



Excercises in non-human listening Eспен Sommer Eide

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In 1934 Jakob von Uexküll described the world experienced by a tick in a novel way. Working with the tick's sensory abilities, such as its ability to detect the heat of a mammal, and thus a potential blood meal, Uexküll showed that a tick knows and makes worlds. He found a new way to describe landscapes as scenes of sensuous activity – where creatures are not inert objects but knowing subjects.

But this description is not without its limits. It isolates the creature in a bubble-like world of its few senses. Uexküll's vivid storytelling hides the view of the tick as a participant in the wider rhythms and histories of the landscape.

The starting point for the artist or composer is not to walk out into nature and find inspiration, and then translate the experience into music – an image of the lone genius that today feels antiquated and clichéd. I grew up in a vast, beautiful and sublime landscape encircling Tromsø, a city in the arctic regions of Norway. Still the experience of this landscape has never felt like it directly translated into my music. As children, nature was a site for possible play and narratives. We never stood still long enough to listen to the spring ice cracking on the river or the bird mountain cacophonies of summer. The sounds were all around us, but they felt more like wind in our hair. The only wonderful thing about the midnight sun was that we never had to go to bed.

But can there be alternative ways to meaningfully describe the interactions between the artist and nature? Like in Uexküll's stories the artist is already there, inside a scene of sensuous activity, but also participating inside the larger network of senses and sense-like structures, acting and reacting – human senses, creature senses, plants and fungus and bacteria. Stones and soil and wind. All is always already there. If I pick up an axe and cut down a tree, various creatures immediately enter the open patch to form a new sensuous landscape. The composition is already being made; a kind of assemblage. The network is not a perfect machine that can be traced and translated scientifically. It is rather a mixed-up, messy and unresolved translation process, full of misunderstandings and new beginnings. The noise of the machine is as integral a part of the music as the clean signal.

The mosquito has a remarkable way of hearing. I have been interested in the mosquito for many years, and made music and artworks inspired by it. The tundra and taiga expanses in Northern Norway is a place where the mosquito is found in extreme amounts during summer. A place where the insects make you move constantly with no opportunities for long or deep thoughts.

The mosquito has feathered antennae that are used to picking up sound waves. Their ears reach out and touch the sounds. The male can hear sounds in the range of 30-2000 hertz, specialised for listening to the flight tone of female mosquitoes. It listens for the sound of her wings buzzing at around 400 hertz, and starts adjusting its own tone in what may be called a tuning duet. The unique aspect of this is that these antennae are not picking up frequencies in the same way as our human ears do, when analysing the fundamental tones. Recent research shows that they are actually specialised in picking up what is called 'intermodulation distortion', also called 'subjective tones'. It is a distortion that is happening between tones, made by the hearing organ itself. So in short the male mosquito is actually hearing a third distorted ghost tone between its own flight tone and the female flight tone and is tuning into this.

It's only natural. We pick out tonal signals and discard the noise. The mosquito tunes into the noise and discards the signal. If we try to further analyse this way of hearing, several important aspects stand out. It is a listening by tuning, and by making sound oneself simultaneously. And it is a listening-performing in duet with another being, there is no solitary listening activity of a neutral receptacle.

How can the composer become a mosquito? Or take part in this dual way of listening-performing. By imitation, or some animistic ritual? The challenge is that a mimesis in many ways replicates all the problems of translation. It immediately becomes a question of the quality of the reproduction and appropriation to our mode of sensing, and the otherness of the animal sensorial system and its life-world is lost in the process.

Let us talk a little bit about the salmon. A step above the mosquito in the food chain. And also a creature dear to my heart. In fact my whole family is more or less obsessed with it. My mother is a microbiologist researching salmon diseases, my father working with salmon export and my grandfather was a great fisherman of the salmon rivers of the Barents region including Nikel and the Pasvik river nearby.

So I grew up with countless hours of salmon stories and long boring hours in the river boat together with my grandfather hunting for this mythical creature.

Now there is certainly a lot of fascinating aspects to the salmon's sensory world. But if I continue my exploration into hearing and sound it is one particular ability of the salmon that is not so well known. The fact that it can sense and hear infrasound. That is, sounds that are much lower than what we can hear. Below 20 hertz. In fact we can sense them, but then in a more tactile way, like a push of wind against the skin or similar, just on the border of where sound becomes wind, or just a barometric pressure change. It is still sound, because it is still traveling cyclical waves. In fact they travel much further than sounds of higher frequencies. And even further when under water.

Since the salmon is suspended in the medium of the sound itself, it hears with its whole body. So in a way it hears sound like we feel the wind. The otolith stone inside its ear functions like an accelerometer sensor that translates the vibrations through relative motion. And the swim bladder works to increase the volume.

So what does the salmon use this sense for? It is still a mystery. One recent theory goes that they may utilise infrasound patterns in the ocean for orientation and navigation, as it migrates from the river into the sea and then returns as an adult to spawn in the same river and same spot it grew up.

In this theory, the salmon utilises the relative speed and direction of layered ocean currents, so it can find a current coming from its home river, also smelling its way.

Another way it navigates could be that it senses the water movements associated with surface waves. The waves are distorted and refracted at shallow depths in the infrasound region, providing potential cues for detecting underwater topography.

The emerging picture is that the salmon might be detecting a complex acoustic landscape, with distinct landmarks and information about distant structures, as well as the local environment of sounds and noise. In many ways it is swimming in historical sound.

If we are to imagine ourselves projected into the lifeworld of the salmon we need to imagine that we are in this way remotely listening to the ocean surrounding us with our bodies. Then perhaps also our own history, our memories will come back to us as if they are attached to the sounds.

Anthropologist Rane Willerslev has in his studies of hunters in Siberia (1) described their special form of animism. The hunters dress up and disguise themselves as the animal they are hunting. A detail here is that the disguise is not too perfect. Then they would lose themselves and completely become the animal. So they enter an in-between state, between the animal and the human. As Willerslev points out: «Yukaghirs attempt to assume an animal's point of view by intentionally acting as an imperfect copy»

I imagine an instrument being built according to the Yukaghir animism. Such an instrument should ideally not translate or transduce between worlds, but rather transform them topologically, working as part of the system itself, modulating the speed, the movement, the folding, the reversing, the constant change. It needs to be an open-ended instrument, an imperfect mutant between scientific and musical. Part animal – part digital. Flawed and badly patched together out of scrap collected on my travels, people point at it and laugh when it is brought out of its case. When sounded it should produce a chord that pose a question to a place – simultaneously about its physical, biological and historical character. And after resonating and reverberating through the material, it should return to us. An image from Baudelaire's poem 'Le Cygne' illustrates this double connection or mirrored structure of the resonating act, where an old memory blows hard in a hunting horn and the sound reaches us in the depth of the forest.

Ainsi dans la forêt où mon esprit s'exile

Un vieux Souvenir sonne à plein souffle du cor!

Last summer I returned to the north of Norway with recording equipment, hoping to capture new material for an upcoming sound installation. I travelled with my microphone along the rivers and tundras of my childhood memories. What is a microphone? And what is its relationship to memory? Where does it start and end? At the membrane? Or in the magnetic field of the transducer? Should the handling noise and the wind noise be reduced by attaching extra equipment? I should perhaps put the microphone inside the instrument for a better recording? And the instrument into a tent outdoors? One could imagine the microphone like the rolling ball in the playstation game Katamari Damacy. Rolling along, sticking to and folding into itself, all the sounding objects in its path. Gradually like a snowball, it increases in size. Every new object recorded, also becomes a new membrane for the next. The area around my tent, the valleys and the rivers also become part of the microphone. Herds of animals, people on their way to work, cities, oceans. Finally, after weeks, months – a lifetime of recording, we reach a microphone of earth magnitude, recording itself in the silence of space.

1. Willerslev, Rane - Soul Hunters, 2007

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