini et al., 'Grasping the intentions of others with one's own mirror neuron system', *PLoS Biology* 3, 79 (2005), pp. 1-7; see Gallagher, 'Direct perception in the intersubjective context' and Gallagher, 'Neural simulation and social cognition' for these arguments.

107 Roger Newman-Norlund et al., 'Exploring the brain basis of joint action: Coordination of actions, goals and intentions', *Social Neuroscience* 2, 1 (2007), p. 55.

108 Csibra, 'Action mirroring and action understanding: an alternative account'; Pierre Jacob, 'What do mirror neurons contribute to human social cognition?', *Mind & Language*, 23, 2 (2008), pp. 190-223.

A portion of these spatially selective mirror neurons ... encode space in operational terms, changing their properties according to the possibility that the monkey will interact with the [agent]. These results suggest that a set of mirror neurons encodes the observed motor acts not only for action understanding, but also to analyze such acts in terms of features that are relevant to generating appropriate behaviors.¹⁰⁹

Bonini et al.¹¹⁰ show that CN's are also sensitive to differences in peripersonal *versus* extrapersonal spatial location,¹¹¹ and in addition are sensitive to grasping affordability (most CNs are activated only for so called 'frontal presentation' of the object which is the canonical positioning of the object most suitable for grasping it).¹¹² It's clear from such experiments that MN and CN activations are part of action-oriented perceptual processes that prime or prepare the perceiver's system for action and response. Thus, Bonini et al. conclude:

[N]euronal responses to object[s] rely on the actual possibility for the monkey to interact with the observed stimulus, thus providing a pragmatic coding of objects in space. The space-constrained coding of objects as potential targets for self and others suggests that motor prediction might be useful both for planning actions and preparing behavioral reactions in the physical and social world.¹¹³

109 Vittorio Caggiano et al., 'Mirror neurons differentially encode the peripersonal and extrapersonal space of monkeys', *Science*, 324 (2009), p. 403.

110 Luca Bonini et al., 'Space-dependent representation of objects and other's action in monkey ventral premotor grasping neurons', *Journal of Neuroscience*, 34, 11 (2014), pp. 4108-4119.

111 Also see Pasquale Cardellicchio, Corrado Sinigaglia, and Marcello Costantini, 'The space of affordances: a TMS study', *Neuropsychologia*, 49 (2011), pp. 1369-1372.

112 Bonini et al., 'Space-dependent representations of objects and other's action in monkey ventral premotor grasping neurons' also define a third group of neurons which they call canonical-mirror neurons because they respond to both objects and another agent's actions. These C-M neurons are also anticipatory, but are more attuned to anticipating the impending actions of the other agent without discriminating between the perceiver's peripersonal or extrapersonal space. This would be consistent with a slightly refined version of the proposal that MNs anticipate the other agent's impending actions. See Csibra, 'Action mirroring and action understanding: an alternative account'; Pierre Jacob, 'What do mirror neurons contribute to human social cognition?'

113 Bonini et al., 'Space-dependent representations of objects and other's action in monkey ventral premotor grasping neurons', p. 4119; also see Monica Maranesi, Luca Bonini, and Leonardo Fogassi, 'Cortical processing of object affordances for self and others' action', *Frontiers in Psychology*, 5, 538 (2014), doi.org/10.3389/fpsyg.2014.00538.

Action understanding (my understanding of your action) is not a passive, observational event; it's a pragmatic understanding of what I can do in response to your action, an understanding of what your action affords for possible interaction.

My second objection follows from my worry about ST. Freedberg and Gallese do not account for the fact that our reactions to images and artistic representations of actions and objects are different from our reactions to real actions and objects. Here, by 'real' actions and objects I simply mean 'real' in the ordinary sense that would contrast with images or artistic representations. One might think that the Freedberg-Gallese story could easily work for photographic images, photo or digital graphic realism, or *trompe l'oeil* painting. Still, there is definitely something different between an actual encounter with real people and things, and an encounter with even these hyper-realistic art forms since the latter are still representations rather than actually present things or people.¹¹⁴ Wollheim's double attunement or twofold intentionality would indicate that at the same time, in the same experience in which we register the represented action or object, we register it as just a representation, and perhaps as well done or poorly done.

Moreover, on the enactivist interpretation of these mirroring processes, my perception of the action or the tool is attuned to what I can do or how I might respond to what I see. If my CNs do get activated when I observe an image of a hammer, and if my MNs do get activated when I observe an image of a person in action, there must still be some important differences in the complex neural activations involved in this observation in contrast to observing a real hammer or a real person, since the image of the hammer or the person is not something I can interact with in the same way that I can interact with a real hammer or real person. What Husserl calls the "I can" is different. For example, presented with an image of a hammer, I can't pick up the hammer and use it as I would a real hammer. Presented with a portrait, I can't interact with the 'person' in the painting in the same way that I can interact with a real person. And in the affective register, would my emotional response to the image of a tiger be the same as it would be if I confronted a real tiger?

One way to put this is to say the hammer offers an affordance for hammering; the image of a hammer does not. A person offers the affordance of social interaction; the image of a person does not. A landscape offers a set of affordances or non-affordances for physical movement, a landscape

114 It's possible that one's sensory-motor system could be fooled by a good *trompe l'oeil* painting, or in a virtual reality setting.

painting does not; for example, I can take a walk through a physical landscape, but not through a painted landscape. At the very least we should say that the image or artwork offers a different set of affordances – not hammering, not social interaction, not physical movement – but what? I'll return to this question.

If the enactive interpretation is correct, then it explains why our reactions (including MN and CN responses) to images and artistic representations of actions and objects are different from our reactions to real actions and objects. The difference is a difference in the way we can and do enactively respond to, for example, the artistic representation *versus* the presence of a real person, corresponding to differences in the possible actions that the artwork *versus* the real person affords.

Putting it in these action-oriented terms is not the full story. We should notice that this discussion of responses to artistic representations *versus* real people and objects mirrors the historic discussions of empathy. Our empathic responses go beyond action affordances to include affective affordances, and these affective affordances are also different for artwork *versus* social encounters.

If this affordance-based, enactivist approach to characterizing our experience of art demonstrates how such experience is different from real-world motoric and affective encounters with others and with real objects, it can also help us to see a major difference (which, I suggest, is the aesthetic difference, a difference in Wollheimian twofoldness) between the observation/audience perspective and the performer/artist perspective. With respect to the observation/audience perspective, there is clearly a *short-circuiting* and *re-routing* of motoric and affective affordances, respectively. But this cannot be the case in performance.¹¹⁵ The fact that the object I encounter as an observer or member of the audience is an artwork comes with the realization (something built into the Wollheimian twofold experience) that I cannot interact with the person portrayed in the portrait; I cannot pick up the represented hammer and hammer with it; I cannot enter into the landscape in any real way; I do not find myself fearing the painted tiger, and so on. The motoric and affective affordances are cut

115 I discussed the concept of a short-circuited affordance in Gallagher, 'Aesthetics and kinaesthetics', primarily thinking of motor or action affordances. I introduce the idea of a "re-routing" of affective affordances here since it certainly seems possible that I can have an affective or emotional response to a particular artwork that is nonetheless different from any encounter I would have with some entity that is not a work of art. An encounter with a painted tiger may elicit some kind of affective response but certainly not the one that I would have encountering a real tiger.

short, blocked or re-routed. I'm brought up short of being able to interact with the represented content, at the same time that I may have a sense of how I might engage if the objects were real rather than represented.¹¹⁶

From the perspective of the observer/audience, I experience the work of art in the mode of an anticipatory kinaesthetics that I can never fulfill or satisfy in the way that I may be able to satisfy it if the object or the person were present and not just represented. In this respect, one might say that the work of art falls short of actuality; or, perhaps more positively, the work of art transcends actuality in that it presents me with enactive possibilities that remain only possibilities that cannot be readily actualized in the aesthetic encounter¹¹⁷ – without going through some further process – that is, without moving outside of the representational frame, e.g., by finding the actual person portrayed in the painting and interacting with her, or by engaging in some activity inspired by the work of art. I think this is likely even more the case with non-representational art.¹¹⁸

This idea that art offers short-circuited affordances is not far from the embodied approach to aesthetic experience taken by Merleau-Ponty, who Freedberg and Gallese themselves cite. As Merleau-Ponty says in his essay on Cezanne:

We live in the midst of man-made objects, among tools, in houses, streets, cities, and most of the time we see them only through the human actions which put them to use. We become used to thinking that all of this exists necessarily and unshakably. Cezanne's painting suspends these habits of thought and reveals the base of inhuman nature upon which man has installed himself. This is why Cezanne's people are strange, as if viewed by a creature of another species.¹¹⁹

To the extent that art suspends our habits of thought, it differentiates itself from our everyday encounters – with others or with worldly things.

116 Gallagher, 'Aesthetics and kinaesthetics'.

117 Also, to be clear, it is not that the work of art does not offer the observer some set of affordances, it's just that the typical affordances I might have for action are short-circuited. What is presented in the artwork may offer new affordances for my imagination. A painting or sculpture, of course, presents me with other possibilities that could be actualized with the physical art piece itself, as distinguished from the artwork. E.g., I could remove it from its current location and put it someplace else; I could purchase or sell it, etc.

118 This readily pertains to painting and sculpture and to most performing arts from the perspective of the audience (with some complicating qualifications). Architecture seems to me an exception.

119 Maurice Merleau-Ponty, *Sense and Non-Sense* (Evanston: Northwestern University Press, 1964), pp. 15-16.

It reveals something different, as “strange,” in a way that shakes and challenges our everyday attitudes. With respect to listening to music at a concert, Merleau-Ponty puts it in terms of entering a different space.

Music is not in visible space, music erodes visible space, surrounds it, and causes it to shift, such that these overdressed listeners – who take on a judgmental air and exchange comments or smirks without noticing that the ground begins to tremble beneath them – are soon like a ship’s crew tossed about on the surface of a stormy sea.¹²⁰

Heidegger’s analysis suggests a similar way of thinking. Heidegger understands art, not as something ready-to-hand (an instrument to be used – which involves our primary and everyday way of being-in-the-world), and not as something present-at-hand (an object for cognition – a derivative way of regarding the world, mistaken as primary by philosophers like Descartes). Rather, Heidegger¹²¹ regards art as something revelatory of being – and specifically, we could say, revelatory of being-in-the-world itself – that is, revealing of our own possibilities – as well as, perhaps, impossibilities.

This view of aesthetic experience as involving short-circuited affordances is also similar to Maria Brincker’s¹²² idea of the ‘aesthetic stance’. She builds on the Kantian idea of a practical disengagement that accompanies image perception. As she puts it, an image (painting or sculpture) not only has “different affordances, but affords a sort of a ‘halt’ to our own ongoing environmental interactions [P]erception of action as image content does not afford the perceiver an overt complimentary response beyond simply watching what is being presented”.¹²³ This is still an engagement of perceiver with the art, but an engagement of a different sort. As Brincker puts it, this is an engagement that is halted at “the edge of action”.¹²⁴ In this

120 Merleau-Ponty, *Phenomenology of Perception*, p. 234.

121 Martin Heidegger, *Basic Writings 2nd edition*, ed. D. F. Krell (New York: Harper Collins, 1993).

122 Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’.

123 Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’, pp. 122-123.

124 Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’, p. 123. This concept of being “at the edge of action” is consistent with what I had suggested about short-circuited affordances (Gallagher, ‘Aesthetics and kinaesthetics’) and in fact Brincker cites my account as such. She supports this idea by citing evidence from brain imaging studies that suggest activation of the default mode network (DMN) while viewing artworks (e.g., Edward Vessel, Gabrielle Starr, and Nava Rubin, ‘Art reaches within: aesthetic experience, the self and the

regard, however, aesthetic engagement is defined negatively and abstractly as a pragmatic disengagement. She makes an additional important point about the asymmetry involved in the aesthetic stance.

[M]y hypothesis is that there are aesthetic affordances, which invite a disengagement of action response or [a] “non-goal-directed attitude”. Notably, most artistic media (images, sculptures, stages, writings, recordings etc.) seem to invite asymmetric, non-interactive modes of perception, in that the beholder perceives the beheld but not the other way around. The further suggestion is that this asymmetry and lack of reciprocity in the aesthetic affordances precisely invites a different kind of engagement.¹²⁵

This is clearly the case, for example, when I encounter a painting of one or more people. There is asymmetry: I can respond in some way; I can actively imagine many things having to do with them, but they cannot respond to me. I can look into their eyes, but they don’t gaze back or follow my gaze in any real sense.

My embodied-enactive perception of a painting or sculpture involves a kinaesthetic-anticipatory response to a non-realizable (non-practical, non-interactionable) affordance. It seems appropriate to think that this non-realizability implicit (or explicit) in the encounter with the art is somehow registered/recognized in the motor system, and generates a feeling different from an encounter with real tools or other persons – not a priming for action or interaction, but for an experience of the purely possible or maybe even the impossible. This kind of affordance short circuits – it does so in a way that can come back to me and make me aware of my possibilities, and does so, at the very least, in a way that disrupts my ordinary engagements.

If this is part of the observer/audience aesthetic experience, however, a positive accomplishment of this kind of encounter with art, it is nonetheless significantly different from the aesthetic experience of the performer – the dancer, musician, actor, and perhaps even the painter and sculptor, etc. The aesthetic experience of the performer cannot involve short-circuited affordances or an aesthetic stance that remains at the edge of action.

The problem, then, is tied to the way that questions about aesthetic experience are typically framed – in terms of the observer/audience perspective, and in a way that downplays the significance of the performer

default mode network’, *Frontiers in Neuroscience*, 7, 258 (2013), <https://doi.org/10.3389/fnins.2013.00258>). Activation of the DMN correlates with awake resting states where the subject is not practically engaged with any particular task.

125 Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’, p. 123.

perspective.¹²⁶ Hein suggests, for example, that the performer's role is understood as secondary to the artist, and that the performer's aesthetic experience depends on him responding as an observer to the art object or stimulus. You can see the problem immediately if you try to understand the aesthetic experience of the performer as a derivative of the aesthetic stance (halting at the edge of action). The dancer – the performer in the performance – cannot halt. If we can say, with respect to the observation/audience perspective, there is a *short-circuiting* of affordances, this clearly cannot be the case in performance since the performer is engaged in (not disengaged from or disinterested in) the performance.

The enactive aesthetics of the performer

The aesthetic experience of the performer needs to be *in the action* rather than “at the edge” of action. Brincker's analysis, however, is helpful because she lists a set of key dynamical aspects that characterize the aesthetic stance, so we may be able to see in some detail the similarities and the differences between the aesthetic experience of the performer in action, and the aesthetic stance of the observer. As Brincker notes, these dynamical aspects are consistent with an embodied cognition approach to aesthetics. Here is a slightly modified version of her list of aspects. She lists the first six; I've added the seventh as something consistent with her analysis.¹²⁷

(1) A dynamic opposition between a practical and an aesthetic stance and accordingly opposed modes of brain function.

(2) Aesthetic affordances: “Edge of action” affordances invite a pause and executive action halt

(3) Vulnerability and openness of the perceiver – linked to lack of goal-directed attitude in regards to action planning.

(4) The role of appraisal and taste as a gatekeeper and defense mechanism – needed as ballast to counter openness.

(5) The role of “the other” – and its relation to appraisal, vulnerability & engagement.

126 See Hilde Hein, ‘Performance as an aesthetic category’, *The Journal of Aesthetics and Art Criticism*, 28, 3 (1970), pp. 381-386.

127 See Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’, p. 130.

(6) The specificity of encounters; “the aesthetic stance, including low-level physiological and emotional responses varies with context, experience and style of presentation.”

(7) An “asymmetry of interaction,” which is also tied to a halting of goal-oriented action.¹²⁸

I take the second aspect to be central to Brincker’s conception of the aesthetic stance, and as specifying (1), the way in which the aesthetic stance is not pragmatic. Together, the first two aspects express the pragmatic disengagement or halt or short-circuited affordances which keep the observer at the edge of action. Aspects (3)–(5) and (7) seemingly hinge on the first two, and to the extent that they do, they define an aesthetic stance that involves an aesthetic experience quite different from the aesthetic experience of the performer. The performer cannot remain at the edge of action but must fully engage; the performer’s engagement cannot be disengagement. Aspect (1), however, could be specified differently, still maintaining the contrast between the practical and aesthetic, without involving disengagement; this would require a concept of an aesthetic engagement. It may also be possible that the performer’s experience can be characterized by vulnerability and openness, and as involving appraisal and taste; further, we have already indicated the role of intersubjectivity and others in the performance process (5). Moreover, precisely because of the role of intersubjectivity, whether there is an asymmetry in the process may depend on where we look. In the case of performance, however, none of these aspects should hinge on the notion of disengagement, halting or short-circuited affordances.

The one untroubled aspect on this list, (6) a specificity that involves low-level physiological and emotional responses that vary with context, experience and style of presentation, applies equally to performance. Here we can start to see a more positive way to characterize the aesthetic experience of the performer, namely in terms of the meshed architecture of performance. The specificity indicated in (6), as well as the affective-cognitive aspects of vulnerability, openness, appraisal and taste (now associated with an engaged aesthetic stance) may well fit on the vertical axis of that architecture, components that are integrated in the skilled performance of music, dance, acting, etc. In this mesh, rather than a defense mechanism, appraisal may be more positively characterized as the performer’s co-conscious or doubly attuned sense that the performance is hitting the mark.

128 Brincker, ‘The aesthetic stance: On the conditions and consequences of becoming a beholder’, p. 125.

Here, however, we can also see how the horizontal axis gets integrated. Appraisal and taste are normative factors that are clearly specified differently in different cultural milieus. Openness characterizes the affordance relation – openness to various action possibilities offered by the environment – possibilities that are specifically not short-circuited for the performer with the right skill set. Vulnerability may characterize an openness to the ambiguities and contingencies connected with other performers, audience, and circumstance, much of the latter speaking to the role of intersubjectivity or empathic relations with others.

The aesthetic in performance depends on all of these factors coming together, meshing in just the right way, into a dynamical, cohesive gestalt, to make for a good performance. The aesthetic experience of the performer, I'm suggesting, is the unified experience that is both (a) an attunement to the character being portrayed (the music being played, the dance being danced) and (b) the self-awareness of the performer in the meshed cohesive gestalt of the performance itself. If this is a way of being in the flow, it is a mindful being in the flow, where the performer's awareness of the performance is one (unified) double attunement to what is happening and to how she is performing when the dynamical gestalt is cohesive. This double attunement – “it's me and it's more than me” – may involve a different (sometimes an enhanced) prereflective sense of ownership/agency along with a sense that the performance transcends me in the music, in the movement, in the action itself that carries on and carries me forward. This twofoldness is a form of double awareness of self/other in my engaged actions – not one, not two; not identity, but not complete distinction – this sense of oneself as another, or as something more than oneself.

The concept of gestalt suggests a more holistic view, where the whole contains both (in a twofold interdependent fashion) agentive and worldly aspects arranged in a precarious dynamics. If some element of the mesh is out of joint the performer may not have an aesthetic experience, or it may dissipate, even if she can compensate in terms of delivering an expert performance. On some occasions it may be that the circumstance is out of kilter; on other occasions the performer's affective state may be such that it unsettles the performance. In some cases, it may be that performers who are constantly dissatisfied with their performance, or who are constantly overthinking their performance, never have an aesthetic experience. In this sense, aesthetic experience may be precarious, fragile or fleeting, contingent on a large number of factors and the performer's own attunement process.

I want to suggest that this more holistic view can address an old, but still ongoing debate in aesthetics, at least with respect to performance. This is

the well-known debate about internalism *versus* externalism with respect to aesthetic experience.¹²⁹ Internalist theories, which dominated into the mid-20th century claim that all aesthetic experiences exhibit features discoverable through introspection. Monroe Beardsley, for example argues that aesthetic experience reflects a unity, “where unity is a matter of coherence and of completeness”.¹³⁰ Against internalism George Dickie¹³¹ argues that these features, as described, are actually features that belong to the objects rather than to our experience. The aesthetic character of experience depends on the unity, coherence and completeness that are surely features we experience as belonging to the aesthetic objects, but not necessarily features of our experience itself. Beardsley himself comes around to this now majority externalist position; “a theory according to which an aesthetic experience just is an experience having aesthetic content, i.e., an experience of an object as having the aesthetic features that it has”.¹³² One continuing issue in this debate is that aesthetic value continues to be tied to internal experiential aspects, so-called *empiricism about aesthetic value*, while aesthetic character is attributed to the object of experience. Shelley suggests:

there is something odd about the position that combines externalism about aesthetic experience with empiricism about aesthetic value. Externalism locates the features that determine aesthetic character in the object, whereas empiricism locates the features that determine aesthetic value in the experience, when one might have thought that the features that determine aesthetic character just are the features that determine aesthetic value.¹³³

I would add, there is also something odd about an externalism that completely discounts the phenomenology of experience in giving an account of that experience as aesthetic.

The view of aesthetic experience in performance that I’ve just offered, however, is neither internalist nor externalist, because it depends on a meshed architecture that involves both vertical and horizontal axes, that is, both a range of embodied experiential factors, and an arrangement of

129 See James Shelley, ‘The concept of the aesthetic’, *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Winter 2017 Edition), URL = <<https://plato.stanford.edu/archives/win2017/entries/aesthetic-concept/>> for a succinct summary of this debate.

130 Monroe C. Beardsley, *Aesthetics* (Indianapolis: Hackett, 1958), p. 527.

131 George Dickie, ‘Beardsley’s phantom Aesthetic experience’, *Journal of Philosophy*, 62 (1965), pp. 129-136.

132 Shelley, ‘The concept of the aesthetic’.

133 Shelley, ‘The concept of the aesthetic’.

material, social, cultural, normative factors. I think we can also say that in the aesthetic experience of the performer, the music, the dance, the character, is not an object that is merely observed. From the performer's perspective, the music, the dance, the character is performed and is experienced as part of the gestalt of performance.

Let me conclude by noting one very clear implication of this analysis, and one objection. If aesthetic experience is not the same for the observer as for the performer, and, moreover, if the details of meshed architectures may be different in the different performances of dancing, making music, acting, etc., then we should not think that aesthetic experience is just one thing, or that there is any one phenomenology (or for that matter one signature neural pattern) of the aesthetic.

Here's an objection, however. Why shouldn't we characterize the observer/audience perspective as a kind of performance, and think that there is no large difference between the aesthetic experience of the observer and the aesthetic experiencer of the performer? John Carvalho,¹³⁴ for example, has argued that viewing art is a kind of skill. In that case would there not be some kind of meshed architecture involved even in observation? Indeed, one can think that in the observational stance there is a mesh of elements that include the painting itself, the museum, cultural practices, other people, as well as cognitive, affective, and motoric processes such that the agent-as-observer moves to the proper stance at the edge of action. And would not the double attunement work in this context as well? In this case, one would need to shift the Wollheimian twofold from its externalist position (the twofold as the content portrayed plus the technical quality of the artwork), to a gestalt that includes the phenomenological character of the experience, as we did in the case of performance. The advantage of this view is that we resolve the debate about internalism *versus* externalism in the same way for the observer/audience perspective. The objection to the claim that aesthetic experience would be different for the different perspectives might come with the suggestion that there might just be a difference of degree between aesthetic experience in observing and in performing. I think, however, it is more than a difference in degree since in one case we halt on the edge of action as we observe an object or event, and in the other, we are necessarily in the action which enacts the object or event (the music, the dance, the character), and this seems a very real difference in kind.

134 Carvalho, *Thinking with Images: An Enactivist Aesthetics*.

REFERENCES

- Aggerholm, Kenneth, 'Express yourself: The value of theatricality in soccer', *Journal of the Philosophy of Sport*, 40, 2 (2013), pp. 205-224.
- Albright, Ann Cooper, 'Feeling in and out: Contact improvisation and the politics of empathy', in *Zwischenleiblichkeit und bewegtes Verstehen-Intercorporeity, Movement and Tacit Knowledge*, ed. Undine Eberlein (Bielefeld: Transcript Verlag, 2016), pp. 289-298. doi:10.14361/9783839435793-011
- Anderson, Michael L., 'Neural reuse: a fundamental organizational principle of the brain', *Behavioral and Brain Sciences*, 33 (2010), pp. 245-266.
- Anderson, Miranda, *The Renaissance Extended Mind* (Berlin: Springer, 2015)
- Ataria, Yochai; Dor-Ziderman, Yair, and Berkovich-Ohana, Aviva, 'How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator', *Consciousness and Cognition*, 37 (2015), pp. 133-147.
- Bales, Melanie and Nettle-Fiol, Rebecca, 'Preface', in *The Body Eclectic: Evolving Practices in Dance Training*, eds. Melanie Bales and Rebecca Nettle-Fiol (Urbana and Chicago: University of Illinois Press, 2008), pp. i-viii.
- Bamford, Joshua M. S. and Davidson, Jane W., 'Trait empathy associated with agreeableness and rhythmic entrainment in a spontaneous movement to music task: Preliminary exploratory investigations', *Musicae Scientiae* 23, 1 (2019), pp. 5-24.
- Barber, Stephen, *Muybridge: The Eye in Motion* (Washington, DC: Solar, 2012).
- James Matthew Barrie, James Matthew, *The Admirable Crichton* (New York: Samuel French, 1918).
- Barthes, Roland, 'Listening', in *The Responsibility of Forms*, trans. R. Howard (Berkeley : University of California Press, 1985)
- Bates, Eliot, 'The social life of musical instruments', *Ethnomusicology*, 56, 3 (2012), pp. 363-395.

- Beardsley, Monroe C., *Aesthetics* (Indianapolis: Hackett, 1958).
- Beilock, Sian, *Choke: What the Secrets of Brain Reveal about Getting it Right When You Have To* (New York: Simon and Schuster, 2010).
- Beilock, Sian and Gray, Rob, 'Why do athletes choke under pressure?', in *Handbook of Sport Psychology*, eds. Gershon Tenenbaum and Robert C. Eklund (London: John Wiley and Sons, 2007), pp. 425-444.
- Benedetti, Jean, *Stanislavski and the Actor* (London: Methuen Drama, 1998).
- Bermúdez, José Luis, 'Bodily awareness and self-consciousness', in *Oxford Handbook of the Self*, ed. Shaun Gallagher (Oxford: Oxford University Press, 2011), pp. 157-179.
- Bernstein, Nikolai A., 'Some emergent problems of the regulation of motor acts', in *Human Motor Actions: Bernstein Reassessed*, ed. H. T. A. Whiting (Amsterdam: North Holland, 1984), pp. 354-355.
- Berthoz, Alain, *The Brain's Sense of Movement*, trans. G. Weiss (Cambridge, MA: Harvard University Press, 2000).
- Bonini, Luca et al., 'Space-dependent representation of objects and other's action in monkey ventral premotor grasping neurons', *Journal of Neuroscience*, 34, 11 (2014), pp. 4108-4119.
- Borgo, David, 'Strange loops of attention, awareness, action and affect in musical improvisation', in *Music and Consciousness 2*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 113-124.
- Brecht, Bertolt, *Brecht on Theatre: The Development of an Aesthetic*, trans. J. Willett (London: Methuen, 1975).
- Bredenkamp, Horst, 'Gazing hands and blind spots: Galileo as draftsman', in *Galileo in Context*, ed. Jürgen Renn (Cambridge: Cambridge University Press, 2001), pp. 153-192.
- Breivik, Gunnar, 'Skillful coping in everyday life and in sport: A critical examination of the views of Heidegger and Dreyfus', *Journal of Philosophy of Sport*, 34, 2 (2007), pp. 116-134.
- Brincker, Maria, 'The aesthetic stance: On the conditions and consequences of becoming a beholder', in *Aesthetics and the Embodied Mind: Beyond Art Theory and the Cartesian Mind-Body Dichotomy*, ed. Alfonsina Scarinzi (Dordrecht: Springer, 2015), pp. 117-138.
- Brincker, Maria, 'Navigating beyond 'here & now' affordances – on sensorimotor maturation and 'false belief' performance', *Frontiers in Psychology*, 5, 1433 (2014), doi:10.3389/fpsyg.2014.01433.
- Bruner, Jerome S., *Acts of Meaning* (Cambridge, MA: Harvard University Press, 1990).

- Bruner, Jerome S., *The Culture of Education* (Cambridge, MA: Harvard University Press, 1996)
- Caggiano, Vittorio et al., 'Mirror neurons differentially encode the peripersonal and extrapersonal space of monkeys', *Science*, 324 (2009), pp. 403-406.
- Caldwell, Christine, 'Mindfulness and bodyfulness: A new paradigm', *Journal of Contemplative Inquiry*, 1 (2014), pp. 77-96
- Cardelicchio, Pasquale, Sinigaglia, Corrado, and Costantini, Marcello, 'The space of affordances: a TMS study', *Neuropsychologia*, 49 (2011), pp. 1369-1372, doi:10.1016/j.neuropsychologia.2011.01.021, pmid:21241716.
- Caravà, Marta, 'Une rencontre entre la philosophie et la sémiotique de Peirce, l'Enactivisme et l'Esprit Étendu'. Perspectives sur un débat contemporain', *Interrogations*, 27, <http://www.revue-interrogations.org/Une-rencontre-entre-la-philosophie>.
- Carvalho, John M., 'Music and emergence', in *The Oxford Handbook of Sound and Imagination* vol. 2, eds. Mark Grimshaw-Aagaard, Mads Walther-Hansen, and Martin Knakkegaard (Oxford: Oxford University Press, 2019), pp. 77-95.
- Carvalho, John M., *Thinking with Images: An Enactivist Aesthetics* (New York: Routledge, 2019).
- Catmur, Caroline, Walsh, Vincent, and Heyes, Cecilia, 'Sensorimotor Learning Configures the Human Mirror System', *Current Biology*, 17, 17 (2007), pp. 1527-1531.
- Chemero, Anthony, *Radical Embodied Cognitive Science* (Cambridge, MA: MIT Press, 2009).
- Chekhov, Michael, *To the Actor: On the Technique of Acting* (London: Routledge, 1953).
- Christensen, Wayne, Sutton, John, and McIlwain, Doris J. F., 'Cognition in skilled action: Meshed control and the varieties of skill experience', *Mind & Language*, 1, 31 (2016), pp. 37-66.
- Chong, Trevor T. J. et al., 'fMRI adaptation reveals mirror neurons in human inferior parietal cortex', *Current Biology* 18, 20 (2008), pp. 1576-1580.
- Clark, Andy, *Supersizing the mind: Embodiment, action, and cognitive extension* (Oxford: Oxford University Press, 2008).
- Clarke, Eric, 'Empathy and the ecology of musical consciousness', in *Music and Consciousness* vol. 2, (eds.) Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 71-92.
- Eric Clarke, Eric, DeNora, Tia, and Vuoskoski, Jonna, 'Music, empathy and cultural understanding', *Physics of Life Reviews*, 15 (2015), pp. 61-88.

- Cochrane, Tom, 'A Simulation Theory of Musical Expressivity', *Australasian Journal of Philosophy*, 88, 2 (2010), pp. 191-207.
- Cochrane, Tom, 'Using the persona to express complex emotions in music', *Music Analysis*, 29, 1-3 (2010), pp. 264-275.
- Cohen, Robert, *Acting Power* (London: Routledge, 2013).
- Cole, Jonathan, Gallagher, Shaun, and McNeill, David, 'Gesture following deafferentation: a phenomenologically informed experimental study', *Phenomenology and the Cognitive Sciences*, 1 (2002), pp. 49-67.
- Collins, Harry M., 'Interactional expertise as a third kind of knowledge', *Phenomenology and the Cognitive Science*, 3, 2, pp. 125-143.
- Colombetti, Giovanna, *The Feeling Body* (Cambridge: MIT Press, 2014).
- Connolly, Roy, and Ralley, Richard, 'The laws of normal organic life or Stanislavski explained: Towards a scientific account of the subconscious in Stanislavski's system', *Studies in Theatre and Performance*, 27, 3 (2007), pp. 237-259.
- Cook, Amy, 'Interplay: The method and potential of a cognitive scientific approach to theatre', *Theatre Journal*, 59, 4 (2007), pp. 579-594.
- Coplan, Amy, 'Understanding empathy; its features and effects', in *Empathy: Philosophical and Psychological Perspectives*, eds. Amy Coplan and Peter Goldie (Oxford: Oxford University Press, 2011), pp. 3-18.
- Crozier, W. Ray and Greenhalgh, Paul, 'The empathy principle: Towards a model for the psychology of art', *Journal for the Theory of Social Behaviour*, 22, 1 (1992), pp. 63-79.
- Csibra, Gergely, 'Action mirroring and action understanding: an alternative account', in *Sensorimotor Foundations of Higher Cognition. Attention and Performance XXII*, eds. Antonia Hamilton and Scott Grafton (Oxford: Oxford University Press, 2008), pp. 435-459.
- Dainton, Barry, 'I—The sense of self', *Aristotelian Society Supplementary*, 90, 1 (2016), pp. 113-143.
- Danziger, Shai, Levav, Jonathan, and Avnaim-Pesso, Liora, 'Extraneous factors in judicial decisions', *Proceedings of the National Academy of Sciences*, 108, 17 (2011), pp. 6889-6892.
- Daprati, Elena, Iosa, Marco, and Haggard, Patrick, 'A dance to the music of time: Aesthetically-relevant changes in body posture in performing Art', *PLoS One* 4, 3 (2009), e5023.
- Dawe, Kevin, 'The cultural study of musical instruments', in *The Cultural Study of Music*, eds. Martin Clayton, Trevor Herbert, and Richard Middleton (New York, NY: Routledge, 2012), pp. 195-205.
- Deans, Jan, 'Thinking, feeling and relating: Young children learning through gance', *Australasian Journal of Early Childhood*, 41, 3 (2016), pp. 46-57. doi:10.1177/183693911604100307.

- Decety, Jean, 'Une anatomie de l'empathie', *Psychiatrie, Sciences Humaines, Neurosciences*, 3, 11 (2005), pp. 16-24.
- De Jaegher, Hanna and Di Paolo, Ezequiel, 'Participatory sense-making', *Phenomenology and the cognitive sciences*, 6, 4 (2007), 485-507.
- De Jaegher, Hanna, Di Paolo, Ezequiel, and Gallagher, Shaun, 'Does social interaction constitute social cognition?', *Phenomenology and the cognitive sciences*, 6, 4 (2010), pp. 441-447.
- Delafield-Butt, Jonathan T. and Trevarthen, Colwyn, 'The ontogenesis of narrative: from moving to meaning', *Frontiers in Psychology*, 6, 1157 (2015), doi: 10.3389/fpsyg.2015.01157.
- de Vignemont, Frederique and Jacob, Pierre, 'What is it like to feel another's pain?', *Philosophy of Science*, 79, 2 (2012), pp. 295-316.
- de Vignemont, Frederique and Singer, Tania, 'The empathic brain: How, when and why?', *Trends in Cognitive Science*, 10 (2006), pp. 435-441.
- Dewey, John, *Experience and Education* (New York: Macmillan, 1938).
- Dewey, John, *Art as Experience* (New York: Perigee/Berkley, 1934).
- Dewey, John, *Human Nature and Conduct* (New York: Henry Holt & Co., 1922).
- Dewey, John, 'The reflex arc concept in psychology', *Psychological Review*, 3, 4 (1896), pp. 357-370.
- Dickie, George, 'Beardsley's phantom aesthetic experience', *Journal of Philosophy*, 62 (1965), pp. 129-136.
- Diderot, Denis, *The Paradox of Acting*, trans. W. H. Pollock (London: Chatto and Windus, 1883).
- Dilthey, Wilhelm, *Selected Works. III. The Formation of the Historical World in the Human Sciences*, eds. Rudolf A. Makkreel and Frithjof Rodi (Princeton: Princeton University Press, 2002).
- Dilthey, Wilhelm, *Gesammelte Schriften. Vol. 7, Der Aufbau der geschichtlichen Welt in den Geisteswissenschaften* (Stuttgart: B. G. Teubner Verlagsgesellschaft, 1992).
- Dilthey, Wilhelm, *Dilthey: Selected Writings*, trans. H. P. Rickman (London: Cambridge University Press, 1976).
- Dinstein, Ilan et al., 'Executed and observed movements have different distributed representations in human aIPS', *The Journal of Neuroscience*, 28, 44 (2008), pp. 11231-11239.
- Di Paolo, Ezequiel, Buhrmann, Thomas, and Barandiaran, Xabier, *Sensorimotor Life: An enactive proposal* (Oxford: Oxford University Press, 2017).
- Dittman, Veronica, 'The New York dancer', in *The Body Eclectic: Evolving Practices in Dance Training*, eds. Melanie Bales and Rebecca Nettle-Fiol (Urbana and Chicago: University of Illinois Press, 2008), pp. 22-27.

- Dor-Ziderman, Yair et al., 'Self-specific processing in the meditating brain: a MEG neurophenomenology study', *Neuroscience of Consciousness*, 1, niw019 (2016), doi:10.1093/nc/niw019.
- Dor-Ziderman, Yarir et al., 'Mindfulness induced selflessness: a MEG neurophenomenological study', *Frontiers in Human Neuroscience*, 7, 582 (2013).
- Dreyfus, Hubert, 'Overcoming the myth of the mental: How philosophers can profit from the phenomenology of everyday expertise', *Proceedings and Addresses of the American Philosophical Association* (Newark, DE: American Philosophical Association, 2005), pp. 47–65.
- Dreyfus, Hubert, 'Intelligence without representation: Merleau-Ponty's critique of mental representation', *Phenomenology and the Cognitive Science*, 1, 4 (2002), pp. 367–383.
- Dreyfus, Hubert and Dreyfus, Stuart, 'From Socrates to expert systems: The limits of calculative rationality', in *Philosophy and Technology II: Information Technology and Computers in Theory and Practice*, ed. Carl Mitcham and Alois Huning (Boston: D. Reidel Publishing Company, 1985), pp. 111–130.
- Dunne, John, 'Toward an understanding of non-dual mindfulness', *Contemporary Buddhism*, 12, 1 (2011), pp. 71–88.
- Eriksen, Jørgen W., 'Mindless coping in competitive sport: Some implications and consequences', *Sport, Ethics and Philosophy*, 4, 1 (2010), pp. 66–86.
- Erskine, Richard G. 'Nonverbal stories: The body in psychotherapy', *International Journal of Integrative Psychotherapy*, 5, 1 (2014), pp. 21–33.
- Esper, William and DiMarco, Damon, *The Actor's Art and Craft: William Esper Teaches the Meisner Technique* (New York: Anchor Books, 2008).
- Evans, Jonathan St. B. T., 'Dual processing accounts of reasoning, judgment, and social cognition', *Annual Review of Psychology*, 59 (2008), pp. 255–278.
- Fanon, Frantz, *Black Skin, White Masks*, trans. Charles L. Markmann (London: Pluto Press, 1986).
- Joerg Fingerhut, Joerg, 'Embodied seeing-in, empathy, and expansionism', *Projectionism*, 12, 2 (2018), pp. 28–38, doi:10.3167/proj.2018.12020 5.
- Fitts, Paul M. and Posner, Michael I., *Human Performance* (Belmont CA, Wadsworth, 1967).
- Ford, Paul R., Hodges, Nicola J., and Williams, Andrew M., 'Online attentional focus manipulations in a soccer-dribbling task: Implications for the proceduralization of motor skills', *Journal of Motor Behavior*, 37, 5 (2005), pp. 386–394.

- Francesconi, Denis and Gallagher, Shaun, 'Embodied cognition and sport pedagogy', in *Handbook of Embodied Cognition and Sport Psychology*, ed. Massimiliano Cappuccio (Cambridge, MA: MIT Press, 2018), pp. 249-272.
- Freedberg, David and Gallese, Vittorio, 'Motion, emotion and empathy in esthetic experience', *Trends in Cognitive Sciences* 11, 5 (2007), pp. 197-203.
- Fridland, Ellen, 'Automatically minded', *Synthese* 194, 11 (2017), pp. 4337-4363.
- Ellen Fridland, Ellen, 'Skill and motor control: Intelligence all the way down', *Philosophical Studies*, 174, 6 (2017), pp. 1539-1560.
- Fridland, Ellen, 'Knowing-how. Problems and considerations', *European Journal of Philosophy*, 23, 3 (2015), pp. 703-727.
- Gallagher, Shaun, *Action and Interaction* (Oxford: Oxford University Press, 2020).
- Gallagher, Shaun, 'What in the world. Conversation and things in context', in *Minimal Cooperation and Shared Agency*, ed. Anika Fiebich (Berlin: Springer, 2020), pp. 59-70.
- Gallagher, Shaun, 'The brains behind radical ecological and enactive approaches to cognition', in *Beyond Biology and Culture. Balzan Papers, vol. 3*, ed. Lambros Malafouris (Florence: Olschki Publications), pp. 357-379.
- Gallagher, Shaun, 'Mindful performance', in *The Extended Theory of Cognitive Creativity – Interdisciplinary Approaches to Performativity*, eds. Antonino Pennisi and Alessandra Falzone (Berlin: Springer, 2019), pp 43-58.
- Gallagher, Shaun, 'The therapeutic reconstruction of affordances', *Res Philosophica*, 95, 4 (2018), pp. 719-736.
- Gallagher, Shaun, *Enactivist Interventions* (Oxford: Oxford University Press, 2017).
- Gallagher, Shaun, 'The practice of thinking: Between Dreyfus and McDowell', in *The Extended Theory of Cognitive Creativity – Interdisciplinary Approaches to Performativity* ed. by Antonino Pennisi and Alessandra Falzone (Berlin: Springer, 2016), pp. 134-146.
- Gallagher, Shaun, 'The socially extended mind', *Cognitive Systems Research*, 25-26 (2013), pp. 4-12.
- Gallagher, Shaun, 'Empathy, simulation and narrative', *Science in Context*, 25, 3 (2012), pp. 301-327.
- Gallagher, Shaun, 'Aesthetics and kinaesthetics', in *Sehen und Handeln*, ed. John Michael Krois (Berlin: Oldenbourg Verlag, 2011), pp. 99-113.

- Gallagher, Shaun, 'Two problems of intersubjectivity', *Journal of Consciousness Studies*, 16, 6-8 (2009), pp. 289-308.
- Gallagher, Shaun, 'Direct perception in the intersubjective context', *Consciousness and Cognition*, 17 (2008), pp. 535-543.
- Gallagher, Shaun, 'Neural simulation and social cognition', in *Mirror Neuron Systems: The Role of Mirroring Processes in Social Cognition*, ed. Jaime A. Pineda (Totowa, NJ: Humana Press, 2008), pp. 355-371.
- Gallagher, Shaun, 'Simulation trouble', *Social Neuroscience*, 2, 3-4 (2007), pp. 353-365.
- Gallagher, Shaun, *How the Body Shapes the Mind* (Oxford: Oxford University Press, 2005).
- Gallagher, Shaun and Aguda, Benjamin, 'Anchoring know-how: Action, affordance and anticipation', *Journal of Consciousness Studies*, 27, 3-4 (2020), pp. 3-37.
- Gallagher, Shaun et al., *The Science of Awe and Wonder: Neuropsychology and Non-reductionist Cognitive Science* (London: Palgrave-Macmillan, 2015).
- Gallagher, Shaun and Gallagher, Julia, 'Acting oneself as another: An actor's empathy for her character', *Topoi* (2019), doi:10.1007/s11245-018-9624-7.
- Gallagher, Shaun and Hutto, Daniel, 'Narrative in embodied therapeutic practice: Getting the story straight', in *The Routledge International Handbook of Embodied Perspectives in Psychotherapy*, eds. Helen Payne et al. (London: Routledge, 2019), pp. 28-39.
- Gallagher, Shaun and Hutto, Daniel, 'Understanding others through primary interaction and narrative practice', in *The Shared Mind: Perspectives on Intersubjectivity*, eds. Jordan Zlatev et al. (Amsterdam: John Benjamins, 2008), pp. 17-38.
- Gallagher, Shaun and Jesús Ilundáin-Agurruza, Jesús, 'Self- and other-awareness in joint expert performance', in *Routledge Handbook on Skill and Expertise* (Ch. 30), eds. Ellen Fridland and Carlotta Pavese (London: Routledge, 2020).
- Gallagher, Shaun and Lindgren, Robb, 'Enactive metaphors: Learning through full-body engagement', *Educational Psychology Review*, 27, 3 (2015), pp. 391-404. doi:10.1007/s10648-015-9327-1.
- Gallagher, Shaun and Varela, Francisco, 'Redrawing the map and resetting the time: Phenomenology and the cognitive sciences', *Canadian Journal of Philosophy*, Supplementary Volume 29 (2003), pp. 93-132.
- Gallagher, Shaun and Zahavi, Dan, 'Phenomenological approaches to self-consciousness', *Stanford Encyclopedia of Philosophy* (2019) (at <http://plato.stanford.edu/>).

- Shaun Gallagher, Shaun and Zahavi, Dan, *The Phenomenological Mind* (London: Routledge, 2012).
- Gallese, Vittorio, 'Mirror neurons and the social nature of language: The neural exploitation hypothesis', *Social Neuroscience*, 3, 3-4 (2008), pp. 317-333.
- Gallese, Vittorio, 'Before and below 'theory of mind': embodied simulation and the neural correlates of social cognition', *Philosophical Transactions of the Royal Society, B-Biological Sciences*, 362, 1480 (2007), pp. 659-669.
- Gallese, Vittorio, "Being like me": Self-other identity, mirror neurons and empathy', in *Perspectives on Imitation I*, eds. Susan Hurley and Nick Chater (Cambridge, MA: MIT Press, 2005), pp. 101-118.
- Gallese, Vittorio, 'The 'shared manifold' hypothesis: from mirror neurons to empathy', *Journal of Consciousness Studies*, 8 (2001), pp. 33-50.
- Gallese, Vittorio and Goldman, Alvin, 'Mirror neurons and the simulation theory of mind-reading', *Trends in Cognitive Sciences*, 2 (1998), 493-501.
- Gardner, Frank L. and Moore, Zella, E., 'Mindfulness and acceptance models in sport psychology: A decade of basic and applied scientific advancements', *Canadian Psychology/Psychologie canadienne*, 53, 4 (2012), pp. 309-318.
- Gazzola, Valeria and Keysers, Christian, 'The observation and execution of actions share motor and somatosensory voxels in all tested subjects: single-subject analysis of unsmoothed fMRI data', *Cereb Cortex* 19, 6 (2009), pp. 1239-1255.
- Geiger, Moritz, 'On the essence and meaning of empathy (Parts I & II)', *Dialogues in Philosophy, Mental and Neuroscience*, trans. F. Gödel and M. Aragonaas, 8, 1 (2015), pp. 19-31 and 8, 2 (2015), pp. 75-86. Original: 'Über das Wesen und die Bedeutung der Einfühlung', in *IV. Kongress für experimentelle Psychologie*, ed. F. Schumann (Leipzig: Verlag J.A. Barth, 1910), pp. 29-73.
- Gibson, James J., *The Senses Considered as Perceptual Systems* (Oxford: Houghton Mifflin, 1966).
- Giguere, Miriam, 'Dancing thoughts: An examination of children's cognition and creative process in dance', *Research in Dance Education*, 12, 1 (2011), pp. 5-28, doi:10.1080/14647893.2011.554975.
- Giguere, Miriam, 'Thinking as they create: Do children have similar experiences in dance an in language arts?', *Journal of Dance Education*, 6, 2 (2006), pp. 41-47. doi:10.1080/15290824.2006.10387311.
- Glowinski, Donald et al., 'The movements made by performers in a skilled quartet: a distinctive pattern, and the function that it serves', *Frontiers in Psychology*, 4, 841 (2013), doi:10.3389/fpsyg.2013.00841.

- Gnecco, Giorgio et al., 'Towards automated analysis of joint music performance in the orchestra', in *International Conference on Arts and Technology* (Heildeberg: Springer, 2013), pp. 120-127.
- Goldie, Peter, *The Mess Inside: Narrative, Emotion and the Mind* (Oxford: Oxford University Press, 2012).
- Goldin-Meadow, Susan et al., 'Explaining math: Gesturing lightens the load', *Psychological Science*, 12, 6 (2001), pp. 516-522.
- Goldman, Alvin, 'Two routes to empathy', in *Empathy: Philosophical and Psychological Perspectives*, eds. Amy Coplan and Peter Goldie (Oxford: Oxford University Press, 2011), pp. 31-44.
- Goldman, Alvin, *Simulating minds: The Philosophy, Psychology and Neuroscience of Mindreading* (Oxford: Oxford University Press, 2006).
- Goldman, Alvin, 'Imitation, mind reading, and simulation', in *Perspectives on Imitation II*, eds. Susan Hurley and Nick Chater (Cambridge, MA: MIT Press, 2005), pp. 79-93.
- Goldstein, Kurt and Scheerer, Martin, *Abstract and concrete behavior: an experimental study with special tests* (Evanston: Northwestern University, 1964), p. 8. Reprint of *Psychological Monographs* 53, 2 (1941).
- Goldstein, Thalia R and Winner, Ellen, 'A new lens on the development of social cognition: The study of acting', in *Art and Human Development*, eds. Constance Milbrath and Cynthia Lightfoot (New York: Taylor & Francis Group, 2010), pp. 221-247.
- Gregucci, Alessandro et al., 'Mindful emotion regulation: Exploring the neurocognitive mechanisms behind mindfulness', *Bio Med Research International*, 670724, June (2015), doi:10.1155/2015/670724.
- Greimas, Algirdas Julien, *Du Sens II. Essais sémiotiques* (Paris: Seuil, 1970).
- Grodal, Torben and Kramer, Mette, 'Empathy, film, and the brain', *Recherches sémiotiques/Semiotic Inquiry*, 30, 1-2-3 (2010), 19-35.
- Guillot, Marie, 'I Me Mine: on a Confusion Concerning the Subjective Character of Experience', *Review of Philosophy and Psychology*, 8, 1 (2017), pp. 23-53.
- Hacking, Ian, 'The looping effects of human kinds', in *Causal Cognition: A Multidisciplinary Debate*, eds. Dan Sperber, David Premack, and Ann James Premack (New York: Oxford University Press, 1995), pp. 351-383.
- Harris, Robert and de Jong, Bauke M. 'Conscious and non-conscious perception and action in musical performance', in *Music and Consciousness 2: Worlds, Practices, Modalities*, eds. Ruth Herbert,

- David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 200-214.
- Hatfield, Elaine, Rapson, Richard L., and Le, Yen-Chi L., 'Emotional contagion and empathy', in *The Social Neuroscience of Empathy*, eds. Jean Decety and William Ickes (Cambridge, MA: MIT Press, 2011), pp. 19-30.
- Hauk, Olaf, Johnsrude, Ingrid, and Pulvermüller, Friedemann, 'Somatotopic representation of action words in human motor and premotor cortex', *Neuron* 41, 2 (2004), pp. 301-307.
- Hayler, Matt, 'Another way of looking: Reflexive technologies and how they change the world', in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), pp. 159-173.
- Heidegger, Martin, *Basic Writings 2nd edition*, ed. D. F. Krell (New York: Harper Collins, 1993).
- Heimann, Katrin et al., 'Embodying the camera: An EEG study on the effect of camera movements on film spectators' sensorimotor cortex activation', *PLoS one* 14, 3 (2019), doi:10.1371/journal.pone.0211026.
- Heimann, Katrin et al., 'Cuts in action': A high-density EEG study investigating the neural correlates of different editing techniques in film', *Cognitive Science* 41, 6 (2017), pp. 1555-1588.
- Heimann, Katrin et al., 'Moving mirrors: A high-density EEG study investigating the effect of camera movements on motor cortex activation during action observation', *Journal of Cognitive Neuroscience* 26, 9 (2014), pp. 2087-2101.
- Hein, Hilde, 'Performance as an aesthetic category', *The Journal of Aesthetics and Art Criticism*, 28, 3 (1970), pp. 381-386.
- Herman, David, 'Introduction', in *The Cambridge Companion to Narrative*, ed. David Herman (Cambridge: Cambridge University Press, 2007).
- Høffding, Simon, *A Phenomenology of Musical Absorption* (London: Palgrave-Macmillan, 2019).
- Høffding, Simon, 'Performative passivity: Lessons on phenomenology and the extended musical mind with the Danish String Quartet', in *Music and Consciousness 2: Worlds, Practices, Modalities*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 127-142.
- Høffding, Simon and Satne, Glenda L., 'Interactive expertise in solo and joint musical performance', *Synthese*, pp. 1-19, doi:10.1007/s11229-019-02339-x.
- Hurley, Susan L., *Consciousness in Action* (Cambridge, MA: Harvard University Press, 1998).

- Husserl, Edmund, *Zur Phänomenologie der Intersubjektivität I. Husserliana 13* (Den Haag: Martinus Nijhoff, 1973).
- Husserl, Edmund, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Zweites Buch. Phänomenologische Untersuchungen zur Konstitution. Husserliana 4* (Den Haag: Martinus Nijhoff, 1952).
- Hutchins, Edward, 'The cultural ecosystem of human cognition', *Philosophical Psychology*, 27, 1 (2014), pp. 34-49.
- Hutchins, Edward, 'Cognitive ecology', *Topics in Cognitive Science*, 2 (2010), pp. 705-715.
- Hutto, Daniel D., *Folk Psychological Narratives: The Sociocultural Basis of Understanding Reasons* (Cambridge: MIT Press, 2012).
- Hutto, Daniel D., 'The narrative practice hypothesis: origins and applications of folk psychology', *Royal Institute of Philosophy Supplements*, 60 (2007), pp. 43-68.
- Hutto, Daniel D. and Myin, Erik, *Radicalizing Enactivism: Basic Minds without Content* (Cambridge, MA: MIT Press, 2013).
- Hutto, Daniel D. and Robertson, Ian, 'Clarifying the character of habits: Understanding what and how they explain', in *Habit: Pragmatist Approaches from Cognitive Neurosciences to Social Sciences*, eds. Fausto Caruana and Italo Testa (Cambridge: Cambridge University Press, 2020), 204-223.
- Iacobini, Marco et al., 'Grasping the intentions of others with one's own mirror neuron system', *PLoS Biology* 3, 79 (2005), pp. 1-7.
- Jacob, Pierre. 2011. The direct perception model of empathy: A critique. *Review of Philosophy and Psychology* 2 (3): 519-540.
- Jacob, Pierre, 'What do mirror neurons contribute to human social cognition?', *Mind & Language*, 23, 2 (2008), pp. 190-223.
- Jonides, John, Naveh-Benjamin, Moshe, and Palmer, John, 'Assessing automaticity', *Acta Psychologica*, 60, 2-3 (1985), pp. 157-171.
- Kaltwasser, Laura, 'Sharing the filmic experience – they physiology of socio-emotional processes in the cinema', Conference presentation: *Being Moved. Art, Film, Narrative, and the Body-Brain* (June 4-6 2018) Berlin.
- Kant, Immanuel, *Critique of Judgment*, trans. Werner S. Pluhar (Indianapolis: Hackett, 1987).
- Keysers, Christian and Gazzola, Valeria, 'Unifying social cognition', in *Mirror Neuron Systems: The Role of Mirroring Processes in Social Cognition*, (ed.) Jaime A. Pineda (Totowa, NJ: Humana Press, 2008), pp. 1-35.

- Kirsh, David, 'How marking in dance constitutes thinking with the body', *Versus Quaderni Di Studi Semiotici*, 112 (2011), pp. 183-214 and 113 (2011), pp. 170-210.
- Christian Kronsted, Christian and Gallagher, Shaun, 'Dances and affordances: The relation between dance training and conceptual problem solving', *Journal of Aesthetic Education* (in press).
- Krueger, John, 'Affordances and the musically extended mind', *Frontiers in Psychology*, 4, 1003 (2014).
- Lafay, Anne, Osana, Helena, and Valat, Marion, 'Effects of interventions with manipulatives on immediate learning, maintenance, and transfer in children with mathematics learning disabilities: A systematic review', *Education Research International*, (2019), doi:10.1155/2019/2142948.
- Landy, David and Goldstone, Robert L., 'How much of symbolic manipulation is just symbol pushing', *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society, Amsterdam, Netherlands, July 29-August 1* (2009), pp. 1072-1077.
- Legerstee, Maria, *Infants' Sense of People; Precursors to a Theory of Mind* (Cambridge: Cambridge University Press, 2005).
- Legrand, Dorothee, 'Pre-reflective self-consciousness: on being bodily in the world', *Janus Head* 9, 2 (2007), pp. 493-519.
- Legrand, Dorothee and Ravn, Susanne, 'Perceiving subjectivity in bodily movement: The case of dancers', *Phenomenology and the Cognitive Sciences*, 8, 3 (2009), 389-408.
- Levitin, Daniel J., *This is Your Brain on Music: The Science of Human Obsession* (London: Penguin, 2006).
- Lindahl, Jared R. and Britton, Willoughby B., 'I have this feeling of not really being here: Buddhist meditation and changes in sense of self', *Journal of Consciousness Studies*, 26, 7-8 (2019), pp. 157-183.
- Lindgren, Robb and Bolling, Amy, 'Assessing the learning effects of interactive body metaphors in a mixed reality science simulation', paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. (2013).
- Lindgren, Robb and Moshell, J. Michael, 'Supporting children's learning with body-based metaphors in a mixed reality environment', *Proceedings of the Interaction Design and Children Conference* (New York: AMC Press, 2011), pp. 177-180.
- Lindgren, Robb et al. 'Enhancing learning and engagement through embodied interaction within a mixed reality simulation', *Computer & Education* 95 (2016), pp. 174-187.
- Lipps, Theodor, *Leitfaden der Psychologie* (Leipzig: Engelmann, 1909).

- Lipps, Theodor, 'Das Wissen von fremden Ichen', in *Psychologische Untersuchungen I*, ed. Theodor Lipps (Leipzig: Engelmann, 1907).
- Lipps, Theodor, *Ästhetik* (Leipzig: Verlag von L. Voss, 1906).
- Lipps, Theodor, *Die ethischen Grundfragen* (Hamburg: Leopold Voss Verlag, 1905).
- Logan, Gordon D., 'Skill and automaticity: relations, implications, and future directions', *Canadian Journal of Psychology/Revue Canadienne de Psychologie*, 39 (1985), pp. 367-386.
- Lutterbie, John, *Toward a General Theory of Acting: Cognitive Science and Performance* (Berlin: Springer, 2011).
- Lutz, Antoine et al., 'Attention regulation and monitoring in meditation', *Trends in Cognitive Science*, 12, 4 (2008), pp. 163-169, doi:10.1016/j.tics.2008.01.005.
- Maiese, Michelle, 'Getting stuck: temporal desituatedness in depression', *Phenomenology and the Cognitive Sciences*, 17, 4 (2018), pp. 701-718.
- Mackenzie, Catriona, 'Bare personhood? Velleman on selfhood', *Philosophical Explorations*, 10, 3 (2007), pp. 263-281.
- Malafouris, Lambros, *How Things Shape the Mind* (Cambridge, MA: MIT Press, 2013).
- Maranesi, Monica, Bonini, Luca, and Fogassi, Leonardo, 'Cortical processing of object affordances for self and others' action', *Frontiers in Psychology*, 5, 538 (2014), doi:10.3389/fpsyg.2014.00538.
- Maravita, Angelo and Iriki, Atsushi, 'Tools for Body (schema)', *Trends in Cognitive Science*, 8, 2(2004), pp. 79-86.
- Martin, Browen and Ringham, Felizitas, *Dictionary of semiotics* (London: Bloomsbury Publishing, 2000).
- Mazer, Cary M. *Double Shakespeares: Emotional-Realist Acting and Contemporary Performance* (New York: Rowman & Littlefield, 2015).
- McCarroll, Sarah E. 'The historical body map: Cultural pressures on embodied cognition', in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury. 2016), ch. 8.
- McDowell, John 'What Myth?', *Inquiry* 50, 4 (2007), pp. 338-351.
- McGuirk, James N., 'Metaphysical and phenomenological perspectives on habituality and the naturalization of the mind', *Analytic and Continental Philosophy: Methods and Perspectives. Proceedings of the 37th International Wittgenstein Symposium*, 23 (2016), pp. 203-214.
- McNeill, David, *Gesture and thought* (Chicago: University of Chicago Press, 2005).
- Menary, Richard, 'Embodied narratives', *Journal of Consciousness Studies*, 15, 6 (2008), pp. 63-84.

- Merleau-Ponty, Maurice, *Phenomenology of Perception*, trans. Donald Landes (London: Routledge, 2012).
- Merleau-Ponty, Maurice, *The Primacy of Perception* (Evanston: Northwestern University Press, 1964).
- Maurice Merleau-Ponty, Maurice, *The Structure of Behavior*, trans. Alden. L. Fisher (Boston, MA: Beacon Press, 1964).
- Merleau-Ponty, M. 1964c. *Sense and Non-Sense*. Evanston: Northwestern University Press.
- Merleau-Ponty, Maurice, *Sense and Non-Sense* (Evanston: Northwestern University Press, 1964).
- Merritt, Michelle, 'Thinking-is-moving: dance, agency, and a radically enactive mind', *Phenomenology and the Cognitive Sciences*, 14, 1 (2015), pp. 95-110.
- Metcalf, John T., 'Empathy and the actor's emotion', *The Journal of Social Psychology* 2, 2 (1931), pp. 235-238.
- Midgelow, Vida, 'Improvisation as paradigm for phenomenologies', in *Back to Dance Itself: Phenomenologies of the Body in Performance*, ed. Sondra Fraleigh (Urbana: University of Illinois Press, 2018), ch. 4.
- Minton, Sandra, 'Assessment of high school student's creative thinking skills: A comparison of dance and nondance classes', *Research in Dance Education*, 4, 1 (2003), pp. 31-49, doi:10.1080/14647890308307.
- Montero, Barbara G., *Thought in action: Expertise and the conscious mind* (Oxford: Oxford University Press, 2016).
- Montero, Barbara G., 'Thinking in the zone: The expert mind in action', *The Southern Journal of Philosophy*, 53, S1 (2015), pp. 126-140.
- Montero, Barbara, 'Does bodily awareness interfere with highly skilled movement?', *Inquiry*, 53, 2 (2010), pp. 105-122.
- Montgomery, Jim and Chambers, Mo, *Mastering Swimming* (Champaign: Human Kinetics, 2009).
- Moore, Adam and Malinowski, Peter, 'Meditation, mindfulness and cognitive flexibility', *Consciousness and Cognition*, 18, 1 (2009), pp. 176-186.
- Moyer-Packenham, Patricia and Westenskow, Arla, 'Revisiting the effects and affordances of virtual manipulatives for mathematics learning', in *Utilizing Virtual and Personal Learning Environments for Optimal Learning*, eds. Krista P. S. Terry and Amy Cheney (Hershey, PA: IGI Global, 2016), pp. 186-215.
- Mukamel, Roy et al., 'Single neuron responses in humans during execution and observation of actions', *Current Biology* 20, 8 (2010), pp. 750-756.
- Nelson, Katherine, 'Self and social functions: Individual autobiographical memory and collective narrative', *Memory*, 11, 2 (2003), pp. 125-136.

- Nelson, Katherine, 'Narrative and the emergence of a consciousness of self', in *Narrative and Consciousness*, eds. Gary D. Fireman, Robert J. Gingold, and Ted E. McVay (Oxford: Oxford University Press, 2003), pp. 17-36.
- Newman-Norlund, Roger et al., 'Exploring the brain basis of joint action: Co-ordination of actions, goals and intentions', *Social Neuroscience* 2, 1 (2007), pp. 48-65.
- Noë, Alva, *Varieties of Presence* (Cambridge, MA: Harvard University Press, 2012).
- Noë, Alva, *Action in Perception* (Cambridge: MIT Press, 2004).
- Norgaard, Martin, 'The interplay between conscious and subconscious processes during expert musical improvisation', in *Music and Consciousness 2: Worlds, Practices, Modalities*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 187-199.
- Overy, Katei and Molnar-Szakacs, Istvan, 'Being together in time: Musical experience and the mirror neuron system', *Music Perception: An Interdisciplinary Journal*, 26, 5 (2009), pp. 489-504, doi:10.1525/mp.2009.26.5.489.
- Palisca, Claude V., *Huchald, Guido, and John on Music*, trans. W. Babb (New Haven, CT: Yale University Press, 1978).
- Paolucci, Claudio, *Cognitive Semiotics* (Berlin: Springer, in press).
- Paolucci, Claudio, 'Social cognition, mindreading and narratives. A cognitive semiotics perspective on narrative practices from early mindreading to Autism Spectrum Disorder', *Phenomenology and the Cognitive Sciences*, 18, 2 (2019), pp. 375-400.
- Papineau, David, 'In the zone', *Royal Institute of Philosophy Supplements*, 73 (2013), pp. 175-196.
- Proverbio, Alice Mado, Riva, Federica, and Zani, Alberto, 'Observation of Static Pictures of Dynamic Actions Enhances the Activity of Movement-Related Brain Areas', *PLoS ONE* 4, 5, e5389 (2009), pp. 1-8.
- Quinlan, Meghan, 'Gaga as Metatechnique: Negotiating Choreography, Improvisation, and Technique in a Neoliberal Dance Market', *Dance Research Journal*, 49, 2 (2017), pp. 26-43.
- Ranganathan, Rajiv and Carlton, Les G., 'Perception-Action Coupling and Anticipatory Performance in Baseball Batting', *Journal of Motor Behavior*, 39, 5 (2007), pp. 369-380.
- Ransom, Tailer, 'Artifacts, others, and temporality: An enactive and phenomenological approach to material agency', *PhD Dissertation, University of Memphis* (2019).

- Raos, Vassilis et al., 'Functional properties of grasping-related neurons in the ventral premotor area F5 of the macaque monkey', *Journal of Neurophysiology*, 95, 2 (2005), pp. 709-729.
- Ratcliffe, Matthew, 'The feeling of being', *Journal of Consciousness Studies*, 12, 8-9 (2005), pp. 43-60.
- Raz, Gal et al., 'Portraying emotions at their unfolding: A multilayered approach for probing dynamics of neural networks', *NeuroImage*, 60 (2012), pp. 1448-1461.
- Reddy, Vasudevi, *How Infants Know Minds* (Cambridge, MA: Harvard University Press, 2008).
- Reddy, Vasudevi, 'Moving others matters', in *Moving Ourselves, Moving Others: Motion and Emotion In Intersubjectivity Consciousness and Language*, eds. Ad Foolen et al. (Amsterdam: John Benjamins, 2012), pp. 139-163.
- Repp, Bruno H. and Su, Yi-Huang, 'Sensorimotor synchronization: A review of recent research (2006-2012)', *Psychonomic Bulletin & Review*, 20, 3 (2013), pp. 403-452.
- Ricoeur, Paul, *Oneself as Another*, trans. Kathleen Blamey (Chicago: University of Chicago Press, 1992).
- Rietveld, Erik and Kiverstein, Julian, 'A rich landscape of affordances', *Ecological Psychology* 26, 4 (2014), pp. 325-352.
- Rosenberg, Martin, 'Jazz as narrative', in *Narrative Complexity: Cognition, Embodiment, Evolution*, eds. Marina Grishakova and Maria Poulaki (Lincoln NE: Nebraska University Press, 2019), pp. 338-357.
- Rucinska, Zuzanna, 'Basic pretending as sensorimotor engagement?', in *Contemporary Sensorimotor Theory*, eds. John M. Bishop and Andrew O. Martin (Heidelberg: Springer, 2014), pp. 175-187.
- Ryan, Kevin. and Gallagher, Shaun, 'Between ecological psychology and enactivism: Is there resonance?', *Frontiers in Psychology*, 11, 1147 (2020), doi:10.3389/fpsyg.2020.01147.
- Ryle, Gilbert, *The Concept of Mind* (London: Routledge, 2009).
- Sadikot, Shirin, 'Mindlessness is crucial in batting: Sangakkara', *Board of Control for Cricket in India*, 9 November 2014, <http://www.bcci.tv/news/>.
- Salice, Alessandro, Høffding, Simon, and Gallagher, Shaun, 'Putting plural self-awareness into practice: The phenomenology of expert musicianship', *Topoi* 38, 1 (2017), pp. 197-209.
- Schechtman, Marya, 'The narrative self', in *The Oxford Handbook of the Self*, ed. Shaun Gallagher (Oxford: Oxford University Press, 2011), pp. 394-416.

- Schiavio, Andrea et al., 'By myself but not alone: Agency, creativity and extended musical historicity', *Music Perception* (under review).
- Schleiermacher, Friedrich, *Hermeneutics: The Handwritten Manuscripts*, trans. James Duke and Jack Forstmann (Missoula, MT: Scholars Press, 1977). [Original: Compendium, 1819].
- Schutz, Alfred, *Collected Papers Vol. II* (Dordrecht, Springer, 1976).
- Selinger, Evan and Crease, Robert P., 'Dreyfus on expertise: The limits of phenomenological analysis', *Continental Philosophy Review*, 35, 3 (2002): p. 245-279.
- Shapiro, Shauna L. et al., 'Mechanisms of mindfulness', *Journal of Clinical Psychology*, 62, 3 (2006), pp. 373-386.
- Sheets-Johnstone, Maxine 'From movement to dance', *Phenomenology and the Cognitive Sciences*, 11, 1 (2012): pp. 39-57.
- Sheets-Johnstone, Maxine, 'Kinetic tactile-kinesthetic bodies: Ontogenetical foundations of apprenticeship learning', *Human Studies*, 23 (2000), pp. 343-370.
- Shelley, James, 'The Concept of the aesthetic', *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Winter 2017 Edition), URL = <<https://plato.stanford.edu/archives/win2017/entries/aesthetic-concept>>.
- Shepherd, John, 'How music works: Beyond the immanent and the arbitrary', *Action, Criticism, and Theory (act) for Musical Education* 1-2, 14 (2002), <http://mas.siue.edu/ACT/index.html>.
- Shusterman, Richard, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics* (Cambridge: Cambridge University Press, 2008).
- Singer, Tania et al. 'Empathic neural responses are modulated by the perceived fairness of others', *Nature*, 439 (2006), pp. 466-469.
- Slaby, Jan and Gallagher, Shaun, 'Critical neuroscience and socially extended minds', *Theory, Culture & Society*, 32, 1 (2014), pp. 33-59, doi:10.1177/0263276414551996.
- Smith, Murray, *Engaging Characters: Fiction, Emotion, and the Cinema* (Oxford: Clarendon Press, 1995).
- Smith, Murray, 'On the twofoldness of character', *New Literary History* 42, 2 (2011), pp. 277-294.
- Smith, Murray, *Film, Art, and the Third Culture: A Naturalized Aesthetics of Film* (Oxford: Oxford University Press, 2017).
- Soliman, Tamer M. and Glenberg, Arthur M., 'The embodiment of culture', in *The Routledge Handbook of Embodied Cognition*, ed. Lawrence Shapiro (London: Routledge, 2014), pp. 207-220.
- Stanley, Jason, *Know-How* (Oxford: Oxford University Press, 2011).

- Stanley, Jason and Krakauer, John W. 'Motor skill depends on knowledge of facts', *Frontiers in Human Neuroscience*, 7, 503 (2013), doi:10.3389/fnhum.2013.00503.
- Stanley, Jason and Williamson, Timothy, 'Knowing how', *Journal of Philosophy* 98, 8 (2001), pp. 411-444.
- Stanley, Jason and Williamson, Timothy, 'Skill', *Noûs* 51, 4 (2017), pp. 713-726.
- Stanislavski, Constantin, *Stanislavski's Legacy*, trans, and ed. Elizabeth Reynolds Hapgood (London: Routledge, 1999).
- Stanislavski, Constantin, *Building a Character*, trans. Elizabeth Reynolds Hapgood (London: Reinhart and Evans, 1949).
- Stanislavski, Constantin, *An Actor Prepares*, trans. Elizabeth Reynolds Hapgood (New York: Theatre Arts Inc., 1936).
- Stein, Edith, *On the Problem of Empathy*, trans. W. Stein (Dordrecht: Springer, 2012).
- Stern, Paul, *Einfühlung und Assoziation in der neueren Ästhetik* (Hamburg: L. Voss, 1897).
- Strawson, Galen, 'Against narrativity', *Ratio*, 17, 4 (2004), pp. 428-542.
- Streeck, Jürgen, *Gesturecraft: The Manufacture of Meaning* (Amsterdam/Philadelphia: John Benjamins, 2009).
- Stueber, Karsten, R., 'Reasons, generalizations, empathy, and narratives: The epistemic structure of action explanation', *History and Theory*, 47 (2008), pp. 31-43.
- Stueber, Karsten R., *Rediscovering Empathy: Agency, Folk Psychology, and the Human Sciences* (Cambridge, MA: MIT Press, 2006).
- Sutton, John et al. 'Applying intelligence to the reflexes: embodied skills and habits between Dreyfus and Descartes', *J British Society Phenomenology*, 42, 1 (2011), pp. 78-103.
- Tembriotti, Lara and Tsangaridou, Niki, 'Reflective practice in dance: A review of the literature', in *Research in Dance Education*, 15, 1 (2014), pp. 4-22, doi:10.1080/14647893.2013.809521.
- Tettamanti, Marco et al., 'Listening to action-related sentences activates fronto-parietal motor circuits', *Journal of Cognitive Neuroscience*, 17 (2005), pp. 273-281.
- Thompson, Evan, *Mind in Life: Biology, phenomenology, and the sciences of mind* (Cambridge: Harvard University Press, 2007).
- Thompson, Evan, 'Empathy and consciousness', *Journal of Consciousness Studies*, 8, 5-6 (2001), pp. 1-32.
- Titchener, Edward Bradford, *Lectures on the Experimental Psychology of Thought-Processes* (New York: MacMillan, 1909).

- Todes, Samuel, *Body and World*, (Cambridge, MA: MIT Press, 2001).
- Tollefsen, Deborah P., Dale, Rick, and Paxton, Alexandra, 'Alignment, transactive memory, and collective cognitive systems', *Review of Philosophy and Psychology*, 4, 1 (2013), p. 49-64.
- Trevarthen, Colwyn, 'Born for art, and the joyful companionship of fiction', in *Evolution, Early Experience and Human Development: From Research to Practice and Policy*, eds. Darcia Narváez et al. (New York: New York University Press, 2013), pp. 202-218.
- Trevarthen, Colwyn, Delafield-Butt, Jonathan, 'Biology of shared meaning and language development: regulating the life of narratives, in *The Infant Mind: Origins of the Social Brain*, eds. Maria Legerstee, David W. Haley, and Marc H. Bornstein (New York: Guildford Press, 2013), pp. 167-199.
- Tribble, Evelyn, 'Distributed cognition on mindful bodies and the arts of acting', in *Languages, Bodies, and Ecologies: Theatre, Performance, and Cognition*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), pp. 133-140.
- Tribble, Evelyn, *Cognition in the Globe: Attention and Memory in Shakespeare's Theatre* (New York: Palgrave MacMillan, 2011).
- Tribble, Evelyn, 'Distributing cognition in the globe', *Shakespeare Quarterly*, 56, 2 (2005), pp. 135-155.
- Tribble, Evelyn, and Sutton, John, 'Cognitive ecology as a framework for Shakespeare studies', *Shakespeare studies*, 39 (2011), pp. 94-103.
- Umiltà, M. Alessandra et al., 'Abstract art and cortical motor activation: an EEG study', *Frontiers in Human Neuroscience*, 6 (2012), doi:10.3389/fnhum.2012.00311.
- Van der Schyff, Dylan and Krueger, Joel, 'Musical empathy, from simulation to 4E interaction', in *Music, Sound, & Mind*, ed. A. Ferreira (Rio de Janeiro: Editora da ABCM Brazilian Association of Music Cognition, 2020).
- Vara Sánchez, Carlos, 'Raw aesthetics', in *private circulation*, 2020.
- Varela, Francisco J., 'Not one, not two', *CoEvolution Quarterly*, 12 (1976), pp. 62-67, <https://cepa.info/2055>.
- Varela, Francisco J., Thompson, Evan, and Rosch, Eleanor, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1991).
- Velleman, J. David, *Self to Self: Selected Essays* (New York: Cambridge University Press, 2006).

- Verducci, Susan, 'A moral method? Thoughts on cultivating empathy through method acting', *Journals of Moral Education*, 29, 1 (2000), pp. 87-99.
- Vessel, Edward, Starr, Gabrielle, and Rubin, Nava, 'Art reaches within: aesthetic experience, the self and the default mode network', *Frontiers in Neuroscience*, 7, 258 (2013), doi:10.3389/fnins.2013.00258.
- Volkelt, Johannes, *System der Ästhetik* (München: Beck, 1905)
- Wallis, Charles, 'Consciousness, context, and know-how', *Synthese*, 160, 1 (2008), pp. 123-153
- Warburton, Edward C., 'Becoming elsewhere: ArtsCross and the (re) location of performer cognition', in *Theater, Performance and Cognition: Languages, Bodies and Ecologies*, eds. Rhonda Blair and Amy Cook (London: Bloomsbury, 2016), pp. 93-106.
- Warburton, Edward C., 'Of meanings and movements: Re-languaging embodiment in dance phenomenology and cognition', *Dance Research Journal*, 43, 2 (2011), pp. 65-83. doi:10.1017/S0149767711000064.
- Warburton, Edward C. et al., 'The cognitive benefits of movement reduction: Evidence from dance marking', *Psychological Science* 24, 9 (2013), pp. 1732-1739.
- Weiss, Gail, 'The normal, the natural, and the normative: A Merleau-Pontian legacy to feminist theory, critical race theory, and disability studies', *Continental Philosophy Review*, 48, 1 (2015), pp. 77-93.
- Weiss, Gail, Salamon, Gayle, and Murphy, Ann V., *50 Concepts for a Critical Phenomenology* (Evanston: Northwestern University Press).
- Wollheim, Richard, *Art and its Objects 2nd ed.* (Cambridge: Cambridge University Press, 2015).
- Wollheim, Richard, *Painting as an Art* (London: Thames and Hudson, 1987).
- Young, Iris, 'Throwing like a girl', in *Body and Flesh: A Philosophical Reader* ed. Donn Welton (Oxford: Blackwell Publishers, 1998), pp. 259-273.
- Zahavi, Dan, 'Empathy and mirroring: Husserl and Gallese', in *Life, Subjectivity & Art*, eds. Roland Breeur and Ullrich Melle (Dordrecht: Springer, 2012), pp. 217-254.
- Zahavi, Dan, *Self and Other: Exploring Subjectivity, Empathy, and Shame* (Oxford: Oxford University Press, 2014).
- Zahavi, D. and Overgaard, S. 2011. Empathy without isomorphism: A phenomenological account. In J. Decety (ed.), *Empathy: From Bench to Bedside* (3-20). Cambridge MA: MIT Press.

- Zahavi, Dan and Overgaard, Søren, 'Empathy without Isomorphism: A Phenomenological Account', in *Empathy: From Bench to Bedside*, ed. Jean Decety (Cambridge, MA: MIT Press, 2011), pp. 3-20.
- Zbikowski, Lawrence M., 'Cognitive extension and musical consciousness', in *Music and Consciousness 2*, eds. Ruth Herbert, David Clarke, and Eric Clarke (Oxford: Oxford University Press, 2019), pp. 34-53.
- Zeidan, Fadel et al., 'Mindfulness meditation improves cognition: Evidence of brief mental training', *Consciousness and cognition*, 19, 2 (2010), pp. 597-60.

MIMESIS GROUP
www.mimesis-group.com

MIMESIS INTERNATIONAL
www.mimesisinternational.com
info@mimesisinternational.com

MIMESIS EDIZIONI
www.mimesisedizioni.it
mimesis@mimesisedizioni.it

ÉDITIONS MIMÉSIS
www.editionsmimesis.fr
info@editionsmimesis.fr

MIMESIS COMMUNICATION
www.mim-c.net

MIMESIS EU
www.mim-eu.com

Printed by
Digital Team – Fano (PU)
July 2021