

How to Create an Ecocentric Environment

*through Musical Art:
From Theory to Practice*

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ABSTRACT

Humans have faced a great challenge in the new Anthropocene Epoch of the Earth: the threat of an ecological catastrophe. Dealing with the crisis and correcting our mistakes is the duty of all people, regardless of gender, ethnicity, religion, political or other affiliation. Unfortunately, the majority of the population, numerous politicians and businessmen among them, does not fully grasp the seriousness of the problem. It is important to deepen the society's awareness and sensitivity towards ecological issues, and to actively involve the society in environmental causes.

The main purpose of our paper is to compare anthropocentric and ecocentric attitudes towards environment issues and to share ideas on how to create a more eco-friendly environment in which to raise the next generation. We propose different types of educational methods or activities that will help children to develop elementary habits that will make them more understanding and caring as citizens in relation to nature and the environment.

Keywords: ecomusicology, ecocentric music, the Anthropocene, soundscape, environment

The famous British broadcaster, biologist and natural historian Sir David Attenborough declared at the 25th Annual Crystal Awards Ceremony during the 2019 World Economic Forum in Davos:

'I was born during the Holocene – the name given to the 12,000-year period of climatic stability that allowed humans to settle, farm and create civilizations. [...] The Holocene has ended. The Garden of Eden is no more. We have changed the world so much that scientists say we are in a new geological age: in the Anthropocene, the Age of Humans'.¹

The Anthropocene prioritizes human needs, whereas ecocentrism emphasizes ecosystems' intrinsic value and holistic environmental protection. This conflict is central to sustainability and ethics. Haydn Washington and his colleagues argue that ecocentrism is essential for long-term sustainability, asserting that human activities should be reoriented to prioritize ecosystem health.²

In the new era of the Anthropocene, humanity faces a serious challenge, including the environmental crisis that requires collective responsibility regardless

of gender, ethnicity, religion, and political affiliation. Researchers argue that climate change, global warming, and renewable energy are modern issues, but early humans were influencing their environment as early as 10,000 years ago. 'Through this crowdsourced data, we're seeing how the environment was used to have a global impact 3,000 years ago,' says Gary Feynman,³ curator of anthropology at the MacArthur Field Museum and one of the study's 250 authors.⁴

Archaeological research reveals that ancient civilizations significantly impacted Earth's environment earlier than previously believed, starting in the Holocene with land use. Before the Anthropocene many cultures, such as those in Tuvalu and Vanuatu, integrated nature into their spiritual and practical lives, performing rituals to honor the Earth and linking their well-being to natural cycles. This worldview emphasized humans as participants in the natural world. Indigenous cultures, such as the Māori of New Zealand, practiced *kaitiakitanga*, or guardianship of the Earth. The concept of Earth-Centered Practice highlights the role of humans within the larger ecological system, with rituals designed to care for the land. Ancient round dances often reflected a deep connection with the Earth and cosmic symbolism. Societies such as those in Mesopotamia performed ceremonies to acknowledge their dependence on nature, seeking blessing for harvest and demonstrating an early recognition of humanity's place within the ecosystem, rather than dominance over it.⁵ Prior to the Anthropocene, humans acknowledged the Earth as life's source rather than assuming a position of omnipotence. Through ancient rituals, people sought protection and blessing from the Earth and expressed gratitude.

1 David Attenborough, 'The Garden of Eden is no more', *World Economic Forum, Nature and Biodiversity*, [www.weforum.org], 21 Jan. 2019, <https://www.weforum.org/agenda/2019/01/david-attenborough-transcript-from-crystal-award-speech/>, accessed 23 Aug. 2024.

2 Haydn Washington and others, 'Why ecocentrism is the key pathway to sustainability', *The Ecological Citizen*, 1/1 (2017), 35–41, <https://www.ecologicalcitizen.net/pdfs/v01n1-08.pdf>, accessed 24 Oct. 2024.

3 ScienceDaily, Science News, 'Ancient civilizations were already messing up the planet', Field Museum, <https://www.sciencedaily.com/releases/2019/08/190829150702.htm>, accessed 24 Oct. 2024.

4 Lucas Stephens and others, 'Archaeological assessment reveals Earth's early transformation through land use', *SCIENCE*, 365/6456 (2019), 897–902, <https://doi.org/10.1126/science.aax1192>, accessed 24 Oct. 2024.

5 Proceedings of the Conference 'Heaven on Earth: Temples, Ritual, & Cosmic Symbolism in the Ancient World', *Institute for the study of ancient cultures*, organizer: Deena Ragavan, The Oriental Institute, University of Chicago, 2–3 March 2012, https://isac.uchicago.edu/sites/default/files/uploads/shared/docs/OIS8_ProgramAbstracts.pdf, accessed 24 Oct. 2024.

However, with the rise of egocentrism and the Industrial Revolution, humanity's ability to communicate with the natural world diminished. As industries grew, the Earth was transformed into a resource for consumption, mirroring a growing sense of human dominance and narcissism.⁶ Pro-environmental behavior represents 'behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built worlds (e.g. minimize resource and energy consumption, use of non-toxic substances, reduce waste production).'⁷ The rapid technological advancements of the Industrial Revolution reinforced a mindset that prioritized human needs over ecological balance, contributing to a form of narcissism that not only objectified the Earth but also dehumanized social relationships.⁸

As the Georgian composer and scientist Nodar Mamisashvili⁹ noted in his philosophical-esoteric book *Mystical Anatomy*:

Civilization also experiences its own twists and turns, its evolutionary and involutionary cycles. The crucial point is that an individual possesses the ability to articulate their unique voice in the world. The sole path to preserve civilization is for a human being to continually surpass human in himself.¹⁰

6 Mircea Cătălin Dîrțu and Oara Prundeanu, 'Narcissism and Pro-Environmental Behaviors: The Mediating Role of Self-Monitoring, Environmental Control and Attitudes', *Sustainability*, 15/2, 2023, 1571, <https://www.mdpi.com/2071-1050/15/2/1571>, accessed 24 Oct. 2024.

7 Anja Kollmuss and Julian Agyeman, 'Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior?', *Taylor & Francis, Environmental Education Research*, 8 (2002), 240, <https://www.tandfonline.com/doi/abs/10.1080/13504620220145401>, accessed 24 Oct. 2024.

8 Jeremy L. Caradonna, *Sustainability: A History, Revised and Updated Edition* (New York, 2022), <https://academic.oup.com/book/43076>, accessed 24 Oct. 2024.

9 Nodar Mamisashvili (1930–2022), a Georgian composer, scientist, and thinker of the 20th and 21st centuries, made significant contributions across multiple disciplines. He held the title of honorary academician at the Georgian Engineering Academy and was the author of HoloStudio. Mamisashvili also served as a professor and vice-president at the 'NooSphere' Academy, taught at Tbilisi State Conservatoire, and was a guest professor at the Academy of Arts and Georgian Technical University. Furthermore, he founded and coordinated the Sound Ecology Center, acted as a consultant on acoustic matters for the Association 'ATU,' and served as a consultant for the Church Singing College at the Georgian Patriarchate.

10 Nodar Mamisashvili, *Mystical Anatomy* (Tbilisi, 2023), 30.

Mamisashvili's work is dedicated to the dialogue between humanity and the Universe. He underscores the necessity of rectifying past mistakes and emphasizes the importance of active engagement in ecological processes, stating: 'And another great warning: think about ecology! Think about the salvation of man!'¹¹

Since ancient times, human societies have transformed and managed landscapes for thousands of years, altering global patterns of biodiversity, ecosystem functioning, and climate. Over the past centuries, the violent and irresponsible attitudes of our civilization toward the planet have raised significant concerns for future generations. This leads to an important question: is the Anthropocene Epoch (defined by human behaviour toward the Earth) a natural condition of the planet? The crisis we face today may cost the lives of future generations if we fail to develop the capacity to properly care for and respect nature. It is crucial to deepen the society's awareness and sensitivity toward ecological issues and actively engage the public in addressing environmental challenges. Researchers recommend incorporating ecocentric principles into management education to shift away from technocentric approaches, which view the environment as a resource to be managed. Stephen Allen and his colleagues claim

that we need an ecocentric approach to sustainability that draws on insights from sociomateriality studies to move towards educating students in ways that bring attention to interactions between values, actions and our social and material world.¹²

Ronald E. Purser, Park Changkil and Alfonso Montuori argue for a paradigm shift that sees humans as part of an embedded, interconnected system within nature. This broader view requires management and business practices to incorporate ecocentric values for true sustainability.¹³

In our opinion, there are two distinct approaches to solving ecological problems:

- The ego-(anthropo)centric approach that focuses on creating an environment favorable to human living,

11 Mamisashvili, *Mystical*, 61.

12 Stephan Allen, Ann L. Cunliffe, and Mark Easterby-Smith, 'Understanding Sustainability Through the Lens of Ecocentric Radical-Reflexivity: Implications for Management Education', *Journal of Business Ethics*, 154 (2019), 782, <https://doi.org/10.1007/s10551-016-3420-3>, accessed 24 Oct. 2024.

13 Ronald E. Purser, Park Changkil, and Alfonso Montuori, 'Understanding Sustainability Through Ecocentric Radical-Reflexivity', *Academy of Management Review*, 20/4 (1995), 1053–1080.

incorporating biofood, air and water purification, and eco-friendly housing materials.

- The ecocentric approach that prioritizes Earth's ecosystems, viewing humans as a bioresource within both biotic and abiotic systems, aiming to maintain a healthy environment globally for all life forms.

That latter concept is exemplified by the acoustic ecology approach associated with the Canadian composer and writer Raymond Murray Schafer, who coined the term 'soundscape'. He viewed the world as a kind of musical instrument that undergoes a constant process of retuning. According to Schafer, the sound environment exhibits a distinct evolutionary and variability factor. 'The transition from the hi-fi to the lo-fi soundscape has taken place gradually over many centuries.'¹⁴ Today, many musicians are investigating environmental issues through the lens of soundscape ecology and ecomusicology. For example, contemporary sound artist, composer, and audio engineer David Stalling studies the Earth's sounds. He has produced compelling recordings¹⁵ that capture ocean-wave-generated vibrations within secondary microseisms, as well as seismic signals caused by road traffic and industrial activity. In their article 'Anthropocentric and Ecocentric Perspectives on Music and Environment', Aaron S. Allen and Jeff Todd Titon explain that:

for too long we musicologists and ethnomusicologists have excluded or minimized the abiotic and non-human biotic environments in scholarship on music and sound... Ecocentric music scholarship decentres the human: the environment is no longer regarded merely as context, but as "the thing itself" that includes the human along with everything else, the biotic and abiotic.¹⁶

EGO-(ANTHROPO)CENTRIC AND ECOCENTRIC APPROACHES REFLECTED IN MUSIC

Sound and music are integral components of the Earth's ecosystem, making it essential to study their

positive and negative impacts for a clean and healthy environment. This necessity has led to the emergence of a new branch of musicology called ecomusicology, which examines the interactions between music, society, and the environment. Nature's acoustics have provided humanity with countless musical ideas, which have further been enhanced through the evolution of musical techniques and performance practices. By imitating natural sounds, humans initially learned to create instruments. Over time, through instrument modifications and artificially established rules, music has developed a wide range of sounds. However, this evolution has also distanced music from its original environment, and with the establishment of aesthetic norms, it became increasingly separated from the Earth's general sound system.

The above-mentioned factors are also reflected in music and influence its elements that express the musical idea, for example, the type of texture. We have divided the possible approaches to musical material for composition into three types:

- Natural Ecocentric,
- Egocentric,
- Conscious Ecocentric.

The first approach is characteristic of ancient traditional and folk music focusing on anonymity, natural instrument tunings, improvisation, ritual genres, interactive performances, and environmental audio effects. Texture construction involves heterophonic and polyphonic techniques, allowing harmoniously equal melodies to coexist, reflecting organic connections within the ecosystem. In our opinion, the shift from an ecocentric to an egocentric approach to music creation can be observed in European music from the Middle Ages to the Baroque era, which is marked by the emergence of famous composers and performers. The latter approach reflects the desire to control natural phenomena, which led to the development of compositional techniques and new technologies for musical instruments (e.g., the piano with its equal temperament tuning is one of the first products of musical egocentrism). The egocentric approach also implies isolation from the sounds of the environment and the construction of concert halls, as well as the invention of new forms and genres, representing great spiritual and intellectual achievements that are truly the treasures of civilization. The desire for leadership, power and individuality became the central subjects of egocentrism. This is especially evident in genres such as the *concerto* (competition) and *fugue* (run),

¹⁴ Raymond Murray Schafer, *The Soundscape: Our Sonic Environment and The Tuning of the World* (Rochester, Vermont, 1977), 43.

¹⁵ <https://www.youtube.com/@farpointrecordings>, accessed 24 Oct. 2024.

¹⁶ Aaron S. Allen and Jeff Todd Titon, 'Introduction: Anthropocentric and Ecocentric Perspectives on Music and Environment', *MUSICultures*, 46/2 (2020), 2–5, <https://journals.lib.unb.ca/index.php/MC/article/view/30487>, accessed 23 Aug. 2024.

where polyphonic technique emphasizes the separation of themes and the promotion of one idea over others. As a result of the above-mentioned musical processes, the Egocentric approach to composing a musical work appears, which is further represented by homophonic textures, where one voice (the melody) becomes the leading one, and the accompanying voices serve as harmonic subordinates. The equality of melodies is lost, and all the other voices or parts are reduced to the role of support for the dominant melody.

In the 20th century, there was a conscious return to an ecocentric musical approach to composing music, with composers introducing aleatory techniques and incorporating natural sounds into music. Olivier Messiaen's study of birdsong and its inclusion in his music is an example of this approach, which aims to integrate ecological awareness into future music for the next generation. An echo of this quest can be heard in Ferruccio Busoni's profound question: 'How music may be restored to its primitive, natural essence?'¹⁷ Four Georgian composers from the Tbilisi State Conservatoire: Eka Chabashvili, Maka Virsaladze, Alexandre Chokhonelidze, and Joni Asitashvili, are engaging with this question through their artistic research project titled: 'Specifics of composing and performing eco-music works created for "Sound Oasis"' implemented within the framework of the fundamental research 'Implementation of Ecomusicology Research Methodology for the Study of the Georgian Music Ecosystem' [FR-22-8174]. The project is financed by the Shota Rustaveli National Science Foundation of Georgia.

The above-listed group of Georgian composers has embarked on an innovative search for music constructed with the ambient sounds of nature. Their research aimed to discover a compositional method whereby environmental sounds are integrated into the texture of musical works. By conducting expeditions and experiments in diverse locations such as caves, forests with and without waterfalls, and city parks, they explored the unique sound materials of each environment.¹⁸ The key conclusion from this research is that in order to create ecocentric music, a composer must identify a 'sound oasis', i.e. a place conceived as a musical instrument for performance. This involves listening to and analyzing

both stable and dynamic ambient sound sources and incorporating them as musical material during the composition process. Composers must first study the ambient sounds, understand their dynamics, timbres, textures, and timing, and find a suitable space for their musical material and instrumental timbres within this soundscape. The composition itself becomes aleatory and improvisational, with its beginning and end defined during actual performance.

The group established an eco-music club and organized experimental, interactive concerts with students from a music school and Tbilisi State Conservatoire. One of their most memorable performances, 'Let's Listen to the Caves', took place in the Prometheus cave in Georgia. During this event, tourists were invited to participate by singing a note when signalled by the guide-performer, enhancing the natural acoustic environment of the cave. The tour, twice as long as usual, focused on listening to the ambient sounds of the cave, complemented by eco-music performed by students. Participants reported a unique experience of hearing the 'voice of the earth' and recognized the cave as a 'sound oasis'.¹⁹

RAISING ENVIRONMENTAL AWARENESS THROUGH MUSIC EDUCATION USING ECOCENTRIC TEACHING METHODS

In 1975 The United Nations Educational, Scientific, and Cultural Organization (UNESCO) proposed a global framework for environmental education. The so-called Belgrade Charter states:

The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.²⁰

To foster ecological awareness in future generations, music education must shift from an anthropocentric to an ecocentric framework. This involves rethinking the ways in which we teach musical concepts. Ethnomusicologists assert that all humans, not just those that we call

17 Ferruccio Busoni, *Sketch of a New Esthetic of Music*, tr. Dr. Theodore Baker (New York, 1911), 34.

18 Recordings of Eco-Music Club projects' performances, <https://www.youtube.com/@Eco-MusicClub-ig9gn>, accessed 24 Oct. 2024.

19 <https://www.youtube.com/watch?v=yHZSJeo7Dp8&t=11s>, accessed 24 Oct. 2024.

20 Helen Kopnina, 'Ecocentric Education: Introduction to a Special Collection of Essays', *Education Sciences* 10/9 (2020), 217, <https://www.mdpi.com/2227-7102/10/9/217>, accessed 24 Oct. 2024.

musicians, are musical, highlighting the importance of studying music's geographical and historical diversity to an understanding of human nature.²¹ In the Anthropocene, the human ear has become more selective, leading to a simplification of sound perception. Combinatorial thinking, emotional manipulation in music, and professional competition—all products of an industrialized music culture—are shaping modern musical creation. Nevertheless, there is a persistent nostalgic longing for ecocentrism, reflected in music inspired by nature or soundscapes, such as Beethoven's 'Pastoral' Symphony, Chopin's nocturnes, and the works of Debussy. We perceive a specific portion of sounds as music and systematize them. These systems ultimately give rise to various musical directions, each of which has its rightful place in the educational process. The human body, much like a musical instrument, also undergoes transformations in response to ambient acoustics. This is most notably reflected in how the body adapts to its environment. Musical memory, an intrinsic characteristic of the human body, retains ancient information while simultaneously acquiring, adapting, and modifying new data. Thus, the perception of older forms of music remains accessible, even when transitioning to new modes of 'body tuning'. However, resonating with this music becomes more challenging due to psychological factors.

Creating an eco-friendly environment within the educational process hinges on several important ecocentric aspects, which guide how music education can align with ecological awareness and sustainability. These aspects include the psycho-social relationships and attitudes toward the issue,²² as well as the ecomusicological approach. This perspective demands a transdisciplinary and interdisciplinary approach, which links music education to broader ecological issues.

We should avoid being overly rigid in our explanations and presenting only one interpretation of the musical

problem we aim to teach. It is essential to offer students alternative perspectives and/or allow space for their own interpretations. Encouraging diverse viewpoints fosters critical thinking and creativity, enabling students to engage more deeply with the material. For example when explaining the essence of rhythm in music, it is important to remember that birds create far more complex rhythmic patterns in their songs than humans do. Similarly, the howling of wolves can be seen as an analogy to the Bourdon bass, suggesting that humans may have learned this concept from nature. When teaching musical notation, after showing that the 'C' of the first octave is written on the first ledger line and placing it according to the clef, we should also explain that music is both volumetric and abstract. The linear arrangement of musical notes on a staff is a man-made convention for clarity, but sound actually surrounds us, not merely in a straight line like a visual image. While teaching musical intervals, instead of solely demonstrating the distance between piano keys, we can encourage students to listen to conversations and everyday sounds. We can explain that intervals reflect the propagation of sound through musical time and space, defining two types of movement: pitch in space and rhythm in time. Only after such conceptual understanding has been attained should we introduce the tempered system and, for comparison, mention intervals found in animal calls, which function outside formal musical systems. Incorporating outdoor lessons in nature, listening to environmental sounds, and allowing for free improvisation can further enhance students' musical understanding. The ecocentric approach thus allows students to see the connection between nature and music, fostering a deeper understanding of both.

CONCLUSION

To create an eco-friendly environment, it is essential to consider a wide range of interconnected factors, from the individual psyche to the relationship between humans and the world. Art, we believe, is the gateway for individuals to transcend their egos. The artistic and musical educational space, with its potential for art therapy, emerges as a highly effective tool for fostering an ecologically positive mindset in human society.

The auditory environment is not exclusive to human life. It is a part of the biosphere, in which every element produces its own sound, and human voices merely exist within this larger sonic landscape. The fundamental problem consists in our failure to listen

21 Timothy Rice, *Ethnomusicology: A Very Short Introduction* (New York, 2014), <https://academic.oup.com/book/509>, accessed 24 Oct. 2024.

22 We recommend that teachers familiarize themselves with the emotional tone scale developed by Ronald Hubbard in 1954 and share this concept with their students. It is important to explain that emotional tone is not merely an individual concern; it significantly influences social relationships and can affect the mood of others. Emotional tone is, in fact, contagious, and a teacher's ability to maintain a positive tone during lessons can foster a more constructive and engaging learning environment.

to the environment, regardless of whether people wear headphones or not. The rise of ecocentrism offers hope that humanity will eventually come to its senses and begin to listen, be it even to an individual song thrush, which, unlike humans, lives in remarkable harmony with the sounds of the Earth. Music education can implement the idea of ecopedagogy, which promotes the rights of all living organisms²³, since the harmony expressed in music reflects a model of the universe itself.

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23 Richard Kahn, *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement* (New York, 2010).

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