Review Essay

The 4 Es of the Musical Mind


Bjørn Schiermer
University of Oslo

The so-called 4E approach in the cognitive sciences – insisting upon the embodied, embedded, extended and enacted nature of mind – has gained increasing popularity in the English-speaking world in recent years. It is now well established as an alternative perspective in the cognitive sciences with textbook ‘readers’ and special journal issues – see for instance the new Oxford Handbook of 4E Cognition (edited by Newen, de Bruin and Gallagher) or the special issue of Phenomenology and the Cognitive Sciences 9(4), for two examples. While the 4E view originates from eclectic circles inside the fields of cognitive psychology and philosophy of mind, we now witness an increase in ‘applied’ work, where 4E perspectives are put to use in different empirical contexts.

Musical Bodies, Musical Minds is such a book. It tests the 4E perspective broadly on a number of music research fields including music history; the phenomenology of music; philosophies and theories of music and affect; collective, empathetic and instrumental aspects to music production; the evolution of musical behaviour; and musical pedagogy and didactics. The book is well edited and progresses well.
Although the second half of the book is based on prior collaborative articles by the three authors, the first, theoretically essential part, seems to be written for the occasion.

Van der Schyff, Schiavio, and Elliott deliver an extensive introduction to each of the four ‘E’s that make up the 4E perspective. The unprepared reader may feel overwhelmed by the sheer scope of theoretical motives assembled here: recent developments in the philosophy of mind and embedded cognitive science coupled with the embodied phenomenology of Merleau-Ponty; dynamic systems theory coming from biology; non-reductionist neuroscience; extended cognition – third ‘wave’(!) – along with material culture studies, ecological biology, affect theory, social cognition, care ethics and much more. Notably, however, two theoretical inspirations are central to the authors. The first is the inspiration coming from French phenomenology of the body. The authors here combine synaesthetic themes in Merleau-Ponty with more recent work by philosopher Mark Johnson. This work is centered on Johnson’s exploration of ‘metaphorical’ or ‘cross-modal’ meaning-making processes rooted in our bodily relation to the world (p. 85-88 et passim):

> Johnson argues that human sense-making is rooted in a basic proclivity to enact embodied and cross-modal relationships within the environments we inhabit. Likewise, Johnson claims that these corporally based forms of meaning-making continue to shape the contours of experience and guide how we meaningfully orient ourselves in the world even as we grow up and engage in more propositional forms of thinking. (p. 87)

As I shall demonstrate in more detail below, this perspective with its focus on how fundamental sensory and sensorimotor experiences play a constitutive role for our active engagement with music adds new dimensions to many of the analyses of the book as well as to the authors’ criticism of traditional cognitive approaches. The second prominent theoretical motive of the book comes from the constructivist biology of Francisco Varela and Humberto Maturana. It centres on how so-called ‘autopoietic’ biological systems actively construct and enact their co-constitutive ‘environments’ (see notably p. 28-37). The authors justify their interest in the systems theoretical perspective in the following way:

> [It explains why and] how the brain-body system is dynamically integrated with the environment, how meaningful organism-environment relationships emerge through active sensorimotor processes, and how the interaction with other agents and objects in the sociomaterial ecology shape mental life more generally. (p. 35)
While the systems theoretical perspective delivers the evolutionary bedrock for the embodied phenomenological perspective, it also delivers additional ammunition to the authors' criticism of the disembodied mind. The two theoretical sources are codeveloped in the first part of the book and are then brought into dialogue with more concrete empirical work on music in the last part.

In this review I shall focus on the authors’ use of phenomenological motives. I must admit that I find this work intriguing. In compliance with the four ‘Es’, the three authors wish to highlight a strong relationalism across a number of dimensions: they wish to pay due notice to how the human body, through its skills and tools, integrates into its surroundings; they investigate the ‘enactment’, the active construction and animation of ‘affordances’ (James Gibson) that guide and lead the skilled body (p. 26-27); and they highlight the material scaffolding of practice and the enhancement of cognition through the use of artefacts and instruments. All these impulses are meant to decentre the subject into its different cultural, social, and material environments through an emphasis on relational dynamics and co-constitutive processes.

This then sets the scene for a comprehensive critique of ‘intellectualist’ and idealist viewpoints on music and mind. Van der Schyff, Schiavio, and Elliot convincingly demonstrate how these traditional views imprison music and musical experience in a decontextualised and disembodied concept of mind. The detached and subject-centered (or mind-centered) perspective on cognition thus goes hand-in-hand with conventional (modern) aesthetical ideas of (logical) ‘form’ over (material and sensuous) ‘content,’ with contemplation over sensuous enjoyment, with rationality over affectivity – and, ultimately, with a fear of the body, an implicit hostility towards material and technological dimensions, and a neglect of the collective aspects to music-making. For this reviewer, who has only rudimentary knowledge of these cognitive discussions in relation to music, the authors’ criticism of these traditional views was enlightening. In fact, as we know, already Immanuel Kant, in many ways the founder of modern aesthetics, had troubles with the affective aspects of music appreciation – in fact he had problems with the sensuous nature of music as such – and the authors do right in critically connecting more recent mentalistic perspectives focusing exclusively on a disembodied, computerized and representationalistic ‘mind’ with this historical heritage (e.g., p. 99, pp. 190-194). We are thus dealing with recurrent ideas in European thinking which have decisively hampered our very understanding of what music is. Musical Bodies, Musical Minds drives the critical point home: music is not ‘an objective ‘thing’ to be consumed.’ Nor is music experienced with or inside the ‘mind.’ It is always enacted in embodied, collective, affective and relational activities, with instruments and with other human beings. This is where music is really ‘placed’ and comes into being.

On the other hand, of course, such critical philosophical and historical incursions do not on their own make a book on music. In my view, the authors are at their best when they couple their phenomenological adaptions of the 4E perspective
with a concrete analysis of musical contexts. Notably, I am enthusiastic about the recurrent theme of a ‘cross modal’ embodied ‘openness to the world’ (p. 83), which, it seems to me, stands at the very heart of the book (see esp. pp. 59–89 et passim). As Van der Schyff, Schiavio, and Elliott point out – and as any practicing musician beyond beginner level knows very well – when unproblematically understanding or taking over skills from another player (who plays the same instrument), you do normally not ‘interpret’ or consciously ‘process’ or ‘compute’ anything. Again, there is only little ‘mind’ here; rather, you simply hear – or even see – what this other person plays and then play it yourself. If you have some experience, you will often even be able to emulate the way the other musician plays the phrase or pattern, including specific intonations, idiosyncrasies and possible technical strengths. Relative to your instrument, you will even – to a certain extent at least – hear exactly how this person pushes the keys of the saxophone or piano, you will, instantly, hear if she has a good bounce with the stick or a good embouchure if she is playing a wind instrument; you will often even be able to hear how the instrument is held or used, and for sure whether it is a quality instrument and how it sounds in comparison with other versions of the same instrument. And all this, to be sure, takes place without thinking much about it. This is embodied knowledge. However, even when making use of notation and conscious representation, say when learning complex new patterns on your instrument, it is only when it feels and sounds right that you feel you really master what you have learned. The authors convincingly show, on phenomenological grounds, that we learn with our living and ‘minded’ bodies.

But Van der Schyff, Schiavio, and Elliott dig deeper. As intimated, this fundamental bodily and intuitive space, where music is first understood and felt, is also a ‘metaphorically’ or ‘cross-modally’ configured space. This is so because there is an intimate relation between perception and action; that is, between, on the one hand, observing, perceiving, sensing, seeing and hearing and, on the other hand, movement and sensory-motor experience. This means that the different senses rub off on each other, and that objective experience is informed by our sense of bodily motion, contact and movement – even on distance: we see or hear this or that physical object as heavy or light, we see or hear it as smooth or rough on the surface, and it is this basic ‘cross-modal’ structuring of our being in the world which then means that a certain musical style can be marked as ‘metal’ or ‘rock’, just as a musical production can be ‘polished’ or ‘rough’, or a sound can be ‘soft’, ‘rounded’ or ‘pointed’.

Our senses correspond with each other in preconscious ways in our meaning-making processes. However, this preconscious level also configures our thinking and reflecting on music, our more conscious constructions of music and musicking. Basically, we think and talk music spatially – as when we talk about playing ‘over the bar’, playing rhythms ‘against each other’; when we want a ‘higher pitch’ or suggest a ‘middle tempo’, a ‘fade out’ at the end or a ‘coming back in’. The same is the case when we admit having a hard time ‘finding the grounding pulse’, when we chose to make a ‘break’ in the 12th bar, when we ‘lean on a rhythm’ or ‘into the next beat’ etc.
Spatial metaphors abound. In other words, there is body and movement in the very constitution of the musical mind. Ultimately, it is the body which makes possible the metaphorical spatialization upon which modern western rhythmic notation and representation is grounded. This explains why we notate music in a meter where the nodes have length and height.

The second part of the book visits a number of different empirical fields. I cannot summarize all this work here but will centre on the three authors’ work on affectivity and empathy. Traditional approaches to affects (in music) have insisted on a fixed set of ‘basic affects’ or focused on music’s determinism of the emotional (‘music in minor causes sadness in the mind’) (p. 91-108). However, both of these perspectives lead to a neglect of the embodied enactment of the music and its affective potentials. The authors convincingly demonstrate, how this, in turn, tends to separate music from its affective pleasures and energies, from the way it is enacted in everyday experience or – as analysed in this special issue of *Journal of Extreme Anthropology* – in political life, or from its deliberate use in enhancing or ‘investigating’ difficult and complex emotions.

The phenomenological and embodied point of departure equally permits the authors to tackle the social – interactive and empathetic – dimension to music in new ways. They highlight bodily entrainment, and they distance themselves from the isolation of bodies from each other implied by traditional theories of empathy, which conceptualize it as a form of consciously ‘feeling’ or ‘interpreting’ one’s way ‘into’ the ‘inner’ of another person. To the contrary, according to the three authors, empathy is first and foremost a direct connection among bodies:

> The phenomenology of encountering a face of another person who is scowling or smiling, for example, does not involve an inference that the internal state of that person is angry or happy. Rather, as the philosopher Dan Zahavi notes, the emotion is directly perceived as an aspect of the world on the face of the person one is engaging with. (p. 115)

We do not see a person smiling and infer that she is happy. Once more, we directly see a happy person. We are dealing with a form of connection which is so fast that it may even circumvent the mind entirely as when we voluntarily smile simply because another body smiles at us. We are dealing with forms of affective perception, transmission and imitation, which give bodies back their own ‘social life,’ i.e., connect them more tightly to each other than to the intentional action and conscious thought of the ego (which thinks it is in control). In this sense, bodies have their own collective and affective life before we get to know them.

When *Musical Bodies, Musical Minds* succeeds, these phenomenological incursions connect the philosophical and the visceral, the abstract and the concrete. The reader will experience an illumination of his or her experiences with music, while at the same time becoming acquainted with developments in 4E cognition studies.
and in the philosophy and theory of music. Combining empirical sensitivity and an interest in the minuscule with an impressive philosophical and theoretical overview, the authors show that they are indeed capable of working in both dimensions at the same time.

Alas, in the opinion of this reviewer, Van der Schyff, Schiavo, and Elliott do not always manage to establish this connection. Too much of the discussion in *Musical Bodies, Musical Minds* runs without being sufficiently connected to music and musical experience. The reader is introduced to a multitude of theoretical and empirical perspectives, yet often the authors do not stay long enough to elicit prolonged interest and investment. This should not be misunderstood. This compositional choice is not *per se* wrong, of course, and I fully acknowledge there is a subjective component to my critique. Still, there is a real risk that the strong theoretical ambitions simply require too much of a less theoretically minded audience. And this is a shame!

To this I shall add two minor regrets. As is clear, the authors of *Musical Bodies, Musical Minds* are erudite interpreters of the linage of the phenomenology of the body. They are familiar (see for instance pp. 183–188) with the phenomenological work of Hubert Dreyfus. Though the authors would probably dismiss Dreyfus’ strangely un-Deweyan pedagogics – his idea that we learn by following abstract rules – they undoubtedly share his belief in the importance of bodily intuition and intuitive playing.¹ I thus wonder why the authors do not really exploit this side to Dreyfus’ (and Merleau-Ponty’s) work. This is even more surprising in as much as Dreyfus’ work on intuition and the body emphasises another sense of enactment and embeddedness than the one highlighted by the authors – but which is indeed highly relevant to them. Embeddedness in Dreyfus is about *becoming involved and affected oneself* as a part of constructing and enacting affordances. In this perspective, skills, tools and competencies are used to enact the objective ‘structure’ of the practice in question, say the novel read, the game or piece of music played. Learning to enact an artwork, a football match or a rhythmic groove is to learn to let the activity in question pick out the skills in one’s body. This way, Dreyfus attempts to deconstruct the very difference between activity and passivity. This involves, however, a decisively *object-orientated* form of subjectivity, a form of subjectivity which is first and foremost guided, situated, moved *by the object* – to satisfy the object, to make the most of it, see the most of it, place oneself right in relation to it, hear it most effectively, receive the most energy or affect from it. Now, in my view, even while explicitly seeking to move towards a more ‘symmetrical’ exchange with the environment and thus into a more reciprocal relation with the given (musical) object, the authors of *Musical Bodies, Musical Minds* still, in my view, tend to think the concept of intentionality too unidirectionally. In my view, they still, too often, and maybe even against their own intentions, place the subject in the centre of agency. This means that they miss out on an important aspect of what enactment and embeddedness is, and how it can be theorised. At

¹ See notably the essays gathered in Dreyfus (2014).
any rate, when it comes to entering into the dynamic between a skilled and experienced subject which itself becomes enacted and animated when constituting and enacting musical objects or structures, there is more to find in Merleau-Ponty and in Dreyfus than Van der Schyff, Schiavio, and Elliott take away. By the same token, peripherally, there is also more to learn from ‘positive’ psychologist Mihaly Csikszentmihalyi’s work with so-called ‘flow’ experiences (see Csikszentmihalyi 1971) for a phenomenological perspective on embeddedness and enactment than the authors seem to extract, just as there is more to learn from a number of ethnomusicological accounts, when it comes to the criticism of the detached and ‘intellectualist’ perspective on music.

A last regret of mine considers the authors’ work on the so-called ‘extended’ dimension. As the authors are very well aware of, these days there is much going on in the fields of ‘extended’ mind, ‘material culture’ and ‘material engagement theory’, which is relevant for the book. And yet, even while duly emphasising how music ‘is seamlessly materialized across a wide range of technologies’ (p. 122), the authors’ interest in the material ‘scaffolding’ of music is restricted to rather programmatic and abstract formulations. At certain instances we hear about how such material scaffolding makes possible ‘offloading’ various tasks – the beat to the drummer, for instance – yet we do not get much deeper. This way the authors end up neglecting how music evolution (Ch. 7) in the Western world has been largely driven by technical innovation and rationalisation (as Max Weber demonstrated in a singular ‘new materialist’ work from his hands, c.f. Weber 1958). However, more importantly, they also miss yet another opportunity to enact and embed phenomenological analyses in as much as the study of the artefacts and instruments of musical practice presents yet another possible road to concrete investigations into skilled and embodied enactments of musical objects, just as they miss an opportunity for investigating the material construction and enactment of the social side of musical practice, the configuration of relations and transmissions among bodies in space with all its affective dynamics and possible forms of interaction and integration.

Not wishing to blame the authors for lacunae – notably for their unwillingness to extend phenomenological analyses – they never promised to fill in the first place, I shall stop this long review here. If the reader is looking for a well-written, comprehensive yet accessible, overview of virtually all the important developments on the intersection between cognitive science, philosophy of mind and cultural theory as well as an attempt to make these developments relevant for important fields in musicology and music studies, then Musical Bodies, Musical Minds is a really good book. When Van der Schyff, Schiavio, and Elliott are at their best, they skilfully and elegantly connect topical philosophical inspirations with concrete musical experience and analysis. The three authors are less successful, maybe even because of their strong synthetic ambitions, in the moment when the book flies too high over the many discussions it surveys.
References

