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Exercises in listening to the inaudible

About the Cona Institute's programme and the Acoustic Commons network

The activities of the Acoustic Commons network for live environmental streams draw attention to the unique sounds of particular places and explore the acoustic ecology of bio-anthropo-genic locations. The network connects sound ecologists, live streamers, sound artists, and experimental musicians who, in various ways, reflect upon the role of sonic explorations in promoting biocentric thinking, which rejects the primacy of human rights and needs over those of other living and non-living beings such as birds, spiders, trees, or stones. Attentive listening goes beyond the notion that music is purely a human activity and opens the ears to the sonic structures, which may inform the human culture to become more inclusive of nonhuman entities. Indeed, acoustic sensitivity is one piece of the puzzle that raises awareness and helps prevent numerous sound-sensitive creatures from declining into extinction.

The Acoustic Commons activities coincided with one of the most dramatic moments of silence we have ever witnessed, a rupture that could only be outrivalled by a potential blackout from a Carrington catastrophe. Prior to restrictions of public movement at the beginning of the pandemic, it was difficult to imagine that the behemoth of capitalism, the rumble of cars, planes, and human masses could ever fall silent. If only for just a few weeks, it gave hope to the possibility of turning it off for a common cause – in the anticipation that someday soon, the mitigation of anthropogenic climate change might become a similar urgent common cause. Sadly, two years later, humans seem to have found our common cause more lost than ever. Consequently, commoning, coming together in a specific location, or finding the togetherness in the diversity of perception through sound in and of our environment is even more critical. Cona Institute, one of the Acoustic Commons members, navigated this passage from silence into a different kind of social relations, not as a rupture but a continuation of concerns embedded, entangled, situated, and informed by decades of exploring the interdisciplinary approaches to acoustic ecology.

One of my first outings in early April 2020, after a long and exhausting illness, was in the early hours of the day. The city was apocalyptic in the bliss of the morning sun. Not a person in sight. The birds were chatty but not loud as they needed not to compete with mechanic noises. Their sound niche was empty and fully available for them to peacefully fill with their melodic voices. I was cycling towards the city centre. At a junction, there was a man in eccentric clothing and a bright yellow old-timer. It was a good thing that the car seemed to be broken. I don't know how my ears would have handled the roaring thunder of an obsolete vehicle in a desolated town. I noticed another loner in colourful clothes riding a bike far on the other side of an empty downtown Slovenska Street. Soon, a big smile took my face. Irena Pivka! Of course, who else would I meet in the mid of a strict lockdown in a completely abandoned city but a field recordist! She finished that day's recording research for the SoundCamp. We had a quick and bemused chat about the lovely silence of the morning and said our goodbyes. Off I was on my way to meet Robertina Šebjanič,

another SoundCamp participant. We would look for the grey heron she befriended over the past month, and we were going to listen, not record. Now that the pesty humans were gone, the heron moved to the riverbank in the city centre. She tributed her composition *Talks with Grey Heron* to her friend. We didn't find them but continued walking up and down the riverbank along the canal, up the small tributary stream. We dipped a hydrophone in the river here and there to hear the absence of noise pollution. The river was clear, and you could almost see the riverbed. We were pleased just walking and listening. Walking is a method of field recording that often does not require recording.

A very straightforward realisation about the Cona programme and what makes it unique in the Slovenian sound art and music composition scene is the profound relationship it nurtures to the sites of listening and the way the body moves or does not move in time and space when listening. The location of the sound informs us not only about the ecological conditions of a place but also gives the place a sort of agency that can present its case as a political and social entity.¹ In English, *Cona* means Zone. To me, a zone is an open space without border or centre. It is recognised as such only by the conditions in which things (living and others) come together in their comprehensive mental, social, political, or – as sound artist Manja Ristić argues – psychoenergetic capacity. There are several ways to give agency to a site through sound and to listen to the inaudible sound. I will touch upon them through works produced by Cona. Some statements in the text below are inspired by conversations with sound artists and composers Brane Zorman, Irena Pivka, and Luka Prinčič, as well as by printed materials from the Cona programme and works by OR poiesis and Manja Ristić.

Listening while walking

Cona does not use walking merely as a format for presenting sound compositions, however necessary and in a way readily at hand may have seemed when the Steklenik was closed at the beginning of the pandemic and restrictions on social gatherings were enforced. They use walking thematically. When walking, different sets of neural pathways are triggered in the brain, stimulating the human and, most probably, other beings to think, sense, and act differently than if they were still. The sense of movement and psychoactive shift in perception is not only detectable by complex animals but also the plants, whose hormonal patterns change in the presence of other species, and the ground that absorbs vibrations. Such minute changes in the environment might seem negligible to most. Still, they allow sound artists, attuned to the environment's subtleties, abundant resources to contemplate the relationships of things in the world.

Walking affects more creative than logical thinking. Although philosophers have used walking as a means of arriving at thoughts,² it was not the thinking that got them to that place but rather a somatic practice of movement and un-thinking. The rhythm of walking stipulates the rhythm of thinking, facilitating the ability to hear and be more attentive to the relations and dissonances created by the sound composition and the environment experience. The rhythm of walking is audible in the binaural pieces by Irena Pivka and Brane Zorman. According to Pivka, the overlapping of storytelling with the environment in which a particular recording was taken “glues the listener to the location,”³ which eases the identification with a specific location. You hear her walking with a steady stride in their soundwalks, followed by a suggestive narration.

It is not your footsteps you hear, but it makes you aware that you are walking at this particular pace on this gravel at this precise time of the day. You experience that these sounds belong to this place and are entirely situated in this location, but they are inevitably from another time and often contrasting.⁴ The mismatches and matches, the overlapping of the site, and the dissonance with the place are some of the mental strategies that prevent the listener from detaching, *ungluing* from the location, and calling for attention to the here and now. Pivka's and Zorman's soundwalks aim to raise awareness of the psychogeographical landscape conditioned by more or less invasive human intervention, and give visibility to neglected or deteriorating urban environments that hold immense potential to rewild or produce extra-aural aspects of political or social understanding. They chose the locations based on this socio-political narrative, and their sonic research refers to the listeners, keeping in mind the accessibility of the walking piece while looking for obscure places hidden from the citizens; the paths they never take, the spaces behind the fences, the squares that are too obvious.

Observing rewilding

When talking about the awareness of a situated sound, Luka Prinčič resonated with the inclusion of external conditions in the sound materials. In a conversation, he mentioned that sound must include the awareness of not just sonic processes but also the extra-musical effects that produce inequalities and separations. For example, when living just a few blocks from the migrant deportation centre, one cannot simply enjoy the bird song.⁵ The location's political and social aspects are revealed in the precious wastelands, the abandoned places where humans have stopped interfering. As a result, the (non)biological processes are no longer conditioned by human intervention and may more or less freely rewild. In her piece, *Sonic Ontology of Negligence* (2021), Manja Ristić explored the sites of rewilding. During her Cona residency in Ljubljana, she kept visiting the same location and made field recordings in the derelict, unfinished structure of Stožice Shopping Centre near the Ljubljana ring road. She mixed them with recordings of other abandoned "industrial" sites such as ancient quarries on the southern shores of the island of Korčula in South Dalmatia that now make idyllic isle beaches. We listened to her piece for the Steklenik Gallery at the beginning of the second lockdown, scattered in the park, as gatherings of more than five people were not allowed. The first cold and sunny days in early November 2021. We were pinned down to the municipality by law, and I felt an incredible sense of longing when I heard the sound of the sea from rewilded lime-stone quarries; the breaking of the waves was layered over the natural reverb of the drip-dropping rainwater from a failed shopping mall project used by human and nonhuman inhabitants as a monumental dystopian backdrop to real estate economy madness. The construction of the shopping mall started just before the 2008 financial crisis. It was abandoned for dubious arrangements in real estate speculations not before a vast three-story reinforced concrete structure was built, covering over 8000 m². This poetic concrete monster is a monument to the possibility of different normality; not that of financial growth but of the so-called degrowth, a socio-political concept emphasising conviviality and well-being of human and nonhuman people. Ristić resonates with the term *third landscape* that French horticultural engineer, gardener, and professor Gilles Clément coined for abandoned territories, without a function determined by human beings. She believes such sites can be considered "[...] a genetic reservoir of the planet, the space of the future. Viewing the third landscape as a biological necessity, conditioning the future of living

things, modifies the interpretation of territory and enhances areas usually looked upon as negligible.”⁶

Often, such potentiality is met with a need for humans to move aside. Even the most pristine sites, such as ancient forests, are governed by political will, failures, or disasters that may lead to rewilding. In his invaluable advocacy of rewilding, Monbiot writes: “*In places once thick with farms and cities, human dispossession and war have cleared the ground for nature to return.*”⁷ We observed one such case of abandonment during a field trip of the Acoustic Commons network in October 2021. In the Kočevski Rog old-growth forest, a complex political trauma during and after WWII has driven humans away from the settlements, making way for the wild to return. In addition, the pre-war policies also dramatically affected these woods’ structure. A passage from one part of the forest appeared like switching off a light bulb. Over a century and a half ago, one part of the forest was managed by cutting dead trees and grooming the bush and forest floor to secure a “better” growth rate of larger trees. At the same time, the non-intervention management was applied to the other part in order to preserve genuine hunting grounds. The “cultivated” part featured a bright forest with sparse canopies and fruit trees. On the “non-interventionist” part, a lush, thick abundance of impenetrable greenery provided a diverse ecosystem for all stages of forest development: young trees, mature trees, ageing, and collapsing trees. The visible difference revealed a disquieting scenario of nature-policy combined.

A similar unsettling yet hopeful feeling creeps in at the structure recorded by Manja Ristić. The colossal edifice with unprotected lift pits and perforated concrete slabs was at the time frequented by teenagers, graffiti artists, field recordists, car-tinkerers, photographers, painters, and inhabited by small wildlife such as frogs, birds, rats, and mice that found refuge in bits and pieces of Styrofoam. Much to our dismay, the structure has been since sealed off by hopeful investors preventing the humans from entering. However, they cannot control nor keep out the wild. Like Ristić, I used recordings from this structure in the *Anthropic Frequencies* composition, aired during SoundCamp 2020 live stream. I, too, see potentiality in this concrete complex overtaken by nonhuman subjects and consider it a successful failure of capitalism as it exhibits poetic and aesthetic aspects of the crisis. In somewhat more dramatic words, the structure has become a place of radical decommodification. What was designed to boost consumerism has been transformed into a site for potential communication and cohabitation of several species – a precious area of the rewilded. Giving value to places, sounds, and creatures deemed dangerous, negligible, desolate, invalid, or deteriorated liberates me from the moral judgement that creeps into an ecological paradigm.

Apparently, people are still not entirely free from the romantic conception of pristine nature and landscape separated from culture. The call for rewilding is thus an attempt to give way to *spontaneous nature-culture* merging that includes technological and urban processes while allowing for the spontaneous emergence of uncontrolled overgrowth, pioneering plants, and invasive species. Another geolocative piece by Pivka and Zorman, *pioneerGarden* (2022), deals with the importance of these seemingly insignificant persistent critters. In the soundwalk, they unravelled a complex bond between ideology, space, and its inhabitants. Their site, the Republic Square (Revolution Square between 1974 and 1991), is heavily loaded

with connotations of centralised political control. A site of the accumulation of power is simultaneously a site of its contestation, the anti-government protests and the exercise of democracy. It used to be a monastic garden harbouring rare tree species that the colonial mind would render *exotic*. A few trees still thrive, preserved by peculiar consent in urban planning. The curious case of this monumental concrete functional square of modernist architecture is that it seems to be dominated by exclusively human interests, entirely void of any other-than-human agency. Yet, in the soundwalk, the artists direct our attention to the small plants that live between the cobbles. Their insignificance points to the persistence of the plants' colonial drive making them claim their territory despite all odds. Such plant species are dubbed *pioneer flora* as they create and fertilise the soil in harsh and nutrient-deficient conditions. In conclusion, we imagine the Earth without humans as a dystopic disaster but also as a potential to contemplate our insignificance that might bring some reconciliation with the environment.

Hearing cycles

In the field recording practice, the recordist is attuning to the rhythms and textures in the atmosphere. A soundscape changes with differences in weather phenomena: humidity, temperature, season, sunlight, etc. Further changes happen in the colouration of the atmosphere during the 24-hour cycle and repeat daily with the rhythm conducted by the Sun. On our cyborgian planet enmeshed in electronic networks, the circadian rhythms of all critters suffer a form of internal desynchronisation induced by sound and light pollution that cause profound metabolic ramifications. The contemporary rhythms are not only conducted by the Sun but are a product of conventions, habits, and intra-inter-species agreements. Although the circadian rhythm of some species might be crepuscular, meaning that their most active hours are at dusk and dawn, they adjust to the modern-day humans, who are the loudest during the day. Many field recordists go further and deeper into the woods to record sound free of traffic hum, others meticulously edit it out to synthesise a clear song of a critter, yet others face the demons and record the environment in all its mechanical glory. When thinking of accessibility and equal opportunity in sound production, the man with the directional microphone is a classic phallic image of a man-hunter aiming for accuracy, purity, and technical perfection of sound. In contrast, in his piece for SoundCamp 2021, Colin Black takes an interest not in successful or perfect recording but in failure and the pain, war, violence, and disillusionment. For him, some mornings are not the charming, idyllic scene of the new rebirth with a magical dawn chorus but a continuation of something traumatic. In all the love and connectedness the artists feel for the environment, challenging and anxious questions are asked through the droning and breaking of frequencies, archives as evidence, and voices of witnesses. The negative effect of noise pollution with immediate sonic attacks and constant background noise causes physiological stress and distractions. It is related to an alteration of other metabolic and behavioural changes that, other than circadian rhythm, also affect the masking of hearing and frequency shifts in making sounds. The Cona programme tunes into the circadian rhythms and/or perception at various hours of the day, as this is something that we as humans have forgotten.⁸ An attempt at sonic communication with other-than-human and looking for synchronicity in our environment somewhat reconnects us to these daily, weekly, monthly, and yearly rhythms.

Cona intentionally disregarded the conventions of art events at the Steklenik Gallery to follow these rhythms. Some events happened at 7 or 8 in the evening, but in most cases, they tuned into the circadian rhythm and the power of altered perception at various hours of the day. We were at a night-time sleeping performance. The openings of the Steklenik's exhibitions and some soundwalks were set to the *matinée* time on Saturday at noon, accompanied by a citizen science workshop. Other times it happened at dawn. We were at an electro-acoustic opera at the daybreak at five o'clock in the morning and howled at the moon in high snow. We listened to wintertime in summer, summertime in winter, spring in autumn, and autumn in spring at dusk relative to the current season.

A site completely changes at different hours of the day and in different seasons. A sonic atmosphere that drifts between these liminal spaces induces a change in our perception. Artists commissioned for the SoundCamp 2020 and 2021, including Petra Kapš (OR poiesis) with *Seasonal Paths*, Boštjan Perovšek with *Sounds from Ancient Place*, Robertina Šebjanič with *Talks with Grey Heron*, Irena Pivka with *EchoWalk*, Colin Black with *Morning Is Broken* and others, follow these changes in their sonic research, returning to the same location unveiling layers of stories these places have to tell, listening to the slow resonance of stones, the silence in urban environments, or whispering of trees. Such listening requires solitude, an aspect of silence that indicates a lack of human interactions. It quiets the social babble and allows other voices to be heard. It is as though we perceive our surroundings only in solitude and thus not lonely but together, intimately connected to all the things nonhuman.⁹ When connecting and creating common listening spaces, listening with others is not always necessary to get a sense of togetherness that makes a theatrical social space. Instead, consider solitude and the ability to listen when being alone. OR poiesis follows threads of silences and solitudes through urban spaces, bringing together profound but minute distinctions in the quality of silences. Her long-term research is a *contra punctum* to noise pollution, not as an absence of noise but as silence with substance, its story, and place in the world.

Brane Zorman's compositions also give way to the spaces between sounds as an antidote to noise pollution and sound saturation that call for deep listening. His compositions include a wide dynamic range filled with subtle silences and non-assertive sounds that mark the seasons and the passing of time, using repetitions and undulations with parallelism, seriality, *in-tempo* recording, and looping. He layers hybrid sonic structures with strange sound modulations grounded in the sound of a location and projected back as spatial sound. He is curious about the sounds that exist as vibrations but are inaudible to the human ear, the ultrasonic and infrasonic frequencies out of our hearing spectrum, the subtle vibrations of a medium such as soil, tree bark, or stones, and the electromagnetic telluric currents.¹⁰ Materials that do not contain a single audible element are brought to life by various detectors and microphones or by sonic imagination. A peculiar and perhaps unexpected ambition of the compositions is to induce a form of fear and discomfort when faced with the power and whim of natural processes and introduce entropy as one of these processes. There is plenty of beauty; however, it is not dictated by human taste or the need for comfort.

Such sounds take time to develop and tell their stories, hence relatively long compositional formats. With tiny variations, the repetitive patterns induce hypnotic

states and suggest ancestral triggers in our perception. I believe field recordists are allured by the spirits of things and mystical logic. An attentive field recordist in the wild seems to behave like a Shintoist, sensing the whispering of other-than-human speech and its mythological meanings. And through the compositions, they attempt to translate this sense of connection and empathy to those who listen. The trees and stone become creatures in their own right; it is not just you observing them, they gaze back as a collective body.

For *The Tree Spirits* (2021) composition, Brane Zorman befriended many colonies of trees. In his contemplation of the slower-than-human pace of their utterance, he composed a profoundly emphatic piece that presents subtleties of natural processes. He approaches ecology from a deeply emotional and empathic perspective making connections by cohabitation, investing in experiments with recording equipment (microphones, pickups), and postproduction. His work communicates a deep sense of cyclical time, with distinct portraits of seasons, repetitions, and undulations of things in the world. Trees endure as ancient living symbols of the mysterious part of life despite having suffered theoretically at the hands of postmodernism, consistent with Deleuze and Guattari's critique of arboreality as hierarchical, promoting the rise of the rhizome instead of the tree as a central image for cultural theory. From hidden roots to their canopies, trees take nongeometric shapes that harbour life in different dimensions.¹¹ For instance, the most sophisticated and accurate symbiotic communication network (mycorrhiza) challenges the exceptionalism of the Internet. Trees play an integral role in the interspecies exchange of vital information. They engender empathy in human cultures that depend on their fruit and oxygen. An enchanting image that motivated Zorman to make a graphical score for the piece to unveil the multi-layered entanglement of trees in a forest and construct his fable in the eternal circle of raining, resting, sprouting, thriving, waning, drying, burning, resting, and raining again. These nonlinear compositions return to themselves in a cyclical loop, distinguished only by the changes in climate and external factors occurring in time. Giving tribute to trees and their arborescent character is a way of appreciating them beyond their symbolic (cultural) value, claiming the importance of their materiality while maintaining the relevance of Deleuze and Guattari's plateaus as a pivotal theoretic thought pointing to the correlation between things in the world distributed and shared in a rhizomatic nonlinear network. Other than enabling a better understanding of the complexity of organisms and their ecology/connectivity, this theory triggered an avalanche of challenges to cultural biases, such as what comprises a living organism, what is natural, or who/what is intelligent.

Cona primarily works with artists who use field recording as the principal method in their compositional practice and develop their programme in several trajectories, including the Steklenik Gallery for Sound, Bioacoustics and Art, or radioCona Temporary Project Radio for Contemporary Arts. Perhaps it is precisely the postmodern theoretical framework and its successor posthumanism that informs them to address acoustic ecology broader than the first recordists of the World Soundscape Project suggested. Not only do they frequently work with scientists to expand the referential field of artistic research, but they also collaborate with artists who rarely use field recordings. Yet, their work is deeply informed by the structural modalities with cyclical patterns and chaotic occurrences inherent to natural processes. One such artist is Luka Prinčič, who works almost exclusively with computer-generated processes. Even in *SCDAWNREM20*, commissioned by

SoundCamp, he sampled an open mic and granulated it in SuperCollider, creating multiple layers of realistic and imaginary spaces. He is captivated by biomimicry and emerging living systems that resemble life as they contain unexpected deviations of complexity, generators of chaotic oscillations, and attractors of unpredictable repetitions. Although based on algorithmic functions, they have complexity comparable only to erratic behaviours of dynamic systems in nature, such as swarms.¹² In light of the ecological catastrophe of the present day, he finds the notions of intelligence and human exceptionalism deeply disturbing. In *Rhizosphere*, he explored collective forms of intelligence not exhibited by an isolated individual but connections produced by the abundant interspecies relations. He pointed out a mistake in animal intelligence research made by science that was a product of anthropocentric bias. Intelligence is viewed as something that could only originate from a centralised nervous system – that is, from the brain – and they continue to measure the brain-to-body ratio as its indicator. In doing so, we miss out on a fantastical world of possibilities in the neural networks of creatures such as octopods or tree colonies.¹³ Like Zorman, Prinčič did not engage directly in the postmodernist theory but focused on the rhizome's materiality, arguing that human notions should not be projected onto other-than-humans. In a booklet published within the project, he referenced the text by Viola and Mancuso underlying that plants are modular and, as such, should not be referred to as individuals but as colonies, and consequently, their intelligence should be investigated accordingly.¹⁴ The environmental crisis is, in a way, the result of extreme individualism that produced exploitative hierarchical subject-object relations such as extractivism. As a possible solution, speculations about networked collectives suggest developing more sophisticated forms of interactions. Collectivity, community, and commoning are the core principles of ecological thinking that give way to various mutualistic relationships.

Resonating with science

My husband and I were walking while listening to Anne Cecilie Lie (*dis*)*solutions II* composition made for the Steklenik as a geolocative soundwalk following Oslo's mesh of underground sewer systems. According to the introduction text, she also used recordings of the deep-sea hydrothermal vents. Knowing just these few facts about her work and having worked extensively with chemobrionics, we immediately got into a strange and quite dark place on a sunny Midday Saturday. The piece was enchanting, the time expanded, and we had a sense of wandering the woods for a while only to realise that merely a quarter of an hour had passed. It is not only the sensing that triggers sense; it is the knowing that informs my listening. The Steklenik booklets and texts that disclose the artists' line of thinking (diaries, graphic scores, theories, quotations, images) contribute to the multi-layered understanding and listening of a piece.

Ecology comes close to the mystical logic or something that Timothy Morton calls "*arche-lithic*, a primordial relatedness of humans and nonhumans that has never evaporated."¹⁵ It is radically different from the logistics of agricultural societies. The mystical logic is non-exploitative; it cohabitates rather than rules, is fluid rather than fixed, and is messy rather than orderly. It is effortless to follow the mystical path in sound. I referred to it above as a sort of Shintoism, giving agency to things around us. We see it in OR poeisis's practice. She roots herself in ancient pagan shamanism listening to the silence and oracles of the stones. Her approach resonates with Voegelin's writing that "sound negates stability through the force of

sensory experience. Listening's focus on the dynamic nature of things renders the perceptual object unstable, fluid and ephemeral: unsettling what is through a world of sonic phenomena and audible spirits. Sounds are like ghosts."¹⁶

The scientific approach to the same subject is more fixed and may appear to contrast the artist's intentions. Yet, it contributes to the multiplicity of perspectives. Neither the artists nor scientists nor listeners can encompass all the viewpoints, but it helps to have the ability to at least listen to each other. Cona often invites scientists (biologists, ecologists, or representatives of civil initiatives) to contribute to the opening events at the Steklenik Gallery. Such encounters are, in a way, exercises in communication and translation between specialised fields that deal with relatively similar subjects but vastly different methods. The discursive programme is not only intended to promote citizen science or the so-called science communication but to mutually inform and redefine the scientific fields in light of more open methodological approaches by the artists. In this context, any field of science is, on the one hand, appreciated and, on the other, critically examined, for any science that has grown out of exploitative relationships needs to be reconsidered or decolonised. In the field of bioacoustics, for example, it is the objective study of animal species (as individuals) that is scrutinised.

Sites with voices

Architecture views space as emptiness within walls.¹⁷ When thinking of aural aspects of space, it opens up and becomes a total volume in the fourth dimension. The topography of sounds recorded by the field recordists in a particular location – like in the case of the Reveil and SoundCamp projects that connect streaming sites all over the world – opens a portal to intangible sonic domes. Manja Ristić highlighted this idea of the sound shaping a dome-like structure as opposed to the graphic or geographic representation of sound as a two-dimensional wave.¹⁸ By experiencing the site through the sonic dome, we can look past the political and anthropocentric categories of divisions and borders and consider spaces as ecosystems. Salomé Voegelin poetically says that “geography of sound has no maps; it produces no cartography. It is the geography of encounters, misses, happenstance and events: invisible trajectories and configurations between people and things, unfolding in the dimension of the actual while formlessly forming the dimensions of its possibility.”¹⁹ Ristić dives deeper from the political into the neurological impact of sound and its perceptual properties that she calls *psychoenergetic*. She draws from the latest scientific hypotheses and the ancient wisdom of Eastern medicine to unravel the connection between somatosensory processing and phylogenetics of thought and imagination, not using them as psychotherapeutic practices but compositional techniques.²⁰

A site sample becomes a building block with a character and holds the key to ecological awareness: a more respectful relation with the environment. The site is an entity with its character and a collective of multitudes. It is based on a mental mapping that leaves us in awe when entering a thick forest; the wind blows, the rain comes, and this vortex blows through our rational thinking. An open mic is a format of sound ecology that Cona has been returning to for almost two decades. It derives from a preoccupation with the sound of a specific location and the awareness that documenting a site with long formats for days, weeks, or months provides a referential point of the natural occurrences timescales that allude to immediate

human perception. One might think, “what a beautiful forest,” but compared to the site from a decade ago, one might discern the decline in the diversity of species. Such archives of soundscapes and sound maps not only have comparative validity but also *glue us* to the site enabling us to hear what elements it contains. Many of Cona’s artists contribute to sound maps such as *aporee* or the Acoustic Commons network of open microphones. In addition, Cona developed technological procedures for off-the-grid, geolocational, and open-mic radio emissions that come from the fascination of being/listening in different places simultaneously. The open-mics involve expanded radio as an artistic medium and the interest in geolocational sonic explorations. This sonic connectivity creates a strange but charming community of people who do not follow a one-way centralised communication of radio networks but allow multidirectional exchange and open-source creativity. Due to their dispersed structure, sound maps and open mics create undefined territories/domes of rhizomatic sonic presences that function autonomously. They are a more democratic answer to how to create and project sound art into the world. You find yourself at a mysterious hour of the day in a perfect location on the hill; the sun is rising, the birds are chirping, the dew is falling, and you try to be as quiet as possible to capture a clear recording of the site. At the same time, you are connected to people all over the world in a chat room,²¹ through space in time; the only limitation to this magical moment is the life of your battery.

One of the aspects of these streaming and recordings is that they are entirely free, accessible, open, and belong to the commons. In one of the earliest transmissions of radioCona on 88.8 MHz in 2008, they said: “You are listening to a soundscape. Who is the author of this sound? Who creates these sounds? The animals? The humans? Or is it the atmosphere? Is it the person that built the machine for recording? Or is it the person who pressed the button on this machine? Is it the artist that is transmitting this sound in a context?” Their position on this matter has not changed. In a joke, Zorman says that his best guess is that it’s the birds. In this regard, by all means, these sounds should be put to public use.²² It’s only the postproduction and composition of a field recording that makes it an artwork worthy of any licensing. Prinčič, one of Slovenia’s most vocal proponents of free and open-source licensing, suggested a more radical approach. For him, it’s not only the field recordings, but the idea of artists owning their work that should be reconsidered. In his words: “Authorship or the idea that someone thought of something unique is a myth. I may have a feeling of how to put some things together but most of the things that I know I’ve learned from others. The idea of copyrights did not come from the artists in the first place, it came from publishers who wanted to have a monopoly.”²³ He is an advocate of the so-called Peer-Production-License based on the Creative Commons Attribution-NonCommercial-ShareAlike license but allowing for commercial application whenever the benefactor is directly an artist or artists’ cooperative.²⁴

Singing with birds

I talked to artists and visitors alike about the ambiance of the Steklenik Gallery, and none of them came out unaffected by the soothing calm of a relatively constant temperature in the pleasant company of greenhouse desert plants. They all seem to have tuned into their slow growth and nonhuman time. On some level, the artists who presented their pieces in an 8-channel installation at the Steklenik synchronised with the space. The Steklenik was conceived as a place for interspecies communication with the plants, the colonies of trees in parks, and the nonhuman

others in the gardens and other urban spaces. Art thus became a tool for translation between species. The specific characteristics of the hearing apparatus come into play in such translations. For example, birds, unlike humans who can hear in a frequency range from 20Hz to 20kHz, or other mammals, such as a horse whose hearing range extends from 55Hz to 33.5kHz, have considerably more limited frequency sensitivity to sound ranging from about 1 to 4 kHz. However, more importantly, their pitch definition of hearing in this range is much higher than in mammals. The stiffness of the membrane, the responsiveness of outer hair cells, and the tuning of nerve sensitivities determine the upper and lower limits of pitch perception and the ability to discriminate among sound frequencies. Humans can generally discriminate among pitches of one-twentieth of a half step on a piano keyboard. They may hear twenty microtones between B and C. Birds potentially hear three times more microtones in that interval.²⁵ Sound production varies vastly between individual bird species. Improvisers like blackbirds or nightingales create up to two hundred complex phrases that they change throughout their lives, while the song of sparrows or tits is simpler and does not change in their lifetime.

When attempting an acoustic translation of birds, a human must attune to a much higher resolution and slow it down to expand the distance between intervals equivalent to the pitch definition of birds to make the difference between microtones audible to the human ear. In terms of frequency relations between species, bioacoustic researchers initially believed that frequencies are regulated by acoustic niches. According to the acoustic niche hypothesis, the behaviour has evolved to partition acoustic space and minimise overlap with other calling individuals through the selection of the signal structure and the sender's ability to adjust the timing of signals. However, this hypothesis underestimates the willingness and need to communicate and overlap. The more likely phenomenon in terms of frequency relations is the acoustic clustering hypothesis that supposes potential benefit to convergence and synchronisation of the structural or temporal characteristics of signals in organisms living together. David Rothenberg, an American clarinettist, jazz musician, composer, and philosopher tunes into this niche and plays with other animals, not mimicking but interacting. In an event curated by Cona's collaborator, zoomusicologist Katarina Radaljic, Rothenberg invited nightingales and other birds – one evening in May 2022 in Barje marshes, Ljubljana, and the following day at the Škocjanski Zatok Nature Reserve – to an interspecies improvisational session by listening intently and improvising on his clarinet. In his work, he looks for a balance between biological determinism and artistic interpretation of animal behaviour. Zoomusicology speculates on the musicality of nonhuman animals and challenges a wide range of binaries such as music/sound, culture/society, and nature/environment. In the deterministic interpretation, all musical interactions of nonhuman animals are merely the collective manifestation of individual fixed propensities and limitations coded in genes as a consequence of adaptive evolution. Regardless of how strong the genetic imprint and the biological and physical nature may be for certain behavioural patterns, the perceptual reality of sentient critters lies somewhere in the fine balance between determinism and subtleties of consciousness for human and nonhuman animals alike. In the musical delicacy of some species, the objective perspective loses its grip and their song gives way to aesthetic appreciation and the conclusion that they cannot sing as they do if it were not for the pure pleasure of appreciating beauty. And the reason humanity might want to better care for biodiversity – the birds and their food, the insects – is perhaps

not the sense of obligation and their usefulness but the sense of empathic recognition of their beauty.

Once upon a time, when the lake dried up in the summer, it never came back in the Autumn.

...

There is no more lake, no more birds.

...

*The evening, the silence.*²⁶

¹ Hiršfenfelder, Ida. "Zvočna socioekologija". Cona in Cirkulacija 2. Luka Zagoričnik. (ed.). *Narobe glasbene prakse*. Ljubljana: Zavod Sploh, 2022.

² Gros, Frédéric. *A Philosophy of Walking*, London: Verso, 2014.

³ From a conversation with Irena Pivka. Recorded 4 October 2021.

⁴ For example, the soundwalk takes place in the summertime while the recording is from winter or vice versa.

⁵ From a conversation with Luka Prinčič. Recorded 10 October 2021.

⁶ Ristić, Manja. *Sonična ontologija malomarnosti / Sonic Ontology of Negligence*, Ljubljana: Cona, 2020. http://www.steklenik.si/wp-content/uploads/2020/09/manja-ristic_sonic-FIN.pdf

⁷ Monbiot, George). *Feral, Searching for Enchantment on the Frontiers of Rewilding*. London: Penguin, 2013

⁸ Pivka, 2021.

⁹ Ibid.

¹⁰ From a conversation with Brane Zorman. Recorded 9 October 2021.

¹¹ Siewers, Alfred Kentigern. *Trees*. Jeffrey Jerome Cohen. (ed.). *Inhuman Nature*. Washington, DC: Oliphaunt Books, 2014.

¹² Prinčič, 2021.

¹³ Ibid.

¹⁴ Viola, Alessandra and Mancuso, Stefano. *Brilliant Green: The Surprising History and Science of Plant Intelligence*. Washington: Island Press, 2015. The quote was published in Luka Prinčič *Rhizosphere* exhibition catalogue. Ljubljana: Cona, 2020.

¹⁵ Morton, Timothy. *Dark Ecology: For a Logic of Future Coexistence*. New York: Columbia University Press, 2016, p. 3.

¹⁶ Voegelin, Salomé. *Listening to Noise and Silence: Towards a Philosophy of Sound Art*. New York and London: Continuum, 2010, p. 12.

¹⁷ From a conversation with Irena Pivka. Recorded 4 October 2021.

¹⁸ Ristić, Manja. *Introduction to Sound and Listening as Psychoenergetic Agencies*. Ljubljana: Cona and Acoustic Commons, 2021. https://acousticcommons.net/files/introduction_to_sound.pdf

¹⁹ Voegelin, Salomé. *The Political Possibility of Sound. Fragments of Listening*. London: Bloomsbury, 2019, p. 75. I used this enchanting quote as granulated material in the SoundCamp 2021 composition *Remembering a Tree* to address the lack of sonic sensitivity in the gentrification processes.

²⁰ Ristić, 2021.

²¹ Prinčič, 2021.

²² Zorman, 2021.

²³ Prinčič, 2021.

²⁴ Ibid.

²⁵ Haskell, David George. *Sounds Wild and Broken: Sonic Marvels, Evolution's Creativity, and the Crisis of Sensory Extinction*. London: Bloomsbury, 2022, p. 35.

²⁶ Pivka, Irena and Zorman, Brane (2021). *Earthling Gaia*, a soundwalk and site-specific performance. A dystopian story of *Earthling Gaia* recounts a possible future of the intermittent Lake Cerknica ecology.