

## Editorial

Andrea Schiavio<sup>1</sup> & Nikki Moran<sup>2</sup>

<sup>1</sup> Centre for Systematic Musicology, University of Graz, Austria

<sup>2</sup> Reid School of Music, The University of Edinburgh, UK

This special issue of the *Journal of Interdisciplinary Music Studies (JIMS)* focuses on the theme “Embodiment in Music”, reflecting the main topic of the latest Conference of Interdisciplinary Musicology held in Graz (CIM19). The present volume involves empirical and conceptual contributions exploring embodied music cognition from a variety of angles, combining selected papers presented at this conference with original submissions.

The period of time since CIM19 took place has been marked by disruption. This is a period that has seen dramatic shifts in western consciousness towards globally impactful issues: the mass human crisis of forced migration and displacement; burgeoning awareness brought about through social justice campaigns; our climate-altered reality and the imminent, accelerating consequences. Our state of being under Covid-19 seems to have rendered existing disproportions of wealth, health and opportunity more apparent. What was previously subconscious, remote knowledge of prejudice and bias – aggressions concerning race, culture, gender, nature – seem now to have risen closer to the surface of daily life than perhaps at any previous point in living memory. As editors, we have taken particular care to respond to these issues as they pertain to academic research. We have been most grateful to all authors for their collaboration in decisions regarding stylistic language choices and the reduction of scientific bias.

We are also grateful to the conference organizing committee in Graz, all authors, reviewers, and assistants who helped make this special issue possible. We are particularly thankful to Richard Parncutt as the general academic editor of *JIMS* and the driving force behind CIM since its establishment as a conference series in 2004.

This present volume features seven peer-reviewed papers that synergistically integrate humanities, science, and more practically-oriented disciplines such as music education, composition, and performance. All contributions are rich in content and offer fascinating insights into a topic – that of embodied cognition – that in recent decades has increasingly drawn the attention of scholars working from a variety of research fields. A big part of the appeal of embodied and 4E (Embodied, Embedded, Extended

and Enactive) approaches to cognition is that its subject-centred perspective might make space for rather more inclusive explanations of real, lived experience of life and mind than those generated in prior psychological and neuroscientific explanations. The possibilities that this avenue of scientific endeavour offers to the particular domain of music scholarship stand proud equally amongst the humanities and the sciences, and as editors to this special issue we feel privileged to draw your attention to issues highlighted by the authors whose work is included here.

The volume begins with the contribution from one of the two students awarded a best paper prize during CIM19, Don Oxtoby. His paper develops a fascinating historical perspective on embodiment in music, tracing a continuum between early insights from eighteenth-century empiricist philosophers, and recent development in embodied cognition. Auditory depth perception is taken as the focal point of discussion, as we consider the implications of surround sound on music listening. Both Oxtoby and also Jakobidze-Gitman use historical perspective and comparison to draw our attention to the situation of musical engagement and listening. The parallel drawn in Jakobidze-Gitman's work concerns Immanuel Kant's approaches to music and humour, and more recent advances in the cognitive neurosciences of music.

Thoughtful synthesis of theoretical and empirical research can also be found in the contribution by Mark Reybrouck, which explores how work in neuroplasticity, neuroaesthetics, and neural connectivity may be relevant for an understanding of music listening as adaptive behaviour. Reybrouck describes current research trends and methods used in the neurosciences, wherein findings present mounting evidence and a nuanced understanding of the association between affective and motor regions; Reybrouck considers the implications for childhood development and education. The evidence – based largely on formal music education for western classical performance norms – offers further confirmation of the array of regions implicated in musical thought and activity. A similar cross-disciplinary strategy is adopted by Boyle, whose contribution seeks to capture the embodied nature of musical composition, its notated expression, and creative cognition through the lenses of a 4E approach to mind.

A more empirically driven approach is set out by Corcoran and Spiro. Their elegant experimental paper discusses performers' reliance on notation over aural engagement, a tendency that appears typical of highly trained instrumentalists skilled in western classical repertoire. Their study found that such training appeared to impinge on participants' skills of pitch reproduction and its underlying mechanisms. This intriguing finding sheds new light on the connection between perception and action in musically relevant contexts. The latter settings are also at the core of the autoethnographic work by Burns, who provides a detailed account of her experiences of teaching and learning in the Irish World Academy of Music and Dance (University of Limerick, Ireland). With her focus on creativity and performativity, her contribution may inspire novel

methodological tools not only for music theory teaching and learning, but also to reflect on the values of music education more generally.

The paper by Antoniadis and Chemero concludes this special issue by addressing a hot topic in current embodied cognition research: that of the role and explanatory power of mental representations. By exploring human-computer interaction in the domain of music performance, the authors present the “GesTCom” interactive system for live control of notation, to problematize existing models that privilege internalization and processing of external information. Drawing on the particular case of modern and contemporary piano repertoire, the authors address the issue of symbolic music notation’s role and function in mechanisms of music cognition. Indeed, various articles in this special issue draw attention to the specificities of performance and production within score-dependent musical culture and practices. Varieties of notation are evident across many musical cultures, but the particular case of historical European art music and its contemporary derivatives are unusual because of the reliance on symbolic text in educational and performance practices. This volume thus raises questions about the constitution of both music-specific skills, and of formal music education: what skills, what domains, through what plasticity and for what purpose? Who gets to benefit? Who is left out?

Taken together, the contributions of this special issue continue the tradition of JIMS to deliver novel insights on a specific topic within a strongly interdisciplinary framework. Embodied and 4E approaches to music cognition encourage a view of music as a portal for the study of human communication; a theoretical and practical scaffolding to examine the ways in which we know ourselves and one another. The conference topic and its continuation in this volume offered an opportunity to develop dialogues and collaborations at the crossroads of disciplines such as music, philosophy, psychology, education, and neuroscience, among others.

This special issue offers just an example of how such an enterprise is to be developed in continuity with diverse research traditions. Yet, it already provides important conceptual resources to enrich present-day discussion in music and embodied cognition, revealing how central the reality of our human embodiment is to ideas generated in past philosophical traditions; how it can help frame discussions over creativity, perception, and education; and how it can be applied to performative practices.

## Biographies

**Andrea Schiavio** is Senior Postdoctoral Researcher at the Centre of Systematic Musicology of the University of Graz, where he leads an interdisciplinary research project on musical creativity and the embodied mind. He currently serves as vice-president of the European Society for the Cognitive Sciences of Music (ESCOM), secretary of the Society for Interdisciplinary Musicology (SIM), and co-editor of the newly established book series *Music as Art and Science* (Oxford University Press). He is co-author, with Dylan van der Schyff and David Elliott, of the forthcoming monograph *Musical bodies, musical minds. Enactive cognitive science and the meaning of human musicality* (MIT Press).

**Nikki Moran** is Senior Lecturer in Music at The University of Edinburgh, UK, where her research, teaching, and PhD supervision focus on musical performance as human practice. Her publications – including chapters for Routledge, Oxford University Press and Chicago University Press, and in journals including *Royal Society Open Science*, *Plos One*, *Frontiers in Psychology*, *Musicae Scientiae*, *Psychomusicology*, *Psychology of Music* - span theoretical and original empirical studies involving elite North Indian duos, jazz and free improvisers, and western classical ensembles and conductors. She currently serves as vice-president of the Society for Interdisciplinary Musicology (SIM) and co-Chair of the RSE Young Academy of Scotland.