

Sounding Places - Listening Places

Episode 1: The Natural Soundscape: Listening to BERNIE KRAUSE, EVELIEN VAN DEN BROEK and BARRY TRUAX

SOUND

Soundscape Brazilian Rainforest.

BERNIE KRAUSE

I was recording North of Manaus in the middle of Brazil and I was with my colleague from Harvard Ruth Happle. We decided to go out one night to see if we could get some recordings of the early morning, just after midnight soundscapes.

We were walking down the trail and we smelled this marking scent from a jaguar that we knew was nearby [...] It kept following us down this trail several kilometers. Finally at one point we decided to go off in different directions and record, to get the widest variety of natural soundscapes that we could.

I got to a place where I set up my equipment. I have a ten meter cable and so the cable was at one end and I was sitting in this tripod chair. And all of a sudden this jaguar came up to the mic and literally began to vocalize like a pop singer.

SOUND

Soundscape Brazilian Rainforest - Jaguar growling

JOEP CHRISTENHUSZ

Welcome to the first episode of *Sounding Places - Listening Places*, a Radio ArtEZ mini-series, in which we explore the relationship between sound and our environment. My name is Joep Christenhusz.

In contemporary, western culture we seem to have lost an intimate connection with the land. More often than not, we think of our surroundings as a passive backdrop in which human kind can take center stage - controlling the landscape, developing infrastructures and extracting resources at will. This rather anthropocentric position has become unviable, however, as recent human-sponsored ecological crises like climate change, the dramatic loss of biodiversity and large scale destruction of habitates are pointing out. If we wish to develop a more sustainable future, we urgently need to reconnect to our environment and restore a more reciprocal relationship with the earth. In this mini-series we enquire if sound and listening can help us to do so.

A minute ago, you were listening to an excerpt from a podcast-episode by *The Guardian*. You were hearing the voice of Dr. Bernie Krause, who is our first guest in this first episode. Since the 1970s, Krause has been a pioneer in the field of so called soundscape ecology, a bioacoustic discipline that studies the natural sounds of the land and the sea. Bernie Krause has been making recordings of natural soundscapes for over 50 years now, resulting in a unique archive of more than 5,000 hours of wild life

recordings from all over the world. This extraordinary archive offers many glimpses in the many acoustic richnesses of the natural world. But it also testifies of the destructive influence of human kind.

BERNIE KRAUSE

Fifty percent of my archive is from habitats that no longer exist. In their original form certainly.

JOEP CHRISTENHUSZ

Krause's career in soundscape ecology seems to have been predestined. Ever since his early childhood years, he showed a strong predilection for the natural sound world.

BERNIE KRAUSE

My childhood home in Detroit was located on what was then, before WWII, the outskirts of the city. It was the land that had once been farmed. By the time we moved there, it had become wild again, and it was repopulated with migrating birds, butterflies and other insects. Lots of frogs and even some mammals. As a young child I was afflicted with a terrible case of ADD. And by just becoming immersed in the extraordinary resonance of that proto-orchestra really helped calm me down. And it made me feel less agitated and nervous.

JOEP CHRISTENHUSZ

Before following his calling as a soundscape ecologist, however, Krause pursued a career in electronic music.

BERNIE KRAUSE

In the mid-1960s I was still looking for something to do in a way to express myself. And so I read somewhere about electronic music and the fact that there were these new instruments, these analogue synthesizers, that were beginning to appear. I was curious about it so I moved to CA and started to audit classes at Mills College in Oakland, just across the bay of SF. So studying with people like Pauline Oliveros and taking course with Stockhausen.

While I was there I met a fellow by the name of Paul Beaver. Paul was a kind of wizard from LA who was very involved in doing sound effects and sound stages with these electronic instruments.

He had theremins, he had novochords which were very rare instruments developed by Hammond.

He had all kinds of different instruments he would scurry back and forth to create these sound effects for films.

So anyway I met Paul and Paul and I decided to form a team called Beaver and Krause.

JOEP CHRISTENHUSZ

Together, Beaver and Krause would introduce the analogue Moog Synthesizer to the likes of George Harrison, The Monkees, The Byrds, and The Doors. The duo also collaborated on some 130 feature movie soundtracks, among which well-known blockbusters like *The Graduate* and *In Cold Blood*. In his solo career Krause went on to use the Moog

to create effects for hundreds of film and TV scores, perhaps most memorably with the indelible judder of the helicopters in *Apocalypse Now* (1979).

SOUND

Film *Apocalypse Now*: Opening Sequence

JOEP CHRISTENHUSZ

Despite his success in rock and film music, Krause felt a growing need to reset his artistic bearings and explore new sonic terrain.

BERNIE KRAUSE

At some point in the late 70s...

...I had enough of the film and music business, and working in these enclosed spaces. And I just felt too claustrophobic.

I wanted to work outside with animals.

So I quit music, I went back to school and completed my doctorate with an internship in bioacoustics, and I never looked back.

JOEP CHRISTENHUSZ

After getting a degree in bioacoustics Bernie Krause quickly became an important pioneer in the emerging field of soundscape ecology. Simply put, the new discipline focused on the totality of sounds, and their mutual relationships, in the natural land- and seascape. An important influence on Krause was the Canadian composer, educator and acoustic ecologist Raymond Murray Schafer, who had introduced the concept of the soundscape in the 1960s. In Schafer's definition the soundscape involves all possible sounds that can be heard in a given acoustic environment. In his groundbreaking book *The Tuning of the World* he developed various strategies to study the soundscape, coining new concepts like keynote sounds, signals and sound-marks, and thus creating a whole new acoustic vocabulary.

BERNIE KRAUSE

One only has to read Schafer very carefully, especially his first book in 1977, *Tuning of the World*, to realize his impact on this subject of sound. And it's been major. And quite frankly, there's almost nothing there's been written on the subject that Schafer in that book didn't cover or suggest. That was 4 decades ago. He's quite a remarkable thinker, and by the way one of my favorite composers of the 20th century.

I've taken a few ideas of his, and I expanded on them.

Schafer came up with the concept of the soundscape, and by the soundscape he meant all of the sound that reaches our ears from whatever source. The problem was the he didn't identify the sources very clearly. So I began to deconstruct the idea of the soundscape, just to see what would happen if I did.

And the first thing that we discovered was that...

...there are non-biological sources of sound that have their place in the soundscape, for instance of wind and weather and water. They're non-biological but still have an impact on what we hear, and they're natural sounds. These were the first sounds ever heard by the way, the geophony.

SOUND

Example of geophony

But then there are the biological sounds created by organisms that generate some kind of acoustic signal. And they can generate of any number of ways. Some vocalize, others just do stridulation where they rub wings together, or their legs on the abdomen like ants sing. Others just it like fish, like certain kinds of fish gnaw on coral and they create an acoustic signal that way ... That's the biophony: all of the biological organisms that create sound, would fall into that category.

SOUND

Example of biophony

JOEP CHRISTENHUSZ

Apart, from breaking down the soundscape into categories like the geophony and biophony, one of Krause's many important contributions to soundscape ecology has been his Acoustic Niche Hypothesis.

BERNIE KRAUSE

The niche hypothesis shows how sound is organized in healthy habitats.

When there's a lot of critter density, each voice has to find its own channel or bandwidth in order to be heard. These animals are expanding this energy, as part of their behavior, they better have some return on this investment, this energy expanse. So they have to find these channels with little acoustic energy, so that their voices can be transmitted, so they can be heard and received by others. So the insects find niches that are clear channels for them, the bird and mammals find others niches, bats in the high end, elephants down at the very low end ... just like instruments in an orchestra.

JOEP CHRISTENHUSZ

Owing to this complex web of acoustic connections, every landscape has a unique sonic signature, Krause found. And what's more: analyzing soundscape recordings by means of the Acoustic Niche Hypothesis can provide detailed information about the ecosystem in question. Biodiversity, population density, and the potential presence of invasive species can all be detected in the texture of a given acoustic habitat.

This may sound a little abstract, so let's listen to a striking example. You are going to hear a field recording that Krause made in Lincoln Meadow, high up in the Sierra Nevada mountains. He made two sets of recordings, one before and one after a logging company started cutting down trees, using a so called selective logging strategy.

BERNIE KRAUSE

Selective logging was a paradigm that the logging companies established in the 1980s and tried to implement, trying to convince people that there would be no environmental impact from taking out a tree here and there, rather than cutting the whole forest down.

So I went out there to record in June 1988 and late that summer the company came through and did their selective logging. And a year later, in 1989, I came back same time in June and recorded again to compare the two examples. And sure enough, while to our eye not a tree or a stick looked out of place, you couldn't see any difference, to our ear everything had changed: the density of the bird life had dropped, meaning the totals numbers of birds. The diversity had dropped off, so the total number of species. And it was as if almost nothing was there. And I have this example of 15 or 20 seconds that shows before and after.

JOEP CHRISTENHUSZ

Let us first listen to the situation before...

SOUND

Soundscape Comparison Lincoln Meadow

JOEP CHRISTENHUSZ

And now after...

SOUND:

Soundscape Comparison Lincoln Meadow

JOEP CHRISTENHUSZ

The Lincoln Meadow field recordings clearly show us how, by listening closely to the natural soundscape, we may learn things about our environment that otherwise would have remained invisible and unknowable. In this context the American sonic theorist Brandon LaBelle refers to sound as 'a dirty (and dirtying) force'. In his book *Background Noise, Perspectives on Sound Art* he writes how sound can bring us into contact with - quote unquote - "that which may be found in the gaps of appearance". Sound is "the continual emergence of alterity", he writes, it gives us an immediate sense of The Other. As such listening can be a powerful way of re-attuning ourselves to the natural environment, and the non-human species that live in it.

According to Bernie Krause, such a re-attunement is badly needed..

BERNIE KRAUSE

... because we have no more connection, we think we have no more connection to the natural world, we're separate from it ... There is nature and there is us. And we never bring the two together. Certainly not in Western culture.

JOEP CHRISTENHUSZ

In this respect we can learn a lot from indigenous cultures.

BERNIE KRAUSE

There are still some groups that live more connected to the natural world.

For instance. At one point I worked with a group in the Amazon basin that are called the Jivaro... and at some point after several weeks, I was allowed to go on a hunt with the men at night. And what was remarkable to me was that they would walk through the forest without any torches or light, and they couldn't see above the canopy because it was too thick. They couldn't see the stars and navigate by celestial objects. But what they were doing. They were going through these grids of biophony. They had this aural map of... this kind of sonic map in their heads, where they were in the forest, just by the soundscape and the way these sounds were articulated. That guided them through the forest.

JOEP CHRISTENHUSZ

During the course of his career Krause worked with several other indigenous cultures, like the Ba'Aka pygmies in the Central African Republic and the Kaluli in Papua New Guinea.

BERNIE KRAUSE

These groups still live connected to the forest and they use the sounds of the natural world as a karaoke orchestra with which they perform.

They're imitating the melodies that birds create, they're imitating the rhythms that they see beat out on the buttresses of fig trees, by the chimpanzees, the bonobos and gorilla's. None of these groups have a word for music, none of these groups have a word for artists, none of these groups have a word for composer. They're all part of that whole fabric of sound. When they hear certain sounds at certain times of day or night, they break into song because they're communicating, they're signaling back to the origins of those sounds their feelings and their emotions [...] Because it's a spiritual effect too, for them. But it's not to us, we have no connection to that anymore. As a matter of fact, we built churches in the 11 to 13th centuries with these huge, thick walls. Part of the reason, of the subtext of that, was to shut out the sounds of the natural world. And just to have the reverberation of our own voices, recycled over and over again, our own music, because that was considered the greatest, the most divine of all.

JOEP CHRISTENHUSZ

In his best-selling book *The Great Animal Orchestra*, Krause tells the captivating story of the North American Wy-am tribe, that despite its sadness, testifies of the deep spiritual meaning the natural soundscape had for this people.

BERNIE KRAUSE

While I was working on the Columbia River, a local resident told me of a story of a nearby native American group whose communal life had completely evolved around the sound of a

waterfall. Because this waterfall was the basis of their creation story.

Elders in the Wy'am-tribe tell of a period that's spanning thousands of years, when they fished all year long around Celilo Falls, which is where this waterfalls was, just West of the Columbia River's midway point.

Well, the waterfall animated their life and sustained them through every generation...

So central were the falls to the tribe, that the Celilo was considered a sacred voice, through which divine messages were conveyed.

And Wy'am, the name of the tribe by the way, means the echo of falling water.

Well, on the morning of March 10 1957, the US Army core of engineers, hoping to improve navigation in the river, ordered the massive steel gates of the newly built Dallas Dam shut tight, thus strangling the natural down stream flow of the river. Six hours later the sacred waterfall and fishing site of the Wy'am, eight miles upstream, was completely submerged. And although they had been forewarned, the Wy'am elders stood on the river bank astonished, watching as a way of life that had flourished for centuries disappeared in less than a day. There wasn't a dry eye at the banks of the Celilo. The small namesake village on the river's edge. And yet the elders were not weeping for the loss of the salmon, the wept because the river no longer lent its wise voice to the community. The soundscape of the submerged Celilo Falls were dead silent.

JOEP CHRISTENHUSZ

The question remains, however, how the practice of soundscape recording relates to the deeply spiritual involvement that these indigenous people have with their natural surroundings. In a very fundamental way, the act of recording involves a displacement, a removing of sound from their context. What exactly remains of the sacredness of its original environment in this process? What happens with the idea of place altogether? And doesn't the act of 'getting sounds on tape' somehow mirror the extractive paradigm that got us into this urgent ecological crisis in the first place?

BERNIE KRAUSE

Depends on how it's used, it depends on how it's respected.

I would never suggest that what I've recorded is a fair representation of a biophonic performance that just took place. Cause the mics just don't reproduce that.

It's a snapshot, and it's a decontextualized snapshot. So those paradoxes and contradictions exist all over the place, and I am guilty.

At 82 years old, I'm in my 9th decade now. So for me... I have come to terms with some choices, really hard choices, based on how much energy I have now [...] and what I am able to do with this recordings.

So I have this large archive. What do you do with it? Well, part of me, as a scientist, is to publish papers on this work.

But if I take this material and put on my composer hat again and reach back into my past and do that, and transform these recordings, as John Cage suggested that I do, into works of art. In other words, put it into a different place, into a different setting, with the understanding that that's the goal to do that.

This makes a big difference, and it reaches a lot more people and it has a bigger impact.

JOEP CHRISTENHUSZ

Turning his soundscape archive into art is exactly what Mr. Krause has been doing recently. After publishing his book *The Great Animal Orchestra* in 2012, he created the eponymous exposition for the French Fondation Cartier, a contemporary art museum in Paris. The exhibition brought together the work of artists from all over the world and invites the public to enjoy an aesthetic meditation, both aural and visual, on the animal kingdom, which is increasingly under threat in today's modern world.

BERNIE KRAUSE

The Great Animal Orchestra [...] has been seen now by over a million people. People sit there for an hour and a half, listening to soundscapes. That's extraordinary to me. I never imagined that could happen.

SOUND

Fragment from *The Great Animal Orchestra*

INTERMEZZO - EVELIEN VAN DEN BROEK *BIOPHONICA*

JOEP CHRISTENHUSZ

In recent years the artistic potential of Bernie Krause's unique field recording archive has been discovered by many more composers and sound artists. A fine example is the work of our next guest, the Dutch composer and producer Evelien van den Broek.

In 2019, Van den Broek created *Biophonica*, a 40-minute performance about the dramatic deterioration of global biodiversity in which she combined music for synthesizers, live electronics and solo trumpet with sounds of extinct and endangered animals. For the wildlife recordings she contacted various scientists and field recordists, including Bernie Krause.

EVELIEN VAN DEN BROEK

I read about his work...

And eh... I wrote him an email to ask if it would be possible to maybe use some of his recordings for my music performance. And we had a really nice email exchange, where he told me about his work and also... Yeah, in a way his personal situation, in which way climate change impacts his life. Because his house and studio and a lot of his recordings of his was destroyed during the fires in California.

What is so special about his work also, is that you can hear the changes in nature, the changes through sound. He's actually been recording sounds in nature for about 50 years... and also he regularly came back to the same spots. So, for instance for the first part in the piece, which is called 'Rainforest', I used recordings of a Costa Rican rainforest that he made before and after clear cut, and you can really hear how much more silent it has become.

SOUND

Biophonica, 'Rainforest'

JOEP CHRISTENHUSZ

An important theme in *Biophonica* is the loss of biodiversity. Why did you want to make a piece about this topic? Do you feel the need to engage in such broader social issues?

EVELIEN VAN DEN BROEK

It is something I've been worrying about for a long time. The way we humans are impacting nature and natural life. And I thought it would be good to see what I could do with this subject from the perspective of a composer or sound artist. I think it is important for people to also hear about this subject from a different perspective. I think that sound art and music can do something with the subject, and make people in a way more aware of what is happening.

We're so cut from this in our modern daily lives as city people or agricultural people. It's so far away from our daily lives. I thought that by using actual sound recordings and music... When you listen to these sounds, you really feel like you're in the middle of for instance the rainforest. You get into contact with the natural world through the senses, let's say.

JOEP CHRISTENHUSZ

It's interesting that you're mentioning that art, and music in particular, can foster a different perspective on these ecological matters. Can you tell a bit more about the way in which the perspective differs from, for instance, a more scientific or philosophical perspective. Is it about a more embodied and sensorial experience, a more lived experience maybe?

EVELIEN VAN DEN BROEK

Yes, definitely.

It's a different experience than reading about it. It has a completely different impact when you use your senses, in this case your ears... It was quite emotional, also when I was listening to the recordings of the last White Rhinoceros, which is used in part 3. These are actual recordings of the last male Northern White Rhino... so the last male of this entire species. You [...] hear it sniffing and breathing and chewing [...] It really felt like it was there in the room with me.

SOUND

Biophonica, 'The Last Northern White Rhinoceros'

JOEP CHRISTENHUSZ

While listening to *Biophonica* there sometimes seems to be this symbolic layer to the interaction between electronic sound-world and the animal sounds. A kind of man versus nature..

EVELIEN VAN DEN BROEK

Yes in certain parts this is the case. But it's not totally this black and white. In the first part, 'Rainforest', I did make electronic sounds that resemble trees falling down. Or in part two, 'Bees', I imagined bees falling out of the sky, disoriented and sick. You can hear this at the end. In the rhino part, the electronic sound world definitely stands for human destruction. But the electronics are also used to imitate animal sounds, or to focus more on the emotional side. In many parts, I really leave a lot of room for the natural sounds themselves

JOEP CHRISTENHUSZ

As another example Van den Broek mentions the fourth part of *Biophonica*, 'The Blue Whale', in which she uses sounds of this massive sea giant, which with a length of about 30 meters is one of the largest animals to have ever existed.

EVELIEN VAN DEN BROEK

It's a really overwhelming sound and immediately it gets your imagination working. You just imagine being in this huge under water space where this animal lives
There's is two minutes [...] of just this sounds of the ocean and the whale. And then later the music comes in and merges with the animal sounds.

SOUND

Biophonica, 'The Blue Whale'

JOEP CHRISTENHUSZ

One last question, Evelien. The fact that you used recordings of a Blue Whale in *Biophonica*, was this choice inspired by *Songs of the Humpback Whale*, the 1970 album by Roger Payne?

EVELIEN VAN DEN BROEK

It's funny you ask about that. Actually I found out about that later, so it wasn't related or inspired by that. But I just read an article about this album. It came out exactly 50 years ago.

This album contributed to whaling being prohibited.

A lot of people started protesting against whaling.

I guess, you could say that this is one of the examples in which the acoustic experience, or sound and sound art, did have an impact on what was happening in the natural world.

PART 2 - BARRY TRUAX

JOEP CHRISTENHUSZ

Our third guest in this episode is Barry Truax, a prominent Canadian acoustic ecologist, author of the influential book *Acoustic Communication* and a prolific author and soundscape composer. Furthermore, Truax is a professor emeritus at Simon Fraser University in Vancouver, where he taught both electroacoustic music and acoustic communication.

Bernie Krause already told us how his career in bio-acoustics has been greatly influenced by the Canadian acoustic ecologist R. Murray Schafer. As a matter of fact this is also true for Truax, who closely collaborated with Schafer since the 1970s.

BARRY TRUAX

He was even then a very well-known Canadian composer. Young and had, on Canadian standards, a kind of radical cachet about him. He was quite fearless, shall we say ... So he made quite a mark, also in music education.

He was emphasizing creativity, sound making, and of course listening. And he put that into counterpoint with the sonic environment of the 1960's which he claimed, and still does, was one of the noisiest decades ever ... And he followed that up, it wasn't difficult rather to document that with particular the jet engines that had appeared rather than the propeller aircraft, the boomboxes, the motor cycles ... there was no end of noise sources.

Like all noise and anti-noise movements over the last century, it rather led to pessimism as to what can you do about it. Schafer decided to switch it around to a more positive orientation, a listener based one ... from an individual point of view, of re-enabling listening.

JOEP CHRISTENHUSZ

The most important that Murray Schafer set up in the late 1960s and early 1970s was the World Soundscape Project, a research group at Simon Fraser University, dedicated to the recording, study and archiving of soundscapes worldwide. Its ultimate goal was to find solutions for an ecologically balanced soundscape in which the relationship between the human community and its sonic environment can be in harmony.

BARRY TRUAX

I was extremely fortunate, back in 1973 - in fact at the end of my study and research period at the Institute of Sonology in Utrecht - to be invited by Schafer to the then very new group called the World Soundscape Project.

I joined [...] when they were about to publish and finish up *The Vancouver Soundscape* with two LP's and a well-researched and beautiful booklet that documented the history of sound in the city area, going back to pre-recording things of what was in the written documentation of what was called ear witness accounts.

The documentation aspect was very important. But equally important was the imperative to get people to listen to recordings and to *listen* to their environment.

JOEP CHRISTENHUSZ

Let's listen to a track from the Vancouver Soundscape, called 'Vancouver Soundmarks', in which we'll hear several characteristic Vancouver sounds.

SOUND

The Vancouver Soundscape

JOEP CHRISTENHUSZ

The World Soundscape Project essentially was the cradle of acoustic ecology, a discipline that focuses on the systematic study of the world's soundscapes. Groundbreaking was the World Soundscape Project's relational view on acoustics, in which the research group clearly distinguished itself from earlier 20th-century interest in environmental sound. For example, composers like John Cage or the French musique concrète composer Pierre Schaeffer mainly focused on the intrinsic qualities of environmental sounds, on sound as an autonomous aesthetic object. For the researchers of the World Soundscape Project however, sounds are always embedded in a context - materially, geographically, socially, culturally and ecologically.

BARRY TRUAX

Again, this is as I have emphasized the rather environmentally conscious 1970s, and systems theory, and ecosystems and ecology were concepts that were starting to emerge as an interdisciplinary approach to understanding a system of relationships in the environment.

Around the same time, Bernie Krause, who is now very familiar to people for his work in bio-acoustics was recording entire biological soundscapes as an acoustic habitat. That is where the two approaches started to rub shoulders and then increasingly become more integrated.

Our aha-moment in the process was the *Summer Solstice* recording, so called because it was made in a rural environment in the Fraser Valley, on the midsummer, on the summer solstice, for 24 hours. And that recording feat became part of our Soundscapes of Canada series where we reduced the recordings to one hour, so 2 minutes per original hour.

...because you can't really sit in one place and listen for 24 hours. But you can get an impression of that through the foreshortening that I described and the balance of it, and the constant evolution of it...

SOUND

Summer Solstice

JOEP CHRISTENHUSZ

Truax clearly remembers how, after the editing process, the *Summer Solstice* recording, revealed something astonishing

BARRY TRUAX

It was very much an aha-moment that the acoustic environment, the bio-acoustic habitat was very balanced and functional.

Different species have their sound making in distinct frequency bands ... so that they have an acoustic channel of communication that is divided up in different frequencies.

A simple analogy would be radio bands...

So at the very most basic level of sound there are communication systems that are still based on the physical acoustic properties and they allow species to co-exist, to function together in a very complex way.

We can and should extrapolate that to our own bio-acoustic habitat, that we could call the socio-acoustic habitat cause it is usually a built environment.

... is it as sustainable?

The bio-acoustic habitat and the social-acoustic habitat also need to be functional, because that is partly how we relate to each other.

We should recognize that... the natural environment, the bio-acoustic environment often is... part of society and not something separate. There is a long western tradition of separating humans from nature, and the thinking of the domination of nature, as one of my colleagues wrote a book with that title many years ago from a philosophical point of view, from the enlightenment on, the idea that our mandate is to dominate, and control, and manage nature, and then look what we've done to it... In that sense I think we ignore it at our peril. So, first of all there's an inclusivity that is implied as to not think of them as two separate thing, but as to be intertwined. And they are intertwined in every situation.

JOEP CHRISTENHUSZ

As a prolific composer Truax believes that the interconnection between nature and culture, as well as between the natural and cultural sound world, can be successfully addressed through what he calls 'soundscape composition'. In short, soundscape composition can be defined as a form of electroacoustic music that works with environmental sounds, the purpose being to invoke the listener's associations, memories, and imagination related to the surroundings.

In contrast to other forms of electronic music, in which field recordings are often heavily processed and edited to be used as just another instrument, a key characteristic of soundscape composition is the recognizability of the original soundscape. A sense of place, a feeling of actually being there on the spot, is being communicated.

BARRY TRUAX

It starts with simply preserving recognizability. And why I have to emphasize that is that within the electroacoustic music tradition we often treat our recorded sources as raw material, or sound objects, and then process them and to the point where they're no longer recognizable. It's actually very easy to do in many cases. And if that's because it basically doesn't matter, in fact the source may be trivial, it might be crumpling a piece of paper right? The piece is not about paper. It's about sound, it's about

textures, it's taking those textured sounds in the case of the crumpled paper, and turning them into something of aural interest, just on its own. But that means that you have minimized... you have minimized the environmental references. and we, if I can call myself from the soundscape composition community, we use the same techniques, but we have largely a different approach that is going to maximize the environmental references in some way.

JOEP CHRISTENHUSZ

To illustrate his point, Truax referred to a recent soundscape composition of his, *Rainforst Raven*. A piece which came out of recordings that were made on hikes in the rainforests on the Gulf Islands, near Vancouver.

BARRY TRUAX

So often you start, as Rainforest Raven does, with an unprocessed context, that's one simple way to do it. You establish a natural environment that has very recognizable sounds. In this case ...
... you hear these natural drops of water, except they're actually much denser than anything you could possibly experience, so it gets your attention but also places you somewhere, right? And... you might also sense that it's a very wide, open space ...

SOUND

Rainforest Raven

BARRY TRUAX

Have you ever been to the West coast of North America? Well, it has an atmosphere, those rainforest recordings. As a composer I wanted to explore the symbolic possibilities of it. So for instance the raven cry that is one of the most wonderful sound-marks, or sound signals you might say, in the rainforest, is when they fly over. They guide you as it were through the acoustic space, with their own trajectories.

So I started processing those, as a kind of a guide, as the water sounds that were dripping [...] They became increasingly processed, as did the raven. At first there was this very joyous kind of processing and very musical. But then things start getting darker... for me there's also a moving inward, to the inner domain of memory, association, metaphor, symbolism, even myth perhaps

JOEP CHRISTENHUSZ

To conclude this first episode, let's return for a moment to one of the central questions of this podcast series: the question if sound and listening could help us to restore a more reciprocal relationship with the earth. In the end, it might be by this veering that Truax describes - the veering between the sonic evocation of

real places and the sonic exploration of one's inner world, that is - that a space for ecological rapprochement is created. If anywhere, it is in this meeting of outer and inner world that we may deepen our awareness of our surroundings.

BARRY TRUAX

Indeed, and to recognize that... It's quite clear in a soundwalk. The soundwalk tends to be the archetypal form from which soundscape composition derives in many ways. And... When you're on a soundwalk, yes, you are trying to pay attention to just sounds

But it's not saying that you shouldn't explore what they mean to you. What they evoke.

What does that connote to you? So it could even become political, or economic, or cultural

I always come back to: where is sound leading?

I am increasingly loving that phrase. Where does sound lead? Because as composers we tend to love our sounds, as our creative materials... But what's really fascinating is what sound leads you to, because it imprints almost all aspects of life... ...it has all these implications of where does sound lead, that in one of them is to re-evaluate our relationship to each other, to the environment, and to the well-being and sustainability of the world.

JOEP CHRISTENHUSZ - Outro

Thank you for listening to *Sounding Places - Listening Places*, a Radio ArteEZ mini-series, in which we explore the relationship between sound and our environment. In this first episode we have been focusing on the natural soundscape. In the next, the British sound artist Peter Cusack will guide us in taking a closer listen at the urban sound world. With the young Dutch sound artist Elise 't Hart, we'll zoom in on the soundscape of our homes.

In the meantime, don't forget to check out our mini-episodes on Deep Listening, in which Sharon Stewart explores the lifework of composer, musician, writer and humanitarian Pauline Oliveros.

In the audio examples from Evelien van de Broek's *Biophonica* the following field recordings were used:

- on track 'I Rainforest', we heard recordings by BERNIE KRAUSE Krause, PhD.
- the field recordings on track 'III The Last Northern White Rhinoceros' were provided by Dr. Ivana Cinková of the University of KwaZulu-Natal, Palacký University Olomouc.
- the field recordings on track 'IV The Blue Whale' were retrieved from Freesound.org

Sounding Places - Listening Places was commissioned by ArteEZ Studium Generale. Interviews, texts and voice overs by Sharon Stewart and myself, Joep Christenhusz. Editing and sound production by Dennis Gaens of ondercast.

Hope to see you again in our next episode.