

Master's Thesis | Contemporary Theatre, Dance and Dramaturgy

**How to join the more-than-human orchestra -
Introducing eco-musicality as an analytical concept in
post-anthropocentric performance**

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“... our voice is merely borrowed from the elements and returned to it. We could not express ourselves vocally without the wind we first inhale from the atmosphere and then exhale over the chords of the larynx – in which case we flatter ourselves that our voices belong to us and us alone.”

(Pettman 70)

Abstract

This thesis works to establish eco-musicality as an analytical lens for post-anthropocentric theatre to examine how instances of music-making and listening can facilitate experiences of more-than-human entanglement and togetherness. Informed by an understanding of ecology that centralises more-than-human interconnection and interrelation, I have based my understanding of eco-musicality on four sub-concepts: (1) *attunement*, based on the definition by Ash and Gallacher, which argues for a change in perception towards recognising the nonhuman as an agentic presence and interrelated collaborator, (2) *embodiment*, which recognises the bodily origin of sound (human/nonhuman), placing emphasis on the physicality of sound in vibration and its effect on the more-than-human body, and (3) *horizontality*, which draws on Bennett's more-than-human assemblage and builds on the physicality of music-making and listening, thereby revealing musicality as a more-than-human activity. Lastly, though not an analytical sub-concept in the same right, I also consider (4) the *socio-political context* of the performances as it reveals the intersectionality of the ecological thought which equally penetrates my case study performances' musical components: prompting questions of who has a voice and who is being listened to. To test out this analytical approach, I am examining three post-anthropocentric performances which incorporate musicality in varying ways: Simone Kenyon's *Into The Mountain* (2019), Kate McIntosh's *To Speak Light Pours Out* (2021), and Bert Barten's *Talking Trees* (2018). Based on these analyses, I highlight the ecological potential of musicality in facilitating experiences of more-than-human connectedness: music-making and listening as activities which engage all matter, which disregard the arbitrary dualism of human/nonhuman, and through which theatre may enable multiple, entangled and more-than-human ways of being. I ultimately argue that it is through an eco-musical analysis of performance that we can recognise how musical elements enable ecological experiences.

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Introduction

When we listen to music, who is it we are listening to? Are we listening to the instrument, the player, the air carrying over their soundwaves? And what does listening do to us? Do we become included in this musical making through receiving sounds in our body? Can we experience a sense of entanglement and togetherness through musical experiences? When standing in a forest and listening to the birds, the rustling of the wind in the leaves, the sounds our feet make on the muddy paths, our breathing, rain falling onto branches, do we not become part of that forest's soundscape? Ultimately, these are questions of entanglement, of more-than-human relations and the ways in which musical experiences can facilitate a sense of more-than-human togetherness. These are also questions that have become more recently pressing in ecological theatre.

Since the 1990s there has been increasing interest in eco-theatre, where the artform is often regarded as an activist tool, a facilitator of environmental education or a space to present 'nature' as aesthetically valuable. Early on, theatre researchers have identified and criticised such approaches as anthropocentric since they perpetuate a vision of the human as a hierarchically positioned outsider in need of encouragement to 'save nature' (May, 'Greening the Theatre: Taking Ecocriticism from Page to Stage', 'Beyond Bambi'; Chaudhuri). I build my thesis on this line of criticism, following researchers such as Jess Allen and Bronwyn Preece who vehemently negate the idea of the human saviour acting upon nature from an almighty outsider's position; instead they propose the term ecology "to indicate reciprocal connection and coexistence: ecology as the interrelationships in which beings or indeed objects (biological, geological, meteorological) are embedded, and through which they also emerge as what they are." (Allen and Preece 5)

Not only does this vision of ecology go beyond the animal and organic (including e.g., rocks, oceans, weather, and air), but it acknowledges the human as interconnected and interdependent rather than isolated and sovereign. From this perspective, theatre itself is an ecological practice,

dependent on the interrelation and interaction of multiple heterogenous parts and bodies.¹ The same can be said for music: the creation and reception of sound is dependent on the interaction and entanglement of various different bodies (players, listeners, instruments, air, and space), presenting music as an equally ecological practice. Furthermore, considering music's more-than-human qualities (e.g., the 'singing' of nonhuman animals such as birds or whales; our physical/bodily experience of sound as vibration), it is surprising that a connection between music and eco-theatre has been missing. Eco-theatrical research has so far neglected music's potential to facilitate ecological experiences, especially since there has been increased use of music in a variety of recent post-anthropocentric eco-theatre.² It therefore seems relevant and fruitful to examine the functioning of musical actions in ecological post-anthropocentric performance: how are musical moments incorporated in post-anthropocentric performance and how do they affect spectatorial experiences? How could musical elements facilitate ecological experiences? How can we experience interconnection and horizontality with the more-than-human through music-making and/or listening?

To discuss how musical activities can support ecological experiences and act as dramaturgical elements in post-anthropocentric performance, I introduce the concept of *eco-musicality*. Intended to provide a lens through which to identify and understand the overlap between musicality and ecology, it is based on the following sub-categories: attunement, embodiment,

¹ This vision of theatre as an intrinsically ecological practice has been largely developed by Baz Kershaw, who asserts that "theatre and performance in all their manifestations always involve the interrelational interdependence of 'organisms-in-environments'." (Kershaw 16) Carl Lavery has also been a prominent supporter of theatre as an ecological medium, as exemplified in multiple publications (Lavery, 'Theatre and Time Ecology', 'Introduction', 'The Ecology of the Image').

² Various recent performances addressing post-anthropocentric ideas have included music as a central component of their composition: English sound artist Chris Watson's installation *Seaphony* (2022) presents an immersive staging of various ocean soundscapes, drawing attention to the variety of nonhuman musicians (animals, water, weather, etc.) as well as the growing issue of anthropogenic noise pollution. *Fremdkörper* (2021), a posthuman performance installation by Dutch duo Boogaardt/Vanderschoot places the spectator in a human-dummy filled dormitory to investigate a post-anthropocentric vision of the future and utilises music-making and listening to centralise bodily physicality through ritualistic processes. Lastly, more conventional music theatre has also shown an interest in ecological or environmental narratives: Club Gewalt's *Anthropocéen, De musical* (2021) personifies nonhuman agents such as oceans and volcanoes to let them sing about anthropogenic climate change, whereas Mary Finsterer's 2022 opera *Antarctica* uses Antarctic research data as musical inspiration to personify the titular continent in its music.

horizontality, and socio-political context. I will explain this concept and its sub-categories in more detail in chapter one of this thesis, thereby establishing the theoretical and conceptual foundation for my case study analyses. By presenting and applying the concept of eco-musicality, I ultimately hope to answer the following question: **“How can eco-musicality be employed to analyse how musical actions may facilitate ecological experiences in post-anthropocentric theatre?”**

I am drawing on key readings from post-anthropocentric performance research and new materialism to situate my focus on musicality in the current research on human/nonhuman performance. Authors such as Jane Bennett who, in their research, stress the agentic potential of nonhuman bodies by emphasising the interconnectedness of human and nonhuman agents, are central to my research. As Bennett remarks: “Humanity and nonhumanity have always performed an intricate dance with each other. There was never a time when human agency was anything other than an interfolding network of humanity and nonhumanity; today this mingling has become harder to ignore.” (Bennett 31) Not only does she negate human centrality and exclusivity in favour of human/nonhuman entanglement, her use of language (“an intricate dance”) emphasises the importance of engagement, closeness and movement and thereby lends itself not only to post-anthropocentric performance research in general, but to my focus on eco-musicality specifically.

Most performances exploring human/nonhuman interrelation can be grouped under the umbrella of post-anthropocentric theatre, exploring the performative potential of nonhuman entities. Often, post-anthropocentric theatre takes the shape of site-specific performances (Minty Donald and Nick Miller’s *Bridging Part I*, 2010; Building Conversation’s *RHIZOME*, 2021) or installation art (Fevered Sleep’s *The Weather Factory*, 2010; Heiner Goebbels’ *Stifters Dinge*, 2007). Most recently, post-anthropocentric performance research has focused on the ecological as a dramaturgical strategy, as for example in Lisa Woynarski’s monograph *Ecodramaturgies*, where she maps various dramaturgical concepts and strategies to investigate “how ecological thinking is enacted, embodied and performed through ways of viewing, making and experiencing performances.” (Woynarski 9) Similarly, this thesis aims to explore how ecological thinking is enacted, embodied, and encouraged using musicality as a dramaturgical strategy in theatre and performance practices. Even though many post-anthropocentric performances include musical elements in their compositions or actively encourage musical actions from the audience, there is barely any discussion surrounding

musicality's functioning as a dramaturgical device in post-anthropocentric theatre. By introducing the concept of eco-musicality, I hope to not only close this gap in eco-theatrical research, but encourage further explorations of the intersections between music, theatre, and ecology.

Defining 'ecology'

At the heart of this research and of the performances I will discuss, lies the ecological thought. To understand the focus and intention of my thesis, it is necessary to distinguish between environmental and ecological thinking as employed throughout this research. Whereas environmentalism focuses on a protection and preservation of the natural environment, ecology is a much broader, conceptual idea. Whereas environmentalism can be seen as activist, promoting a certain ideological agenda to tackle climate change, ecology describes our being in and with the world. Viewing the human as part of the environment and therefore proposing a horizontalized view of human/nonhuman relations, it is a way of thinking that positions itself in opposition to anthropocentrism. The ecological thought has been coined by British anthropologist Timothy Morton, who describes it as the process of becoming aware of more-than-human interrelations: "The ecological thought doesn't just occur "in the mind". It's a practice and a process of becoming fully aware of how human beings are connected with other beings – animal, vegetable, or mineral." (Morton 7) The ecological thought requires an ongoing rethinking of the human position as well as an acknowledging of our interrelation with the more-than-human. A recognition of the weblike intimacy in which we, as material bodies, find ourselves with other material bodies – both human/nonhuman and organic/inorganic. This latter pair is important to acknowledge to emphasise the distinction between ecological and environmental thought. Whereas the latter is associated with the preservation of 'nature', the former makes no distinction between organic/inorganic or moving/stagnant bodies: the ecological thought encompasses all bodies, whether fleshy, botanical, mineral, or mechanical.

Structure

In this thesis I approach the facilitation of ecological experiences throughout two chapters: in chapter one, I introduce the concept of eco-musicality, by detailing my understanding of musicality and ecology in the context of theatre and performance analysis and examining the connection between the two through a focus on attunement, embodiment, horizontality, and socio-political context. The first three of these sub-categories are frequently-used concepts in

contemporary theatre research and often related to posthumanism or post-anthropocentric theatre. What is novel about my research approach is their combination to create a conceptual foundation for building a new analytical lens. The socio-political context of a performance cannot really be described as ‘conceptual’, however, when discussing the ecological implications of a performance or its creation of an ecological experience, it is necessary to discuss the socio-political situation surrounding it since the ecological debate is an intersectional one. Chapter one will explain this construct of sub-concepts and contexts in more detail.

The second chapter is dedicated to case study analyses: I am applying eco-musicality to three different, recent post-anthropocentric performances – Simone Kenyon’s *Into The Mountain* (2019), Kate McIntosh’s *To Speak Light Pours Out* (2021), and Bert Barten’s *Talking Trees* (2018) – to analyse how the dramaturgical decisions made highlight ecological thinking and provide the audience with a recognition of more-than-human entanglement. My analytical approach is inspired by the relational approach proposed by Liesbeth Groot Nibbelink and Sigrid Merx: to analyse how experiences and meaning are produced in theatrical performances, they consider the interrelation of composition, spectatorship, and context as central to dramaturgical analysis. As they themselves define it: “Looking at contemporary staging practices, ... dramaturgy is not only concerned with the knowledge of composition and storytelling principles, but also with exploring how theatrical strategies are put to use to manage the attention of the audience, how these strategies create meaning and experience, and how theatre, dance, and performance relate to the ‘world at large’.” (Groot Nibbelink and Merx 6) Neither of these three components act in isolation: performances are understood as assemblages of interacting and interrelating elements. In its relationality, it is also not a strictly fixed analytical model, that, while acknowledging the presence and importance of all three aspects, leaves room to shift emphasis depending on the performance’s focus. As Groot Nibbelink and Merx assert: “We envision the three sides of our triangle [composition, spectatorship, context] as flexible bases from which one can start the analysis at any point, facilitating a movement back and forth between these planes of meaning-making.” (Ibid. 9) Considering that interconnection and interrelation lie at the heart of the ecological thought, it seems fitting to base my eco-musical analyses on a dramaturgical model founded on the same principles.

Eco-musicality is itself based on ideas which blur the lines between composition, spectatorship, and context (attunement, embodiment, horizontality, and socio-political context). Through my case study analyses I hope to prove the usefulness of eco-musicality as a conceptual lens through which we can research how musicality may aid an ecological experience in post-anthropocentric performance. Advancing ecological theatre means recognising the nonhuman not only as an agentic performer, but recognising our own, human position as interrelational and connected rather than hierarchical and isolated. Through more-than-human music-making and listening, we might be able to get closer to becoming aware of our own interrelation with the nonhuman. With this thesis, I ultimately hope to highlight how musical experiences may help us recognise the foundation of the ecological thought: more-than-human entanglement.

Chapter 1 – Eco-musicality

Section I – Tracing eco-musicality

In recent years, theatre and performance art have been utilised to provide ecological experiences to audiences and raise awareness of human/nonhuman interconnection – a thought that lies at the foundation of the ecological idea. Within this chapter I will look at one element of eco-performances which has been widely overlooked in theatre research overall: musicality. Musicality, a dramaturgical element which I define as comprising both music-making and listening, encompasses a multitude of concepts for establishing ecological connections within performances. I focus especially on its connection to attunement, embodiment, horizontality, and ecology's socio-political/intersectional context to establish the analytical concept at the heart of this thesis, namely eco-musicality. By establishing eco-musicality and its adjacent elements, I will cement it as an analytical concept for post-anthropocentric and ecological theatre, laying the foundation for my following case study analyses.

Musicality vs music

'Musicality', in the context of this research, should not be confused with 'music'. Whereas the former describes a set of predispositions that allow for the making and experiencing of musical sounds, the latter is usually understood as a cultural phenomenon exclusive to humans (Gracyk and Kania 6 f., Honing and Ploeger 516). Even though there is no strict definition of music, it is commonly researched as a cultural phenomenon. In their publication on music's evolutionary origins, *The Origins of Music*, Nils L. Wallin et al. combine biological and ethnographic research to shed light on the development of musical culture. As they assert, a singular definition of music is impossible, considering its multifaceted makeup: it both describes a certain ordering of sound according to stylistic, cultural and/or historical conventions, as well as a functional role in social practices or rituals (cf. Wallin et al.). Considering this simultaneous openness and limitation of 'music' as a practice – limited in its human exclusivity yet too broad in application and definition – I find the term ill-fitting for this research, therefore using 'musicality' instead.

Musicality presents a much broader view on music-making and listening, referring to abilities rather than the musical product. On a terminological level, the differentiation between music and musicality has been mostly associated with biomusical research, which focuses on the cognitive and evolutionary developments that have led to humanity's musical capabilities. Henkjan Honing, whose research focuses on the cognition of music, defines the two accordingly: "*Musicality* is defined ... as a natural, spontaneously developing set of traits based on and constrained by our cognitive abilities and their underlying biology. *Music* is defined as a social and cultural construct based on that very musicality." (Honing 51, original emphasis) He differentiates between the sound that is produced to serve a socio-cultural function and the abilities that underly its production and experience.

Adrian Currie and Anton Killin, building on Honing's research, roughly subscribe to the same distinction, but expand on both the complexity of defining music and, consequently, the differentiation between music and musicality. Concerning the former debate, instead of deciding on one categorization of music, they argue for a multifaceted and pluralistic approach, since "there is no objective, definitive definition of music independent of some explanatory context; rather, there are multiple, non-equivalent, legitimate concepts of music." (Currie and Killin 10) Opposing a singular definition, Currie and Killin underline the complexity and context-reliance of music research. Considering their interrelational and pluralistic approach, it is useful to acknowledge how they distinguish music and musicality, as well as how they approach the supposed human exclusivity of music. Even though they acknowledge music as a largely socio-cultural, and therefore predominantly human practice, they nevertheless introduce musicality as a more-than-human capacity: "Even if music ... is distinctly human, it doesn't follow that the traits which underlie music are not shared with other critters." (Ibid. 20)

Kathleen Higgins takes a similar approach in questioning whether a distinction between human and nonhuman musical capacities is necessary or relevant for our experience of music. Higgins, who focuses on music as an intercultural, humanly universal practice in her 2012 publication, *The Music Between Us*, dedicates a chapter to the more-than-human nature of musical experiences. In a surprisingly ecological argumentation, Higgins arrives at two conclusions: firstly, she breaks with the understanding that music is an exclusively human trait based on the sole argumentation that humanity can be defined by its capacity for music. This argument, in Higgins opinion, is not only circular, it is simply wrong, "for other animals also enjoy music." (Higgins 18) Secondly, and more importantly, she shifts the attention from music as an intrinsic

quality of sound to a perceptual experience. Since there is no fixed definition of music and its purported sonic rules have been repeatedly broken, it seems redundant to try and define music and musicality through conventions.³ Therefore, instead of focusing on an impossible objective quality of musical sound, Higgins assigns musical quality to nonhuman sound sources through our perception of them as such. She thereby proposes an ecological vision of the more-than-human, as we recognize our connection with them through musical experiences: “Just as we recognize the life and energy of other human beings when we listen to music, we recognize kindred life and energy of birds and other creatures through the sounds they produce. The delight we take in birdsong, for example, is continuous with our pleasure in human music, for it is similarly grounded in a recognition that we are part of the same living world.” (Ibid. 18)

By using the term ‘musicality’ throughout this research, I hope to achieve two things: firstly, I hope to avoid comparison between the musical elements used within my performance examples and convention-based conceptions of music. As mentioned above, there is no strict definition of music, however, when labelling something as music, we tend to imagine a composition that adheres to certain harmonic, melodic, and rhythmic conventions. Additionally, we may imagine socio-cultural contexts in which these sounds are located or performed. By presenting the musical moments in my case studies as instances of musicality, I aim to focus the attention of the reader on the performance itself, rather than invite comparison with a more socio-cultural, melodic understanding of music. Secondly, using musicality instead of music shifts the focus from the sonic product to the processes of both its creation and reception, thereby encompassing not only the sound but the circumstances of its making. Since I am focusing on the intersection of music, theatre, and ecology, it is essential to expand the variety of bodies involved in musical creation and reception beyond the human. Musicality, in its process-based focus, changes the positioning of the human in our understanding of music. Not only does it expand musical creation and perception beyond a human, cultural context, but re-positions the human as an entangled perceiver. As Higgins states: “The song of a bird or a whale, I am

³ The most prominent example of radical musical rule breaking might still be John Cage’s 1952 composition *4’33’’*. Composed for any instrument or singer, the score instructs the performer to remain silent for the titular time of four minutes and thirty-three seconds. Instead of listening to the musical performer, the audience is invited to shift their attention to the surrounding sounds of their fellow audience members and/or the performance space, asking them to find music in listening to their environment and thereby stretching the conventional understanding of music beyond a scored, instrument-based performance.

convinced, can already make us aware of sharing a world with other sentient beings, and enjoyably at that.” (Ibid. 35)

Musicality in theatre research

Within theatre studies, there has been limited interest in musicality, mostly under the term ‘musicalisation’. This does not exclusively refer to the use of music in theatre and performance art, but rather examines a trend in mostly postdramatic works, towards the use of musical metaphors or structures in creating theatre. Hans-Thies Lehmann, in his seminal work *Postdramatic Theatre*, focuses briefly on musicalisation. In his understanding, the process refers to the application of musical structuring and conventions in performance creation (Lehmann 91–93). This includes, for example, an attention to rhythm or melody - not just in speech, but equally in movement and dramaturgical structure. The understanding of music within theatre has evolved from an additional aesthetic component to a guiding principle through which all compositional elements can be explored: musical concepts such as rhythm, timbre, or frequency are invoked to investigate possibilities of e.g., movement and lighting. Musicalisation does not refer to simply the addition or presence of music, but instead shifts attention to a musical perception and rethinking of other compositional elements.

A similar, but more nuanced, understanding of musicality is presented by German theatre scholar David Roesner. Whereas Lehmann only briefly discusses musicalisation as another element in his mapping of postdramatic theatre, Roesner explores the concept from multiple perspectives. Firstly, musicality should be understood as an intrinsic quality of theatre as a multidisciplinary art form. From an analytical perspective, it may furthermore serve as a lens through which the performance and its compositional elements can be contextualized and understood. Musicality is a multifaceted concept – Roesner also opposes a fixed definition of music – encompassing a “perceptive quality, an embodied quality, or a cognitive and communicative quality.” (Roesner 13) This means that theatre possesses musical qualities which can be used to certain ends: an emphasis on musicality can lead spectators to perceive certain elements as musical, an aesthetic frame through which a performance is perceived. It can also function as enhancing embodied experiences: acting on a non-lingual level, the bodily nature of making and experiencing music is heightened in both performers and spectators. “The perception of actor, director, spectator and others involved in performance processes is thus potentially more embodied when theatre’s musicality is embraced or emphasized.” (Ibid. 15)

Lastly, enhancing theatre's musicality may enable communication on a non-linguistic level. Through use of musical metaphors (literally and structurally), an artistic message or strategy may be communicated.

Even though neither Lehmann nor Roesner reference ecological thinking, there are points of connection that emerge between musicality and ecology, especially in Roesner's more nuanced approach. His interest in musicality as a compositional as well as intrinsic element of theatre resonates with the changing perception of theatre as an ecological practice as prominently discussed by Carl Lavery. Moving away from theatre's focus on ecology as a narrational theme, Lavery argues for the necessity to research theatre's inherently ecological structure. He contends that contemporary theatre is intrinsically ecological: "the inherent relationality of theatre, the fact that it always takes place between actors and audiences ... the physical presence and fragility of the performer whose body cannot help but show its mortality, its necessary entanglement in both 'nature' and 'culture'; the explicitly 'networked quality' of the stage, in which the human being is always part of a larger assemblage of objects, technologies, and processes..." (Lavery, 'Introduction' 231). Here, a connection between musicality and ecology emerges: the musicality Roesner observes within contemporary theatre lies within the medium's intrinsic multidisciplinary and inclination towards embodiment. Similarly, Lavery's argument is based on interconnection, interrelation of intrinsic qualities and a focus on the entanglement of materials. Both scholars present their respective concepts as intrinsic to theatre's essence as well as anti-static, open and intentionally messy concepts.

The ecological thought

Even though research into the connection between musicality and ecology within theatre studies has been lacking, does not mean the two are incompatible. Quite the opposite: comparing Roesner and Lavery only provides a first glimpse into the possibility of researching musicality as an ecological practice within theatre performances. By introducing eco-musicality as an analytical concept, I hope to do exactly that: support an understanding of musicality as an ecological practice – where ecological refers to an emphasis of more-than-human interconnectedness and entanglement. By approaching music making and listening from an ecological perspective, I hope to support a rethinking of the human position as non-hierarchical and non-centralised. A truly ecological thought not only positions the human

within a more-than-human assemblage but emphasises human interrelation and argues for a horizontalization of agency.

The term assemblage is borrowed from Jane Bennett's seminal work *Vibrant Matter* and has its origin in Deleuze and Guattarian philosophy. Bennett uses this concept to introduce her emphasise on the agentic potential of materialities and to challenge the human/nonhuman dichotomy. Assemblages are non-static, interrelated groupings of more-than-human actants in which events take place that affect all participants. These groupings are heterogenous, prone to change and present a horizontal understanding of more-than-human interrelations: "Assemblages are not governed by any central head: no one materiality or type of material has sufficient competence to determine consistently the trajectory or impact of the group. The effects generated by an assemblage are, rather, emergent properties, emergent in that their ability to make something happen (a newly inflected materialism, a blackout, a hurricane, a war on terror) is distinct from the sum of the vital force of each materiality considered alone." (Bennett 24) In its core, this is the ecological interconnectedness Morton is describing.⁴ Thinking the human ecologically requires acknowledging our entanglement with more-than-human matter: "Give up the futile attempt to disentangle the human from the nonhuman. Seek instead to engage more civilly, strategically, and subtly with the nonhumans in the assemblages in which you, too, participate." (Ibid. 116)

⁴ As an object-oriented ontologist, Morton would probably oppose the idea of Bennett's assemblage, instead arguing for the remoteness and withdrawnness of objects in opposition to the idea of porous bodies. However, in this emphasis of the strangeness of other bodies, a vision of entanglement shines through: "The ecological thought imagines interconnectedness, which I call *the mesh*. Who or what is interconnected with what or with whom? The mesh of interconnected things is vast, perhaps immeasurably so. Each entity in the mesh looks strange. Nothing exists all by itself, and so nothing is fully "itself". There is curiously "less" of the Universe at the same time, and for the same reasons, as we see "more" of it. Our encounter with other beings becomes profound. They are strange, even intrinsically strange. Getting to know them makes them stranger. When we talk about life forms, we're talking about *strange strangers*. The ecological thought imagines a multitude of entangled strange strangers." (Morton 15, original emphasis)

Section II – Eco-musicality as an analytical concept

In the following section I will discuss the sub-concepts of attunement, embodiment, and horizontality, as well as the socio-political context that surrounds musicality as an ecological strategy. By presenting how these sub-concepts can support an understanding of musicality as a dramaturgical strategy within ecological performances, I hope to create the conceptual foundation for the case study analyses of the following chapter. The reasoning behind my choice for these four points of focus lies in their relevance to both musicality and ecology, thereby drawing attention to the interconnection between these two spheres. Together, these sub-concepts encompass the underlying elements of ecological (and musical) thinking: an awareness of more-than-human entanglement, emphasis on the materiality of the body, horizontalization of human/nonhuman relations, and lastly, the intersectionality of ecology as a more-than-human as well as interhuman issue.

Attunement

Attunement is a musical term usually referring to the tuning of instruments to create a pleasing and harmonious sound. Within theatre research, it has been coined by James Ash and Lesley Anne Gallacher as a process of changing perception to perceive and acknowledge the presence of more-than-human agents. In their contribution to Mia Perry and Carmen Liliana Medina's publication on methodologies of embodiment in qualitative research, attunement is described as the following: "Attunement can be understood as a basic way of sensing the world before we organize it through internal self-narration, the representational logics of language, or a theoretical account of the senses as a series of discrete faculties. A methodological imaginary *based on sound*, we argue, allows us to attend to the crossings that occur between the human and the nonhuman, while still retaining a fidelity to the intentionality or holism that characterizes phenomenological experience." (Perry and Medina 70, emphasis added)

When considered as a methodological concept that recognises both the presence and agentic capacity of other-than-human entities, attunement creates the connective tissue between ecology and musicality. As an originally musical concept, attunement emphasises the entanglement of humans and nonhumans through an emphasis on listening. Instead of casting the human as an outsider, attunement encourages attention to the more-than-human and our interrelations with it through an immersion into its sounds. Attunement, as both a musical and

ecological concept, posits that an isolated human existence is impossible and instead presents perception as taking place in an inescapably more-than-human assemblage. “[A]ttunement can be defined as the capacity to sense, amplify, and attend to difference. From this perspective, attunement is not just a matter of ‘feeling the vibe in a room’ and adjusting our emotional sensibilities to fit that vibe, but also sensitizing our bodies to appreciate and understand the complex material forces that structure situations beyond the envelope of human emotion.” (Ibid. 73)

Based on Ash and Gallacher’s research, attunement is mostly associated with one musical activity: listening. In relation to attunement, listening is reconsidered as an embodied mode of perception, as we prioritise sensuous, bodily perception over cognitive decoding. Nevertheless, attunement is equally important to understand music-making as an ecological practice. Firstly, making music always requires listening to more-than-human, creative bodies. Whether one creates music with other humans or as a solo artist, sound is created through materialities interacting: an instrument being played, the human body producing sound, or the nonhuman materiality of the air which is necessary for the sound to travel through. Additionally, instruments need to be tuned when playing together to enable a harmonious sounding together: the physical body needs to be adjusted to the other physical bodies through listening for resonances and dissonances. The entire music creation process is a collective, more-than-human endeavour that requires adjustment and attention through listening.

American composer and improviser Pauline Oliveros established the concept of *Deep Listening* to address the importance of listening while performing, similar to attunement. Intended as a practice to help performers engage with their environment when performing or improvising music, Oliveros understands Deep Listening as a change in perception: “*Deep Listening* for me is learning to expand the perception of sounds to include the whole space/time continuum of sound – encountering the vastness and complexities as much as possible.” (Oliveros xxiii, original emphasis) Her focus on the performing musician as an active listener stresses the centrality of attunement as applicable to both music-making and listening. Deep Listening, like attunement, requires an adjustment of our human perception to the more-than-human assemblage, making it an ecological as well as musical practice: “Attention is directed to the interplay of sounds and silences or the sound/silence continuum. Sound is not limited to musical or speaking sounds, but is inclusive of all perceptible vibrations (sonic formations). The relationship of all perceptible sound is important.” (Ibid. xxiv) Two ecological elements

stand out in this quotation: firstly, the attention to sound explicitly encompasses attention to nonhuman sounds (and silences), secondly, in the last sentence, Oliveros stresses the relational importance when attuning to these sounds and silences. Neither the listening nor the sounding bodies exist in isolation, but rather in an interrelated assemblage. Attuning our listening to perceive and engage with this more-than-human entanglement is not only an ecological practice, but equally essential to music-making and listening. Attunement promotes a shift in perception towards sensing the vibrations of other bodies and our entanglement with them, and in doing so, draws attention to the physical body as the source of music-making and listening. Ash and Gallacher approach this focus on bodies when they draw attention to the physicality of sound as vibrations. Vibration becomes an ecological event, a more-than-human phenomenon: “We might, then, want to think of vibration as a unit of sense crossing human and nonhuman boundaries.” (Perry and Medina 79)

Embodiment

Embodiment, a now central concept in performance research, entails to “foreground the body as the means to experience, communicate and interact with ideas, sensations, politics, relationships, and landscapes/spaces.” (Perry and Medina 1) The body has become a central pillar within the ecological thought, as both Bennett and Morton emphasise in their visions of human/nonhuman entanglement and interrelation. This does not mean a hierarchical centralization of the human body, instead, emphasis is placed on our own materiality and therefore horizontal relation with other, more-than-human materialities. In summary, within a posthuman view of ecology, the human body is understood “as one of many entities interacting on a shared plane of influence (with non-human materialities).” (Ibid. 4). I therefore highlight musicality’s relation to embodiment to emphasise its potential as an ecological practice, since the bodies that are centralised when focusing on musicality are both more-than-human and interrelated in their sounding and listening.

Both music-making and listening are embodied activities. Not only does the creation of sound require an engagement with the physical body, but by producing sound, one is made aware of one’s own physicality. Whether this becoming aware happens by playing an instrument or singing, solo or in groups, it is commonly the resonating of the sound within the producing bodies that facilitates an embodied experience of music. Vibration, as the underlying principle of sound, reveals the multi-sensory nature of musical experiences. As Shelley Trower states in

her research on the role of vibration in musical history: “The vibratory quality of sound can be experienced as palpable and audible and also visible. We can feel, hear and see a subwoofer vibrate, and see its effects on other bodies or matter.” (Trower 2) Although this claim is based on an extreme form of sound experience (club culture) which explicitly centralises musical experiences as vibration, the core of this statement helps recognise the embodied nature of sound production and reception. Employing musicality within performance achieves a horizontalizing of the materialities from which vibration emerges and which it affects. “Vibration is not itself a material object at all, but it is bound up with materiality: vibration moves material, and moves through material.” (Ibid. 6)

Through music-making we become aware of our own body’s materiality as we feel it resonate. We experience the materiality of the instrument (our own body or an external materiality) we engage with as well as that of other human bodies resonating next to us. We can also experience our own body and our interrelation with more-than-human bodies surrounding us through listening. As a sensuous experience taking place in the body, listening acts on both an auditory and tactile plane. As Trower exemplifies in her emphasis on vibration in club culture, sound is always felt as well as heard. It is a medium through which we can sense other bodies as being connected to us since they are also prone to resonate: “This is because vibration is a form of movement that is common to all bodies and objects and so cuts across distinctions between the human and nonhuman and the organic and inorganic: Vibrations can be created by sound waves from speakers, from tectonic plates moving, or the cry of an animal or a human infant.” (Perry and Medina 76) Sound, as experienced through the lens of vibration, becomes an ecological event, more-than-human in both creation and perception. Musicality, as both music-making and listening, enables an ecological engagement with the body. It presents an understanding of embodiment that is not restricted to engagement with the human body, therefore positioning humans *within* the more-than-human assemblage.

Horizontality

Expanding on the observation of musicality’s embodied nature, an adjacent structural element requires discussion: horizontality. I have already introduced the term when mentioning Bennett’s assemblage as a concept through which to picture the ecological thought of more-than-human interrelation and interconnection. In relation to musicality, this horizontalization can be observed as well: Trower’s interest in vibration as the aspect of sound which equally

affects all materialities is reminiscent of the interrelational ideas of vitalist philosopher Henri Bergson. As a foundational reference for many contemporary new materialists and posthumanists, Bergson's conception of all matter as lively and endowed with an inner force (*élan vital*) implies a horizontal vision of the human body and its position within its surrounding. By conceiving of matter as interrelated and vibrant, Bergson also alludes to vibration to present his assemblage-like vision of materiality: "Matter thus resolves itself into numberless vibrations, all linked together in uninterrupted continuity, all bound up with each other, and travelling in every direction like shivers through an immense body." (Bergson 276)

Unsurprisingly, Bennett uses Bergson as a source of inspiration in her understanding of vibrant matter although she moves beyond the thought of a life force animating material and instead envisions matter's agency as intrinsic. Despite these deviations, her understanding of matter's interrelation builds on Bergson's work, developing it into an explicitly ecological and posthuman model. The decentralisation of the human as well as a recognition of our position as interrelated is necessary "to begin to *experience* the relationship between persons and other materialities more horizontally, [which] is to take a step toward a more ecological sensibility." (Bennett 10, original emphasis) By referring to 'persons and other materialities', Bennett includes interhuman relations as part of the more-than-human assemblage, while also implying the materiality of the human body. Her emphasis on the body's materiality furthermore underlines ecology's emphasis on human decentralisation and material interrelation: "Materiality is a rubric that tends to horizontalize the relations between humans, biota, and abiota. It draws human attention sideways, away from an ontologically ranked Great Chain of Being and toward a greater appreciation of the complex entanglements of humans and nonhumans." (Ibid. 112)

Bennett proposes poetry as an effective tool through which we may experience being within the assemblage as truly horizontal and interconnected: "Poetry can help us feel more of the liveness hidden in such things [other bodies] and reveal more of the threads of connection binding our fate to theirs." (Grusin 235) I propose that musical practices can serve the same purpose. Musicality, as a practice which draws attention to the materiality of the bodies involved in music-making and listening proves both an embodied practice as well as a horizontalizing strategy. The human body is only one agent within the interplay of materialities needed to produce and perceive sounds. Furthermore, the ability to create and perceive musical

sounds is not exclusively human but has been found in, e.g., other animal species.⁵ Vibration, as discussed by Trower as well as Ash and Gallacher, does not differentiate between human or nonhuman materialities in its affecting. It is through music-making and listening that a horizontal relation between all materialities is underlined. Following Bennett's argumentation, as musicality emphasises materiality, it also stresses the assemblage's horizontal interrelation and subsequently, promotes a 'more ecological sensibility' of being in and engaging with the world.

Socio-political context

Musicality can facilitate ecological performance experiences. As a dramaturgical strategy it can enable moments of attunement, embodiment, and horizontality – changing perception and promoting ecological thought. However, ecology is a multifaceted issue, itself interrelated within a network of socio-political debates (e.g., feminism, racism, colonialism). Within these discussions, power relations play a central role and listening, or sounding have been used as metaphors to approach these inequities 'who is speaking', 'who has a voice', 'who is being listened to' – as a more-than-human activity, musicality draws attention to *who* is making music as well as *who* is listening/being listened to. Musicality therefore emerges as an ecological practice not only through its emphasis on material interrelatedness, but through its emphasis on the body as the place of music-making and listening, as well as on the use of voice and its connection to the material body.

In relation to musicality's socio-political relation, I find it necessary to discuss in more detail the materiality of listening and music-making through the embodied nature of sound. Sound is a peculiar medium, simultaneously created within a body – and therefore, to an extent, part of that body – and yet, ephemeral and disembodied as it reaches its listener. In perceiving sound, we are struck by the immediacy, sometimes physicality of the experience, yet we are unable to physically grasp it. Steven Connor observes this apparent contradiction as he discusses the connection between sound and touch: "One apparent paradox of hearing is that it strikes us at once intensely corporeal – sound literally moves, shakes, and touches us – and mysteriously

⁵ For example, rhythmic entrainment (the ability to synchronise movement to an external beat) has been considered as an ability which is necessary for the development of musical abilities in humans. As recent biomusical research shows, this ability has also been found in a variety of animal species, further suggesting that musical abilities are not exclusively human (Wilson and Cook).

immaterial.” (Erlmann 157) He expands on this paradoxical nature of sound by comparing it to sight, noting that sound does not emerge from an isolated body, but always depends on an interaction and therefore, is the product of everchanging and fleeting interactions: “When we see something ... [w]e feel that we see the thing itself, rather than any occasion or extrusion of the thing. But when we hear something, we do not have the same sensation of hearing the thing itself. This is because objects do not have a single, invariant sound, or voice. How something sounds is literally contingent, depending upon what touches ... it to generate the sound. *We hear, as it were, the event of the thing, not the thing itself.*” (Ibid. 157, emphasis added)

Connor’s understanding of sound is essentially ecological: something that is dependent on interconnection as well as materiality, as sound carries with it the residue of bodies interacting: Every material body has the capacity to sound and every sound carries with it a corporeal trace. In being listened to, this trace is taken up by the listener – themselves a body that is prone to sound. From this perspective, sounding and listening become the interactions that facilitate the more-than-human assemblage as all bodies will become entangled with one another. An entanglement that emphasises connection between bodies but also leaves space for the acknowledgement of difference: Even though I have emphasised the horizontalization of bodies in terms of their relationality and agentic potential, this does not imply a negation of difference among bodies. Bennett, in discussing agency as a more-than-human concept, underlines the importance of heterogenous assemblages to shift away from monopolies of power: “bodies enhance their power *in or as a heterogenous assemblage*. What this suggests for the concept of *agency* is that the efficacy or effectivity to which that term has traditionally referred becomes distributed across an ontologically heterogenous field, rather than being a capacity localized in a human body or in a collective produced (only) by human efforts.” (Bennett 23, original emphasis)

Ecology offers a view in opposition to a reductive understanding of all materialities, human as well as nonhuman. This includes recognising that the human body, depending on social, cultural, and historical contexts, is viewed and valued differently. Depending on gender, skin colour, age, sexuality, or ethnicity (to name only the most prominent examples), these bodies’ voices are either celebrated or ignored, given a stage and listened to or overpowered by more privileged voices. It has been widely recognised that the ecological crises we face do not affect the world’s population equally, instead primarily impacting the living situation of already marginalised and oppressed communities (Chatterjee; Cullors and Nguvu; Williams; Tamás).

Although this thesis focuses on ecology and musicality in the context of performance and theatre studies, I will include contextual analyses when examining my case studies since it is essential to recognise the socio-political context enveloping the intersection of ecology and musicality.

Conclusion

Ecology and musicality are intertwined on multiple planes: attunement serves as both an originally musical term and a change in perception towards the entanglement of more-than-human materialities. Embodiment emphasises music-making and listening as activities taking place in the body, drawing attention to vibration as an element of sound that emanates from and penetrates human and nonhuman materials alike. Horizontality, the hallmark of ecological thinking, is also reflected in the more-than-human nature of musicality. And lastly, the centrality of musical metaphors of voice and listening in the socio-political context surrounding ecological thought, reveals its intersectionality and overlap with the ongoing struggles of modern society such as racism, feminism, and colonialism. Musicality provides an access point into ecological perception through these points of connection. It underlines the interconnectedness and interrelations on which both ecology and theatre/performance are built. I refer to this intersection of ecology, theatre and musicality as eco-musicality, an analytical concept that is built on the structural pillars I have outlined and discussed above: attunement, embodiment, horizontality, and socio-political context.

Chapter 2 – Case studies

Introduction

Eco-musicality looks at creating music with and listening to the more-than-human. Listening to the materialities of a mountain, its vegetation, rock, and weather. Listening to a deconstructed drum kit, the bodies besides you, the chair underneath you, the air, the floor. Becoming a sounding body, resonating with other materials. Making music with nonhuman, non-animal agents, hearing the nonhuman body. Musicality as an antidote to anthropocentrism, material conquest and subjugation. These are the branches of listening and music-making that emerge through this chapter's case studies: Simone Kenyon's *Into The Mountain* (2019), Kate McIntosh's *To Speak Light Pours Out* (2020), and Bert Barten's *Talking Trees* (2018). Of the three performances, I was only able to see *To Speak* in person, in October 2021 during the SPRING festival Utrecht. My analyses of the other two performances are based on secondary sources such as performance videos, music recordings, podcasts, reviews, audience reports, artist interviews, and academic literature. All three performances incorporate musical components, using listening and music-making to explore the relations between the human body and other materials as well as the materiality of the human body within the more-than-human assemblage. The ecological thought of more-than-human entanglement is emphasised in how they produce musical sounds and the ways in which listening is encouraged within the audience. The structural elements established in chapter one are now used to examine the ecological implications of musicality as a dramaturgical strategy: these performances invite spectators to listen in order to attune to the nonhuman, they use listening/music-making to stress the materiality of both the human body and the bodies surrounding it, they highlight sound's audible and tactile qualities to emphasise horizontality, and lastly, all three performances address the intersectionality of the ecological debate.

Section I – *Into the Mountain*

Introduction

After more than six years of research into women in mountaineering and walking as a performative event, Simone Kenyon, in 2019, presented *Into The Mountain*. Described as a performative event, *Into The Mountain* consists of two main components: a walking part in which groups of spectators were led through the Scottish Cairngorm mountains, and a site-specific dance piece ‘staged’ on one of the mountain’s plateaus accompanied by an all-local-women choir. When buying tickets, spectators were able to choose between three walking route options – short (4-5 hours), medium (5-6 hours) and long (6-7 hours) – to facilitate for different levels of mountaineering experience since the Cairngorms present one of the most remote and rough natural environments of the Scottish Highlands. As the second day of performances was plagued by heavy rain, changes to the routes were made in reaction to the very real danger that could ensue for unexperienced mountaineers. During the climb, groups of maximum ten spectators were guided by a walk facilitator and mountain guide. They were responsible for safely guiding the audience to the performance plateau but also structured the walking part into a performative event: the mountain guides would read passages from Nan Shepherd’s *The Living Mountain*, a seminal work of nature writing serving as the literary inspiration for Kenyon’s piece.⁶ They would guide the spectators’ attention, revealing details of the environment or encouraging moments of silence for listening and attuning to the mountain. Listening to the sound of pouring rain, the sparse songs of native birds, or the spectator’s own breathing and heartbeat. Even before experiencing the choreographic event at the plateau, spectators were encouraged to attend to the environment and their own bodies through listening.

Upon reaching the plateau, spectators witnessed an all-women ensemble consisting of five dancers and a 16-member strong choir comprised of local women under the guidance of vocalist Lucy Duncombe and composer Hanna Tuulikki. Performing a score inspired by birdsong, Shepherd’s auditive observations, and local folk song, the choir accompanied

⁶ Nan Shepherd is one of Scotland’s most prominent nature writers. Her report of walking in the Cairngorms, *The Living Mountain*, was written during WWII but only published in the 1970s. It is filled with poetic and sensuous descriptions of being with the mountain, essentially making it an ecological account of becoming part of the environment: not as a conqueror but as an observer and ultimately, as a participant.

Kenyon's dancers performing within the mountain environment. Apart from the human choreography and singing, nonhuman agents contributed greatly to the piece: the mountain, its scents and sounds, the weather, the heather, and the rock – all were performers and participators in Kenyon's curation, enveloping and affecting the audience.

The roughly 30-minute-long choreography starts with the dancers emerging from the landscape, 'awoken' by the choir. Dressed in knitted sweaters created by Edinburgh-based designer Jeni Allison and mountaineering trousers, falling is a recurring motive in the dancers' movements, their bodies bending backwards and sinking into the heather only to arise again. Their movements can be read as an allusion to the ecological being-with the mountain Shepherd described continuously: "So there I lie on the plateau, under me the central core of fire from which was thrust this grumbling grinding mass of plutonic rock, over me blue air, and between the fire of the rock and the fire of the sun, scree, soil and water, moss, grass, flower and tree, insect, bird and beast, wind, rain and snow – the total mountain. Slowly I have found my way in." (Shepherd 105); "I have walked out of the body and into the mountain. I am a manifestation of its total life..." (Ibid. 106) Kenyon's choreography is reminiscent of this more-than-human encounter as the dancing bodies appear to be falling into the mountain's vegetation. Their movement can be seen as a direct reference to *The Living Mountain*, as Shepherd describes the mountain around her as falling in on itself and immersing her within it: "As I watch it [the mountain environment], it arches its back, and each layer of landscape bristles – though *bristles* is a word of too much commotion for it. Details are no longer part of a grouping in a picture of which I am the focal point, the focal point is everywhere. Nothing has reference to me, the looker. This is how the earth must see itself." (Ibid. 11, original emphasis)

Both score and choreography were developed in collaboration with the performers and the environment as Kenyon and her team rehearsed onsite throughout the months leading up to the performances. The goal was to achieve a human/nonhuman collaborative performance, performing *with* rather than *at* the site. As Christiana Spens noted in her review: "They [the dancers] move in collaboration with the mountain ecology, mimicking and extending the lines and movements of the hills themselves, drawing our attention to aspects of the environment as well as celebrating human interaction with it. This is communing with nature – and people – on a new level." (Spens) The dancers present an extension of the spectators who during the walk they have already been invited to engage with the mountain through listening. Watching

the performance, they now find themselves in the mountains watching the dancers' bodies emerge and fall back into the landscape – merging with it as the sound of the choir merges with the sounds of the mountain.

Attunement

Listening is explicitly addressed within the performance in two instances: firstly, walking up to the performance plateau, spectators are listening to passages from Shepherd's writing as well as to their environment and bodies as part of the soundscape that surrounds them. Secondly, having a choir accompany the dance performance provides a musical element, prompting the audience to listen. From a structural perspective, the first instance of listening can be seen as preparatory, allowing the audience to attune to their surroundings and already preparing their perception for the immersion into the mountain that Kenyon's choreography proposes. It is through the familiarity of listening to human voices and their instructions to listen to the nonhuman mountain that spectators are prepared for the more-than-human soundscape of the performance environment. Shepherd also approached the mountain through sound, frequently describing instances of listening: to water, to air, to bird songs and rock. For her, it is a mode of sensuous perception to recognise both the liveliness of the mountain as well as of her body as equally lively and part of that environment: "For the ear, the most vital thing that can be listened to here is silence. To bend the ear to silence is to discover how seldom it is there. Always something moves. When the air is quite still, there is always running water; and up here that is a sound one can hardly lose..." (Shepherd 96) Through listening, Shepherd becomes aware of the aliveness of her surroundings. Contemplating how to best be with the mountain, she writes: "Yet to listen is better than to speak." (Ibid. 15) To be with the mountain through walking and climbing, through immersing oneself in its physicality, is to attune to the mountain, as Ash and Gallacher would say, to sense the mountain as we recognise our being in relation with it (Perry and Medina 72).

Since Kenyon specifically facilitates moments of silence for turning attention towards being-with the mountain, it is fair to assume that these moments are intended to enable a change within the spectator. The climb up to the performance space allows the spectators to attune to the performance environment, to prepare the spectating body for how to experience the dance/choir performance as all-encompassing – a choreography that is not limited to singing/dancing human bodies but that envelops the entire mountain assemblage. Listening to

the materialities of the mountain through the guided walking section can be understood as “sensitizing our bodies to appreciate and understand the complex material forces that structure situations beyond the envelope of human emotion.” (Ibid. 73) One reviewer describes the importance of this walking preparation as a tool to become aware of the more-than-human presence of the mountain, as they “began to absorb Shepherd’s quiet, focused enthusiasm, noticing more and more about our surroundings.” (Mansfield) Through listening to the mountain the spectator is alerted to the presence and multiplicity of its materialities while also recognising the materiality and entanglement of their own bodies with it. This second aspect of the ecological thought becomes more explicit when discussing how *Into The Mountain* makes use of listening as an embodied experience.

Embodiment & Horizontality

Kenyon uses listening as a strategy to draw attention to the materiality of bodies, but more importantly: the entanglement of material bodies. Since, as discussed previously, sound carries with it traces of materiality, listening presents an embodied activity as it draws attention to both the sounding and the listening body simultaneously. Within the performance, Kenyon creates a soundscape that entangles the performance with its environment: the choir mimicking the sounds of local birds, echoing through the mountain (Murray et al. 7; Spens), entangling sound and weather as the rain becomes part of the score (Mansfield). The sounds that are received by the spectator contain within them traces of the various bodies from which they emerged, entangling the receiving body within that sounding assemblage. Listening, as employed within *Into The Mountain*, is therefore used as an embodied activity.

It draws the spectators’ attention towards the materiality of their surrounding environment as well as to their bodies as materials within it: during the walk, spectators are not only asked to turn their attention to their surroundings but are also made aware of their own body as the site of perception. “I was being helped to become aware of how I become aware.” (Murray et al. 5), mentions one spectator, recounting the guides’ instruction to draw spectators’ attention to their environment and their own bodily being: “centring our feet, shifting balance, exploring peripheral vision, focusing near and far, [...] finding a mindful presence in our walking.” (Ibid. 5) Another spectator reflects on her experience, highlighting an increased awareness of her own body and its relationality to others that was brought about as she sat, listening to the choir and the mountain: “We are simply encouraged to acquaint with our essential selves – opaque,

passive and yet sturdy – both at one with the mountains and yet only passing through. We are nudged towards experiencing what it means to encounter other people and places with depth and spirit.” (Spens)

Into The Mountain's emphasis on the interconnection between listening and material bodies culminates in the choir performance as it underlines the performance's ecological vision of being *with* the environment. Sound carries with it traces of the bodies from which it emerges as Norie Neumark, in her discussion of the materiality of the human voice, asserts. The voice becomes an ephemeral occurrence, something that itself does not have a body, yet is undeniably *of* the body: “voice emerges from the body and also carries the body with it. It emanates from it but is not fully disembodied. It carries its embodiment within itself and from one body to another.” (Neumark 9) If we can recognise these traces of materiality within the human voice, we can also extend this understanding to nonhuman voices emerging as rain falls on granite or as wind rushes over the heather: each sound listened to in the mountains carries with it remnants of the bodies from which it emerged. Listening as an embodied practice is not restricted to the human body but encompasses the becoming aware of more-than-human bodies as well.

Structurally, the walking part enables an individual engagement with the mountain and one's own body through listening. Subsequently, the choir provides both a more communal and in-depth engagement with listening as embodied perception and deepens the experience of being entangled with the mountain. The score does not only take up elements of the environment (e.g., bird song, wind sounds, rain) but through its non-humanness, merges with the sounds of the mountain environment (Moorhead). As composer Hanna Tuulikki reflects, it is through music that we can engage with the nonhuman, that we might be able to glimpse ways of non-human being and change our anthropocentric thinking: “Can I extend my voice beyond my human edges into a space where species meet? Can I sing bird? Can I sing water? [...] What happens to my ways of thinking – my edges – when I reach my ears and my voice into these spaces?” (Tuulikki) What Tuulikki describes is an intermingling of sounding bodies, something Agnieszka Gratzka has picked up on in her review where she notes the entanglement not only of dancing, but of sounding bodies: “They [the dancers] slowly emerged from the mountain, walked down the hill until they converged and then together in formation, accompanied by the humming and singing that seemed of a piece with the sound of falling rain and the rushing burn flowing past us.” (Gratzka) The human body is perceived as entangled with the mountain environment as its voice seeps into the sounds of rain and heather. It becomes explicitly visible

and audible as *part of* the performance environment, creating “sounds that are less like words and more like water, wind and birdsong.” (Moorhead)

Ultimately, listening is used as a dramaturgical strategy to underline the performance’s ecological core: more-than-human interconnection. Even though singular sounds may stand out to the listener – the falling of rain, the voice of a specific singer, or the breathing of fellow spectators – these sounds are experienced as overlapping and intersecting. Different material bodies commingle to create sounds: rain sounds different as it falls onto rock, as it falls onto leaves. The women’s voices are carried away by the wind, mixed with the weather before they reach the spectators’ ears. Within *Into The Mountain*, the spectators listen to wind, rain, rock, and human voices, as well as their own body, breathing, heart beating: in ecological terms, they are listening to a composition of constantly changing assemblages.

Socio-political context

Listening is employed to emphasise *Into The Mountain’s* ecological vision. However, Kenyon’s work also links its ecological messaging to a larger socio-political discussion concerning more-than-human as well as interhuman power imbalances: The entire cast of the performance identifies as women, including creative team and performers. As even the inspiration for the piece is based on a woman’s experience of the Cairngorm mountains, it challenges the dominance of masculine perspectives in mountaineering. Rebecca Tamás, in her essay collection on human/nonhuman entanglements, discusses this imbalance, dedicating an entire chapter to this triangle of mountaineering, masculinity and the ecological thought. Recounting a personal conversation, she acknowledges the stark difference between masculine and feminine approaches to mountaineering: “My friend is a trained mountain guide, and when she came to my university for postgraduate study, she decided to join the climbing society. After the first trip, she was considering quitting. The young men of the group had insisted on climbing even though the conditions had turned, even though she had warned them it wasn’t safe. As she went for her own long walk down below, enjoying streams, grasses and heather, they tried to climb the Scottish mountain and got horribly lost. They did not listen to her because she was a woman, and also because her attitude to the mountain was not one they recognised – humble, interested, discreet.” (Tamás 97–98)

Tamás criticises this stereotypically masculine approach to mountaineering, one that she describes as obsessed with achievement, ego, and environmental subjugation (Ibid. 94). Conquering the mountain means using it as a symbol for self-affirmation, a proof for human (male) strength and hierarchy. In comparison, Tamás recounts her own experience of trekking the Andes, describing her approach to engaging with her surroundings on one evening: “I did not get direct ‘access’ to the difference of the mountain’s being, but observed that difference, circling outside of me, discrete, independent. Existent. Instead of climbing up, the able bodied, white display of moneyed mastery, could we not just sit down here for a second, and *listen?*” (Ibid. 99, emphasis added) Tamás contemplates listening to the mountain as an equally active and ultimately more affective mode of engagement than conquering its peak. In her encounter, the human body is imagined as an active and attentive listener tending to the mountain. Through listening, our human entanglement within the more-than-human assemblage can be recognised.

Within *Into The Mountain*, listening is employed to combat a masculine mode of mountaineering: encouraging an engagement *with*, rather than a conquering *of* the mountain. As one reviewer recognised: “this walk, and the entire project, is an antidote to masculine, competitive, conquering ways of thinking about mountains and climbing, and, indeed, life in general.”(Spens) It is the performance’s attention to listening as an eco-musical activity that links the personal, entangled experience of the individual spectator to the larger debate about rethinking our engagement with ‘nature’.

Section II – *To Speak Light Pours Out*

Introduction

Kate McIntosh's performance *To Speak Light Pours Out* features four female performers (including McIntosh herself), a drum kit, a microphone stand, some golden glitter curtains, and a white painted floor. On paper, the performance looks deceptively sparse. But in the theatre, it blooms into a visual and audible feast: McIntosh and her international co-performers recite a text collage of theoretical essays, poetry, and political manifestos, evoking the power of voice and the materiality of speaking. Her sources are multiple and intersectional, written by mostly female, trans and/or bipoc writers, detailing a variety of issues including ecological oppression, 21st century feminism, trans discrimination and colonialism in performance and art.⁷ McIntosh's use of texts is emblematic of the intersectional entanglement of ecology with other socio-political discourses. Within these textual fragments, the materiality of the human body forms a recurring theme, a materiality that is equally emphasised in the performance through the visceral sound and energy of drumming.

To Speak is performed in an intimate space: the stage is a floor level rectangle surrounded by seating on all sides. On opposite corners, two screens are hung to display the text collage being performed in multiple languages. Throughout the performance, both performers and the drum kit move across the stage, playing to all sides of the audience. Earbuds are handed out at the entrance, a protective measure considering the proximity of audience to the sound sources. As performers and percussion instruments wander across the stage, the vibrations from their voices and beats ripple through both the space and the spectating bodies. The performers create moments of musical outbursts: picking up rhythms, collectively mulling over them, exploring variations. They play with the drum kit, in both a musical and literal sense: not only hitting the membranes but draping their bodies over, under and across them, crawling in between bass

⁷ McIntosh's references include writings by Season Butler, a Berlin-based dramaturg, writer, and anti-capitalist, anti-racist and intersectional feminist; Rebecca Tamás, a feminist, ecological writer, and creative writing lecturer already quoted in this chapter; Paul B. Preciado, a Spanish trans philosopher and curator who has written extensively on the intersection of trans identity, pornography, and the psychological discourse surrounding both; as well as Tim Etchells, theatre maker and professor at Lancaster University, best known for his work with *Forced Entertainment*.

drum and snare, and entangling themselves in the golden glitter curtains that have been draped over the instruments.

Compositionally, *To Speak* is a lot. It is sensuously stimulating in its use of voice and drumming, as well as mentally stimulating in its content and use of text. What lingers after and what connects it to the eco-musicality of listening, is twofold: firstly, interhuman as well as more-than-human entanglement is emphasised not only in the textual content, but in the ways the performers make use of language and vocal sounds and in the ways, they position their bodies in relation to the instruments. Everybody speaks: McIntosh is the first, exclaiming in English, speaking as well as growling her words into the microphone. As the performance progresses, the other women take over, continuing the collage in their native languages, entangling English, Spanish, French and German in an assemblage with more-than-human noises. There is no attempt to discuss or organise the messiness of this textual composition. The speaking bodies become frayed, repeating sections and dissecting others. The textual collage emerges as an ecological metaphor not only in its content, but in its presentation: as a kind of interrelated, anti-static and heterogenous mesh.

This interconnectedness is extended to the performers' bodies as they move across the stage, play their instruments, and interact with each other. They physically entangle themselves with the drum kits, enacting a more-than-human assemblage on stage. What is created for the spectator to experience is, in other words, a physical representation of entanglement. The ecological thought within *To Speak* does not arise through an allusion to 'nature', but instead through an experience of interrelation and entanglement: "The *ecological thought* is the thinking of interconnectedness." (Morton 7, original emphasis) Secondly, listening's ecological quality is revealed in the performance's emphasis on the body's materiality. Within *To Speak*, listening is evoked as an embodied activity through the physical impact of sound as vibration, situating the spectator within the more-than-human entanglement visualised on stage. As a spectator I became almost uncomfortably aware of my own physicality, my own fleshy being: aware of my listening as it occurred not only through my ears, but through the percussive vibrations entering my body. Sitting close to the instrument, the beating of the bass drum felt like a punch in the chest. As the kit was moved across the stage to face each side at least once, I imagine that every audience member experienced the physicality of the beat – and in extension, of their own body as it responded to the impact.

Embodiment

Listening in *To Speak* does not only become an embodied activity, but an activity that reveals its embodied mode of perception. As my body experienced the sound, I was made to acknowledge my own materiality, and in doing so, opened to the materiality of the (human/nonhuman) bodies surrounding me. Ash and Gallacher emphasise vibration as the quality of sound which makes it easiest for us to understand the connection between human and nonhuman materials. Through vibration, the human/nonhuman border becomes blurred, allowing us to experience our entanglement with other materials. In their words: “We might, then, want to think of vibration as a unit of sense crossing human and nonhuman boundaries.” (Perry and Medina 79) I’d like to understand and apply this quote in two ways: firstly, vibration travels as a wave which hits any material body in its way. Indifferent to the human/nonhuman distinction, it will resonate within whatever material it encounters. Vibration as a physical event does not differentiate between human or nonhuman boundaries, penetrating and vibrating both equally. Secondly, I find this quote useful when thinking about the actions taking place on stage, the source of vibration, and the experience of the performers. When playing the drums, one not only feels the vibration in one’s own body, but experiences this resonating doubly: in the human body and in the instrument. Both come alive and intertwined as vibrations cross through them.

To Speak perpetuates an embodied mode of listening but also expands its emphasis on materiality beyond the physical body of the singular spectator. Trower expands on this idea of the interrelation of vibrating bodies by positing that a body is not only a receiver, but may become a perpetuator of vibration: “There is a two-way process ... whereby external vibrations seem to set the matter of the body into a kind of sympathetic vibration; vibrations in the body then radiate outwards into the world beyond, in turn potentially vibrating another sensitive person.” (Trower 11) Even though Trower refers to the receptive body as ‘another person’, I assert that the idea of vibration travelling through the body can be applied to any material. Therefore, the drum kit on stage no longer stands as the only source of vibration as its initial sound has caused a multiplicity of materials – the floor, the air, the chairs, the person next to me – within the space to vibrate. It is through listening as an embodied activity and the physical, vibrational quality of sound that McIntosh’s performance emphasises material entanglement, ultimately facilitating an ecological experience.

Horizontality

By emphasising that the vibrational quality of *To Speak's* sound affects all materialities sharing the performance space, I wish to underline the horizontality of these materials and the human body as one among them. Multiple moments throughout the performance allude to the idea of horizontality: as mentioned previously, the performers do not simply play the drums but interact with their instruments in multiple ways. Before the drum kit is taken apart to be spread across the stage, one of the performers already drapes her body across the bass drum. Towards the end, another performer is lying underneath a snare drum, raising her arms to beat its membrane. In deconstructing the drum kit across the stage, in draping themselves over the drums or lying underneath them, the spatial relations between drummer and musical instrument are explicitly changed from vertical to horizontal. Especially the lying underneath exemplifies a complete reversal of the usual spatial position of drumming: instead of a towering human figure hitting down on the instrument, we are presented with a body lying underneath it in intimate closeness. The human body is placed in a vulnerable, decentred position; depending on the spectator's position, the performer's body merges visually with the drum, her face and torso partially obscured by the instrument, intertwining their bodies. Horizontality and more-than-human entanglement are alluded to in *To Speak's* choreography, in how performers and drums move across the stage and engage with each other.

The sounds that engage the audience in the interrelationality of the performance arise from these physically horizontal and anti-static compositions. Spectators are not only listening to an assemblage of more-than-human bodies, but through its sounds, are enveloped in its interconnection. The ecological thought, as it is woven through *To Speak*, enhances two elements of Bennett's understanding of matter as vibrant and alive and all materials' existence in ever-changing and fluctuating assemblages. Firstly, due to the corporeality of listening, the vibrating of the listening body, it is impossible to ignore one's own bodily materiality when witnessing the performance. It creates an awareness of aliveness. And I feel that same aliveness coming from the drums, from the floor, and from the chair beneath me. It is the ecological thought that goes beyond an emphasis on nature or organic matter, the ecological thought as all-encompassing in its understanding of the more-than-human. Secondly, as the percussive drum rhythms vibrate through the entire space, a connection is established between the listening bodies, the materials of the space (floor, walls, curtains, ceiling), the instruments and ultimately the air. However, it is an unstable connection, one that wavers and shakes with each drumbeat. An ecological connection: interconnected, interrelated, but always changing and

living. An assemblage, that, as Bennett would describe it, is made up “of energies and bodies, of simple and complex bodies, of the physical and the physiological.” (Bennett 117)

Socio-political context

As with *Into The Mountain*, the socio-political context enveloping McIntosh’s performance is crucial. It is striking that both pieces do not only feature exclusively women-identifying performers but have been created by on the large, female artistic teams. McIntosh’s choice for drumming as the musical elements of choice is equally political as Kenyon’s centralisation of mountaineering. A prominent element in mostly male-associated music genres (e.g., metal, rock, punk), research into gender associations of musical instruments reveals a consistent association of drums with masculine stereotypes. As previous musicological research shows, drums have repeatedly been ranked highly among the masculine-associated instruments (Abeles and Porter; Cramer et al.; Delzell and Leppa). Reasons for this might be the predominance of male drummers in marching bands and popular music, perpetuating a connection between the gender of the musician and the instrument, while also considering the image of the instrument itself as more traditionally masculine: “The masculine instruments (including the drums, trombone, and tuba) are relatively large and loud, and can generally be perceived as falling within the domain of the stereotypically agentic musician who may be physically big and strong (e.g., male).” (Sinsel et al. 392) The drum is primarily perceived as an instrument that requires force to be played, and our understanding of masculinity as forceful and dominating lends itself to this perception.

As with mountaineering, the masculine approach to drumming perpetuates an image of forceful impact. *To Speak* breaks with the gender association of drumming on two levels: in who plays the drums and in how they play they drums. The four women play with the drums, in both a musical sense and in the ways, they move and engage with their instruments. Their negation of a stereotypical masculine mode of playing reflects the breaking apart of strict structures and monisms that McIntosh quotes in her text collage. The being-women of the performers is not simply a gesture promoting female visibility and gender equality, it is a political as well as ecological statement. It is an urge towards a change in how we approach and listen to the nonhuman and in how we consider our own human position within the more-than-human assemblage. Highlighting all-women ensembles is a clear negation of a masculine, vertical,

oppressive mode of action in favour of a horizontal, entangled and ultimately ecological engagement.

Section III – *Talking Trees*

Introduction

We use musical terminology to describe animal sounds (birdsong, whale song), as we recognise human musical practices in animal bodies calling to each other or vocalising in groups. But how can we listen to or make music with nonhuman bodies that are without lungs, vocal cords, or mouths? What about the music-making capabilities of plants, trees, rocks, oceans, storms, or clouds? How can we enable a musical engagement with and recognition of our entanglement with other-than-animal materialities? In his research project, *Talking Trees*, Dutch musician, artist, and theatre director Bert Barten has tried to tackle this question. Led by a desire to combat deforestation, Barten developed a strategy to translate multiple life processes within trees into sounds. During a forest walk, he and a friend equipped a tree with a lie detector which was then connected to a portable synthesiser, thereby measuring the electrical currents running through the tree. Barten recounts the moment that sparked his project: “We could see that there was electricity, because we could see a pulse. When I connected the synthesiser, we could hear all kinds of sounds. The two of us were absolutely baffled when we realised that trees could ‘talk’. Everything in nature vibrates, and trees are no exception.” (Lefeber, my translation) Realising that trees do not only have an electrical pulse, but that their living sounds (water flow, growth, ‘breathing’, etc.) follow certain rhythms, electrical and vibrational patterns, Barten considered musical translation as a method to make these arboreal life processes audible, turning electrical currents and vibrations into sound, which resulted in an ongoing concert series and album titled *Talking Trees*.

Each performance’s composition is created by the tree itself, Barten acting as the translator, deciding on the sound and compression rate of the data: since a tree’s temporal existence and life rhythm differ from those of humans, a direct translation of the vibrations would be too slow for us to recognise as musical patterns. By compressing the data, Barten is able to make audible the ‘life’ of trees, revealing internal patterns and rhythms, and making them accessible and affective as we experience them as musical. Culminating in a live album release in 2018, *Talking Trees* concerts have commonly been staged in parks or forests with different musical collaborators. Taking place in the evening on a conventional concert stage, the audience is seated in a half-circle among the trees. Spectators are therefore not only immersed in the sound of the nonhuman bodies, but physically placed among them. Paired with abstract, colourful

visuals illuminating both the stage and the adjacent trees, *Talking Trees* fleshes out the musicalisation of the plant body into an explicitly immersive and connecting experience.

Barten uses two methods to make his sound collages: the digital method creates sounds by accessing a large collection of data taken from trees from all over the world throughout a long period of time. These various data sets are collected in Excel data sheets which are then put through a digital score programme (Redactie 3voor12 Gelderland). The trees provide the musical foundation and what Barten does is determine the overall sound: “The only thing we do is choose the sound of the whole endeavour. The exciting thing as a composer: we don’t compose anything. We take the information from the trees, that’s what we use and we don’t toy with that. [...] The only thing we are allowed to do is add the different sounds and colours.” (Esther Bernart 4:54, my translation) Additionally, when using pre-collected data, Barten compresses multiple years of tree life to account for the different temporal existence of trees: “It is quite strange: [when using uncompressed data] I only hear one note every half hour. But that of course, is not music to us. What I do: I comprise them, translate them into midi-notes and create 10 minutes of music from a month’s worth of pulsations. This way, a kind of ostinato pattern arises. Ultimately, it is a time-lapse for sound. [...] Trees have a completely different living tempo than we do.” (Lefeber, my translation) Using the digital method, multiple, spatially separated trees can be made to sound together.

During live performances, Barten uses this method to add to the live-fed data as its larger compression provides faster rhythms and more intricate musical patterns. The analogue method uses the same basic principle – collecting data sets from trees and translating them into sounds – however, here the transmission of data happens live on stage. Pre-performance, one or more trees are fitted with measuring equipment, directly transmitting their information to Barten and his fellow musicians on stage. Due to the technical nature of the translation process, they mainly use electronic instruments like synthesizers and keyboards for the performance. However, concerning rhythm, structure, melody: any foundational musical elements are dictated by the tree’s communicational flow. Barten describes the situation as follows: “During a concert there are multiple people standing behind analogue synthesizers. They collect the tree signals which we are going to use [...]. And that is a very organic process, we don’t have a lot of influence on that process. So, we have to set things up in service of the tree’s vibration. We can only influence the sounds a little bit, influence the atmosphere. [...] And you can see it happen: yourself becoming part of nature.” (FaceCulture 10:41, my translation)

The emerging music could be described as psychedelic, meditative, ethereal, reminiscent of Philip Glass' or Steve Reich's minimalism – which is unsurprising, considering the prominence of synthesizers, as well as the presence of repetitive patterns and the lack of dramatic tension or build-up caused by the steady flow of circular data from the tree's sap flow, moisture levels, oxygen levels, and photosynthesis (Lefeber). Musically, *Talking Trees* suggests wholeness and stability, rather than friction and change, creating immersive soundscapes rather than melodic extravagances. There is no discernible movement towards a musical climax, no dramatic structure indicating any desire for narrative tension. Barten's concerts strive towards immersion: instead of prompting the audience to follow musical lines or anticipate melodic or harmonic changes, *Talking Trees*' musical 'evenness' highlights the music's origin over its form. What these concerts ultimately facilitate is a making-audible of a body that is otherwise inaccessible to human ears.

Attunement

Although *Talking Trees* focuses on the music-making ability of nonhuman bodies, a brief discussion of attunement and listening is necessary when analysing the performance through an eco-musical lens, since the audience experiences the concert primarily through listening. Rather than analysing how spectators are encouraged to attune through listening, I want to focus on which channels are created and employed to facilitate a listening to the nonhuman. Visualising *Talking Trees*' set-up it appears obvious that a fundamental change in perception is not necessary from the audience's perspective since the nonhuman 'voice' is clearly presented in a listening environment. However, to achieve this immediate musical perception of the more-than-human, other nonhuman collaborators are required. Barten's entire project relies on the technical equipment – instruments, both scientific and musical – used to capture and translate the arboreal data.

In their discussion of attunement as an embodied methodology, Ash and Gallacher use the image of tuning a guitar to illustrate attunement as a sensing of difference, of sensing the relations and connections between human and nonhuman bodies. When tuning the guitar, we need to listen to the relation between the strings' different pitches, adjusting them to achieve the desired tuning – noticing how “[t]he pitch of each individual string only makes sense in relation to the guitar's overall tuning structure.” (Perry and Medina 73). What they leave out

is that many people, especially if musically untrained, tend to use an electronic tuner. Put simply, *Talking Trees* does exactly what an electronic tuner does in terms of facilitating attunement to the more-than-human assemblage: it allows the human spectator to clearly experience connections and differences through listening. We can realise our connection to the nonhuman through a technological translation of its sounds as it makes perceivable something which we are otherwise unable to sense. Attunement is a process, an activity that requires repetition and attention if it is to have an impact outside of performance contexts in which it is encouraged. Technological translation can act as a tool to support this shift in perception.

Embodiment

Embodiment usually draws attention to the human body, however, in *Talking Trees*, emphasis is placed on the arboreal, nonhuman body – a body that is equally physical, alive, and agentic. The performance musically translates the tree’s life rhythms, making them accessible to a human audience. In this sense, the music is an embodiment of the nonhuman, carrying with it traces of its materiality and life. This musicalisation of the arboreal body exceeds the concept of a voice that exist in a liminal space between materiality and disembodiment: here, the voice is not only *of* the body, but *is* the body made musical. Ethnomusicologist Kevin Dawe, in his research, describes how musical instruments can facilitate an engagement with the more-than-human through their materiality, as they “have an intrinsic ability to reconnect us to the natural world through the wood, bone, skin, metals, and clay from which they are made.” (Allen and Dawe 109) In engaging with musical instruments, we recognise three things: the materiality of their bodies, the music-making capabilities of these materials, and our continued entanglement with them. If this sense of connection can be achieved through interaction with musical instruments, it is fair to argue that a similar experience of materiality and entanglement can be achieved through musical interaction with other, non-instrument, non-human bodies.

Talking Trees facilitates an embodied experience in an eco-musical sense, in that it centralises music as the means through which an experience of more-than-human entanglement and materiality is achieved. The performance does not only achieve a sense of human/nonhuman connection between the performing tree and the audience but highlights how this notion of interconnection is already embedded in the music-making process: even though the tree is the main performer and foundation of musical creation, it is only through the collaboration of tree, humans, and technical equipment, that the musical composition is created and made audible.

Through this collaborative process, the sound carries with it traces of multiple material bodies: the sound becomes a sonic representation of the composing, more-than-human assemblage of human/nonhuman and organic/inorganic materialities. What is being made audible through this collaborative effort is the nonhuman body as an interrelated, interconnected body.

Horizontality

Talking Trees' ecological emphasis is placed on the collaboration between human and nonhuman: as a performance, it is not only focused on recognising and presenting nonhuman agency, but through its musical mode of presentation, it simultaneously underlines the centrality of more-than-human entanglement. It is not an apocalyptic vision of human absence in which trees are the only remaining voices. Instead, the human musicians are necessary technicians, working with and in service of the arboreal. The human musician is reconfigured through an eco-musical lens, not as the hierarchical composer or conductor, but instead as co-creator and musical collaborator. The nonhuman is not reduced to a source of inspiration, but instead, through its life rhythms and pulse, provides the musical foundations of the concert's sounding body. Human and nonhuman musical decisions become entangled in the final musical creation, thereby facilitating a more-than-human musical experience.

There has already been considerable academic and artistic interest in more-than-human musical collaborations. Especially animal sounds (e.g., whale vocalisations) have been of particular interest for both artists and scholars, either as a source of musical inspiration or as instigators for human/animal collaborations (Rothenberg; Grover Friedlander). In her 2020 article "Whale wonder", Michal Grover Friedlander, herself a musicologist with a focus on vocal and opera studies, traces the emergence of whale song as a source of musical inspiration. Extending her inquiry, she asks which impact our enjoyment of whale vocalisation and our labelling of it as 'song'/'singing' might have on our understanding of music – and subsequently, on our understanding of being human. As previously discussed, music has been termed as exclusively human, dependent on aesthetic categories and serving a cultural/communal function. Nevertheless, whale vocalisations are conventionally and commercially referred to as 'music'/'song'/'singing'. Consequently, as Grover Friedlander discusses, a reconsideration of our understanding of music is necessary: "Whale vocalization can teach us much more, and not only about structures. Whale vocalization reveals a new notion of sound, and thus invites

us to reflect once again what counts as music.” (Grover Friedlander 37)⁸. By guiding the discussion in this direction, she asserts two things. Firstly, that we recognise whale vocalisations as musical sounds, fitting many of the criteria we already ascribe to music: they are aesthetically pleasing, composed of structured sounds, serving a cultural/communal purpose, and created intentionally.⁹ Secondly, following these observations, we are required to rethink our understanding of music – as a form of expression which may no longer be understood as exclusively human.

However, this is not the novelty of Grover Friedlander’s article. Ultimately, she proposes an ecological argument: “Whale voices make us reconsider what counts as music. The sounds of these mammals lure us into listening for new resonances and timbres, *as their voices resound in ours.*” (Ibid. 40, emphasis added) Listening to the nonhuman’s music requires us to not only reconsider music-making as a more-than-human activity, but consequentially, forces us to reconsider the relation between us and other music-making materialities. If there no longer exists a strict separation between human and nonhuman based on musical abilities, which other separations might require reconsideration? Which other points of connection and entanglement might be revealed if we started to listen for the voices of others in our own? It is especially this last remark (“their voices resound in ours.”) that strikes me as central to an ecological understanding of music-making: it is not only about the recognition of musical abilities in the nonhuman and our listening to their voices, but about recognising the entanglement of more-

⁸ Grover Friedlander mentions this ‘new notion of sound’ in relation to a musical composition that combines actual whale vocalisation recordings with musical recreations of their sounds through unconventional uses of instruments (*The Response of the Humpback Whale, Attempt of Dialogue no° 1*). Audience members were unable to differentiate between the real whale singing and the instruments. By combining composed, human-performed whale sound with real whale sounds, she introduces the question of whether we would differentiate a sound’s music-ness based on our knowledge of its origin as either human or nonhuman. As Grover Friedlander summarises: “one cannot distinguish between imitated whale sounds, and actual whale vocalization incorporated into the work. [...] For the listener, they have both morphed into one: the bassoon player imitates whales’ vocalizations, and whales imitate humans.” (Grover Friedlander 37)

⁹ Whale songs differ among different groups of whales. In that sense they can be understood as communally dependent. They are also prone to change over time and through exchange with other whales (as human music may change through interactions and exchanges among different cultural groups) (Noad et al.). Additionally, whale songs have been observed to possess decidedly musical structures, using phrasing and repetition further supporting their denomination as ‘songs’ (Grover Friedlander 30–31).

than-human voices; about recognising our own voices as never exclusively human but always entangled with other materialities and vice versa.

Talking Trees forces us to think this idea to its fullest, to listen to the non-animal, that which we are unable to imagine sounding, that which we are unable to hear without technological translation. By allowing us to listen to a music we are otherwise incapable of experiencing, the performance reveals to us entanglements we are otherwise oblivious to. We are eager to recognise whale vocalisations as musical, considering our relative closeness to animals, especially mammals. Attending a *Talking Trees* concert enables an extension of this experience of kinship through music to the nonhuman, non-animal – approaching music-making through an eco-musical lens and revealing the breadth and horizontality of the more-than-human music-making assemblage.

Socio-political context

Talking Trees facilitates an intimate experience with the nonhuman. It surpasses straightforward, nonhuman vocalisation, instead presenting a sounding out of arboreal life. In anthropomorphised terms: of its heartbeat, breath, synaptic activity, its growth. It is a sounding out of social interconnection, of the tree's communication and interrelation with other trees, animals, plants, fungi. We can compare the tree body to that of a dancer whose breathing might be artificially amplified. Through hearing the workings of their body, we become aware of their aliveness, the corporeal processes the living body must uphold. The same may be said about the tree body sounding out in Barten's concert, proclaiming its aliveness and vibrancy through its water flow, oxygen concentration and photosynthesis. However, the data that is translated into music carries with it not only the life of the singular tree but is dependent on that tree's interconnectedness with the bodies surrounding it. Ecologists and foresters like Suzanne Simard and Peter Wohlleben have, in recent years, become pioneers of the idea that trees and other plants are social organisms. That the forest should be understood as one being, as a system of interconnected nonhuman bodies which exist in constant interaction and communication. As Wohlleben mentions in conversation with journalist Richard Grant: "All the trees here, and in every forest that is not too damaged, are connected to each other through underground networks, and also use them to communicate. They send distress signals about drought and disease, for example, or insect attacks, and other trees alter their behavior when they receive these messages." (Grant)

From an ecological perspective, it makes sense to subscribe to Wohlleben and Simard's vision of arboreal interconnectivity; to view the forest as one more-than-human assemblage among many. As a result, *Talking Trees* should not be read as a solo performance: it is not the musicalisation of a single organism's voice but instead, carries with it the influence of other organisms on the individual tree's life. It reveals the social network in which the nonhuman exists: the tree as a communally dependent, forestine contributor instead of an isolated specimen. We experience arboreal collaboration throughout the concert as the tree is made to sound through the interaction of human, technical, and organic equipment. But we should also remind ourselves that even before this performative collaboration, the tree is enveloped in a vital assemblage of interconnecting, communicating, more-than-human bodies: the tree's life data is dependent on an interplay of water, soil, temperature, social relations to other trees, fungi and insects, mammals and humans, light and weather. Ultimately, *Talking Trees* is a social performance, only that the social dimensions it makes audible are not predominantly human but forestine instead, revealing the interconnectedness of more-than-human organisms and forcing us to reconsider our own position as one among them.

Conclusion

In this thesis, I have introduced the concept of eco-musicality. I proposed eco-musicality as an umbrella term for the intersection between musicality and ecology. I have shown that a musical experience can support an ecological experience, that through the employment of music-making or listening strategies, more-than-human entanglement may be experienced by an attending audience. In presenting eco-musicality in my first chapter and its subsequent application in chapter two, I have established an analytical concept which can be used for post-anthropocentric theatre research based on its four components: (1) *attunement*, based on the definition by Ash and Gallacher, which argues for a change in perception towards recognising the nonhuman as an agentic presence and interrelated collaborator, (2) *embodiment*, which recognises the bodily origin of sound (human/nonhuman), placing emphasis on the physicality of sound in vibration and its effect on the more-than-human body, (3) *horizontality*, which, building on the physicality of music-making and listening, reveals musicality as a more-than-human activity, thereby decentring the human and revealing Bennett's more-than-human assemblage. Lastly, though not an analytical sub-concept in the same right, the *socio-political context* of the performances reveals the intersectionality of the ecological thought which equally penetrates the performances' musical components: prompting questions of who has a voice, who is being listened to, and how we can attend/attune to the human/nonhuman bodies we are unable or unwilling to listen to.

I have applied eco-musicality to analyse Simone Kenyon's *Into The Mountain* (2019), Kate McIntosh's *To Speak Light Pours Out* (2021), and Bert Barten's *Talking Trees* (2018). In referencing Kenyon's work, I was able to reveal listening's ecological potential, encouraging the spectator to become aware of the presence and agency of their material surroundings while simultaneously, in listening to their own material presence, becoming aware of their inclusion in the more-than-human assemblage. My analysis of McIntosh's performance covered a middle ground between listening and music-making, revealing the inseparability of the two activities and exposing an additional eco-musical functioning of listening/music-making as they emphasise the materiality carried by sound and its physical effect upon the musical body. Through an experience of vibration, the body is recognised as material and as entangled with other, equally affected, more-than-human bodies. In both cases, I have shown that an eco-

musical approach to listening and music-making reveals music's potential to facilitate an ecological experience. Lastly, my discussion of *Talking Trees* examines a more explicitly ecological performance context, shifting the attention to more-than-human music-making and argues that through a recognition of the musical potential of the nonhuman we are forced to reconsider our understanding of music as an exclusively human cultural practice; through experiencing the musicality of the more-than-human, we are forced to reconsider our own ecological positioning and interrelation.

We have started to rethink the role of the human in theatre and performance, acknowledging that it does not necessarily take an actor on a stage for theatre to happen. We have started to rethink theatre as an inherently ecological practice which can afford an experience of more-than-human entanglement. In writing this thesis, I have extended this ecological vision on theatre to musicality, emphasising music-making and listening as interrelational and horizontalizing practices and arguing for musicality's centrality in enabling ecological experiences. Through introducing the concept of eco-musicality, I have achieved two things: firstly, I have supported a more-than-human understanding of musicality and therefore argued that its application in performance should be discussed through an ecological lens. I hope to have provided a vocabulary and analytical concept that not only underline music's universal affectiveness but remind us that all musical expression is reliant on more-than-human interaction. Secondly, I have drawn attention to the lack of research concerning the intersection of music and theatre in both theatre studies and musicology. By emphasising music-making and listening as embodied practices and underlining music's more-than-human quality, I hope to have provided future researchers with a conceptual foundation to analyse the coming together of music and theatre – approaching them not as separate modes of expression, but, in an ecological sense, as interrelated and entangled. I envision eco-musicality to function as a catalyst, a conceptual umbrella that in its interrelational set-up mirrors the connectivity and entanglement of its ecological context. For example, I see a particular possibility for further research in the relation between nonhuman experiences of time and space and music as a time-based medium. Performances which strive to make these more-than-human temporalities experientable often include a musical component, e.g., Heiner Goebbels' *Stifters Dinge* or

Katie Paterson's *As the World Turns*.¹⁰ Going forward, it would be interesting to explore how musicality is employed to present nonhuman temporalities within post-anthropocentric theatre.

Throughout writing this thesis, I have emphasised the idea of interconnection that lies at the heart of the ecological thought and therefore needs to lie at the heart of an ecological theatre. Eco-theatre needs to enable an experience of this connectedness with the more-than-human, instead of reinforcing the human/nonhuman binary by positioning humans as outsiders in need of education and encouragement to rescue 'nature'. Lavery argues for the same shift when he proposes that what we need is "a new form of environmental performance, one which realizes that the ecological charge of theatre is not so much found in what it represents but in its ability to disclose multiple ways of being ... that escape unhelpful binaries between 'nature' and history, human and 'non-human'" (Lavery, 'Theatre and Time Ecology' 313). And it is through music, a medium which acts upon all matter, which disregards the arbitrary dualism of human/nonhuman, that theatre may enable these multiple, equally agentic and entangled ways of being. It is through an eco-musical analysis of performance that we recognise how musical elements enable ecological experiences. In his book *The Soundscape: Our Sonic Environment and the Tuning of the World*, R. Murray Schafer calls us to pay attention to the sounds of the world surrounding us, searching for the musicality and composition in all sounds that make the world. Poetically, he exclaims: "Behold the new orchestra: the sonic universe! And the musicians: anyone and anything that sounds!" (Schafer 5) Like Schafer, I envision an orchestra, comprised of all material bodies, a more-than-human assemblage, entangled and interrelated through their sounding and listening. And through listening to and making music within this more-than-human assemblage, we are able to recognise ourselves as part of it.

¹⁰ The former is a no-man's installation creating a musical and textual soundscape through the use of pianos, voice recordings, water basins, video projection, etc. Lavery has written about the temporal dimension of this work, however largely neglecting the performance's musical component (Lavery, 'Theatre and Time Ecology'). *As the World Turns*, could also be described as a performative installation, in which a vinyl of Vivaldi's *The Four Seasons* is played in time with the earth's rotation, stretching its duration to four years and thereby adjusting the musical performance to the temporal rhythm of the planet rather than its human inhabitants. Augusto Corrieri, in his contribution to *The practice of dramaturgy*, discusses Paterson's performance in the context of nonhuman dramaturgies and argues how it decenters a human experience, thereby promoting an ecological messaging (Corrieri). However, the musical components and their ecological impacts are not discussed in further detail, leaving room for future research into this intersection of music, temporality, and ecology.

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