A New Philosophy of Music Education for the Era of AI

JIAXING XIE AND DAVID G. HEBERT

ISME GLOBAL PERSPECTIVES IN MUSIC EDUCATION

ROUTLEDGE

A New Philosophy of Music Education for the Era of AI

This book outlines a philosophy of music education that is responsive to the age of artificial intelligence. Against the background of AI's challenges to human modes of production, the authors demonstrate how music education can become a tool for self-discovery in this transformative era. Taking the approach of a dialogue between Chinese and Western perspectives, the book addresses the relationships between the social functions of music education and individual development in different historical periods, and envisions the potential role of music education in a new environment shaped by AI. Integrating insights from recent research, it establishes a forward-thinking philosophy of music education that is oriented towards self-discovery and grounded in science. Bringing together philosophical perspectives from Chinese and Western scholars, this book shows how integrating these perspectives can clarify the values that shape music education practices, and enable scholars and educators to better address contemporary issues in the teaching of music.

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Figure 0.1 The Co-authors Developing the Present Book in Bergen, Norway, 2024.
Photograph owned by the authors.

Series Foreword

The ISME Routledge Book Series is currently the only major series exclusively devoted to publishing original monographs and anthologies in the field of music education. Across recent years it has matured into a unique and vibrant font of scholarship. Therefore, it is with great pleasure that I now begin my term as Senior Editor of this series. The present book was submitted shortly before I accepted this role, so I must begin by acknowledging the outstanding work of Gwen Moore (Professor, Mary Immaculate College, Ireland), who recognized the value of our proposal and offered a contract. Under Gwen's leadership as interim editor, both an Editorial Board of accomplished authors and a robust peer review process were established to ensure this series maintains quality standards comparable to a refereed journal, and Gwen continues as a valued member of our distinguished Editorial Board. I must also acknowledge the highly competent support the series now receives from our Assistant Editor, Dr Chunxiao Zhang (post-doctoral fellow, Education University of Hong Kong).

What can one reasonably hope for a professional book series to accomplish? It seems undeniable that fewer young people read books today, while colleges and universities, moreover, increasingly steer researchers toward publishing articles in research journals, even in artistic fields such as music. Still, academic books offer the opportunity to explore a topic in great depth, with more freedom than is possible within the length constraints of a journal article. For earnest authors, this becomes rather important, since many complex topics require ample space, sufficient for extensive explanations that promise to engender more comprehensive and nuanced understandings.

It is exciting to see what this book series is now producing, and to consider the unique impact it surely has in the field of music education. Recent and forthcoming books address innovative topics and understudied parts of the world with pioneering approaches. These books promise to open minds to new ways of thinking about music teaching and learning, on such topics as the music of Indigenous peoples, gender issues, musical play, teacher professionalism, sustainability, transformative politics, Ibero-America, South Asia, Brazil, Vietnam, and much more. The ISME Routledge Book Series is distributed worldwide and

aims to broaden horizons of common understandings in music education, thereby contributing to the mission of the International Society for Music Education. It is our vision that books in this series will meet timeless standards of quality and provide enduring inspiration to music teachers. We hope you will enjoy this philosophical monograph and will also take some time to explore and learn from the array of other fine books in this series.

David G. Hebert
Senior Editor

Overture:[1] A Foreword

We live in times of accumulating crises. We are educating generations of young people who are less confident about possible routes to their futures. The landscape of music education is poised. Why should artificial intelligence (AI) catalyze a rethink of what music education is for? How can music educators craft new visions of the future that not only anticipate change but equip learners to critically connect to AI in new ways? How might a new philosophy of music education help us to imagine and boldly build positive futures where another possibility is possible after all? Can AI researchers build technologies that are creative, self-aware, and emotional, and that can do the tasks humans were supposed to enjoy? Are there fundamental flaws in the research and curriculum agenda of AI use in music education? What are the provocations within *A New Philosophy of Music Education for the Era of AI* that call for AI to do more than mimic human creativity? This book addresses all these questions and more. It invites us to unpack anew the role of music in cultural expression and to rethink the boundaries of the possible and the transformative potential of AI.

A New Philosophy of Music Education for the Era of AI is a brilliant and insightful magnum opus that invites us to "discover" our true selves and to break with the silos of disciplinary boundaries between traditional educational philosophy and music education studies. The co-authors, Xie Jiaxing and David Hebert, are well-established, highly esteemed international voices. They wrestle astutely and wisely with the excitement and dread (both existential and concrete) inherent in harnessing the glorious potential of AI, while facing the undeniable concerns and consequences of such an all-encompassing power.

Like rivers that flow fast, shallow, clear—even rock-bedded and mist-cloaked—this book is thoughtful and nuanced, and it celebrates what it means to be human through key theories, ideas, and inter-/cross-cultural philosophies. These are introduced and illustrated through compelling narratives about music educators' needs and what humanity requires, along with co-editorial dialogues that translate the uniqueness of human creativity into practical understandings. Like a drifting mist, these ideas infiltrate the book to change how we think about the challenges, affordances, and limitations of AI and, importantly, of music education in the AI era, by offering up a radically different *A New Philosophy of Music Education for the Era of AI*.

We live at a time when we *need* radically different forms of teaching and learning music, and where a greater diversity of voices is called upon to shape music education. We live at a time when AI's unprecedented challenges to music education shape what is ending and what is about to come into being. We live at a time when we need to radically change how we co-author these choreographies of possibility, to foster new knowledge systems (epistemologies) and ways of being (ontologies) and doing (creativities). We have increasingly turned toward a plurality of sciences and creativities to find answers. But Xie and Hebert are not simply looking for easy solutions. They are not simply looking for new theories of educational technology, or looking to understand how music education is shaped by technologies and how AI challenges existing practices in music education. This is a unique book that is alive with new and unfamiliar ways to engage with AI. The co-authors invite the unforeseen by generating new understandings of the manifold forms of knowledges, wisdoms, philosophies, and dialogues between East and West—they introduce and invite new engagement with new and old concepts such as "emotion-driven imagination," "self-discovery," "life-consciousness," and more. The authors respond to the profound transformations of human knowledges, multiple intelligences (including meta-body intelligence, bodily intelligence, large-group intelligence, market intelligence, and metaverse intelligence), multiple levels of human wisdoms, collective imaginations, forms of love, and human creativities/creation and sociocultural organizations brought about by the rise of artificial intelligence.

This book stays with the trouble of humanity's old "narratives," where individuals no longer know how to locate themselves in the world, and education seems to have lost its way, with seemingly little capacity to guide the self toward meaningful connections with the world. Indeed, one of the book's most theoretically original claims is that the evolution of wisdom is not linear or substitutive, but a bidirectional expansion—each new layer builds upon and reactivates previous ones: "From the ethical wisdom, to the narrative expressions of market wisdom; and now to the cross-temporal resonance of AI wisdom—sound carries more than melody and rhythm" (Chapter 3).

Here, there is a radical revision of music education framed as a medium of cultural confluence, enabling humanity's transition from the "each-beautiful-in-its-own-way" model of the Axial Age to the "shared beauty in diversity" of a future coexistence civilization. With the philosophical vision synthesized under the title "Finding Yourself in Balance," the theory of *non-equilibrium self-organization* comes uniquely together with the Chinese philosophy of yin-yang harmonization, bringing a dialogic balance between, and dynamic resonance of, opposites. Rather than pursuing AI as something overriding human control, or building machines that pretend to be human, music education in the AI era can offer a new lens for self-discovery where we grow as humans through energy-generating interplay that defines life and education alike. Here, music's

profound importance is affirmed as both cultural heritage and creative expression that uniquely contribute to emotional health, community development, and empathy toward others. Here, we learn how we can respond to the real challenge of the AI era by redefining human imagination and reawakening the future, "a path toward the leap in wisdom" (p. 46).

This resoundingly wise and new philosophy of music education could play a critical role in activating and harmonizing the layers of human intelligences. Rooted in bodily rhythm and emotional resonance, it also has the potential to interact with AI and metaverse technologies to enable cultural synergy and multilayered cognitive and emotional transformation. This new philosophy of music education—through its flowing, embodied, resonant, and rhythmic nature—is aligned with the Eastern philosophical axiom "All things flow." This new philosophy of music education invites students to discover their true selves in the interplay of yin and yang, and to unfold life's creative potential in dynamic balance where "the future of music education lies not in more efficient machines, but in more emotionally attuned humans" (Chapter 7).

Equally compelling is the invitation to break with the silos of disciplinary boundaries between traditional educational philosophy and music education studies. This plays a crucial role in opening, widening, deepening, and sustaining new spaces for an integrative theoretical framework that synthesizes insights from life sciences, media theory, anthropology, and Chinese philosophy. Rather than beginning from the question "What is music?" it starts with the foundational question: "How does a human being exist in the age of AI?" Using music education as the practical pathway, it systematically reconstructs the ultimate purpose of education, which is to make learning possible.

Another distinctive and significant feature of this interdisciplinary book is how it establishes a new paradigm for East–West dialogue. Through the integration of "non-equilibrium/stability" (Prigogine) and "yin–yang interpenetration" (Chinese philosophy), and through a unique philosophical synthesis, the book articulates a global vision centered on *self-discovery*—laying the groundwork for a future-oriented, cross-cultural educational paradigm in the age of AI where music education takes on a new mission and meaning. Dialogic space is the space of possibilities that opens when two or more perspectives are held together in the creative tension of a dialogue. We experience multiple dialogic spaces in this book. Two are featured prominently at the beginning and end of chapters with dialogues between the co-authors and between the co-authors and music educator narratives. The dialogic relation that makes learning possible is an encounter that opens up an invisible space of meaning for the reader. This unbounded space of meaning makes this book profoundly transformative.

I will end this "Overture" with a significant quotation from Chapter 3's dialogue between Hebert and Xie, featuring their East and West perspectives. Here Hebert and Xie feature a dialogue about personal experiences and professional

struggles. Hebert invites Xie to reflect on how engagement with theorists stems from his own "personal troubles" and self-discovery. Xie replies:

> It is of course related to personal experiences … it was my personal destiny that first led me to reflect on life. As a Chinese person, I feel that introspection on life's vitality is extremely important. That's why I wrote the following passage in the preface of my 1989 book … "Are you old? No, I believe you, like me, are still a child, whether you are 10, 30, 50, 70 or 100 years old. In the vast span of human history, the path you and I have walked is still so very short. Do you think you are wise? No, I think you, like me, are still ignorant, whether you are a student, worker, farmer, scientist or leader. In this so-called age of information explosion, even if you are a chemistry expert, could you possibly read through the tens of thousands of chemical papers published each year? Are you young? No, from the day life first emerged, you have existed. You have experienced most of the warmth and cold of the Earth's long history … Have you doubted your own abilities? In fact, from the moment you began, learning to survive and develop in the primordial soup, you have acquired one skill after another … Whether you know nothing or now a little, these abilities are yours.
>
> (Xie, 1989)

The big takeaway from this must-read and readable book is that music education helps us retain sensitivity to emotion and the essence of life in an AI era. Does AI mean we should rethink what music education is for? Absolutely. This book is the beginning of a collective journey to redefine music education and its purpose in society in an AI era. This is a dialogue in which we should all play a part.

Pamela Burnard
Professor of Creativities
University of Cambridge

Note

1 Why "overture"? An overture, derived from the French word "*ouverture*," meaning opening, in music, is a standalone piece of music that precedes an opera, ballet, or musical play. This overture aims to set the scene as a precursor to the creative visions and springs that flow to awaken reconfigurations of music education for the era of AI.

Acknowledgments

The authors wish to express their sincere gratitude to Professor Pamela Burnard for kindly writing the Foreword to this book and for her long-standing encouragement of international dialogue in music education. We are also grateful to Professor Gwen Moore, whose thoughtful feedback during the early stages of the proposal helped shape the development of this project.

We would also like to thank Guo Zhengcui for designing the cover and preparing the images for the book and Zheng Yimeng for her careful assistance with checking and refining the references and annotations.

We also thank all who secured funding to enable David's frequent visits to China to cooperate with Xie in writings, co-developed across years, that ultimately led to this book. This includes the Institute for Chinese Music Research (led by Xie) at China Conservatory and the Open Global Music Academy (*Huaxia Yuefu*) international collaboration project, Quanzhou Normal University's School of Music and Dance (Nanyin Music Research Center), Prof. Wang Li of China University of Political Science and Law, "Project 111" funding acquired by Prof. Zijin Yao of Beijing Language and Culture University, the Hanban Visiting Scholarship acquired by Prof. Liu Yuening at Central Conservatory of Music, the Distinguished Visiting Professor grant of Xinghai Conservatory of Music (funded by the Guangdong Province Ministry of Education), Norway's UTFORSK program which funded the project "Global Competence and Research-Based Practice in a Doctoral and Postgraduate Partnership," and the kind support of Dean Zhang Lu with Beijing Normal University, Zhuhai.

This book has also been inspired by many conversations with colleagues and students engaged in music education across different cultural contexts. The dialogue between Chinese and Western perspectives has been enriched by the work of many scholars in this field and by the questions, insights, and intellectual curiosity of the students with whom we have had the privilege to work.

Finally, we thank our families for their understanding and support throughout the writing of this book.

Introduction

What Kind of Existence Does Humanity Face Today?—Dialogue between Chinese and Western Perspectives

Welcome, readers, to a book on the philosophy of music education for a new era, with the unprecedented conditions of learning that arise as artificial intelligence (AI) sees widespread applications in daily life. The purpose of this book is to explore how music education can help individuals achieve "self-discovery" in this AI era through a dialogue between Asian and Western perspectives, based on arguments undergirded by findings from ethnomusicology and music education research.

The Challenge from Artificial Intelligence

With the development and public release of ChatGPT, DeepSeek, and related tools, artificial intelligence (AI) is rapidly rising and significantly changing human life. Some see it as a tsunami approaching us, while others remain unaware of why this may seem to be a crisis. The numbers are stark: according to a 2023 report by Goldman Sachs, the breakthrough in AI technology is expected to replace 300 million jobs globally with generative AI (Briggs & Kodnani 2023). Geoffrey Hinton, known as the "father of AI," warns that the efficiency and low cost of AI systems will replace human workers in many industries, especially those engaged in repetitive and routine tasks. These workers are at risk of unemployment as their skills may not compete with AI's efficiency and capability. This wave of unemployment will affect personal and family economic situations and have profound social impacts, including exacerbating social inequality and instability. Beyond the employment crisis, AI's development brings ethical and social value challenges. Humanity needs to contemplate not just ethical issues but also the meaning of human (including individual) existence (Kurzweil, 2005; Hinton, 2007). When AI reaches or surpasses human intelligence, what will humanity have left? This is why we title this chapter "What Kind of Existence Does Humanity Face Today?" Of course, we feel it is necessary for current and future teachers in the specialized field of music education to ponder this question. What is the significance of contemplating this issue? This chapter aims to answer these questions.

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Opportunities from AI

The rapid development of AI has profoundly shocked humanity. Optimists describe this era of rapid change as a "daily industrial revolution, nightly Renaissance" (Jiao, 2024). Pessimists, however, worry about traditional human occupations being replaced overnight by AI, potentially leading to massive unemployment. Some scholars even believe that with the advent of AI "Singularity" (Vinge, 1993), particularly following Ray Kurzweil's Law of Accelerating Returns, AI will reach or surpass human intelligence, triggering a series of rapid technological innovations, fundamentally and unpredictably changing future society and human civilization (Kurzweil, 2005).

In brief, AI's advantages can be summarized into two aspects:

- First, computational power—AI far surpasses humans in computational speed and data processing capability, able to handle massive amounts of information and effectively make complex decisions in a short time. This advantage makes AI stand out in big data analysis, complex model training, and real-time decision support.
- Second, specialized tasks—in specific application scenarios, AI performs proficiently. For example, in image recognition, speech recognition, and natural language processing tasks, AI can achieve or even exceed human precision and efficiency through deep learning and pattern recognition technologies (Dean et al., 2012; LeCun & Bengio, 2015).

Limitations of AI

AI also has many limitations. There are at least three aspects worth considering:

- First, emotional understanding—AI lacks genuine emotional experience and understanding capabilities, unable to drive social interaction and cognitive processes through emotions like humans. This limits AI's applications in emotional intelligence, emotional support, and interpersonal relationship building.
- Second, social interaction—AI's social interaction capabilities are limited, unable to establish deep interpersonal relationships through emotions, social identity, and non-verbal communication like humans. This restricts AI's application in service industries and social fields.
- Last, creativity and imagination—AI's creativity and imagination are primarily based on pattern recognition through the combination and optimization of existing data, lacking the originality and breakthrough thinking driven by human emotions. This makes AI inadequate in tasks requiring transcending traditional domains, such as artistic creation and theoretical innovation (Picard, 1997; Turkle, 2011).

Challenges AI Poses to Humanity

Yuval Harari wrote that "We live in the prison of ideas invented by people very different from us long before we were born" (Harari, 2011, p. 25). This issue will be a major theme throughout this entire book as we reconsider ways that ideologies and cultural assumptions shape (and sometimes impede) our understandings of various artistic and educational phenomena. Additionally, we should note that as Gramsci argued, "all history is contemporary history" (Gramsci, 1971, p. 109), and we therefore must recognize that all contemporary issues have historical legacies, and it is for this reason that the deeper we reflect on the past, the easier it is to understand the current dilemmas we face. Therefore, unlike previous philosophies of music education, we will situate our arguments in the context of the history of ideas, taking an approach informed by philosophy of history, historical ethnomusicology, and examples from global history. AI is one such development that creates an array of issues and concerns that we would argue are misinterpreted in various ways due to a lack of broad historical awareness.

AI poses multiple challenges to humanity, much of which can be summarized in terms of four major aspects:

First, the meaning of human (including individual) existence—this is both a primary and ultimate question (Frankl, 1946; Camus, 1942). Beyond AI's efficiency and low cost replacing human workers in many industries, possibly leading to massive unemployment or exacerbating social inequality, AI also questions the value and meaning of human life, including individual existence. For example, self-driving technology threatens professions like drivers, and AI applications in healthcare challenge some medical professionals' jobs. This challenge is about human existence and the individual life's value and meaning (Brynjolfsson & McAfee, 2014; Susskind, 2020; Topol, 2019). As Byung-chul Han explained, "Every age has its signature afflictions. (…) Neurological illnesses such as depression, attention deficit hyperactivity disorder (ADHD), borderline personality disorder (BPD), and burnout syndrome mark the landscape of pathology at the beginning of the twenty-first century" (Han, 2015, p. 1). It remains to be seen how such pathologies will be impacted as AI becomes routinely intertwined with human cognition in daily life.

Second, the potential emergence of new dystopias—this possibility rekindles concerns about new forms of control and enslavement by a few over the majority. Specific issues here include AI's development possibly triggering new social inequalities and ethical dilemmas, and the potential for a few who master AI technology to use its advantages to control and enslave the majority, forming new social classes. For example, the misuse of big data and AI technology could lead to massive privacy violations and surveillance societies, and some would argue this is already happening without sufficient notice (Zuboff, 2019; Harari, 2018; Schneier, 2015; Greenwald, 2014; Bostrom, 2014; Tegmark, 2017). Absent sufficient constraints, mass *datafication* promises to generate a highly

efficient virtual infrastructure that is likely to exacerbate the negative influences of neoliberal capitalism and other ideologies.

Third, the "information cocoon" (or siloing) phenomenon triggered by media and self-media proliferation—due to this powerful yet underrecognized phenomenon, people tend to only encounter information consistent with their views, exacerbating social polarization and division. Furthermore, this effect is amplified by AI algorithms, leading to herd behavior. Specifically, algorithm recommendations on major internet search engines and social media trap people in information cocoons, only exposing them to content they are interested in and unknowingly ignoring other viewpoints (Schneier, 2015; Tufekci, 2013).

Last, the question of whether humanity will ultimately be controlled by AI—as AI advances, concerns about AI potentially surpassing and controlling human society grow. This genuine concern spans ethical, legal, and technical issues. For example, AI's application in the military could lead to the misuse of automated weapons, and AI's use in other forms of decision-making (such as legal, medical, or economic processes) could result in the loss of human autonomy (Bostrom, 2014; Tegmark, 2017; Eubanks, 2018; O'Neil, 2016; Crawford & Calo, 2016).

Book Structure and Chapter Layout

Undoubtedly, the issues described above form the basis for the first chapters of this book, as we endeavor to determine how music education can best respond to the new concerns raised by AI. The book's *Introduction* (which you are now reading) and its *Chapter 1* together demonstrate that AI promises to not only disrupt and upend professions in such sectors as education and the arts, but on a much broader level it entails a *dual crisis of the body and of narrative*. We argue that a philosophical transformation of music education is urgently needed under these unprecedented conditions. Our central question for Chapter 1 is: *Why does music education need to respond to AI, and what are the current debates in this field?*

Chapter 2 serves as the theoretical foundation of the book, offering a novel integration of Prigogine's theory of *dissipative structures* with Harari's notion of *fictive stories*, and thereby emphasizing the notion that human society is not primarily organized by rationality, but rather, by *emotionally driven social imagination*. From this premise, the book proposes a correspondence between what our survey of global history identifies as *three major human meta-narratives* and the *three fundamental mechanisms of life*:

- **First Story**: the worship of hatred and violence (corresponds to the need for *stability*);
- **Second Story**: the drive to possess and produce (corresponds to *absorption*);
- **Third Story**: the celebration of love and human creation (corresponds to *release* and *reproduction*).

This correspondence not only reframes human cultural evolution but arguably provides a new foundation from which to redefine the very purpose of education and creative arts, particularly music. Chapter 2 thus addresses the following questions: *Why are emotions central to what defines humanity, and how can we understand both music and AI in relation to human emotions? What universal human narratives provide important indications of the fundamental purpose of music education?*

Chapter 3 builds upon Chapter 2's theoretical foundation by proposing a novel framework: the theory of meta-body intelligence, whereby humanity is recognized as a layered body-system of intelligence. We introduce each of its components, five levels of human wisdom: bodily intelligence, proximate (local/ritual) intelligence, large-group intelligence, market intelligence, and metaverse intelligence. Each level corresponds to a specific transformation in how humans organize socially and symbolically. We demonstrate that human wisdom evolution is not linear or substitutive, but rather, takes a bidirectional expansion, whereby each new layer builds upon and reactivates previous ones. This has important implications for the role of human *cultural heritage* in the profession of music education.

Chapter 4, in response to AI's threat of depersonalization, considers the notion of the sacred individual through a historical examination of dynamic tensions between what has traditionally been understood as "the sacred and the profane": specifically, we consider the generative impulse of life ("the sacred") and the repressive structures of order ("the secular"). We note how the individual's sacred potential is often limited today, as techno-worship and market logic reduce education to a mechanism of control. We argue that even in contemporary secular society, music education, with its profound connections to ritual and meaning, has powerful potential to aid individuals in their quest to become unique sources of meaning rather than passive recipients of structure.

Chapter 5 advocates a pedagogical approach for the application of the philosophy we have presented, based on two main innovations:

- The *story-encoding model* (covering existential, role, field, and habitus encoding), which helps students discover their unique place in the world;
- The *5E teaching model*—Embodied, Emotionalized, Embedded, Extended, Enacted—which, based on the theory of 4E cognition, transforms music education into a multi-level experience of embodied learning, emotional engagement, social reflection, global interaction, and mission-based action.

In Chapter 5, we argue that effective use of these approaches promises to ensure resilience in the field despite the multitude of challenges coming from AI.

Chapter 6 synthesizes our philosophical vision under the title "Finding Yourself in Balance." This so-called balance, like Yin and Yang and the

concept of "harmony in diversity" in Chinese, sees various differences as complementary from the perspective of life, rather than oppositional in nature. Here we emphasize a central question: *How can new approaches based on the notions of balance and non-equilibrium guide music teachers toward more meaningful and effective forms of music education?* In this chapter we demonstrate how the creativity of art helps individuals develop critical awareness and individual identity, thereby breaking free from the information cocoon while instilling resistance to human tendencies toward totalitarianism. We consider *how music's power is used and misused in both old and new ways; and how music education can guide individuals toward healthy forms of engagement with music?* The chapter brings together the theory of non-equilibrium self-organization with the Chinese philosophy of yin-yang harmonization, arguing that true balance is not to be found in static inflexibility but in the ongoing dynamic resonance of opposites—an energy-generating interplay that defines both life and education. Music's importance is affirmed here as both cultural heritage and creative expression that contributes to emotional health, community development, and empathy.

Chapter 7 summarizes the main arguments of the book and offers additional reflections on how AI may impact us in the future. The chapter emphasizes a central question: *How can new approaches based on the notions of balance and non-equilibrium guide music teachers toward more meaningful and effective forms of music education?* It also demonstrates how the main arguments of the book may be understood with reference to a condensed summary of the main theoretical framework of the book as well as six essential questions, six missions, and six philosophical shifts needed in music education.

These discussions not only are placed within the grand narrative of global human development but are also seen from an interdisciplinary perspective, and they come from our hearts, as genuinely heartfelt words from fellow music educators. However, this is certainly not enough. In the perspective of historical ethnomusicology, the interaction and dialogue of multicultural perspectives are indispensable. We aim for the book to be accessible to diverse readers. Accordingly, each chapter of this book begins with an anecdote from music education practice selected to compellingly introduce readers to the holistic themes addressed in detail within the chapter. Most chapters are divided into a few sections, and most sections end with a brief dialogue between the co-authors. Several sections also include images designed specifically for the book that aid by visually demonstrating salient points. Because this book is designed to be accessible to students and schoolteachers as well as professional scholars, we also end each chapter with four to five discussion questions to be individually reflected upon and debated in classroom groups.

Orientation and Distinctiveness of Our Approach

What makes this philosophy of music education different from what has come before? We do admittedly owe much to what has come before, but we will now briefly consider this important question in relation to both general philosophy here, and in relation to the *philosophy of music education* in Chapter 5.

Postmodernism, Transhumanism, and Posthumanism

Since the three "isms" of postmodernism, transhumanism, and posthumanism are commonly considered prominent among the various philosophies to emerge in recent decades, it seems important for us to at least briefly mention something about them in this book. Each of these terms represents a body of ideas that is arguably relevant to specific arenas of intellectual discourse in western industrialized societies, but it is necessary to recognize that for the most part each developed before the age of widely accessible generative AI. Postmodernism was popularized in the 1980s and 1990s, long before Internet access became widespread, which ultimately would transform many forms of communication and consumption—even notions of identity and "truth"—in human life worldwide. Most of the scholars who developed ideas at the heart of postmodernism could not have imagined how profoundly the Internet would transform human life and that this would only be the beginning of a sustained digital revolution that would lead to AI's growing role in arts and education. Posthumanism, on the other hand, for the most part emerged a few decades later, around the turn of the 21st century, when most forms of social media were still rather young and few fully recognized the vast array of both positive and potentially harmful social effects they posed in terms of adolescent development, human privacy, and political siloing.

While postmodernism emphasizes skepticism toward grand narratives such as science and religion, both posthumanism and transhumanism entail a rethinking of human relationships with nature, the environment, and technology. Unfortunately, each of these philosophical schools is known for producing rhetorical argumentation that is often obscure and quite difficult to either apply or critique due to sustained ambiguity, and each also maintains a complex ambivalence toward science. To the contrary, our approach (which emphasizes *balance* and equilibrium) fully embraces science even while recognizing its inevitable limitations.

Some of our arguments are alternatively rooted in *systems science*, an interdisciplinary field that aims to holistically understand the mechanisms and interrelationships of systems at the physical, molecular, biological, cognitive, and social levels, as documented in such journals as *Biosystems* and *Systems Research and Behavioral Science*. While this field can seem overly ambitious and imprecise, we remain optimistic that with more collection of "big data" and robust

AI-generated analyses, systems science promises to generate many new insights into human life (Stanley & Lehman, 2015), a view that we maintain despite any reservations from those who would hastily label such efforts as obscurant or pretentious "scientism." In fact, both the field's founder Alexander Bogdanov (1873–1928) and Nobel Prize-winning proponent Ilya Prigogine (1917–2003) were from Eurasia and deeply fascinated with traditional Asian arts (Bogdanov, 2022; Obrist, 2005), which makes their ideas particularly relevant to the present book which aims through cross-cultural discussion for a global synthesis. Here it is also worth noting that linking music to biology is already common among ethnomusicologists concerned with the disappearance of music traditions. As Catherine Grant explained,

> A common approach to exploring music sustainability concerns has been to draw on a parallel with biological ecosystems. This is not unreasonable: both kinds of ecosystem (musical and biological), it can be argued, are dynamic and complex entities that can be defined by the network of interactions among their parts, and between those parts and their environment.
>
> (Grant, 2015, p. 630)

One of the central controversies associated with systems science lies in its attempt to draw conceptual continuities between physical systems and living organisms—especially through notions like "non-equilibrium self-organization." Such claims are difficult to empirically prove or falsify, as they often operate at a level of abstraction that transcends traditional disciplinary boundaries. However, the intent in this book is not to assert a deterministic equivalence between physical mechanisms and living behavior, but rather to *use systems science as a metaphorical and philosophical bridge*. Specifically, we distinguish between two types of non-equilibrium:

1. One is *physical non-equilibrium*, which tends toward entropy and randomness, leading to the disintegration of systems;
2. The other is *biological non-equilibrium*, which moves toward increasing order, enabling the emergence of structure, meaning, and creativity.

While the first is well-described by thermodynamics, the second is more elusive—it includes emotional, cognitive, and social dimensions that resist strict quantification. What we propose is that *life's non-equilibrium is not a contradiction of physics, but a special case—one that gives rise to emergent phenomena such as imagination, meaning, and social organization*.

Thus, our use of systems science here is heuristic, not dogmatic. It serves to clarify how human society may be understood as a layered, evolving system—one where music education, emotion, and storytelling play crucial roles in

shaping collective intelligence. We recognize the epistemological limitations of such models but argue they can nonetheless illuminate philosophical and pedagogical insights in the AI era.

Still, returning to the concerns of postmodernism and posthumanism, it is worth noting that while we maintain a reasonable degree of skepticism toward grand narratives, we also accept their usefulness, even going so far as to argue the need for critical individual autonomy to create new stories to replace outdated narratives. Moreover, we recognize humans as part of both the natural and technological worlds, both creators of and created by our environment, who must accept responsibility for both human rights and the rights of other species. While all of this may sound rather indecisive (even "flip-flopping" in character) to those who would argue that one must choose either black or white in these kinds of debates, we genuinely consider our position to be a well-reasoned—and in some ways radical—approach committed to the aforementioned ideal of balance despite contrasting oppositions. Considering the yin and yang symbol, we note there is a circle of white inside the black, and vice versa, yet an overall equilibrium balance remains. In other words, from our perspective, it is just as pointless to be extremely behavioral and positivistic in one's worldview (only acknowledging the value of what empirical science can confirm as facts) as it is to be extremely interpretivist (only acknowledging human meanings, while viewing all facts as malleable according to human perceptions and ideologies). Not everything important can be measured, but not everything important is merely about power games, systems of oppression, and personal agendas either, so we find neither hard positivism nor postmodernism to be fully convincing.

To the contrary, we consider both human meanings and numerically confirmable facts to matter greatly, perhaps even equally, although relatively more or less according to particular questions, again like different thicknesses and curves of the yin and yang symbol. Moreover, we see AI as a dynamic entity that also inevitably embraces the view we describe here, by seeking to produce intelligence that takes the human experience fully into account yet is in essence an embodiment of digitization. Therefore, in relation to the three schools mentioned here, our sincere and informed position can be understood as neither pro- nor anti-postmodernist, transhumanist, or posthumanist in orientation, although we fully recognize that some will argue this is an impossible and even feeble claim to make, seemingly a choice to not choose. We fully acknowledge it can look this way, but we cannot change how it looks even while we recognize that how it looks is misleading. *C'est la vie*: That is life!

What we do oppose is forms of extremism and fundamentalism that prevent empathy and lead to unnecessary conflict. Fortunately, AI is also increasingly being programmed in ways that inevitably tend to represent the perspective we have just described, which is why we also seek a balance in relation to AI itself, with optimism and excitement for its possibilities tempered by reasonable concern about how it can be applied in appropriate ways that lead to enhanced

appreciation for quality and originality in both arts and education during an age in which neither of these fields seems appropriately valued by society.

Like bees and beavers, humans tend to build impressive structures, but there is no reason to assume humanity either has a right to control—perhaps even *destroy*—the planet, or that we are inevitably doomed as a force of evil in conflict with the natural environment. Rather, like Lao Tze (associated with yin and yang), we sense that humanity should strive to attain an optimal balance with nature, as neither its master nor its servant. That is why throughout this book we frequently refer to nature and issues of sustainability for which we hope AI, education, and creative musicianship may ultimately offer helpful guidance. It is in this regard that our values may be seen as aligned with many of the main aims of posthumanism, although as educators we place a high value on clear communication that leads to desirable actions and therefore adopt a deliberately pragmatic and approachable writing style that differs from most writings on posthumanism.

Dialogue: Eastern and Western Perspectives Informed by History

As implied by the subtitle of this chapter, "Dialogue Between Chinese and Western Perspectives," one author, Jiaxing Xie, comes from China in the East, while the other, David G. Hebert, comes from the United States and Norway in the West. Moreover, there are generational differences: Jiaxing Xie was born in 1951, and David in 1972, making their dialogue more interesting. Of course, the term "dialogue between East and West" is strictly inaccurate and may seem to have grandiose connotations, for neither China nor the West can be represented by us alone (Tan, 2016). The term "dialogue between East and West" merely indicates a conversation between an individual music teacher from China and one from the West, and nothing more. Additionally, we refer to ideas from Africa, the Middle East, and the Americas, so in this way as well the East/West divide inevitably has some limitations that can be misleading. Indeed, we refer to a vast array of concepts and arguments from thinkers of all eras in this book, most of whom were not saints. Still, just as we can appreciate the artistry of Richard Wagner despite his obvious failures as a human being, we hope readers will see some value in the ideas we offer here despite any possible reservations about some of the individuals who first proposed them.

The dialogue in this book appears not only in explicit form but is also woven throughout the entire text. It includes common statements, as discussed in this section, direct dialogues, individual quotations, and final consensus. In terms of cultural imprint, Jiaxing Xie starts from the Chinese holistic view of "harmony between heaven and man," emphasizing the organic connection between humanity and the universe. In contrast, David G. Hebert emphasizes empirical research methods from the perspective of critical realism and ethnomusicology.

A recent editorial in the journal *Educational Philosophy and Theory* declared, "Philosophy of education is limited by its western orientation and myopia toward

the rest of the world, its cultures, and its traditions." (Jackson & Kwak, 2025, p. 5). Jiaxing Xie notes that in Chinese philosophy, only by viewing the universe and all things as a whole can one understand humanity itself, which is the meaning of the Chinese concept of "harmony between heaven and man." Over two thousand years ago, Xunzi expressed his insight that humans and the universe are one with his words:

> Water and fire have qi 气 (vital breath) but are without life. Grass and trees have life but are without awareness. Birds and beasts have awareness but are with- out yi 义 (a sense of morality and justice). Humans have qi and life and aware- ness, and moreover they have yi. And so they are the most precious things un- der Heaven. They are not as strong as oxen or as fast as horses, but oxen and horses are used by them. How is this so? I say it is because humans are able to form communities while the animals are not.
>
> (Wangzhi 王制) (Xunzi 9.16a; Hutton 2014, p. 76)

This insight has arguably been substantiated by the discovery that "non-equilibrium is the source of order" by Western physicist Ilya Prigogine, providing evidence for the organic connection between physical and biological worlds, which offers a universal theoretical basis for analyzing the non-equilibrium self-organization of the human imaginative community (as will be explained in detail later in this book). David's philosophy, on the other hand, comes not only from the West but also from his many years of cross-cultural research, including living and working on different continents, as reflected in his books such as *Theory and Method in Historical Ethnomusicology*, *Music Glocalization: Heritage and Innovation in a Digital Age*, *Comparative and Decolonial Studies in Philosophy of Education*, and *Ethnomusicology and Cultural Diplomacy*.

Part of the purpose of this book is to explain why music education proceeds in a particular way and now faces a specific set of issues and circumstances, which inevitably aids us in better understanding the broader meaning of music education. For this reason, we delve into the philosophy of history, which at times may cause readers to sense the burden of determinism and feel they lack the agency to personally make decisions that matter. In other words, since this philosophy sometimes emphasizes historical-scientific explanation rather than explicitly advocating specific actions, one response we are likely to get from readers is, "This makes sense, but it looks like there is nothing I can do." In fact, based on our arguments there are many fruitful actions that music teachers can take in their work, and as a profession, we must be clearer about them. Indeed, the philosophical foundation helps us understand *why* things are the way they are, but we recognize it is equally important to clarify *what teachers can actually do* within this framework.

In our book, each chapter is not only a philosophical exploration but also a bridge toward professional rejuvenation through *practical action*:

- In *Chapter 3*, we connect the concept of "group worship" to the *changing role of the teacher*, emphasizing how music educators can shift from authority figures to facilitators of emotional expression and self-discovery.
- In *Chapter 4*, when we discuss the "sacred individual," we introduce *story coding* and encourage teachers to guide students in reconstructing their life narratives through musical engagement.
- In *Chapter 5*, based on our "emotionalized" pedagogical extension upon the 4E model of embodied cognition, we offer the *5E teaching model*, which outlines five concrete teaching strategies (Embodied, Emotionalized, Embedded, Extended, Enacted) that enable teachers to design learning that is emotionally driven, socially grounded, and action-oriented.

Although the first few chapters of this book are necessarily devoted to discussion of the background and key concepts, at the conclusion of each of the central chapters we hope to challenge readers to consider a key question: "Based on these arguments, what can I do differently as a music teacher?" We are therefore concerned here with not only how AI is both disrupting and enhancing the fields of education and music, but also the broader question of how AI promises to challenge and transform the entire human experience, and finally the professional and practical question of how AI can be responsibly applied in music education.

So yes—this philosophy not only explains *why* music education matters in the AI era, but also *how* teachers can create classrooms that nurture individual imagination, global awareness, and emotional intelligence. Our goal is to empower teachers with both insight and actionable strategies.

It is worth noting that the inspiration for incorporating the "non-equilibrium self-organization" theory in this book originally comes from Jiaxing Xie's book, *Anti-Entropy, Life Consciousness, Creation* (Xie, 1989), which embodies his Chinese holistic philosophy, blending East and West, and takes an interdisciplinary approach. As scholar Sun Xiaoyang wrote in the preface of the book, "This is a rare comprehensive discourse on life science that spans physics, biology, philosophy, psychology, literature, art, sociology, and more. It surpasses our traditional, one-sided, overly simplistic narrative methods" (Xie, 1989). The present book combines the non-equilibrium self-organization theory with the concept of "human imaginative community" later proposed by Harari (2011, 2018) and others, leading to a theory of emotion-driven social imagination (to be detailed later). It draws from Jiaxing Xie's years of research in the sociology of non-equilibrium self-organization and oral history, as well as David's extensive fieldwork across continents, from North America, Japan, Russia, New Zealand to Finland and Norway. Undoubtedly, different life experiences play an essential

role in this book. Jiaxing Xie, who experienced the Cultural Revolution, and David, who emphasizes global competence through decolonization studies, offer unique perspectives on the common theme of AI. Because this book uses many Chinese concepts, and we hope for it to be accessible to both Chinese and non-Chinese readers, we have included a Glossary at the end of this Introduction that explains some of the key terms and offers translations in both English and Chinese.

As will become clear, we are as equally concerned about the risks of AI as we are enthusiastic about its potential applications in the fields of education and music. Perceptive readers will note this ambivalence throughout the book, for we predict that AI will increasingly be used as a basis for claims that professional musicians and professional teachers are no longer necessary, and that it will be used as a tool for unlimited exploitation of the intellectual property of artists and educators unless sufficient safeguards are put in place. Rather than a cheapening or watering down of education, or a *demeaning* of musical heritage, we hope to see AI used, to the contrary, as a supplement to existing educational practices that may help to enhance and empower the field through unprecedentedly effective strategies for inclusion (Ruthmann & Hebert, 2018).

Ultimately, compared to emphasizing "philosophy" as a right everyone possesses, some aspects of the debates between Jiaxing Xie and David may seem less significant. If humanity is constructed by imagination (Harari), then the existence of human individuals is predicated on their ability to "imagine." For those living comfortably in spaces traditionally endowed with "imagination," there may appear to be no need to ponder such questions. They do not sense a need to reflect on the problems brought by the traditional imagination or consider AI challenges unless they start to find AI violates their "natural laws." However, in the future, as so much behavioral data is recorded and analyzed by AI, individuals may not sense their personal "imagination" is fully validated if merely based on direct phenomenological experience. Rather than only sharing "my truth" with empathetic friends, there may increasingly be an expectation to confirm with the interpretations of a personal chatbot that has full access to behavioral data. Instead of intimidating individuals in a way that discourages them from philosophizing, AI might contrarily inspire every human to become a philosopher to the extent they are able. Nevertheless, whether from AI's challenges or traditional constraints, a crisis of personal "imagination" has emerged.

Upon careful reflection, everyone can feel this crisis in various ways. Arts are undoubtedly a way to break these constraints, but since the advent of scientism (or even what we call "science idolization"), arts have either been tightly bound within a narrow social space or commodified in simplified forms as advertisements that exist merely to stimulate more consumerism. To the contrary, we see meaningful arts as a way of powerfully expressing a personal philosophy. In this way, philosophy can open a public way for individual artistic expression and also provide more enriching and personalized possibilities for science.

Thus, if personal imagination will continue to exist, philosophy is its only way out. Still, we do not want to suffocate philosophizing in isolated artistic expression nor to overwhelm it in the "commonality" of science, and this is why we strive for the right to "philosophy" for everyone. But what is philosophy? Our common view is that only a systematic perspective that views everything in the world and one's existence as a whole can be considered philosophy. The Chinese call this systematic view "harmony between heaven and man." Chinese cosmologist Fang Lizhi said, "The universe is the way it is because if it were not, it could not produce humans to study the universe. Things are the way they are because of human existence." This is known as the "anthropic principle." If a so-called "philosophy" cannot relate to everything in the universe and the human world, relying only on a few concepts for "rigorous" logical reasoning, it cannot be called philosophy in a complete sense. Similarly, only local reasoning derived from the whole, coupled with "empirical evidence," can be called "science."

Hence, true philosophy no longer exists in the worship of science because the "holism" and "individualism" required by philosophy have been annihilated by the "philosophers" of *science worship*. A new philosophy that recognizes these concerns is necessary today in order for music education to be resilient in this time of rapid change and to remain an important practice for humanity in the future.

Glossary

Anthropomorphic drive 拟人化驱动 nǐrén huà qūdòng	The tendency for humans to envision innovation in terms of "Meta-body" structures, from the Ancient Egyptian Sphinx to today's android robots and human-like digital avatars. This tendency even subconsciously applies to the "body-like" structures of abstract social innovations (e.g., political economy), with social structures inadvertently mirroring cellular ones.
Beautification 美化 měihuà	To aestheticize, frame, adorn or ornament.
Belief 信仰. xìnyǎng	Faith, routine assumptions.
Brainwave dynamics 脑电互动 nǎodiàn hùdòng	The emerging phenomenon of globally networked human brains, in ubiquitous interaction with other individuals and AI, that cannot (as an individual "mind") merely be reduced to electrical impulses and blood flow.
Commodification 商品化 shāngpǐnhuà	To package as a sellable object (e.g., Self-objectification 自我物化 zìwǒ wùhuà, or commodification of self via social media).

Consumerism 消费主义
xiāofèizhǔyì
Late capitalistic ideology of branded product purchasing for personal identity and fulfilment.

Crisis release 危机释放
wēijī shìfàng
See also "Release"; Here occurring as an escape from strained circumstances.

Datafication 数据化
shùjùhuà
Reduction of human characteristics to data and metadata (often leading to oversimplification) due to ubiquitous digitization.

De-meaning 去意义化
qùyìyìhuà
Process by which music genres, rituals, and heritage gradually lose meaning across generations.

Dissipative structures 耗散结构
hàosàn jiégòu
Alternative term for Prigogine's theory of non-equilibrium organization (consisting of stability, absorption, and release).

Embedded 嵌入的
qianrude
Cognition occurs within a specific environment and interacts with it (part of 4E cognition and 5E pedagogy).

Embodied 具身的
jushende
The notion that mind and cognition are closely connected to the body and physical experiences (part of 4E cognition and 5E pedagogy).

Emergence 湧現
yǒngxiàn
To be released from a precondition.

Emotionalized 情感化的
qingganhuade
Cognition is driven by emotional non-equilibrium (part of 4E cognition and 5E pedagogy).

Enacted 行动的
xingdongde
Cognition is realized through bodily actions and interactions (part of 4E cognition and 5E pedagogy).

Extended 扩展的
kuozhande
Cognitive processes can extend beyond the body into the environment through tools and technologies (part of 4E cognition and 5E pedagogy).

Field 场域
chǎngyù
Context of ritual (e.g., Bourdieusian theory).

Flexibility 灵活性
línghuóxìng
Agility, adaptability (see also: resilience).

Glocalimbodied 全球离身化
quánqiú líshēn huà
Alienation due to glocalization, with reduced sense of embodied experience and place (exacerbated by VR and AI).

Glocalization 全球在地化
quánqiú zài dìhuà
Globalization that is shaped by local values and local understandings.

Habitus 惯习
guànxí
Habit/routine (in Bourdieusian theory).

Ideology 意识形态
yìshíxíngtài
Pervasive belief system of values.

Idolization 崇拜
chóngbài
Worship, reverence, to value highly.

Imagination 想象力
xiǎngxiànglì
Creative visualizing of possibilities.

Intelligence leap 智慧跃迁
zhìhuì yuèqiān
Concept that describes how evolutionary progress is made as conditions enable popularization of new modes of both living and understanding.

Inversed ear 反转之耳
fǎnzhuǎn zhīěr
Decolonizing technique used by some musicians in their efforts to understand unfamiliar music (from another culture) on its own terms.

Media revolution 媒介革命
méijiè gémìng
Leaps in human development may be correlated to development of media that enables new forms of communication (verbal language, writing systems, Internet, AI, etc.).

Macro-group intelligence 大群体智慧
daquntizhihui
Sometimes called "civilizational consciousness," this phenomenon plays a central role in shaping identity, values, and the distribution of symbolic power within a large-scale society.

Market wisdom 市场智慧
shìchǎngzhihui
Discredited capitalistic economic theory that markets tend to automatically correct themselves without requiring regulation or intervention.

Meta-body 类身体
leishēntǐ
The collective imagined body, as experienced via avatars in virtual space.

Narrative 叙事
xushi
A tale, story (myth, legend, parable).

Nihilism 虚无主义
xūwúzhǔyì
Rejection of moral principles in the assumption that life is essentially meaningless.

Non-equilibrium 非平衡
fēipínghéng
Organizational principle from physics and biology.

Originality 创意
chuàngyì
Creativity, innovation.

Outsourced sensing 外包感知 wàibāo gǎnzhī	The growing phenomenon of technologically-mediated experiencing of the world, often through sensing proxies, as a substitute for direct perception via embodied experience.
Release 释放 shìfàng	A counterpart to "absorption" and "stability" in social non-equilibrium theory that enables human creativity and imaginative experimentation.
Resilience 达观 dáguān	Able to survive and thrive despite challenges.
Ritual 仪式 yíshì	Traditionally meaningful customary practice.
Sanctification 神圣化 shénshènghuà	Glorification, to make divine or special.
Scientism 科学主义 kēxuézhǔyì	Ideology of excessive trust—even worship—of science.
Selfie-stuck 自拍化 zìpāi huà	Society in which people persist in constantly promoting themselves in social media through photos and videos of mundane activities.
Self-organization 自组织 zìzǔzhī	To reorient one's self (attitudes, routines)
Story coding 故事编码 gùshì biānmǎ	A systematic way of interpreting experience via reference to archetypal narratives that are evident across the span of human civilizations.
Story evolution 故事演化 gùshì yǎnhuà	Global development of human civilization, as understood in terms of three stages based on three fundamental narratives about what most matters in life (Story 1, Story 2, and Story 3).

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