



INTRODUCTION: THEORY AND PRACTICE OF SOMATIC MUSIC

Björn Heile and Martin Iddon

Abstract: This introductory article defines somatic music/ology as music that emphasises and reflects on its embodied nature and an associated theoretical discourse that addresses this aspect. It further traces the genealogy of this concept to the convergence of different intellectual and artistic currents from the mid twentieth century, including the phenomenology of Edmund Husserl and Maurice Merleau-Ponty, ecological psychology associated with James J. Gibson, performance- and body-oriented musicology represented by Roland Barthes and Carolyn Abbate and later developments such as 4E cognition as well as the experimental music theatre emerging from the 1960s. Finally, it introduces the various contributions to the issue.

It is now more than 50 years since Roland Barthes noted that '[t]here are two musics (at least so I have always thought): the music one listens to, the music one plays'.¹ It's almost 20 years since Carolyn Abbate, drawing on another French thinker, Vladimir Jankélévitch, outlined a similar divide, between 'drastic' and 'gnostic' conceptions of music, between music experienced as embodied and as disembodied, which might almost be to say between music in which performing bodies do or don't matter.² It's more or less the same sort of length of time since (music) psychologists started to suggest that mirror neurons might not only be firing in the process of learning to be a musician, cognitively mirroring the physical actions of performance,³ but, rather more, that that might be what humans more generally do in the act of listening.⁴

¹ Roland Barthes, 'Musica Practica', in *Image Music Text*, tr. Stephen Heath (London: Fontana Press, 1977), pp. 149–55.

² Carolyn Abbate, 'Music – Drastic or Gnostic?', *Critical Inquiry*, 30, no. 3 (2004), pp. 505–36, <https://doi.org/10.1086/421160>.

³ Gottfried Schlaug et al., 'Effects of Music Training on the Child's Brain and Cognitive Development', *Annals of the New York Academy of Sciences*, 1060, no. 1 (1 December 2005), pp. 219–30, <https://doi.org/10.1196/annals.1360.015>; Giovanni Buccino et al., 'Neural Circuits Underlying Imitation Learning of Hand Actions: An Event-Related fMRI Study', *Neuron*, 42, no. 2 (22 April 2004), pp. 323–34, [https://doi.org/10.1016/S0896-6273\(04\)00181-3](https://doi.org/10.1016/S0896-6273(04)00181-3); Tom Gardner, Aidas Aglinskas and Emily S. Cross, 'Using Guitar Learning to Probe the Action Observation Network's Response to Visuomotor Familiarity', *NeuroImage*, 156 (1 August 2017), pp. 174–89, <https://doi.org/10.1016/j.neuroimage.2017.04.060>.

⁴ Istvan Molnar-Szakacs and Katie Overy, 'Music and Mirror Neurons: From Motion to "e"motion', *Social Cognitive and Affective Neuroscience*, 1, no. 3 (December 2006), pp. 235–41, <https://doi.org/10.1093/scan/nsl029>.

To return to Barthes for a moment, his manoeuvre was, he seems to suggest, to recapture a music he thought had almost disappeared, written over by the concert hall's ritual of rapt attention to 'the music itself', a return to 'a muscular music in which the part taken by the sense of hearing is one only of ratification, as though the body were hearing',⁵ an idea which draws him close to Abbate's orbit and, ultimately, brings both within reach of a music-psychological perspective which suggests that, perhaps, whatever the convenience of the fiction of the music itself, to encounter music, to listen to it, is always already to experience it in a way which goes beyond the auditory.⁶ To listen to music is to experience it as embodied.

Despite the ways in which these fields – aesthetics, musicology, music psychology and music as performed and composed – seem to resonate with one another and despite the impact felt by the bodily and performative turns across all of them, there have been relatively few direct encounters between thinkers and practitioners in areas which might still seem distant, methodologically not least, from one another. As a consequence, although practitioners and theorists as well as the followers of different schools and traditions have a lot to learn from one another, they more often talk at cross purposes. Bridging this gap was a key objective of this project, the origin of which lies in a research network funded by the Royal Society of Edinburgh, entitled 'Towards a Somatic Music(ology): Experimental Music Theatre and Theories of Embodied Cognition' and which ran from 2020 to 2022. The idea was to bring together composers, performers and scholars, while also crossing theoretical divides between primarily qualitative and speculative traditions, such as phenomenology, and predominantly empirical and quantitative approaches, as practised in cognitive psychology and neuroscience. Significantly, many members of the network would self-identify as belonging to more than one group, being active as scholars and composers or performers or, indeed, all three, in their professional or personal lives.

Another objective was to critique the implicit universalism of prevailing discourses around the body and embodiment in music. Whose bodies are at stake? Are experiences and uses of bodies in relation to music essentially the same from one body to another, as notions of embodiment tend to assume? As so often, apparently universal paradigms may obscure normative assumptions, whereby the white, male, straight, cis, middle-aged and able-bodied body is prioritised over its various others. Although the project did not directly address all areas of systemic inequality, its members collaborated with the inclusive new-music ensemble Sonic Bothy, whose ethos and modes of practice challenge able-bodied norms. It would be simplistic to suggest that this collaboration either refuted or confirmed existing paradigms of musical embodiment; indeed, this question never arose as such. Yet this does not obviate the need to consider and seek out diverse musical bodies, which simultaneously enriched and complicated the thinking of project researchers, irrespective of whether it directly affected propositional knowledge.

As will become apparent, the project also considered animal, plant, cyborg and extraterrestrial bodies. While some of these explorations may be fanciful or tongue-in-cheek, they highlight the potential of research that combines theory and practice: art is all about the

⁵ Barthes, 'Musica Practica'.

⁶ See also Nicholas Cook, *Analysing Musical Multimedia* (Oxford: Clarendon Press, 1998).

imagination, and in contradistinction to the need for empirical data in scientific research, it allows the sympathetic inhabitation of different actual or imagined bodies. What *different* human musical bodies are or mean is more richly understood by placing them alongside non-human animal, plant and extraterrestrial bodies – not to posit binary oppositions between ‘us’ and other life forms, but, on the contrary, to emphasise the interconnections between what might otherwise be thought to be discrete taxa. Consequently, many of the ideas expressed here are consistent with or generally sympathetic to posthumanism, understood here less as a (variously feared or desired) overcoming of the human condition and its bodily limitations and more as a critique of anthropocentrism and human exceptionalism, in favour of a relational conception.⁷

Another motivating factor for the theory-and-practice collaborations undertaken within the project is provided by their parallel and entangled histories. In many cases, the discoveries made by theorists of embodied cognition were anticipated by the more or less intuitive insights of composers and musicians. In the words of one of the originators of experimental music theatre (EMT), Mauricio Kagel:

Music has also been a scenic event for a long time. In the nineteenth century people still enjoyed music also with their eyes, with all their senses. Only with the increasing dominance of the mechanical reproduction of music, through broadcasting and records, was this reduced to the purely acoustic dimension. What I want is to bring the audience back to an enjoyment of music with all senses... My goal: a re-humanization of music-making!⁸

Compare Kagel’s statement with the following by one of the pioneers of embodied music cognition, Rolf Inge Godøy:

Music appeals to more than just our sense of hearing, and clearly we often associate other sensations with music. These non-sonorous sensations seem to be inseparable from the experience of music; in particular, images of movement appear to be deeply embedded in our perception and cognition of music.⁹

For Godøy, these principles underpin what he called ‘motor-mimetic sound cognition’: ‘Motor-mimesis translates from musical sound to visual images by a simulation of sound-producing actions, both of singular sounds and of more complex musical phrases and textures, forming motor programs that re-code and help store musical sound in our minds.’¹⁰ This ‘(motor-)mimetic hypothesis’ has been embraced widely.¹¹ There is an even earlier version by Arnie Cox, who proposed that ‘i) part of how we understand human movement and human-made sounds is in terms of our own experience of making the same or similar movements and sounds, and ii) this process of comparison involves overt and covert imitation of the source of visual and auditory information’.¹² As outlined above, although the

⁷ See, for example, Gary Tomlinson, ‘Posthumanism’, in *The Oxford Handbook of Western Music and Philosophy*, eds Tomás McAuley, Nanette Nielsen and Jerrold Levinson, with Ariana Phillips-Hutton (New York: Oxford University Press, 2020), pp. 415–34; Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013).

⁸ Mauricio Kagel, ‘Interview with Willi Würthmüller’, *Nürnberger Nachrichten*, 8 June 1970.

⁹ Rolf Inge Godøy, ‘Motor-Mimetic Music Cognition’, *Leonardo*, 36, no. 4 (1 August 2003), p. 317, <https://doi.org/10.1162/002409403322258781>.

¹⁰ Godøy, ‘Motor-Mimetic Music Cognition’, p. 318.

¹¹ See, for example, Marc Leman, *Embodied Music Cognition and Mediation Technology* (Cambridge, MA: MIT Press, 2008).

¹² Arnie Cox, ‘The Mimetic Hypothesis and Embodied Musical Meaning’, *Musicae Scientiae*, 5, no. 2 (1 September 2001), p. 196, <https://doi.org/10.1177/102986490100500204>; see also Arnie Cox, *Music and Embodied Cognition: Listening, Moving, Feeling, and Thinking* (Bloomington: Indiana University Press, 2016), p. 12.

theoretical and methodological frameworks differ, these insights are compatible with those of Barthes and Abbate.

In the work of Kagel and other composers associated with EMT, sound-producing actions and sound produced are fused into holistic musical gestures, and the visual-kinetic elements are just as much subject to compositional manipulation as the resulting sound.¹³ Indeed, the ‘theatre’ in EMT is the result of the musical gestures. Such a notion of musical gesture has a distinguished place in research on music and the body,¹⁴ and it can be fruitfully related to the notion of ‘sound action’ as conceived by Alexander Refsum Jensenius, specifically the idea of ‘action–sound couplings’.¹⁵

Just as the relationships between Barthes and Abbate, on the one hand, and Molnar-Szakacs and Overy, on the other, may be at least as coincidental as they are telling and compelling, the apparently intuitive insights of Kagel and other composers concerned like him for the physical dimension of music-making find productive mirrors in theoretical writing which such composers may never have encountered. Although traditional music theory, with its focus on abstract pitch structure, has generally been uninterested in sound production, music history, organology and ethnomusicology tend to assume more holistic ideas of music and music-making – or ‘musicking’, in Christopher Small’s term.¹⁶ Furthermore, the notion of holistic, cross-modal and embodied perception and cognition was also embraced in other fields, notably phenomenology, as in the work of Edmund Husserl and Maurice Merleau-Ponty.¹⁷

Although it remains speculative whether Kagel or any other composers of EMT had directly encountered Husserl’s or Merleau-Ponty’s work, comparable to more famous cases, such as Marx or Darwin, their ideas exerted a cultural influence far beyond the select group of people who had read the original texts: here, it might be possible to trace the intellectual heritage of the centrality of accounts of individual lived experiences back to phenomenological approaches, without anyone feeling the need to have read Merleau-Ponty to agree that such personal accounts of being in the world are of intrinsic value. Thus, without wishing to fall prey to simplistic models of zeitgeist historiography, it may be more profitable to conceive of composers, scientists and scholars taking part in a wide cultural debate, even if they do not interact directly, rather than assume a mechanistic cause-and-effect model of intellectual influence.

A third theoretical strand, in addition to phenomenology and neuroscience, is ecological psychology, notably the work of

¹³ Björn Heile, ‘Towards a Theory of Experimental Music Theatre: “Showing Doing”, “Non-Matrixed Performance” and “Metaxis”’, in *The Oxford Handbook of Sound and Image in Western Art*, ed. Yael Kaduri (Oxford: Oxford University Press, 2016), pp. 335–55; Björn Heile, ‘New Music Theatre and Theories of Embodied Cognition’, in *New Music Theatre in Europe: Transformations between 1955–1975*, ed. Robert Adlington (London: Routledge, 2019), pp. 273–93.

¹⁴ Alexander Refsum Jensenius et al., ‘Musical Gestures: Concepts and Methods in Research’, in *Musical Gestures: Sound, Movement, and Meaning*, eds Rolf Inge Godøy and Marc Leman (London: Routledge, 2010), pp. 12–35; Anthony Gritten and Elaine King, *Music and Gesture* (Farnham: Ashgate Publishing Ltd, 2006); Anthony Gritten and Elaine King, eds, *New Perspectives on Music and Gesture* (Farnham: Ashgate Publishing Ltd, 2013).

¹⁵ Alexander Refsum Jensenius, *Sound Actions: Conceptualizing Musical Instruments* (Cambridge, MA: MIT Press, 2022), pp. 99–122.

¹⁶ Christopher Small, *Musicking: The Meanings of Performing and Listening* (Middletown: Wesleyan University Press, 1998).

¹⁷ Edmund Husserl, *Ideas: General Introduction to Pure Phenomenology*, tr. W. R. Boyce Gibson (Abingdon and New York: Routledge, 2013); Maurice Merleau-Ponty, *Phenomenology of Perception*, tr. Donald A. Landes (Abingdon and New York: Routledge, 2013).

J. J. Gibson, which evolved from the 1950s to the late 1970s, thus overlapping significantly with phenomenology and EMT.¹⁸ Gibson critiqued the then dominant cognitivism, which understood perception as passive information processing. Instead, he posited that, like other animals, human beings are embedded in their environment and perceive it through their interactions with it – for instance, viewing objects primarily through the ‘affordances’ for actions that they hold. Although Gibson focused on visual perception, it is easy to see how his emphasis on embeddedness in and interaction with an environment as opposed to passive reception and information processing has been influential in music, too.¹⁹

These somewhat disparate theories eventually merged into 4E (embodied, embedded, enacted, extended) cognition, although this is arguably more a loose umbrella for a diverse group of variously interrelated approaches than a coherent and consistent theoretical body.²⁰ So, while it required recent developments in neuroscience to explain some of the neurophysiological mechanisms, such as mirror neurons, behind the motor-mimetic hypothesis as well as an experimental apparatus from motion-capture labs to fMRI scans to provide empirical evidence, many of the fundamental insights have been made before, seemingly independently of one another, in different fields, such as philosophy, psychology and musical composition.

Later generations of musicians and composers were to various extents aware of the discoveries that had been made, both in the scholarly and artistic domains, put them to the test and developed them further. At the same time, the notion of ‘music theatre’ was often critiqued. This is epitomised in Jennifer Walshe’s influential manifesto ‘The New Discipline’:

While Kagel and others are clear ancestors, too much has happened since the 1970s for that term [music theatre] to work here. . . Maybe what is at stake for the New Discipline is the fact that these pieces, these modes of thinking about the world, these compositional techniques – they are not ‘music theatre’, they *are* music. Or from a different perspective, maybe what is at stake is the idea that all music is music theatre. Perhaps we are finally willing to accept that the bodies playing the music are part of the music, that they’re present, they’re valid and they inform our listening whether subconsciously or consciously. That it’s not too late for us to have bodies.²¹

Curiously, Kagel might have agreed: his ‘instrumental theatre’, as he called it, was conceived as a way of foregrounding the inherent theatricality and embodied nature of music, and he remained conflicted about viewing music ‘in the expanded field’²² – that is, as a holistic, multimodal concept that encompasses a kinetic and visual aspect, or as a distinct art form whose medium is sound and that can be *combined* with others, such as theatre or film.

¹⁸ James J. Gibson, *The Ecological Approach to Visual Perception* (New York and Hove: Psychology Press, 2014).

¹⁹ See, for example, Eric F. Clarke, *Ways of Listening: An Ecological Approach to the Perception of Musical Meaning*, electronic resource (Oxford and New York: Oxford University Press, 2005).

²⁰ Albert Newen, Shaun Gallagher and Leon De Bruin, ‘4E Cognition: Historical Roots, Key Concepts, and Central Issues’, in *The Oxford Handbook of 4E Cognition*, eds Albert Newen, Leon De Bruin and Shaun Gallagher (Oxford: Oxford University Press, 2018).

²¹ Jennifer Walshe, ‘The New Discipline’, *MusikTexte*, 2016, https://musiktexte.de/WebRoot/Store22/Shops/dc91cfee-4fdc-41fe-82da-0c2b88528c1e/MediaGallery/The_New_Discipline.pdf (accessed).

²² Rosalind Krauss, ‘Sculpture in the Expanded Field’, *October* 8 (1979), pp. 31–44, <https://doi.org/10.2307/778224>.

The example of Walshe (and many others) is one reason that this project eschews the term ‘music theatre’ or indeed the focus on a specific genre. Instead, we have chosen the idea of ‘somatic music/ology’. This term is hard to define. All music is embodied, but not all music emphasises and reflects on this condition, just as not all musicology addresses this aspect of music (in both cases, entirely legitimately: all music is drastic, but that doesn’t mean that there aren’t many things to be learned from engaging with its gnostic dimensions). The articles assembled here, then, discuss music that reflects on its bodily nature, and/or they discuss music in relation to the body and the embodied mind. As will become apparent, some of the compositions discussed may have an obvious visual, kinetic dimension that harks back to EMT, while in others the embodied aspect may be more latent or abstract – for example, establishing a sense of inhabiting a space more than a feeling of active engagement as bodily motion. Likewise, the body in question may be that of the performer, the composer, the listener or a more abstract ‘musical subject’ – or, indeed, recall the kind of embodied intersubjectivity that Merleau-Ponty called ‘intercorporeality’.²³

As might be expected, the work of the network was seriously affected by the COVID-19 pandemic, and what were planned to be physical meetings ended up being virtual ones. Regular musical events were replaced by one network concert at the Sound Festival Aberdeen, on 20 October 2021, at which the compositions created for and as part of the project were performed by Ensemble Thing (Emily de Simone, cello; Alex South, clarinet; Djordje Gajic, accordion; Thomas Butler, musical director) and by the clarinetist Heather Roche.²⁴ There was also an introduction and a concluding discussion with the audience.

To further the dialogue between practitioners and scholars, all the articles focus on the compositions created during the project and presented at the network concert. This concern for specific compositions within a (broadly) stylistically defined repertoire is already something of a departure from the norm in a field where the tendency is to focus on the reception and cognition of ‘music’ in general, rather than on analytical or critical observations on specific pieces or repertoires. Even if there have been significant examples by Arnie Cox, Jonathan De Souza and Mariusz Kozak, among others, which served as points of departure, this sort of work is still more the exception than the rule²⁵ and this is the first in-depth study dedicated to the entanglement between (or of) somatic music and somatic musicology. All the articles were co-written by groups that generally brought together composers (mostly discussing the work of other composers and not their own), performers and scholars from different traditions, including phenomenology and cognitive psychology. While, unsurprisingly, different approaches focus on different aspects of the works in question, what emerges is a sense of complementarity of perspectives that enriches our understanding, without jeopardising overall cohesion or coherence.

²³ See Christian Meyer, J. Streeck and J. Scott Jordan, eds, *Intercorporeality: Emerging Socialities in Interaction* (Oxford and New York: Oxford University Press, 2017).

²⁴ <https://sound-scotland.co.uk/event/somatic-music-ensemble-thing-heather-roche> (accessed 1 May 2023). The concert has been recorded on video: <https://youtu.be/9VAK2H54ptw> (accessed 1 May 2023).

²⁵ Cox, *Music and Embodied Cognition*; Jonathan De Souza, *Music at Hand: Instruments, Bodies, and Cognition* (New York: Oxford University Press, 2017); Mariusz Kozak, *Enacting Musical Time: The Bodily Experience of New Music* (New York: Oxford University Press, 2019).

The first contribution, “‘Are you still there?’: Experiencing Sonic Bothy’s *Verbaaaaatim*”, discusses a performance video by the inclusive new-music ensemble Sonic Bothy. The video was a response to the impossibility of live performance during the COVID-19 pandemic and is based on videoconferencing, although a video artist defamiliarised the material in various ways. As a witty metafictional commentary, the video not only reflected on the well-known technical and communication problems besetting the technology, as highlighted in the article’s title, but also included material produced by a live captioner used by one of the ensemble’s hearing-impaired members. The result is a multi-layered array of video, sound and text, which both invites coupling image and sound – when an instrumental action shown on screen can be heard – and audiovisual action with descriptive or prescriptive text, but just as often undermines these analogies, when what we see, hear and read do not quite align.

If *Verbaaaaatim* seems often hyperactive, Martin Iddon’s *Sapindales*, for clarinet and fixed media, is contemplative. As discussed in ‘What Is It Like to Be a Tree? Sonic Layers, Doubleness, and Ecology in Martin Iddon’s *Sapindales*’, the piece appears to establish a place that is both imaginary (created by the piece) and real (consisting of a soundscape recording and performed in a specific space). Likewise, the composition contrasts the live performance by the clarinetist with her virtual sonic double from tape, and the clarinet sounds, both live and recorded, with birdsong from the soundscape recording. The recording was made at the site of a felled snake bark maple, a tree from the Sapindales order, and, as the authors conclude, the composition appears to invite us to inhabit the tree’s former space.

The article is followed by two shorter and more experimental contributions. Raymond MacDonald’s *Stolen in a Dreamland Heist* involves graphic notation and improvisation. Accordingly, MacDonald’s primary intention was to create a ‘good social situation’ that is conducive to creative interaction, which is an essential aspect of embodied musicking. In the version performed by Ensemble Thing and Heather Roche, the performers put their instruments aside in the end, instead humming, singing and whistling a simple tune that had gradually been introduced before, thus ‘blurring the boundaries between instrumental experience and what might be thought of as novice (a highly trained clarinet player suddenly singing) and conventional virtuosities (technical mastery on an accordion) and nonconventional virtuosities (choosing when to sing, how to sing and how to blend with others)’, as MacDonald puts it.

This ‘universally accessible form of collective creativity’, as MacDonald describes it, creates an overwhelming desire on the part of audience members to join in: motor-mimetic behaviour at its most immediate. As befits a text about the social, collective process of music-making, the article, entitled ‘Of Embodied Musical Spaces and Their Creative Ambiguity’, includes a conversation between MacDonald, Iddon and Oli Jan.

‘The Music of Proxima Centauri B: *Three Singers on Planet M* by Oli Jan’ is framed by Björn Heile and Nikki Moran as a fictional account of the discovery and investigation of extraterrestrial music. While the story is tongue-in-cheek, it takes seriously Jan’s attempt to imagine the music of another planet and the alien space it inhabits and governs. The exomusicological view from outside may enable renewed attention to the specificity of human or ‘earth music’.

Finally, as Edward Campbell, Jonathan De Souza and Alexander Refsum Jensenius note, Björn Heile’s *3 × 10 Musical Actions for Three*

Socially Distanced Performers explores the idea of the ‘musical gesture’, or ‘sound action’, tying together concepts that have been examined equally by EMT and research in the embodied cognition of music (‘Gestures, Actions, and Play in Björn Heile’s 3×10 Musical Actions for Three Socially Distanced Performers’). Specifically, the composition functions partly as a game, using *playing* (of games as much as music) as a model for simultaneously rule-based and spontaneous social, creative interaction.

Overall, neither the compositions nor the articles attempt to cover the breadth of embodied approaches in music in current research and practice or their intersections. These are deliberately personal, specific interventions. But we hope they may provide inspirations to others who seek to integrate ‘the music one listens to and the music one plays’.