Listening and Mediation: of agency and performative responsivity in ecological sound art practices

[Part 3]

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Introduction

This article approaches listening practices and the role of technological mediation within ecological sound art, analysed as post-phenomenological practices. It situates the argument in practice-based explorations, built on findings through the artistic research practices of the two authors. Our hypothesis is that all of these embodied listening practices are connected through the mediation of audio technology, and that this in turn constitutes the grounds for how phenomenological variation is built into their unfolding in time. Hence, this article provides evidence of how aeolian guitar performance, curation, composition, performance on found objects and field recording in ecological sound art, are all closely intertwined with the audio technologies they entail, and that they are all grounded in performative responsivity (Kozel, 2007). Further, we argue that the practices of stimulated recall analysis and micro-phenomenology, and their grounding in phenomenological variation, is similarly defined by technological mediation. Hereby, we seek a further understanding of the nature of artistic knowledge, in its performative and material forms (Östersjö, 2020a). Such knowledge is situated in art worlds (Becker, 1982, Östersjö, 2019), embodied and enacted by artists and audiences, and forms dynamic systems, through which “radically new knowledge” can be created, “by facilitating the emergence of its more fundamental conditions of possibility through destabilisation” (Arteaga, 2017, p. 25). Central to such dynamic systems is the aesthetic experience, but the many agencies at play must also be unpacked, in order to show how

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1 In Kozel’s rethinking of agency, and her critique of the so-called smoothness of interactivity, she points to the messiness of the act and how “agency might be spread across a range of human modalities, distributed across bodies and across materialities” (Kozel, 2007, pp. 186-187). Her argument draws on Margaret Morse’s critique of interactivity in The Poetics of Interactivity (2003) i.e., that the once useful term has gone on to mean too many things. Interactivity “is expressed not only in art but ubiquitously in every sphere of contemporary life where chips reside, from automatic tellers and garage-door openers to computers that access discs, CD-ROMs, and the World Wide Web” (Morse, 2003, p. 17). As an alternative, Morse proposes the concept of responsiveness, which eventually is taken further through Kozel’s concept of performative responsivity.
(a)esthetic conduct helps us to find unexpected ways (via:- way) through our environment, ie to find alternative means of approaching what we are doing and want or need to do, by virtue of an alteration of the dynamics of our co-emergence—the mutually conditioned constitution of our-selves and our-environment—enabled as well by this variety of action. (Arteaga, 2017, p. 25)

We discuss how ecological sound art affords such “unexpected ways” to knowledge, through performative responsivity to the environment, but also, how methods for subjective and intersubjective inquiry, referred to as micro-phenomenology (Petitmengin, 2006; Bojner Horwitz et al, 2018) or stimulated recall², are immediately related to such listening practices.

At the heart of doing phenomenology is the method of reduction, or, as defined by Husserl, a means for “leading back” (Christensen, 2012, p. 4) to the way the world manifests itself to us. At the same time, the notion of reduced listening (Schaeffer, 1966/2017) also introduces the agency of technology. Its origins can be traced to the invention of the tape recorder, and perhaps best understood through Schaeffer’s early observations of how, even though the tape recorder was able to play back the exact same physical signal, a group of listeners would not make the same description of the same sound object, since each listener approaches a sound object from a certain predisposition. The tape recorder allows for repeated listening to the same sound object. As Schaeffer observes, repeated listening reveals that the same object does not manifest itself the same way to a single listener, but even less to a group of listeners. Importantly, all such audio technologies allow for repetition, thereby enabling enhanced listening through microphones, speakers and headphones, but also phenomenological variation.

In his thesis, Erik Christensen (2012) claims that phenomenological variation constitutes the basis for what he calls “experimental listening”, a method which he describes as “conducting a long series of repeated listenings, guided by deliberately varied music-focusing strategies and hermeneutical strategies, and clarified by intersubjective inquiry” (p. 46). Such experimental listening bears significant similarities to the related, and often similarly intersubjective methods of micro-phenomenology and stimulated recall. In this paper we provide various examples of the listening practices of stimulated recall, as a method which holds great promise for integrating aspects of phenomenological understanding in both creation and analysis in artistic research (Östersjö, 2020b).

Stimulated recall has been used in music research since the 1980s, but has come to greater prominence in the past decade. In music research, its potential emerges out of how repeated listening, as discussed above with reference to how the tape recorder shifted human listening, can be systematically utilized for research purposes. The issue of the lack of a one-to-one relation between verbal discourse and music is a constant challenge in all forms of music research and constitutes both an inherent difficulty and a possibility in the use of stimulated recall, since the method allows for much of the

²The term stimulated recall was coined by Benjamin Bloom in 1953 and is a common qualitative research mode in education, medicine and psychotherapy as well as to study collaborative processes in music-making (Östersjö, 2020b, p. 94).
analysis to stay within the domain of sound. Such an unfolding is not always accessible to our conscious mind and can be hard to express in words (Bojner Horwitz et al., 2018). It therefore calls for technologically mediated research methods, closely aligned with the method of micro-phenomenology, which enable the researcher to “better understand experiences from a first person perspective, and facilitates access to our reflective mind” (Bojner Horwitz et al. 2018, p. 3). Our analysis builds on embodied perspectives and encompasses body movement and gestures, acknowledging the perspective of living through, such as conceptualized by Vermersch (2009). This initial lived experience is transformed, through phenomenological reduction, into an object for reflection, and meta-reflection, which in turn constitute other instances of living through (Vermersch, 2009). Hence, we argue that stimulated recall—contrary to how it was originally conceived as a method for a subject to “relive an original situation” (Bloom, 1953, p.161)—through the act of repeated listening, is a more convoluted practice, which we approach through the perspectives afforded by post-phenomenology. As will be further unpacked in the paper, this entails engagement with sound which is situated in the moment of performance or site-specific engagement, often mediated through technology, or mediations in which the source is a fixed recording of sounds, with their particular affordances.

In the following sections, and in the accompanying Research Catalogue (RC) exposition, we will demonstrate each of these embodied listening practices, and their grounding in phenomenological variation, through their use of audio technologies.

**Performative Responsivity and Site-specific Listening**

Aeolian guitar performance may serve as an initial example of how music technology has consistently shaped the emergence of ecological sound art. Just like the ancient practice of building Aeolian harps, either in nature or in domesticated settings, as was popular in Romantic England, the Aeolian guitar is an instrument on which the wind excites natural harmonics. However, the techniques for actively controlling these harmonics, developed by Östersjö as part of his work in the Landscape Quartet, entails the creation of performative situations in which the instrument may be stringed around one or more trees, with strings extending from the instrument, out from the bridge. The strings must be brought to tension by putting the body weight into the ecological system of wind-tree-strings-guitar-performer, and by shifting the weight, also the pitch of a given harmonic can be alternated (Östersjö, 2020b).

Certainly, human experience of wind is typically multimodal. On a hot summer day, wind can be soothing on the skin, and on a cold winter day, it bites the skin. Similarly, a human has memories of wind of the past and its movements. But the sound of the wind is largely carried to the ear by sonification through other objects, like in the rustling of leaves on a windy autumn day. However, the wind can also be sonified through harmonics excited on aeolian harps, giving the wind a different agency. If framed as *thinking-through-practice* (Maharaj, 2009; Östersjö, 2008), such an assemblage is inherently multimodal, and indicates how any *thinking-through-listening* is simultaneously connected to the tactile, and bound to encompass vestibular, kinesthetic, visual, auditory and the haptic systems. It is a sense-making or *relational-technique* that encompasses kinaesthetic, perceptive and affective processes, which underline the sticky
thickness of such experiential acts (Stefánsdóttir & Östersjö, 2019; Stefánsdóttir, 2021). At the same time, for a trained musician, it is impossible not to think of such a performance also in terms of improvisation. In that instance we wish to underline that musical improvisation, as a site-specific practice, may challenge a performer’s habitus, and thereby engender a focus on a searching listening looking beyond traditional patterns and forms. Hence, the aim may often be that of mapping the affordances of a space or seeking to align with its sonic identity.

Recording technology generates particular affordances for listening, as was observed by Pierre Schaeffer (1966/2017) in his early exploration of recorded sound, and its potential for phenomenological study. Aeolian guitar performance, which is built on the use of audio technology, is characterized by a micro-sonic listening (Östersjö, 2020) driven by the close monitoring over headphones. Although listening over headphones may seem like a detaching filter in the relation to the site, in our experience this technology-driven form of listening rather affords a particular perspective. It brings out the minute detail of wind-driven harmonics, captured by high quality condenser microphones inside the instrument. Hereby, the fine nuances of shifting intensity and direction in the wind becomes a structural component in the interaction between the wind-tree-strings-guitar-performer assemblage. The performer is drawn into an immediate responsivity with the wind, by controlling string tension, the number of strings played, and, importantly, the angle of the strings in relation to the wind direction. Hence, the performative listening situation is defined not only by the wind-tree-strings-guitar-performer assemblage, but also, by the affordances of the audio technology for capture and monitoring of sound. These very same affordances generate particular possibilities for phenomenological variation in the performative situation.

In the RC exposition an example of stimulated recall analysis of such experience can be found, carried out by Stefan Östersjö. The central examples are drawn from a video recorded in 2019 on Klagshamns udde, a peninsula south of Malmö, Sweden, created for Site-specific Resonance #2, an installation premiered at Inter Arts Center in May 2019. A simple example of phenomenological variation, through attention to audio, spectrogram of the audio, and to gesture in the video, provided further insight into the agency of the human performer, as well as of the technologically situated agency of the wind-driven guitar. Östersjö identifies moments in which the shaping of aeolian sound is articulated through body movement, and manifests in the form of gestural-sonic objects, as can also be observed in the spectrograms (see video examples 2 and 4 in the RC). Interestingly, in other moments, as observed by Östersjö in the stimulated recall of video example 1 in the RC [See https://www.researchcatalogue.net/view/1235440/1235441/15/440], the aeolian sound is shaped through the technologically mediated agency of the wind:

*If the two previous phrases were attempts at ‘playing’ the wind, here the agency of the wind takes over, in a manner similar to the natural forces at play in guitar feedback. Just like in electric guitar performance with feedback, I must seek the right angle, carefully shifting the position of the instrument, contracting my body, bending my knees as I find greater energy in the wind. (stimulated recall annotation, March 30, 2021)*
Hence, a striking feature of aeolian guitar performance is how it challenges the human attention span of the sound object (Godøy, 2013, 2019), due to the mediated agency of human-guitar-wind-tree as well as of the technology. In the above example, there are only two sonic objects that can be referred to the typical frame of .5-5.5 seconds and it should be noted that the longest figure is 1 min. and 46 seconds of gradual sonic transformation.

The rise of the field of ecological sound art coincides with the growing field of site-respondent and critical spatial practices. Its origins can be traced to musicians and sound artists who took their practice of performative responsivity to the environment outside of music institutions, in order to “refigure technology as a prosthesis that allows a performer, composer or listener to make music in collaboration with nature, not in the form of a virtual reality acquisition or mediation but through real human–environment interactions” (Burtner, 2011, p. 244).

Such onto-epistemic practice has emerged as a valuable tool when it comes to articulating “experiential insights into landscape, the individual imaginary, and the situatedness of the human subject” (Hogg & Sansom, 2015, p. 260). Through an ecological approach in the Gibsonian sense, “relations and behaviour are reconfigured through the phenomena of ‘performance’” (Stefánsdóttir, 2021, 00:47). Through such methods, artistic research may contribute to a better understanding of the relational dynamics of acoustic ecologies in which human and environment are situated. Similarly, posthuman phenomenology (Brigstocke & Noorani, 2016; Neimanis, 2016), as articulated through Don Ihde’s notion of a material hermeneutics—enhanced by technoscience—enables novel understandings of the relation between humanities and natural science. Ihde gives the example of the discovery of Ötze, the 5300-years-old man, discovered in the ice. Although there is no written documentation from this time, through technology, things “are given voices: pollen, grain, metal, and tooth enamel have all ‘spoken’ in spite of being situated in a context that itself is without proper linguistic phenomena” (Ihde, 2009, p. 72).

But embarking on an onto-epistemological undertaking requires the participants to articulate an ethics that acknowledges its “co-constitution” or, as formulated by Zoe Todd: “when we mobilize place, land, water, atmospheres, and other nonhuman beings in our histories, we must be mindful of all the relations and reciprocal responsibilities that we are invoking (Kanngieser & Todd, 2020, p. 389). Such considerations are reflected in the authors’ formulation of the need for being given agency to enter a site, and can unfold in various ways, one being a long-term engagement with a place, or an invite extended through collaboration. But the permission-asking does not merely occur at the beginning; “it is an ongoing process, through which one becomes capable” (Stefánsdóttir, 2021, 08:54) and requires us to cite “place and nonhuman beings as sentient and agential forces that have the capacity to consent to or refuse collaboration with us” (Kanngieser & Todd,

\[\text{Among pioneers of this approach were Pauline Oliveros, Akio Suzuki, John Butcher and Max Eastley. Artists who have gone in this direction in recent years are Team Sports, the Landscape Quartet as well as individuals like John Grzinich, Jon Rose and Vanessa Tomlinson.}\]
2020, p. 392). Such consideration must always inform cycles of attunement and multi-entity consideration, forming ways of becoming with and on site.

Through responsivity to the environmental situation, ecological sound art may similarly give voice to multiple entities. One such instance is Stefánsdóttir’s performance in a gunpowder storage where she chooses to confront human imprints at this site of Bohuslän granite, by entering a variation of INTIME (n.d.) by Angela Rawlings. Rawlings’ work was initially conceived as a site-respondent piece relating to foreshores, and as such asks the performer to become sensate with the movements of wind and ocean currents in the North Atlantic (see audio example 1 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1771/373). Through the performance, Stefánsdóttir creates a topographical sonic mapping of the space, by embodying the very entities at play on the site in deep geological time and confronts such a timespan with the acceleration of breakdown caused by human forces. Such intentionality is embedded in Rawling’s approach of attunement of the inner ear “through envisioning the deep time situatedness of the immediate site in which they are located” (Rawlings, 2020, p. 63).

This in return transforms the storage, as an industrial ruin, into a site for sonic exploration, guided by the affordances of the tools at hand, but also of the reverberation of the space. Such performative responsivity can be traced in Stefánsdóttir’s stimulated recall that captures the process wherein finally the performance “creates a friction that sends vibrations all up my arm and is threateningly deafening, but it is the right whirlpool of sound as it gets the space vibrating like never before” (see annotated stimulated recall, April 10, 2021 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1812/629). Such an approach underlines the relationality inherent to site-respondent performance, in which, just as in the case of aeolian guitar performance discussed above, the performer works with and against the resistances of the wind-tree-string-guitar assemblage. Through these examples of situated knowledge, we arrive at an initial understanding of the human and non-human agencies at play. In the next section we will continue to develop an analytical framework for further analysing these interrelations.

**Performatice Listening and the Agency of Found Objects**

In Stefánsdóttir’s performance of a cylinder [See https://www.researchcatalogue.net/view/1235440/1235441/2166/1242] in an abandoned quarry, using stones, rusty wire and birch bark, performative responsivity encompasses the experimentation and the loop of activity and passivity (Kozel 2007; Östersjö, 2020; Stefánsdóttir, 2020a). As she reaches for birch bark that has fallen to the ground i.e., the very same entity that forms the ruderal ecosystem that is reclaiming the quarry, “the

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4 Their site-respondent practices prompted Angela Rawlings and Stefánsdóttir to put forth the concept of multi-entity performance (Rawlings, personal communication, May, 2019; Stefánsdóttir, 2019, 2021). Grounded in multi-entity justice, or Rawlings adaptation of Ursula Heise’s “multispecies justice” such performance extends to include both biotic and abiotic entities. This moves beyond the notion of interspecies performance, a concept which has been proposed within post-humanistic art research. This however bypasses some actors, vital to this way of working, such as haecceities, rocks and soil, alongside entities that reside on wide temporal spans through stories and spiritual worlds.
sound transforms, into a scintillating bell like sound combined with immense almost teeth clenching friction created between the bark and the cylinder’s surface” (see annotated stimulated recall, April 12, 2021 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/2166/1242). Although far from her culturally grounded practice of performing the violin with a bow, central aspects of that technique evoke new affordances of these found objects. Such an example is found in her reflection “I try to slow down, in order to create more friction, it lets out squeaking dryish bark sound” (see annotated stimulated recall, April 12, 2021 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/2166/1242). Here, the play of friction between horsehair of the bow, and gut strings, is transferred into the relation between the birch bark and the cylinder.

In the instance of the performance of a cylinder, the micro-sonic listening also became a vehicle for artistic collaboration (see audio example 3 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/2083/1171). As can be seen in the accompanying stimulated recall in the RC, shifting the placement of the microphones is integrated with the gradual development of playing techniques in this instance of joint exploration (see annotated stimulated recall, April 12, 2021 here - https://www.researchcatalogue.net/view/1235440/1235441/2511/1139). This recording would later on become material for a further curatorial exploration which entailed a composition, brought forth through stimulated recall. This curatorial project is discussed further in the next section.

Another example of the unexpected openings, brought forth through such a phenomenological exploration of difference can be found in Stefan’s performance on a site-specific instrument, a tree-guitar, played with a twig, in a duo with Bennett Hogg at Devil’s Water in Northumbria (see video example 5 here - https://www.researchcatalogue.net/view/1235440/1235441/222/1019). In a stimulated recall analysis, Stefan notes how, while it did a good job at exciting the strings of the guitar, “the twig was anything but evenly shaped, and its many little differentiations in the surface afforded a rather even tremolo texture, but with sudden snaps and attacks woven into it. The performance took shape, very much through my efforts to play with this particular resistance” (see stimulated recall annotation, January 15, 2019 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/910/1146).

The affordances of this twig for tremolo playing is one strong, non-human agency in the duo’s responsiveness with the river. Playing down the materiality of things, Tim Ingold (2011) argues that entities form a ‘hive of activity’. Such processes of responsivity manifest as “trajectories of movement, responding to one another in counterpoint, alternately as melody and refrain” (Ingold, 2011, p. 215). This resonates with Maxine Sheets-Johnstone’s (2017) claim that “agency is experienced directly and immediately in the conjunction of movement and perception” (2017, p. 19, emphasis in original). Thus “whatever the perceived object in motion—whether a butterfly, a person, a mobile, a tree branch, an airplane, or oneself—movement constitutes its dynamics, and those dynamics rather than the object—hands or feet, for example—may come to fore” (p. 18, emphasis in original). In Sheets-Johnstone’s reflections on agency, built on a classic study of infant’s kicking movements, it is underlined how “phenomenological insights are not linguistically identified by infants but are precisely kinesthetically and kinetically
experienced by them” (p. 4). She further notes how this has its foundations in how language is postkinetic, and how infants can therefore not be seen “empty of insights because they are ‘without language”’ (p. 4).

The multimodal experiences of sound similarly precede language, since the socially mediated art of listening comes to the child little by little, by being “immersed in the voices and movements that preceded his speaking even more deeply in the invisible language of touch and even that of sound within the womb” (Ihde 2007, 116). For the present article, this observation is essential. While Sheets-Johnstone situates phenomenological insight in movement, in our discussion of the experience of the sonic, a similar grounding in action and a multimodal experience which essentially entails a compounded intentionality which at times results in a dissolution of subject and object, in the intersubjective experience of sound (see further Östersjö, 2020b, pp. 15-16, 23-25). The relational dynamics which characterize the performer’s thinking-through-listening are permeated by vibration and reverberation. The in-between that forms is however not merely a relationality of frequencies and reverberations, it is movement that takes place in the world, embedded in mediated relationships, as will be discussed in the following section.

**Mediation, Technologies and Post-phenomenology**

In the RC a documentation of a site-specific performance by Stefánsdóttir at the site of a fossilised ocean, or shell bank, provides an example of how intentionality is entangled with technological usage. This performance is characterised by micro-sonic listening, enabled by a DIY kit including two DPA 4060s microphones, but also by miniscule movements, as expressed in a stimulated recall annotation: “I feel like I have to handle the shells with care, a testimony to life lived 9.000 years ago. At the same time I know that my kit will catch this tactile closeness, and invite future listeners into this private sphere” (see annotated stimulated recall, April 10, 2021 and audio example 2: study in sound - the fossilised ocean (Stefánsdóttir, 2020b) here - https://www.researchcatalogue.net/view/1235440/1235441/2502/251).

In the embodied experience of the technological mediation of micro-sonic listening in the above situation, the performer’s intentionality is also informed by the accumulated experience of performing a Hopf violin from the 1780s in baroque setup, and the particular tactility of such music performance practice. Its bow was a technology set to enable a rhetorical approach to sound, and its gut strings counteract glossiness through their inbuilt resistance that leads to a grainy sound that reveals the materiality of the tools at hand. It can be argued that the attunement inherent to such embodied listening is transferred to Stefánsdóttir’s practice of DIY field recording with DPA 4060s microphones. She has on prior occasions used the kit to amplify and record her violin, to enhance microscopic sounds, usually only audible to her, in the intimate listening space of solo violin performance. Thereby, she has developed an aesthetic approach through which recording technology is set to amplify tactility, and enter augmented states of mediation.
Given that the authors’ case studies are situated far from any “concert hall environment”, it needs to be underlined that performance should be understood as a process where the performer seeks to evolve his/her practice in relation, distributed through culture, environment and technology. This is not to be understood as a revealing/framing of the world in a Heideggerian sense (Salter, 2010) but rather as mediation. While mediation, according to Merleau-Ponty (1945/2012) concerns the mediation of perception, Mika Elo (2018) points to how “(i)n recent media aesthetic discussions, increasing attention has been paid to the questions of environmental mediations instead of the senses and their mediation” (Elo, 2018, p. 36). Further to this, Ihde’s post-phenomenological stance suggests that “technologies can be the means by which ‘consciousness itself’ is mediated” (2009, p. 23). By becoming through technological usage, we are in fact used by it as well, we are bodies in technology (Ihde, 2001).

Ihde proposes a series of relations between human, technology and world, as schematized in this image:

Human-technology-World Relations
Variant 1, Embodiment Relations
(Human-technology) → World
Variant 2, Hermeneutic Relations
Human → (technology-World)
Variant 3, Alterity Relations
Human → technology-(World)
(Ihde, 1990, p. 107)

The embodiment relation entails a relation to technology through which the instrumentality of the object is not explicitly noticed by the user. In alterity relations, the interaction with a machine is the aim of the relation. But technology may also afford information which demands interpretation in order to become a perception, which Ihde characterizes as a hermeneutic relation.

In ecological sound art practices, several of these relations between human/technology and world could be said to be present. However, we will argue that the agency of technology is a more central factor than is evident in Ihde’s model. Our argument builds on how Ihde’s analysis of the hermeneutic relation has been expanded by Verbeek (2008) as a “composite intentionality”. It entails a double intentionality:

one of technology toward ‘its’ world, and one of human beings toward the result of this technological intentionality. In other words: humans are directed here at the ways in which a technology is directed at the world. This implies that, to conceptualize the basis for composite intentionality, the dash in Ihde’s schematic depiction of the hermeneutic relation human → (technology–world) should be replaced with an arrow. This gives the following scheme: composite relation human → (technology → world). (Verbeek, 2008, p. 393)

Returning to the discussion of the technologically-mediated agency of the wind in aeolian guitar performance, the experience of a double intentionality—as expressed in the
perceived expansion beyond the perceptual limits of the sound object referenced above—suggests that the notion of a composite intentionality better captures the phenomena.

Similarly, we observe how the above performance with the shells takes into account how the intentionalities of technology partake in shaping the atmospheric, sensorial qualities of the event. Herein, the composite relations to the technology is characterized by augmented intentionality (Verbeek, 2008), or a combination between that and the other sub-category of composite relations, or constructive intentionality. According to Verbeek augmented intentionality is the mildest form of composite intentionality. Building on Husserl’s method of “essential intuition” the augmentation becomes a way to determine which aspects are essential to a phenomenon. The constructive approach however goes on to “generate a new reality which can only exist for human intentionality when it is complemented with technological intentionality” (Verbeek, 2008, p. 394). The latter is perhaps more fully explored through the binaural composition *study in sound - the fossilised ocean* (Stefánsdóttir, 2020b) found in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/2134/375.

Just as Kozel suggests that “we can regard technologies not as tools, but as filters or membranes for our encounters with others” (2007, p. 70), the shells are instruments for mediation. But in what ways may performance of aeolian guitar enable performative responsivity, and when might instead the habitus of a performer engender concealment? For a professionally trained guitarist, a guitar is not a neutral tool. Rather, it comes with deeply embodied skills and habits, as can be observed also in site-specific exploration. One example can be drawn from a duo project with Östersjö and Hogg at a site called Devil’s Water. When listening back to the recordings we had made,

we were surprised to find that our initial recordings had something of the gestural and ensemble qualities (Smalley 2007) of modernist chamber music; my analysis builds on the observation that such recollections of classical playing techniques, instrumental gestures, and sonorities can be understood as intersecting layers of meaning, with the gestural space of the musicians also informed by the physical site, the energies flowing through it, and its soundscape. (Östersjö, 2020b, p. 136)

Such a filtering between musical habits on the one hand, and sensorial experience of the site on the other, is a constant when the guitar is employed as a sensor to the environment. But, as described above, an aeolian guitar performance, which can go on for hours, has always constituted a vehicle for extended being-in-the-presence-of a site, and as such remains a unique means for site-responsivity. In the final section we will look at an example of when the use of stimulated recall played an instrumental role in the sharing of sensorial on-site experiences through composite mediation.

**The Curatorial, Attunement and Transcreation**

The transformation of the site specific experiences in the *Tapeshavet* project, detailed in section B of the RC, resulted in an installation by Stefánsdóttir titled *Fjärilarna steg upp* [The butterflies ascended] (2020) (See here - https://www.researchcatalogue.net/view/1235440/1235441/1099/2559). When shaping the transformation from the original experience of a site into ecological sound art that
meets an audience, practices differ. In some instances it can lead to events on site, but often the experiential process is extended elsewhere through further mediation such as an audio recording, installations or concert events that can incorporate video and audio recordings from site, scores and even sculptures.

In the creation of this 8 mono channel installation, Stefánsdóttir’s curatorial practice—which resides within and bridges performative and compositional agency—was instrumental. As such, the becoming curatorial (Martinon, 2013) understood as a thinking-through builds on attunement and phenomenological variation. The thinking-through-the-curatorial, in this project, manifested through various technological mediations, such as photographs, usage of playback technology in and out of the studio and in the creation of a performance score as well as in the final installation. The composition of *Fjärilarna steg upp* was however not a given process. When Stefánsdóttir returned with material recorded at a site visit to the Härnäset isthmus, it was not obvious how to proceed and create an installation which retained a meaningful connection to the book. An analysis of the multiple entities at play accompanied by stimulated recall became a turning point to understand the relationality inherent to the work on site. The coding was based on the video and audio documentation of our field work. At the outset Stefánsdóttir used what Saldaña (2013) describes as “Eclectic Coding unwrap”, conducted in a coding software that allows for memo annotation. After the first round of analysis she found herself arriving at mixed results. The coding up till then was invested in inherited, or institutionally loaded values. She therefore decided to turn things around and approach the analysis from a conceptual stance, which led to the formulation of multi-entity performance (for further discussion see footnote 5). Through this act she was able to unpack the various mediations within such a study. The stimulated recall analysis also showed how the work on site was permeated with atmosphere, imbued by imagination but also awareness of utilitarian realities of the past as well as the climate breakdown of the present.

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5 Saldaña (2013) describes Eclectic Coding as different “from First Cycle Exploratory Methods and Initial Coding (a grounded theory method), in that the latter usually codes and tentatively categorizes data in detailed line-by-line analysis with preliminary attention to the categories’ properties and dimensions. Eclectic Coding does not necessarily follow these recommended parameters. It is intended as a ‘first draft’ or First Cycle of coding with multiple methods, followed by a ‘revised draft’ or Second Cycle coding with a more purposeful and select number of methods” (Saldaña, 2013, p. 193).
A wish to match this thickness of sensorial experience inherent to performative responsivity, in combination with the book’s entropic strands and archival elements, led Stefánsdóttir to consider the tropical palm house of the Botanical Garden in Lund, Sweden, as site for its airing. Through the decision to inhabit a new site, she came to radically expand the number of agencies that needed to be taken into consideration in the compositional process. The Danish composer Per Nörgård describes similar experiences of heightened awareness and attunement as he shifts between first, second and third person perspectives, in his agential description of the experience of composing:

I can find myself both sensing, acting etc—in short, participating, and as an observer—as it were, from outside—of what is going on inside and around me. Thereby I have made note that I use my various skills in a highly varied manner during the seemingly continuous flow of the creative process; on the fly, I control harmony, rhythmical processes and melodic lines, build bridges between distinct tonal layers, get ideas—but I am also an architect and draw calculated strategies—I am a gardener, policeman or soldier who isolates or excludes certain tonal groups, whose loyalty to the whole is put in doubt—I am the programmer who ventures into (cold heartedly, but necessary) calculations of more mathematical/musical problems—I am a communication manager, doctor—and sometimes just absent minded. (Nörgård, 2009, p. 154)

The messiness of agencies, evident in Nörgård’s account, was a constant factor in Stefánsdóttir’s process. Through attuning to the new site, with all its complexities, she became a photographer, botanist, recording engineer, biologist, acoustician, qualitative researcher, producer, writer, director and set designer. At the outset, Stefánsdóttir decided to return to Hansson’s book, Tapeshavet (2017) which was the catalyst for the project (see further in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1750/161) and conduct a performative reading of select parts. The selection was reliant on Stefánsdóttir’s knowledge of the site where the installation was to take place. This took into account what thematic choices could prove to be colonizing and which text parts would enable processes of transcreation i.e., artistic methods for the translation of sensation into new sensation. Along similar lines, sound artist Åsa Stjerna outlines the transversal process of artistic transformation where “relations span between material and discursive, and human and non-human, components” (Åsa Stjerna, 2018, p. 26). Through such tracing and filtering of the text it became apparent that multiple voices would allow for layering the selected materials from the book. This led to a composition of a performance score, that in addition to text sought to construct a site-respondent situation for the three vocal improvisers, by using photographic materials, text instructions and field recordings (see

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6 The event was produced by Lund University’s Inter Arts Center, in collaboration with the Botanical Garden as part of LU’s Future Week in Autumn 2020.
One challenge when constructing the score, was how to decide on the density of the text in the score, and further how to make it oscillate between semantic and sonic domains within the final work on site. This necessitated technological mediation, set to tune into the affordances of the designated space. To this end Stefánsdóttir brought a portable speaker to the palm house and entered a process, described in a later reflective memo:

I used the sound files from another 9 channel installation to hear how sound travels and blends into the space. A way to attune to possibilities of placement, but also a way for me to learn how sounds travel and diffuse amongst the plants; to learn what sounds do not belong here, and how dense they can be. Through the minirig I attune to sonic properties, resonance, respondency and resistance.” (see reflective annotation, April 12, 2021 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/769/1940).

This visit affected the overall working process. By attuning to the space it became clear that it would not allow for longer recitations of poetry nor the sounds of acoustic instruments. If sound is sonic-in-relation then it could be argued that the plants, their placement in the space, along with the humidity, affected choices regarding timbre/grain, volume and spatialization within the electronics. It is easy to see how such understanding is not merely a case of tracing prior knowledge about plants, such as their possibility of trauma or a wish not to colonize space. Rather, it is brought forth, through attunement to the atmosphere. Gernot Böhme (2014) in his elaboration on the spatial aspects of perception of sound observes how the presence of something or someone in a space is perceptible, not merely by outer appearance, but also through scent or echo.

Both are ways which allow a being to permeate its entire surrounding space (also known under the Latin term sphaera activitatis), whereby it is the given scent or voice that lends character to the atmosphere of this space: felt is not the presence of an undefined something, but of this specific thing. (Böhme, 2014, p. 14)

In the end, the installation became like sound diffusion, a sonic response to the site, where the sensorial imaginary of the vocalists, Sofia Härdig, Felicia Konrad and Liv Kaastrup Vesterkov, and other sounds blended and oscillated in relation to the plants, the humidity and the singing frogs. Even the sprinkling system corresponded and melted into the environmental system, or its atmospheric space. Certainly, this greenhouse was nothing like the original site at Härnäset isthmus, and the field recordings had gone through substantial transformations, as had the original text of Tapeshavet (Hansson, 2017), when turned into a score for studio performance with the vocalists.

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7 Stefánsdóttir learned through conversation with the staff of the Botanical Garden about the habits of the phantasmal poison frogs (Epibetobates tricolor) that reside at the tropical palm house. The frogs are avid singers, and their sound production, became a parameter of respondency i.e., whether their singing would alter or falter at the introduction of other sounds than those from human visitors of the palm house.
The series of stimulated recall sessions with the vocalists served as a reminder of how micro-sonic listening is essential to studio performances. The headphone usage, together with the microphone came to create a “space for performance” (Härdig, personal communication, April 15, 2021) which enabled an aurality of “detailed nuances” and the performer to “hear herself in a different way” (Kaastrup Vesterskov, personal communication, April 15, 2021). Singer and composer Sofia Härdig, who perceives the microphone as being part of her stage “instrument”, noted that the idea of skipping headphones in the studio would feel akin to working with “gloves”, as it would diminish her sensitivity. Through this we see how, akin to the aeolian guitar, cylinder and shell performance, the usage of technology enabled a listening driven by phenomenological variation.

But the phenomenological variation was also embedded within the material and guidance introduced by Stefánsdóttir. The curatorial intentions aimed at an open-ended process set to enable site-responsivity and transcreation, manifesting in works for improvisation alongside text for recitation. An example of guidance steered towards phenomenological variation was Stefánsdóttir’s suggested initial framework of second and third person perspective for recitation i.e., relating to a friend or a more neutral uttering. Whispering was also used in order to create a different timbre. This was however not a straightforward task and could lead to discussions around pace and timbre, but also formulation of strategies such as “distance” and “description” rather than “narration” (Kaastrup Vesterskov, personal communication, April 15, 2021). Takes were compared and contrasted and served as fundament for new takes. In her stimulated recall of a whispered passage Kaastrup Vesterskov came to describe the act as a sensitivity far from narration and rather a bit like “playing a string”. Here the framework, set to aid later composition, could be argued to shift the text further towards an aurality.

Given the onto-epistemological nature of the project memories also came to serve a large role, through recollection of atmosphere from other sites and sounds stretching all the way back to childhood.

Fig. 2. A schematic representation of the stimulated recall scenario with Felicia Konrad.
Other relations were explored through performance. As observed by Felicia Konrad in relation to the performance score and her interpretation of the word “skal” (meaning: shell); “There is something that I do not understand about the word, maybe it is its form [...] Here I am sort of still with the sensorial feelings of the word itself, I do not leave the word. I am between the sound and the word and its meaning” (see further the stimulated recall annotation, April 15-16, 2021 and video example 6 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1661/2179). Herein, Konrad enters an augmented intentionality, both through how the micro-sonic listening is directed at her voice, as well through a performative inquiry into the phenomena of the word shell.

Furthermore, Stefánsdóttir was present as sound engineer in the sessions with Kaastrup Vesterskov and Konrad, which led her to also embody the role of dramaturg and director. Here, the technology enabled an intersubjective meaning making, or shared listening, on opposite sides of the recording booth where both participants can be seen to give up a sense of self through shared listenings apparent through Kaastrup Vesterskov’s observation: “I would not have gotten there without the guidance. But neither without the wild improvisation”, and as she continues her elaboration, through conversation with Stefánsdóttir, she describes how “you cannot do anything wrong. We just need to search. And then there is something in it that we can build upon” (see further video example 8 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1683/3088). As became evident in the discussions related to the stimulated recall session, familiarization with Stefánsdóttir’s score construction as well as knowledge of the technological mediation inherent to the future composition evoked a sense of freedom for the performers or as expressed by Sofia Härdig: “it felt safe that I could try different ways (...) and then you would know what fit in context, in relation to the other voices”, in fact “it was rewarding to be able to just go” (see further video example 8 in the RC here - https://www.researchcatalogue.net/view/1235440/1235441/1683/3088). Here we see how technology can create a contextual framework, and thus facilitate intersubjective meaning-making.

As can be observed in the second video from the stimulated recall session, memo taking was part of the observer’s role. Created on the go they served as initial coding for further analysis. More often than not they captured what Stefánsdóttir deemed as significant moments from the performer’s unpacking of their work, also with regard to the collaborative engagement which it entailed (for further see memos from April 15-16 and video example 8 here - https://www.researchcatalogue.net/view/1235440/1235441/1188/3034). One such instance is where Stefánsdóttir asks Felicia to further disclose what the instruction “not to act” entails for her. This leads Felicia to make a distinction between acting, poetry reading and this particular practice, which is enabled by the score. It involves refraining from adding meaning, and in the stimulated recall session Felicia seeks to verbalise this approach as “(t)o try and reduce but also to create, as it were... to ‘hold’ the text in a somewhat different manner” (see further video example 8 in the RC). This exact phrasing was also captured by Stefánsdóttir in a memo (as seen in the video), again framing this as a moment of disclosure of shared understanding.
As noted above, stimulated recall has its origins in the affordances of recording technologies, and how repeated listening alters perception. Taking this observation further, Verbeek (2008) notes how technological intentionality is similarly “directed at specific aspects of reality” and clarifies it by referring to Ihde’s discussion of how the sound recorder has “a different intentionality for sound than human beings have, recording background noises at a louder volume than perceived by human beings” (p. 392). Stimulated recall, then reveals a composite intentionality, which, when carried out by a group of performers, also enables intersubjective knowledge construction, through phenomenological variation. Further, it can lead to an interaction between analysis and musical creation, as evidenced in the curatorial project discussed above, as a convoluted series of processes enabled by the stimulated recall sessions.

**Conclusions**

To conclude, we argue that technological mediation can be better understood through a phenomenologically-driven study of the different modes of listening which it enables, such as seen in the examples of micro-sonic listening above. The radical conditions offered by the relational approach to the site-specific, through ecological sound art, can be seen in the practice of aeolian guitar performance and specifically in how the non-human agency of the wind is enhanced through the intentionality of the audio technology. Similarly, when Stefánsdóttir engages in a performance with the shell from a fossilized ocean, micro-sonic listening amplifies affective qualities that are entangled with the vast temporalities that are embedded in the performative situation.

We find that micro-phenomenology and stimulated recall have the potential to deepen our understanding of the performative responsivity characteristic of ecological sound art. Hereby new understandings of the intentionality of technologies are enabled. Further, when designed as intersubjective inquiry, stimulated recall provides means for a deepened understanding of the performative nature of musical subjectivity, and how these are also technologically mediated.

At the same time, a post-phenomenological understanding of technological mediation allows for a better understanding of the agency of technology in the practises of stimulated recall, such as discussed in this paper, both as a means for research and artistic creation. In *Fjärilarna steg upp* an analysis through stimulated recall proved to be essential to the curatorial process, working as a catalyst for the transcreation of sensation within ecological sound art, resulting in a composite intentionality. We also observe how the technology of notation, such as activated in the creation of the score to *Fjärilarna steg upp*, affords other forms of phenomenological variation, as compared to the examples of micro-sonic listening above. Finally, we argue that a combination of the above methods, of stimulated recall and performative responsivity, holds a potential to generate new understandings of listening, resonance and vibration in our relatedness to the Other.
References


