

Eco-tonality

An ecology *with* sound in capitalist ruins

Leonardo Barbierato

Fig. 1: Leonardo Barbierato, *ecotone*, Alessandria, Italy, 2024. Photo by Leonardo Barbierato.



When an ecosystem and an improvisational system overlap, an *eco-tonality* emerges: a transition zone that reveals latent characteristics of the two systems at play. This article explores the margin between improvised music performance and soundscape from a transdisciplinary perspective, integrating ecology, post-human philosophy and improvisational practice. As a case study, my performance [*in situ*] will be examined to analyse *eco-tonality* through its key features.

When I was a child, my family and I moved to the countryside, which necessarily led to constant movement between our new home and the nearby city. Observing the landscape through the window and noticing how the countryside gradually transforms into the city, one often gets the impression that there is no precise boundary but rather vast transitional zones: an assemblage of what Gilles Clément defines as the third landscape, anthropic elements, incursions of wild nature.¹ Spaces that some might consider non-places, but certainly not me.² Over time, they became spaces of exploration, socialization and play; a kind of unconscious and unaware urban exploration. From my perspective, these places have exerted a strong attraction, probably because I grew up there, built relationships, and developed an emotional bond that transcends geography.

In landscape ecology, an *ecotone* is defined as a transition zone between two or more communities, such as a forest and a prairie or the countryside and the city (Fig. 1).³ Ecotonal communities typically contain many of the organisms from the overlapping communities, along with organisms that are characteristic of and often limited to them. Statistically, this aspect causes an increase in the density and variety of species in these transitional areas: a phenomenon known as the *edge effect*.⁴ Given my background and the context in which I grew up, this concept holds particular significance, which is why I have centred my artistic practice around it.

In March 2023, I started conducting a series of site-specific, open-form improvisation performances in more or less degraded ecosystems. By the expression “more or less degraded”, I refer to ecosystems in which conditions of precarity become manifest. While the nature of this precarity may vary significantly, in this essay I will focus specifically on post-industrial urban decay. The project, titled [*in situ*], stems from my need to explore the space between social ecology, post-human environmentalism and improvisation. The ecosystem in which the improvisation takes place, with its human, other-than-human, living, and non-living elements, is a fundamental aspect of the improvisation in [*in situ*], making each performance a unique and unrepeatable event.⁵

In the course of these improvisations, my mode of interpreting unfolding events has spontaneously taken shape as an eco-tone,⁶ where the sounds, smells and movements of the environment and the performance system intertwine, forming alliances, collaborations and exclusions among the species and elements of these two systems. These interactions

occur differently than they would if they acted within the two systems independently. I define this shared space-time as *eco-tonality*, where unexpected encounters and opportunities for contamination emerge.

But what ethics and aesthetics emerge from *eco-tonality*? What political and social impact is embedded in this way of perceiving performance? In this essay, I examine *eco-tonality* from a transdisciplinary perspective involving post-human philosophy, the ecology of entanglements, and improvisational practice, even though the primary focus remains on artistic research. The aim is to define an ecology of improvisation *with* sound, where “with” simultaneously means “by means of sound” and “with sound, but not exclusively”, and its possible implications in these years of socio-environmental crisis. An ecology with sound allows for maintaining an emphasis on sound while avoiding the phonocentric tendencies identified in prevailing soundscape approaches.⁷

Precarity

Not a day goes by without news of precarity reaching my ears: from military conflicts to financial market instability, from floods to climate warming, the world seems to be permeated by intense instability. Despite this, I force myself to think of these events as something exceptional, sporadic occurrences, singularities. But why not recognize precarity as the true condition of our time? Are we ready to develop a sensitivity toward precarity and contamination?⁸

Anna Tsing offers a critical framework for understanding precarity not as an exception but as a defining condition of contemporary life. Her work invites us to attune ourselves to forms of life that emerge amidst ruin and instability, emphasizing interdependence, contamination, and resilience. Rather than being framed solely as environmental or ecological risk, the term “contamination” is understood here in relational terms, as a process that connects diverse elements across the performative and ecological system. Precarity, along with entanglements and patchwork, is a conceptual tool drawn from Tsing to explore how performance can reconfigure perception, ethical responsibility, and political collectivity under unstable conditions, as will become clearer in the course of this essay. Drawing on Tsing allows me to approach precarity not merely as crisis, but as a space of encounter, negotiation, and potential.

Precarity already seems to be a widespread sensation in the community of those who engage with improvisation: a meeting point between different people, generations, genders, and backgrounds. While the precarity experienced in society and that encountered in musical improvisation are fundamentally different in terms of stakes, consequences and context, they share some crucial structural features: complexity and unpredictability.⁹ Social precarity often entails systemic vulnerability, marginalization and existential uncertainty, whereas improvisational precarity operates within a bounded artistic frame. Yet, in both cases, the absence of fixed structures demands heightened attentiveness, adaptability and the capacity to respond to the unexpected. This should come as no surprise: freely improvised music performances are complex, non-linear, and largely unpredictable phenomena.¹⁰ In improvised music performance, considering precarity as an opportunity can be a strong creative stimulus. In the performances of *[in situ]*, precarity is heightened by the fact that other-than-humans co-exist and co-create multi-worlds, both in the performative and environmental realms.¹¹ These are assemblages, dynamic and contingent arrangements of heterogeneous elements that interact to form a temporary reality, without being structurally fixed, that not only bring together ways of living but actively create them.¹² In their precarity, improvisational performances allow interactions and behaviours to emerge that remain latent outside the performative ecosystem in which they arise.

During an *[in situ]* performance on the outskirts of a village in the Monferrato hills, the sound of a barking dog re-oriented my way of improvising, creating an unpredictable situation within the performance.¹³ It was a profoundly *eco-tonal* encounter, in which the sound I produced during the performance elicited the dog's response which, in turn, became an improvisational stimulus. *Eco-tonality* is deeply intertwined with precarity because opening the performative world and allowing it to hybridize with the ecosystemic world leads to unexpected and non-traditionally established encounters. The key to embracing precarity lies in relinquishing artistic control over the artwork and rejecting the idea that there are active and passive intelligences. The fear of a world without teleology is replaced by the discovery of the indeterminacy of encounter, by the exploration of being contaminated and contaminating the other. Precarity becomes a state of recognizing our vulnerability and, simultaneously, the realization that survival depends on others. It is important to recognize the intrinsic connection between precarity, neoliberalism and capitalism.¹⁴ Equally important is the commitment to *stay with the trouble*, to actively engage with our problematic conditions of existence and vulnerability, thereby opening up possibilities for new modes of cohabitation and interaction with reality.¹⁵

From this reflection emerges the idea of a symbiopoietic vision of the improvised music, as opposed to and yet intertwined with the autopoietic vision proposed by Edgar Landgraf.¹⁶ In biology, *symbiopoiesis* is defined as the development of organisms taking into account their symbiotic relationships,¹⁷ and it aligns with Donna Haraway's concept of *symptoiesis*.¹⁸ *Symptoiesis* means "making-with". Nothing makes itself; nothing is truly autopoietic or self-organizing.¹⁹ *Symbiopoiesis* describes how the development of organisms is not merely the result of their internal genes but also depends on interactions with the environment and other species, in a process known as co-development.

Precarious, indeterminate relationships inevitably lead to contamination: they transform us. Abandoning the idea of purity and embracing contamination, as Anna Tsing argues, allows an assemblage to become something different from the sum of its parts, revealing emergent qualities.²⁰ Collaboration, in this sense, is not a deliberate and intentional act of common construction but rather an emergent phenomenon, occurring because various actants find themselves interacting in a shared space-time under conditions of uncertainty and instability.

In freely improvised music, collaboration develops on multiple levels: some connections arise because musicians actively listen to and intentionally interact with each other, while at other times, as in the duo of Sachiko M and Otomo Yoshihide, interactions appear more random, stemming from the overlapping of individual actions that interlock in a shared space-time without anyone deliberately orchestrating it.²¹ Collaboration, therefore, does not necessarily have to be a conscious and constructive interaction; it can spontaneously emerge through adaptation and the coexistence of sonic objects. The unplanned coexistence and chance encounters in radical improvisation highlight not only the importance of contingency and indeterminacy but, above all, the opportunity to create stories through contamination.

Freedom of differences

As an improviser, I believe that improvisational freedom cannot be understood as freedom from constraints, as such a notion of freedom would be akin to a concept of purity, but in *[in situ]*, as in ecology, purity is not an available option; each element carries with it a history of contamination, resulting in a reality that is ephemeral, unstable, precarious.²² Precarity, in this sense, becomes the ground from which shared worlds are continuously and provisionally composed. In the context of improvised music performance and ecology alike, acknowledging contamination as constitutive allows us to move beyond idealized notions of coherence and embrace the unstable, interdependent textures of the real.

On the contrary, freedom in my free improvisation is a hyper-contaminated freedom, strongly bound not only by my artistic and personal journey but, above all, by the interactions that guide me during the performance. My goal is not to maintain an isolated vision to achieve a freer way of playing, but rather to mix and contaminate myself with other elements, finding a collaborative freedom.

In my approach to improvisation, differences are essential elements of the creative process, those unexpected encounters that Tsing sees as opportunities for contamination. Performance emerges from the interaction of the various patches of a patchwork – that is, from the elements that take part in it – but only on the condition that we abandon the idea that these interactions must necessarily be constructive. The freedom of differences consists in allowing the perspectives of various elements to coexist, even if only for a short time, without necessarily reconciling them into a unified synthesis.

In free improvisation as conceived in this discourse, it is not necessarily expected to witness performances in which there is an evident form of conversation between elements as we typically understand it. That is to say, collaborative development certainly occurs during the performance, but collaboration between some elements necessarily excludes others. The freedom of differences allows for relationships based even on indifference, giving rise to a patchwork that holds performative value in and of itself; specifically in the explicit articulation of its fragmentation and the lack of seamless overlap between the patches that compose it.

From an *eco-tonal* perspective, considering the lack of overlap and perfect fit between patches is an essential aspect if we aim to avoid anthropocentrism. Smoothing out the behaviour of *eco-tonal* elements to force them into an improvisational context would be an act of anthropocentric violence that has no place in the freedom of differences. This does not mean excluding the human:²³ these are performances designed by a human and they may involve other humans, but *eco-tonality* is the context in which every element is free to collaborate in qualitatively and quantitatively different ways, embracing both its humanity and its other-than-humanity. However, recognizing and respecting difference also requires attentiveness to the origins and conditions of those

differences. The forces – social, historical, ecological – that shape each element's position within the patchwork must be considered if we are to create a space that is not only open to multiplicity, but also safe for all participants. *Eco-tonality*, then, is not a flat field of equal voices, but a dynamic terrain where asymmetries must be acknowledged and ethically negotiated.

For example, acknowledging the origins of difference and the forces shaping them also means taking seriously the agency of other-than-human participants in the performative ecosystem. Rather than treating natural elements, such as wind, insects, light, or humidity as passive background or atmospheric texture, an eco-tonal approach recognizes their capacity to affect and co-constitute the unfolding of the performance. This entails a shift in attitude: from controlling or neutralizing environmental disturbances to cultivating attentiveness toward them as meaningful interventions. In my experience as an improviser, particularly considering [*in situ*] contexts, it is not uncommon for elements such as wind gusts, birdsong, or urban noise to emerge not as disruptions to be controlled, but as sonic events with which to engage, actively participating in the unfolding of the performance. These interferences, *performance bugs*,²⁴ are not incidental; they are relational gestures through which the environment co-performs. These performance bugs emerge not only through sound, but through the shared site-specific eco-tonal space-time, in which the sound is an entangled agent. *Eco-tonality* is an experience deeply tied to the site, where perceptions and presences are fundamental. In this way, the other-than-human components may reorient the performance not necessarily through direct sonic means, but more broadly, by activating other sensory registers. By making space for other-than-human agencies to assert themselves without being overcoded by human intentionality, the performance becomes a site of negotiated cohabitation, considering differences and their origins.

The freedom of differences is not only the freedom of what is present but also, perhaps most importantly, the freedom of what is absent. What is missing is likely to be the true stimulus behind my approach to improvisation. *Eco-tonality* is not a neutral context for any of the components that are part of the performative patchwork; it is an event haunted by personal and social spectres, ranging from the individual experiences of its elements to legal restrictions, from past performances – a true *hauntology* in the Derridean sense²⁵ – to capitalist pre-corporation.²⁶ Even if not always perceptible or materialized within the performative patchwork, these spectres, though inaccessible in their entirety to all elements, still have an impact on [*in situ*]. Crucially, I acknowledge the difficulty, perhaps even the impossibility, of creating a truly egalitarian environment, both socially and ecologically. Power asymmetries, histories of exclusion and systemic imbalances inevitably shape the conditions of co-presence and co-creation. *Eco-tonality* thus becomes not a utopia of balance, but a site of negotiation, where uneven entanglements are not erased, but made perceptible.

For a human being, for example, participating in collective improvisations in abandoned environments – and more specifically those sites interpretable as capitalist archaeology – without seeking permission is an assertion of freedom that emerges from potential conflicts, misunderstandings, and resistance against state control, whereas another species will face entirely different kinds of risks. In free improvisation, freedom emerges as a way to constantly negotiate with these spectres and to explore ways of surviving and coexisting with them. Those who improvise, that is, all the elements that make up [*in situ*], can experience this tension from which the freedom of differences arises. The actions of the improviser may be spontaneous, if not entirely free, but even spontaneity itself, often associated with an act of purity, is the result of an unconscious negotiation that the improviser is compelled to undertake with the personal and social spectres that have led them to [*in situ*].

The unplanned coexistence and chance encounters in radical improvisation highlight not only the importance of contingency and indeterminacy but, above all, the opportunity to create stories through contamination.



Fig. 2: Leonardo Barbierato, *Ex Mattatoio di Testaccio*, Roma, Italy, 2024. Photo by Leonardo Barbierato.

Thus, the freedom of differences is not an absolute state but a continuously redefining dynamic, emerging from the tension between spontaneity and structure, presence and absence, individual will and social conditioning. It is not merely an act of affirmation but a possibility of cohabitation with other elements and with their spectres.

[in situ] – ex Mattatoio di Testaccio

On 27 September 2024, *[in situ]* was presented in Campo Boario, a large square at the former Mattatoio di Testaccio, a decommissioned old slaughterhouse in Rome, partially repurposed into university facilities by certain Roman institutions while also partially consisting of occupied spaces and social centres. I was invited to perform by the Academy of Fine Arts (ABA).²⁷ Having three shotgun microphones available, I tried to cover as much space as possible, capturing sound from a hedge where cicadas and birds were present; an area next to the Panottico, an octagonal structure with strong reverberation, where the main sounds came from vehicles and people passing by on an adjacent gravel road; and the courtyard of the ABA, where I had brought some materials collected on-site (Fig. 2).

The collected materials mainly consisted of discarded items, such as glass and plastic bottles, cans, metal chains, cowbells, as well as dry branches, stones, berries and seeds. Abandoned objects are emblematic of the margins of capitalism: things that humans, driven by consumerist frenzy, use

according to a reduced and superficial understanding of the object, only to discard them into the environment once their conventional use is exhausted. During *[in situ]*, a collected object is an abandoned object that is not modified in any way but is instead reclaimed by establishing new relationships with the human, revealing affordances, meaning the object becomes a tool offering specific possibilities of use based on the organism's psycho-motor and experiential capacities.²⁸

Furthermore, the salvaged object, in its relationship with the human during the performance, has a strong connection to the place itself: it was discarded in the space between the ABA and the Panottico, a narrow strip of transitional land between suburban reality and an artistic institution. This brief ecotone, barely noticeable to an inattentive eye, is perceived as a margin, both a place to hide waste and to hide oneself. Yet, in this space, the object withdraws from the alienation of being a mere consumer product and, through performance, asserts its agency over the human. The human, who might have originally abandoned an empty beer bottle in the same place where it was later retrieved, behaves differently when encountering a consumer object in a performative context. The object has not been aestheticized in any way; it is a salvaged material that visibly retains its origin as waste but, within this new performative framework, has the power to shape human behaviour (Fig. 3).

In accordance with Object-Oriented Ontology (OOO), *tool-beings* are not exhausted by the relationships they establish with other tools or with humans; rather, each object possesses a hidden, spectral dimension that can never be fully accessible, neither to humans nor to the other elements with which it interacts.²⁹ This concept, known as the *withdrawal of the object*, urges us to recognize that objects are more than they appear to be, they contain a surplus that remains inaccessible to us. The resulting sensation is what Timothy Morton theorizes as a spectral feeling: a sense of total inaccessibility.³⁰

By bringing Morton's ideas into the improvisational ecosystem, one can think of improvisation as one of the perforated worlds – shared yet never exhaustive – between a human improviser and a non-living element.³¹ Improvisation thus becomes an act of solidarity, a space where we negotiate both our own spectrality and that of the non-living, accepting their ineffability. Donna Haraway considers these perforated worlds as the deep entanglements we share with non-human entities, both living and non-living. The fact that an object shares part of its world with the human makes a relationship with it possible.³² However, the interaction between human and object during *[in situ]* is a spectral interaction, one in which the unconventional use of the object acknowledges not only its agency but also its inaccessibility, as if the human could never fully grasp the object in its entirety.

Throughout the day, I performed four times at different hours: the first at 3:00 p.m., the second at 4:30, the third at 6:00, and the fourth at 8:00 p.m. Each performance lasted between 30 and 50 minutes and featured different elements, or elements that interacted in different ways – Fig. 4 shows the technical set-up that was part of *[in situ] – ex Mattatoio di Testaccio*. During the performances, temporary, ephemeral assemblages emerged, unpredictable encounters between humans who knew each other or were complete strangers, coming from different geographical backgrounds, of various ages and genders; non-human animals and other forms of life; particularly, the sound of leaves became a central element in the third performance; and other-than-human, especially the salvaged objects but also items brought by the audience. During the second and third performances, some participants approached the microphones, using coins, mobile phones and other devices in unconventional ways. The heterogeneity of the elements that participated in the improvisation should not come as a surprise: it is the edge effect at play, something that also manifests in ecotones and is translated, in a performative key, into eco-tonality.³³



Fig. 3: Leonardo Barbierato, *collected object*, performance, Italy, 2024. Photo by Krisztina Árlath.



Fig. 4: Leonardo Barbierato, *set-up*, Italy, 2024. Photo by Krisztina Árlath.

Eco-tonal brieftopia

The indeterminacy and non-linearity of the interactions developed in *[in situ]* are emblematic of a sense of precariousness that permeated the performance, in which multi-species and non-human assemblages³⁴ formed and deconstructed rapidly. The precariousness arising from these unconventional encounters stems from the *eco-tonality* of the performance itself, which makes such encounters and assemblages possible.

The negotiation inherent in improvisational relationships between elements from different systems culminates in a freedom of differences, allowing for the possibility and acceptability of co-existing within a shared space-time – a zone where the perforated worlds of various elements intersect and express agency. Sound is the primary medium through which interactions occur in *[in situ]*, but it is not the only one: elements touch, move, and sounds can provoke psycho-motor reactions in some participants. Light highlights certain aspects of objects and prompts other elements to interact differently. The multi-sensory ecology that emerges is an ecology *with* sound, not *of* sound, representing an alternative, a parallel, detached, if not explicitly different, path from soundscape and eco-acoustic trends.

The relationship between the human and the other-than-human, as well as extra-human relations, that is to say relations that do not include humans, is not only relevant to the aesthetics of the performance but also to the ethics that

emerge in this context.³⁵ The audience during *[in situ]* is not informed about the theoretical concepts underlying the performance; however, the operational mechanism is made explicit through a few signs indicating that one can listen, play, and touch. With only this minimal information, during the collective improvisation, new ways of organizing and cohabiting became apparent, allowing a *brieftopia*, a fleeting alternative scenario, to take shape, which could have significant social implications. A *brieftopia* is a way of perceiving the present and possible futures that briefly sprout during a more or less artistic event.³⁶ During *[in situ]*, I experienced a *brieftopia* in the ethical reconfiguration of other-than-human relationships and in the way other-than-humanity is perceived. But not only ethics, aesthetics too is reconfigured, as I suggested in the Introduction. Aesthetics here is understood in the sense proposed by Jacques Rancière:³⁷ not as a matter of beauty or taste, but as a critical framework that challenges the *partage du sensible*, that is, the distribution of what/who can be seen, said, and heard, redefining who is allowed to speak, act, or be listened to, thereby reshaping our understanding of the world and opening our perception to other-than-human entities. Moreover, such an aesthetic also entails ethical dimensions: it determines how we, as human beings, perceive others, how we relate, and what we recognize as meaningful or valuable. In this sense, the aesthetic reconfiguration brought about by performance is inseparable from an ethical reconfiguration: it is an invitation to reimagine our responsibilities and connections within a shared multi-world and for fostering ecological solidarity towards otherness.³⁸

Manifesto of eco-tonality

Eco-tonality is the quality that emerges when the sound of a performative ecosystem overlaps with the sound of an environmental ecosystem.

Eco-tonality is not an ecotone, but it shares some characteristics found in ecotones.

Like an ecotone, eco-tonality introduces elements/organisms/structures derived from the overlapping systems/communities.

Like an ecotone, eco-tonality presents elements/organisms/structures that are peculiar and exclusive to this transitional ecosystem, absent in the overlapping communities.

Like an ecotone, eco-tonality highlights an edge effect, manifesting as a tendency toward increased variety and density of elements/organisms/structures.

Unlike an ecotone, eco-tonality is not only transitory in space but also in time: it is intrinsically evanescent, brieftopian, ephemeral.

Eco-tonality can emerge within an ecotone only if the ecotone is understood in a broad sense – that is, if the performative system is considered an ecosystem.

Eco-tonality is inherently entangled with precarity, as it opens up encounters that are unexpected and not governed by conventional structures or hierarchies.

Eco-tonality creates stories of contamination, indeterminacy and contingency.

Eco-tonality is associated with a material and perceptual transformation of a site. Eco-tonality can provoke the transition from a non-place to a place.

Eco-tonality is not sound but *with* sound.

Acknowledgements

I would like to warmly thank my reviewers, Caroline Claus, Martijn van Gessel, and Joost Vanmaele, for their valuable suggestions, which made the writing of this article stimulating in the best possible way. In particular, their insights on aesthetics, freedom, and the new perspectives on the connections between the concepts addressed in this essay have greatly contributed not only to the development of this text but also to my research as a whole.

These acknowledgements are also deeply tied to the context in which we find ourselves: *FORUM+* made the writing of this article a truly rewarding experience. I would especially like to thank Elisa Seghers for her constant availability and clear communication throughout the process.

I am also grateful to my PhD supervisor, Carla Conti, for her consistently constructive feedback and for providing the ideal environment to carry out my research at the Conservatorio Santa Cecilia in Rome.

I thank Franco Ripa di Meana and the Academy of Fine Arts of Rome for the invitation to create the performance discussed in this text.

Finally, I would like to thank all the beings, human and other-than-human, with whom I collaborated in the making of the performance.

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6	The use of the hyphen is intentional: when the term refers to <i>eco-tonality</i> it is written with a hyphen, while when it derives from the field of landscape ecology (for example, <i>ecotone</i> , <i>ecotona</i>) it appears without. The distinction helps avoid confu-	16	Landgraf, Edgar. <i>Improvisation as Art: Conceptual Challenges</i> . Continuum, 2011.	26	Fisher, Mark. <i>Capitalist Realism: Is There No Alternative?</i> John Hunt Publishing, 2009.		37 Rancière, Jacques. <i>Dissensus: On Politics and Aesthetics</i> . Continuum, London, 2010.
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