I CAN NO LONGER HEAR THE NOISE OF CRICKETS
ON HETEROSONIC SOUNDS, NOISES AND SILENCES

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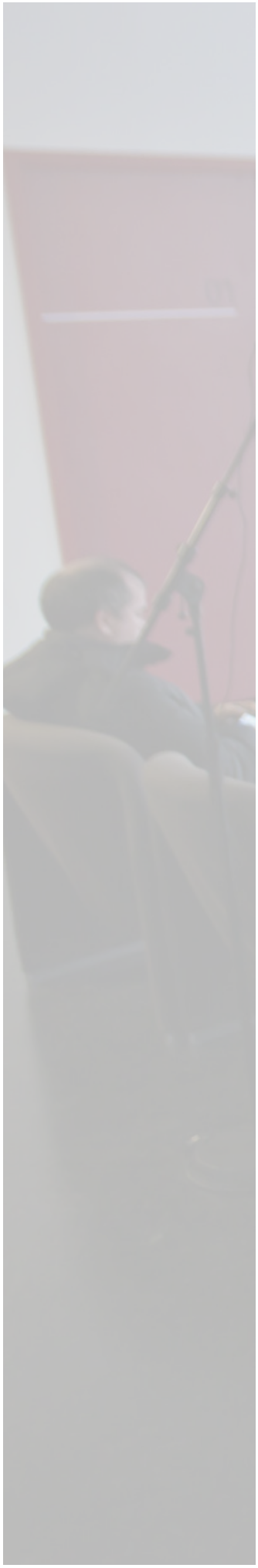
I Can no Longer Hear the Noise of Crickets **is a spatial audio composition, a sound installation or "auditorium" that consists of what I call "heterosonic" audio. Heterosonic sounds are limit-phenomena of audition that cannot be defined as belonging to either the audible (sonic) or inaudible (infra- and ultra-sonic) parts of the frequency spectrum, nor to the sonorous or strictly physio-acoustic side of sound. Not heard nor silent, it designates sounds that (most often very high in pitch) – like the chirping of crickets, electro-acoustic "teen deterrents," some screeching train breaks or ringing byproduct noises of electronic equipment – disappear with age, and that is perceivable by one individual's sense apparatus but not by an other's, audible to one ear and inaudible to the other and vice versa – assymetrically and heterologically sonic. The work is an invitation to listen to what one cannot hear.**



SOUNDS OF SILENCE

To give my description of *I Can no Longer Hear the Noise of Crickets*, I will have to start long before the work even existed to be described. This particular work, unlike most things in my artistic practice, has a autobiographical background. It takes departure from a personal memory, a decisive experience in my childhood. The actual sound installation is in one sense a return to this "primordial scene" – which was my first encounter with the sonic phenomenon it attempts to give a shape – a complex of tensions and uncertainties whose unsettling effects have not yet stopped to inform my thought and fascination. As an event, it is quite ordinary. Me and my father had made a stop with the car along the road on a longer drive. I do not remember the exact circumstances but we had stopped right next to a country road, maybe for a leg stretcher. My father smoking, me standing on the edge of the paving looking out over the expanses of grass and rapeseed. I remember finding the chirping noise of myriads of crickets and grasshoppers invisible in the vegetation almost overwhelming and in some way commented upon this to my father. To my amazement his answer was that he heard no such sound.

The rest of the conversation, if there was any, has escaped me, but I vividly remember the disquieting effect his words had on me. How could he not hear this almost deafening noise? Could I be imagining these sounds that were so present to my ears? That seemed impossible to believe! But at the same time, I was so used to the paternal authority of the words of my father in explaining the world I was experiencing. I could not avoid doubting the firmness of my own very immediate and "positive" experience. Without

his confirmation (as another experiencer and as "authorized" experiencer), it could not acquire the certainty in having an external and shared reality. In addition to that, the crickets were in fact visually absent, lacking any further empirical assurance of existence than audibly.

Back then, I did not know as I do today (and I think that neither did he), that this disorientation itself had a rational explanation in biological differences in our systems for auditory perception. But despite this, on a level of philosophically reflecting on sonority or concrete sense experience, the difficulties this phenomenon carries with it nevertheless persist and continue to expand the longer you think about them. *I Can no Longer Hear the Noise of Crickets*, as an art work and as this reflective text, attempts to understand why that is, and productively take these problems further, in both practical and theoretical ways.

And it is there, in a dubious intertwining between sound, noise and silence that my contribution to the exhibition part of Bruits finds its locus; a project which has the shape of a sound installation. But to call this a "sound" installation in the first place, must be done with some reservations. For sure, it is focused on the aural in its different modalities, but in it the silent, or unheard parts becomes as important listening as those sounding. These are decisive because their silence is not simple non-sound but equivocal absence. It is a noisy silence, but not primarily ambiguous in the same sense that "Cagean" silence is, i.e. that it contains a surplus of hitherto unnoticed and neglected sound; but rather this silence contains an excess of inaudible, or even *unhearable* sound that I could not make use of even if I wished to.[1] But this silence still belongs to sound, not as its strictly acoustico-physical reality (the muteness of a sound experienced purely cognitively), but as a dimension of non uniformity and divergence in sonority. It is what is audible only for other ears and with a hearing-otherwise. What is inaudible to me is not strictly unhearable as such, but belongs to the possibilities of the auditive. In line with what Georges Didi-Huberman has said about the difference between the simply visible (elements of representation) and the visual (elements of virtuality) that is not reducible to the in-visible (elements of abstraction), maybe we could make a similar distinction between audible and *audile* (Didi-Huberman, 2005, p. 17-18) ? In either case, my example manifests a sort of liminal and heterological moment in everyday sonorous experience, an event I consequently have chosen to call *heteroaudition*, and the aural objects of it *heterosonic*.

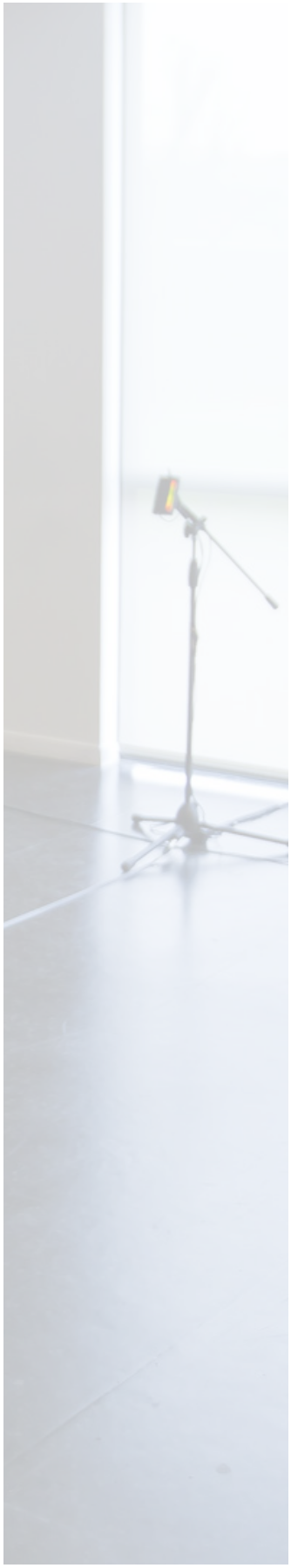
To return to the concrete installation at Bruits: *I Can no Longer Hear the Noise of Crickets* is in essence an audio composition, a recording that is to be played out in a non specified spatiality or "auditorium" (many different types of rooms in varying localities can be used), and at Bruits, in the premises of ENS Louis Lumière it was installed in a lobby-like hall adjoining two corridors, creating a zone of vibrations in space and matter, unfolding and changing over time. The frequency of these vibrations is almost exclusively at a very high pitch of which most recorded audio and music are not: circa 8 – 48 kHz. For transmitting these ethereal vibrations I utilized two stereo speakers with a extra high frequency response of 60 to 50 000 Hz. The recording itself is a wav. file at 96 000 Hz, peaking (according to the Nyquist-limit) at 48 000 Hz. This means that the composite of sounds reaches far beyond the audible range of human animals, past the stated threshold of ultrasound (20 kHz). It is a sound piece that undulate at the limit of what is hearable, at a cut that separates qualitative audio from solely quantitative sound waves (subjective from objective), with some of its elements in and others out of range, in sound and in silence.

1 If one were to translate noise – or *bruit* – into my native tongue, Swedish, there would be two options of words – *brus* and *oljud* – that, although both designates modes of sonority, nevertheless differentiates noise into two somewhat divergent meanings that is both present in the english and french words. There is however a noise that lingers (as maybe in any equivocal translation), a residuum of not yet fully actualized meaning that neither the one nor the other can contain, and consequently swarms around the relation of the two terms.
Brus probably share etymological roots with bruit. It is the hissing sound of water in turbulence: roaring seas, waterfalls or rapids; waves swelling, rushing and crashing against the shore; the fizzing sound of opening a can of carbonated liquid; the rustling sound of wind animating vegetation, and the howl in compressing itself through empty streets; the alarm and rattling of machines; the chatter and clamor of the masses; the sputtering and mumbling of voices that not yet have a signification beyond the bodies that utter them; the unintelligible bursts of sound by insects and non-human animals, etcetera. *Brus* tends toward a semantics of the non semantic sound, auditive sense experience unarticulated or undifferentiated into formalized meaning, unshaped sonority. Thus, exactly as with "noise," *brus* also has the trans-auditive sense of describing a threshold of meaning in information, it's "in-formed" side, or aspect in formation. It is both a formless background from which meaning forms and articulates itself *and* what threatens to distort meaning if it does not keep itself in the background and interferes with the "signals."
Oljud, if translated by the letter, would spell *non-sound* (*o* = negation, of *ljud* = sound). Hence, we arrive at noise as negation of sound, absence, and a kind of *silence*. However we could also translate it as unsound and this double sense of logical and moral negativity is encompassed in the swedish word. *Oljud* is often used to describe unwanted, threatening or even dangerous sounds – disturbing equilibrium, disturbing "the peace." From a physiological to a psychological threat, *oljud* affects fear; fear of hearing impairment, of stress and disorientation, of the other, of the unknown. *Oljud* is what society is asked to control and reduce, to silence. And this silencing is already at semantic operation into the very word o-ljud, as it not even qualifies this heard phenomena to the status of a proper sound. But as with *brus*, silence is not a simple negation of sound, "all absence is merely the obverse of a presence, all silence a modality of the being of sound" (Merleau-Ponty, 2002, p. 424). Silence is a zero-dimension of sound, it's background of possibility and destruction, which is both the horizon from which sounds form and stand out but also disintegrate into.

I Can no Longer Hear the Noise of Crickets, installation views, ENS Louis Lumière, Paris 2015. Audio composition played in loop (20' 20"), Speakers (frequency response 60 Hz – 50 kHz), electret microphone, analog decibel meter.

But this would not have been much if it was so simple as that this cut had an definite location. For reasons I will go deeper into further on, the variation between different human individuals ability to perceive high frequencies is great. Especially, but not exclusively, according to age, the range of audio is very different for different individuals, and most likely also for the visitors and listeners to I Can no Longer Hear the Noise of Crickets. This implies that the threshold between audible and inaudible, sound and silence in the sound piece varies, and it should sound very different in accordance to who experiences it. What is silence for one listener could be very tangible noise for the other, what is a pause in sound events a continuous sound object, an relative emptiness a fullness and vice versa. Different sonic spaces and events unfolds parallel for different visitors, simultaneous but mutually exclusive. But they are not exactly mutual. The difference is indeed in what kind of sounds is heard, and not in their volume, but the scale is not in kind but degree. It is a matter of "more or less" and a person with a lower threshold will experience "lesser" variations of frequencies and have a narrower scope of tonalities possible to hear.[2]

What is striking in this situation, since it is primarily a matter of age, is that children or adolescents in general will live in a richer audile realm and can inhabit sonic spaces that will go unregistered by older persons (there is



2 This is true only in regard to high frequencies. A being that has a higher threshold for ultrasound may have a lesser capacity to hear low frequency sounds (i.e. its threshold for *infra-sound*). A viper, for example, has much lower sensitivity to high tones than humans but can hear much lower frequencies than we do.

however no standard limit of such an "audible age" possible to draw either). Besides this, there will always be frequencies in the installation that none of the ordinary human visitors will be able to sense. This is not to say that they are unperceptive *per se*, but that it would take yet other ears than the human animal's to find them. They are still latently hearable. The silent sounds do not simply belong to an objective realm but to a a subjective realm of other perceptual capacities, subjective to others; in other words: although practically only thinkable for me (or imaginable), this is not the same as to say that their reality belongs to a realm that is purely intelligible, or *noumenal* in contrast to *phenomenal*. In sense experience their site of appearance would thus be at the limits of a phenomenon, where things disappear, themselves being phenomena of the liminal.

The biological "cause" of the cricket dispute between me and my father is a very unexceptional medical condition which even has a clinical name: *presbycusis*. "Aging ear" is the condition of gradually losing the sensitivity in the hair cells in the cochlea responding to high frequency sounds (typically between 8 and 20 kilohertz). This is perfectly ordinary, and happens to almost everyone, but the individual variations with regard to degree and speed is so great that an average is not possible to make (Takeda et al., 1992, p. 403-408). This means that the ultrasonic threshold of the audible range is not a common boundary line between audible and silent sound waves. In fact, only the youngest of ears should be able to live up to the claim of hearing up to 20 000 hertz (and some newly born may hear even higher). Already as adolescents many have lost some thousand Hz of sensitivity, and at middle age, many persons have trouble hearing frequencies over 10 kHz. Humans then do not inhabit one common and homogeneous empire of sound, but multiple and heteroaudible sonic spaces, that overlap and join in areas with no standard or measure. We tend not to notice these differences that much since the range where our sonorous attention is directed lies far below, at the span where the human voice is seated: between circa 200 Hz and 4 kHz, and where we imbue sound with meaning and communicability.

When I today revisit my memory, with the cognizance of hearing loss which I now have, this scene opens up a whole new complexity regarding perceptual experience, sound and noise, epistemology and language, age and social relations. It is also a memory which I know is shared by many people. There are also variations of this story I have been told that instead of crickets contain other heterosonic objects such as bird song, wind, high pitched noises and alarms from electronic equipment, bells and so on... One acquaintance told me about a dispute between herself and her parents about a noise that their television set (an old CRT-TV that were used back in the days) according to her ears emitted. She found this ringing by-product of noise that the TV emitted both on and in stand-by mode very irritating. But time after time again asking her parents to turn the TV off, they refused, and simply did not grant the sound they could not register any reality. I imagine that since she complained about it even when the TV was "off" in stand by, they could simply write her mystical noises off like it was simply internal, like tinnitus or the strange but ordinary fancies of a child. It is hard to exactly blame them, but as a consequence, a "silent" noise controlled, in a very physical way, the utilization and experience of home of the youngest member of the household; by definition and consequence also the member with the least power. This example illustrates how this heterological aspect of sonorous perception also has consequences on a level of social relations, but I will return to these issues.

As a piece of recorded audio, *I Can no Longer Hear the Noise of Crickets* is composed of a variety of such heterosonic sound objects – *heard, no longer heard and never heard*; from bio acoustic calls of non-human animals to

electronic and mechanical noises, recorded in the field as well as purely synthesized. Maybe it could be described as a kind of musique concrète that is meant to be listened to in an intersubjectively shared space (while immersed in the very concrete space of vibrating sound energy: "tremolos" both inaudible and audible). It is not headphone music, since this simultaneous sharing and not sharing of auditorium between differing experiences is the crucial point, which the work aims at investigating and giving a condensed expression: what do we actually "share" and not in this space and how do we communicate our disparate sensations of it?

To further intensify this incongruity, I have inserted a third listener in the installation in the shape of a condenser electret microphone. This technological "ear" has a responsiveness to all the frequencies in the room that are between ca 20 Hz to 50 kHz, and could act as the objective listener which would reconcile the inconsistency between our subjective positions. The microphone is connected to an analog decibel-meter which indicates the volume of the sounds picked up by the condenser (and transduced from a sound wave of mechanical energy to electrical energy) on a colored light-scale. The visitors can experience the translation of sound to light in real time, as the VU-meter stands in the middle of the room between the speakers. Hearing becomes sight, and unheard becomes seen. The microphone is tuned towards higher frequencies, but it also picks up some of the overall ambience of the specific place it is placed in, including the different noises that its visitors produce, turning also these into indications on the meter. For sure, the meter does indeed give us an "objective" measure of the sounds in the room, heard as well as silent, and answers the question if they are there or not. But only at the cost of intensifying the distance and discrepancy between what is heard and not, sound and its representation, between what the instrument and we ourselves "hear."

When I composed this work (in the very simple sense of the term of "putting together" different sonic elements over time), I was partly working in "deafness" since many of its parts lay outside my own grasp as well. I structured it both aurally and retinally through graphical translations in a spectrogram, so that the, for me, ultrasonic parts were nothing but visual shapes (in other words, an image that I edited), signifying purely imaginative sounds. My audible world will continue to shrink too, and as a consequence the audio of I Can no Longer Hear the Noise of Crickets will diminish for me as I turn older, more and more parts of it growing out of my compass, and maybe it turns completely silent at some point – but I will know that it still sounds somewhere else, for those other ears that still hears.

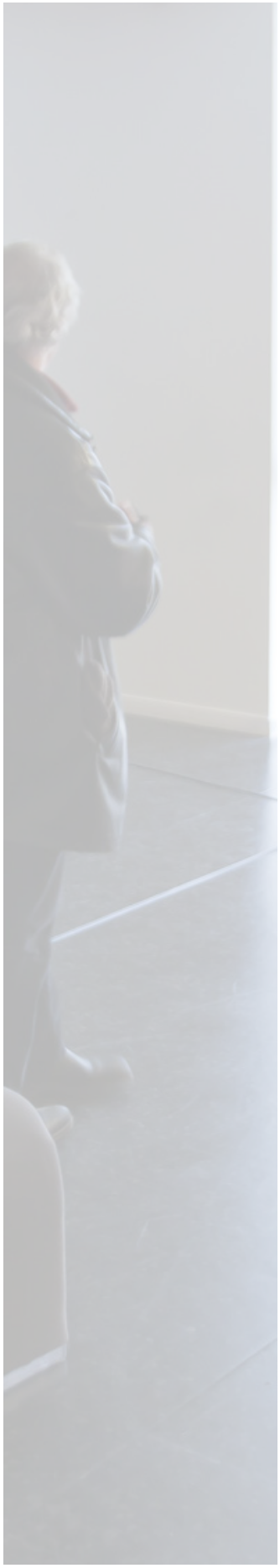
FOR THOSE WITH AN EAR TO HEAR THE CRICKET SING

Jag kan inte längre höra syrsor - det är trist
men det är en överkomlig brist.
Syrsans sång är inte någon oersättlig sång
men ändå, jag minns en gång...

I can no longer hear the crickets – that is sad
but a loss not too bad
The cricket's song is not an irreplaceable song
but still, I remember a time...

Zarah Leander, *Sång om syrsor / Song about Crickets*[3]

It is this phenomenon of disappearing sounds that Zarah Leander sings so bittersweetly about in her Sång om syrsor, and from which first strophe



3 Lyrics: Gösta Rybrant, my translation.

I have borrowed the title of my project. Written in 1962, when Zarah Leander was 55 years old, by her friend and colleague Gösta Rybrant; it is a sort of invocation of something lost and unattainable, even though the lyrics tells us that the cricket song is not irreplaceable. But it is not the absence of the actual chirping that is sad or the real loss at stake, not even a lost youth or death drawing closer. The dullness, in my view, is found in the impossibility to reconcile past with present, to anchor and give substance to remembrance in experience in present tense. It is a song of a singing that no longer sings, about a memory of a maybe unexceptional but still lost sound that cannot exist in her world as anything other than pure phonic memory. A song that she can only reproduce in imagination, silent for everyone else except her and experienced only internally, but never really listened to again, and no longer rejoiced in shared listening with others. This only awards the usually so plain and discordant quality of the cricket song with a sweetness and sadness like never before.

I can imagine her passing the same summer field as she have passed many times before, and the disturbing atmosphere of unfamiliarity when the scene suddenly feels different, the indistinct feeling that something is missing in the picture. This takes place in the few moments before the realization that the noise of crickets is gone. Then the lack is not anonymous anymore, knowing what is missing relieves. But this is only temporary. Because the crickets should be there! They have always been a part of the picture they now refuse to take part in. Have they migrated, died, or is she simply mixing up time of day or seasons? The silence of missing sound is of another kind than simple lack of it, since the consciousness of that something is missing gives its absence a terribly more strong presence. It hollows out ordinary silence. Even more so side by side with the sounds which still are there, but incomplete: bees, a bird, the distant hum of cars. This silence is not an open space for movement, but stands out, hangs heavy and opaque in the foreground. It intrudes the ears like noise, like a mute scream.

Zarah Leander sings “Sång om syrsor” in her last TV-appearance in Stjärna mot stjärna, 25th of december 1977

But then she remembers one thing a friend told her: apparently it is not unusual that people stop hearing the crickets later in life, since the ears age too. The friend in question had the same experience and went to a doctor that said that it was normal and nothing to worry about. Suddenly a simple explanation is provided and this diminishes the tension her uncertainty puts her in. It is not the crickets which are gone, it is her hearing of them that is! But just a few moments after saying this to herself she realizes that this in fact is only a pseudo-relief. How can she be sure of this? She has no physical evidence. The insects themselves are hidden from both her eyes and her ears as it is now. She is alone, and has no one else to ask. If she had a child right next to her it could tell her!

Swedish summer meadow

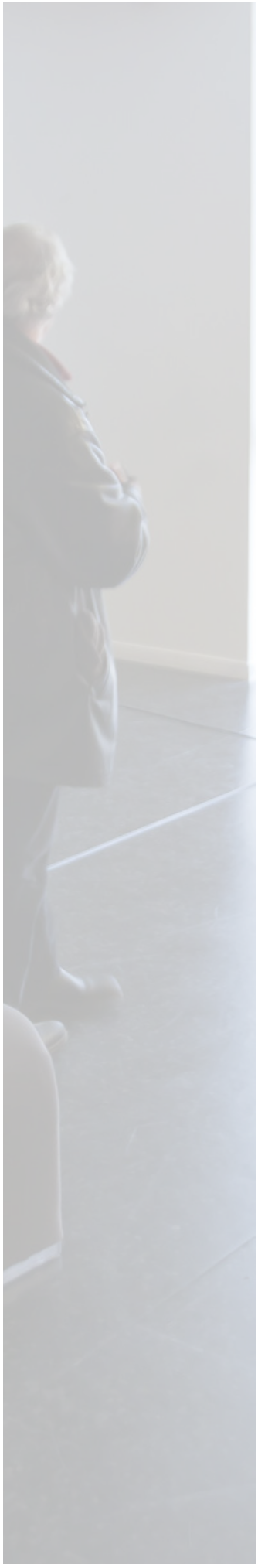
She pictures herself as a child when she passed this very field, and when the crickets were a present feature of the experience of this place. Maybe that is why she noticed the missing sound in the first place: because it is so closely connected to her memory of childhood. It is strange how she has lost experience with time

rather than the opposite. But she tries to remember how the lack sounded and gradually her silence begins to get filled by a familiar buzzing. The chirping is not completely annihilated from existence but exists as remembered, coming from herself and only playing for an inner, imagining ear. Now the gap in the present can be filled again, but only by infusing the past in the present, knowing that this absent presence which her memory covers will never be her home again.

The cricket song is not for her ear to hear any longer. Like the Ratcatcher's flute, it whispers secrets for the young. All she can do now is to sing herself. But when Leander vocalizes her song, it is in a very different pitch than those insects of whom it chants. Known for her alto, an unusually low register for a female singer, her voice also suited the capacity of recording technology in the beginning of her career in the 1930's and 40's perfect, which had difficulties reproducing high frequencies, and probably would not have been able to record cricket song:

Det var då det fanns en värld, den var inte mycket värd
men den var vårt hem och syrsor sjöng om kvällen
[...]
Nu har solen blivit skymd i Aniaras isblå rymd
och vi tvivlar på att goda gudar finns
men jag minns en gång, syrsor sjöng sin sång
för den som hade öra till att höra

It was at a time that there was a world that was not very important
but it was our home and crickets sang in the evening.
[...]
Now the sun has been hidden by the ice blue frost of Aniaras
and we doubt that good gods exist.
But I remember once, the crickets sang their song
to those who had ears to hear.



A DELICATE AND GHOSTLY MUSIC

From as early as the T'ang dynasty (AD 618-907) there are descriptions in China of the tradition of, at the arrival of autumn, catching and keeping crickets in specially designed cages indoor; to prolong their lives and the sounds of summer, and listen to their singing as a kind of natural music. This is a tradition that later was spread across the far-East and which still is very much alive. There was also the opinion that constant listening to the singing of crickets was a training that could prolong the power to perceive the acute registers they were stridulating in, long in to old age (Laufer, 1927, p. 2-16). The aging of the ear seems to have been known about for along time in China. I have never heard the song of the Japanese Grass Lark, or *Kusa-Hibari*, but I try to imagine the sound I would one day lose from the description that one commentator has made:

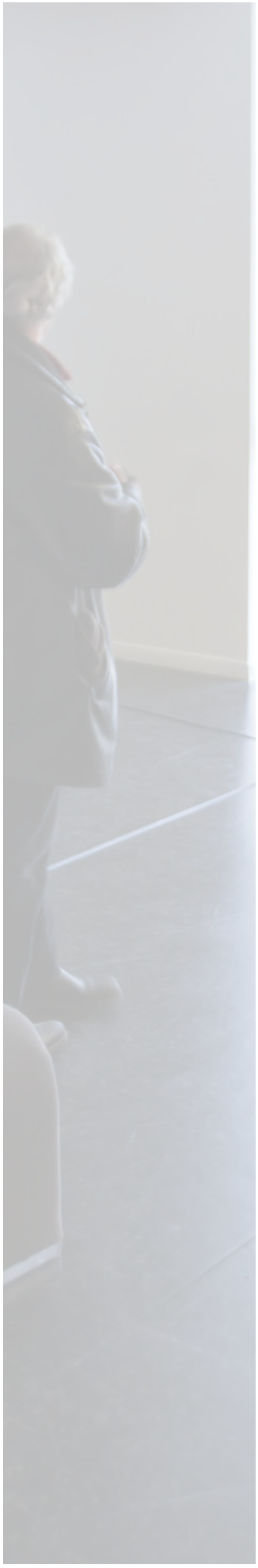
> *The room begins to fill with a delicate and ghostly music of indescribable sweetness - a thin, silvery rippling and trilling as of tiniest electric bells. As the darkness deepens, the sound becomes sweeter - sometimes swelling till the whole house seems to vibrate with the elfish resonance - sometimes thinning down into the faintest imaginable thread of a voice. But loud or low, it keeps a penetrating quality that is weird… All night the atomy thus sings: he ceases only when the temple bell proclaims the hour of dawn.* (Hearn, 1902, p. 23)

Let me become a bit prosaic for a while. The title of my project could be a little misleading. Unlike Leander, I can still hear the crickets (even though the I of the title do not directly refer to me but to a subjective but anonymous

situation of experience). Or, to be precise, some of them at least. Cricket song is almost as varied as bird song and come in a manifold of different frequencies. Many of them are even relatively low (in the 1 – 10 kHz range) and could be heard by many. But even if I hear a chirping, I cannot be sure that it sounds as it used to, since the stridulations are rich in harmonics with a "noisy" character that go way up over 20 kHz. The Katydid family is especially high in frequency and the highest sound emission found is by the Spider-Like Katydid (*Arachnoscelis Arachnoides*) that can be as high 130 kHz at 110 decibels (Chivers, 2014, p. 67-77). In short: there is no family frequency of crickets.

I have measured my own upper limit of hearing at my current thirty one years of age by listening to a constantly rising sine tone, and it seems to fade away somewhere near 17.5 kHz. There seems to be an unclear zone, however, where the sound is not exactly sounding but still physically felt in an area around the ears as a sometimes unpleasant presence. Is it wrong to say that I am still "hearing" this sound? Recent test studies has shown that even if we do not literally hear "ultrasound" these frequencies still caused brain activity in test subjects in what has been dubbed a *hypersonic effect* (Tsutomu, 2000). All of this suggests a multisensorial dimension that makes it difficult to treat one of the senses like hearing as independent from the others. Speaking about the Chinese tradition of relating to the synestethic and inaudible, Don Ihde writes: "*Ancient Chinese acoustics long ago recognized that there was sound beyond human hearing. Touching bells when sound had disappeared still yielded tactile perception of vibrations continuous with previously heard vibrations*." (Ihde, 2007, p. 264)

Knowing that sounds may unfold beyond my hearing in the very same room that I occupy for the moment gives the air a ghostly quality, as if being haunted by bodies composed of an acoustic ectoplasm. I get a chilling sensation of being touched by a spectral substance outside my time and space, being both here and not. And listening to a really high sound that unfolds on the verge of what I can perceive, a tone not really sounding but not really silent either, it does not feel like it is losing intensity and heading towards eradication, but vanishing half ways into point-zero of another dimension, resonating on the separating line between two uncommunicating worlds.



OTHER NOISES

> *The receiver gave out a buzz of a kind that K. had never before heard on a telephone. It was like the hum of countless childrens voices – but not yet a hum, the echo rather of voices singing at an infinite distance – blended by sheer impossibility into a high but resonant tone that vibrated on the ear as it were trying to penetrate beyond mere hearing.*
> Kafka, The Castle.

The "heterosonic" does not designate particular properties and qualities of a phonic thing. It is not what a sound object presents itself as, but inversely how a presentation of something co-expresses what it is *not* in actual form, but *could also be* in a virtual state. It is the implication of a horizon of *possibilities* in the appearance of a sonic thing, but only precisely a potential impossible to actualize: sheer possibilities. A sound expresses its silent other, a silence its sounding other, an instant now its past or future, a tone its noise etcetera – but only precisely *as* other, *for an* other. In that case the heterosonic phenomenon is more of a *mode of expression* for a sound or a silence than what is expressed as such. The one and the same sound event can be both sonic/silent or heterosonic depending on contingent factors.

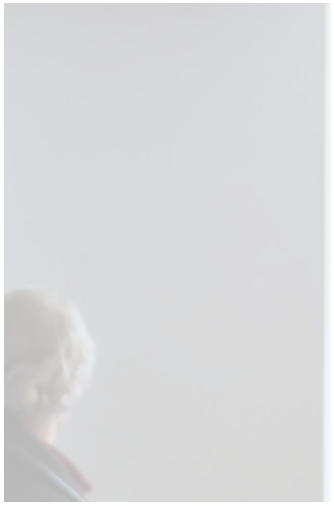
But is this not to say that every sound could be called heterosonic? In principle, yes. Since there is no fundamental limit between audible and inaudible, every sound could very well be experienced in a situation where its audability is nonadequated and contested.

As stated, the heterosonic is a differential event, the sudden moment when a sonic phenomenon implicates its own limits and obverse sides. But this dimension never unfolds between just an experience and a thing of that experience, but only through an element of alterity entering the relationship, namely another experiencer questioning mine, and whose experience of the (same and not same) thing is fundamentally unpresentable to that of my own. But, without going too deep into the issues of intersubjectivity, what distinguishes this intersubjective relation from the one Husserl describes – the otherness of an alter-Ego is for him what guarantees the very meaning of the idea of a shared and objective world, a "transcendental We"[4] – is its asymmetrical character, that it designates the event where this bridging between our differences and this very intersubjective synthesis of me and the other in the universal meaning of a common and objective world fails.

One could say that intersubjective relations turn heterogenous when there occurs a break in the "common" of common-sense, of communication, of community; in all those assumptions about an unproblematic unity or bind between our individual differences, that forms our everyday attitude towards the lived world.[5] These occurrences both reveal a sociality (a dimension of manifold coexistence with others) of "inner" life and at the same time breach the external communication between interiors, destroying those mediating and neutral third terms by which we try to turn the "exterior" world into that "sameness" we all share (that would be nothing but the projection of my egological sameness onto an abstract, general plane). Thus the external and our relations in it (the world, nature, the social) loses status as universe, "*a completed and explicit totality, in which the relationships are that of reciprocal determination*" and turns into "*an open and indefinite multiplicity of relationships which are of reciprocal implication.*" (Merleau-Ponty, 2002)

What heterosonic experiences show us is that this aspect of sociability or intersubjectivity is implicated in the very fabric of subjective experience, and cannot be disentangled from it. Even in the most private of experiences or introspection into what I am, there exists a dimension or horizon of what is other than I (the heteroaudience of heteroaudition). But as stated above, for this horizon to appear there usually needs to occur some kind of discordance or break in everyday perception, where the limitations of my perception, the limited "me" appears in all of its impotence to itself. Something as little as a cricket can accomplish this. At first only the limitation may strike me, and the perceived world shortcurcuits perception, breaks its intimate ties with it and I start to perceive myself perceiving the world; in an acute form of perception where the act perception stand out as an sort of phenomena in itself. But this is another way of saying that not solely the limited, but the very limit as such makes an apparition and something imperceptible gets sensed: like an invisible in the visible, a silence in the sounding, disappearance in appearance...

But, according to its nature, no limit is in principle ultimate, and every boundary somewhere contains a promise of its own transgression. The finite never stops to harbor the infinite, the limit the limitless. This is a way in which the absent is present in presence, the transcendent immanent to immanence; and how the infinite can be contained in, but not reduced to the finite *idea of* the "infinite", and not due to a simple dialectics of positives and negatives (Lévinas, 2011, p. 77).



4 Other Egos "*makes constitutionally possible a new infinite domain of what is 'other:' an* Objective Nature *and a whole Objective world, to which all other Egos and myself belong.*" (Husserl, 1992, p. 107)

5 This relativity is not the same as contesting objectivity with subjectivism, but to say that if otherness is to be understood as really other, relativity must be thought relationally, that is, of concretely being *in* the relation that is being thought. As Levinas says, "*Alterity is possible only starting from* me" (from what is "same" and self-present), and not from a third and neutral term, mediating from "outside;" that could only totalize the relation into a structure, and the reduce the foreign into identification and possession of the same. (Levinas, 2011, p. 40). Subjectivism falls into the same trap as objectivism, since it takes the subjective to be the sole constitutive of the "external" it fails to understand the other – since what is truly other cannot be constituted by me but must come absolutely from its own source – and how we can both share and not share a world that is both for itself and for us.

The heterosonic phenomenon consists in this encounter with otherness *in* the same, when my sense experience is forced into relation with *an* other's experience – actual or potential, but always other and inaccessible. The other that is woken in me is so through the concrete confrontation with an, or several, others, but it is not identical with these particular individuals. Rather the actual other exalt in me an anonymous other*ness* that haunts the borders of what is myself.

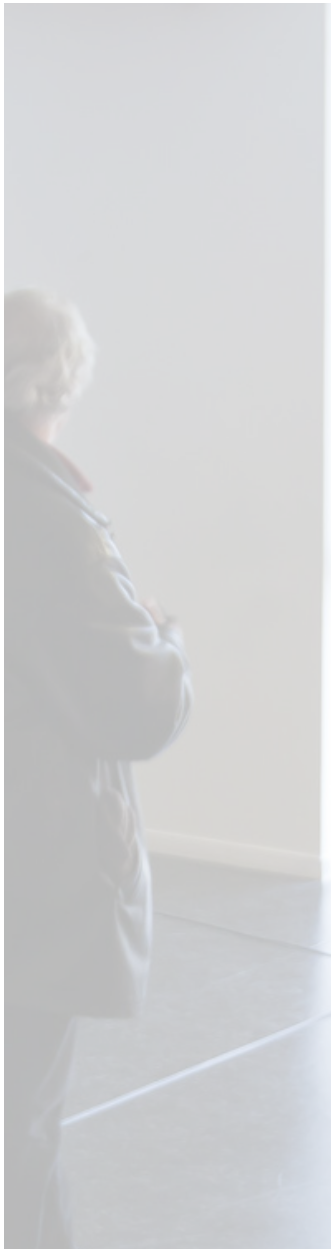
WHAT DO THE CRICKETS HEAR?

William Hyde Wollaston got the idea of animal communication in ultrasound when he noticed that some high pitched orthopteran sounds, amongst others, were audible to some people but not to others. From these observations he considered the possibility that there may very well be yet higher sounds that are inaudible to all humans, but not to all animals. In 1820 he published *On Sounds Inaudible to Certain Ears*, where he writes:

> *Since there is nothing in the constitution of the atmosphere to prevent the existence of vibrations incomparably more frequent than any of which we are conscious, we may imagine that animals like the grylli, whose powers appear to commence nearly where ours terminate, may have the faculty of hearing still sharper sounds, which at the present we do not know exist, and that there may be other insects hearing nothing in common with us, but endued with a power of exciting, and a sense that perceives vibrations of the same nature indeed as those which constitute ordinary sounds, but so remote, that the animals who perceive them may be said to possess another sense, agreeing with our own solely in the medium in which it is excited, and possibly wholly unaffected by those slower vibrations of which we are sensible.*
> (Wollaston, 1820, p. 314)

Today, this ultrasonic realm is no longer a mere hypothetical possibility. We have scientific proof of its physical existence and we have shown that there indeed exist creatures that can hear these ultrasonic frequencies, produce them and also use them to communicate. Today, the field of *bioacoustics* is a scientific discipline in its own right, and it studies for example how insects, bats, rodents and whales amongst other animals have an extensive, or even exclusive, communication in a sonorous kingdom far beyond ours. It has also been demonstrated that there exists many sensory modalities foreign to the senses humans experience the world with.[6] With the invention of super sensitive technological instruments for detection, we have "prolonged" our own experience to tap into what our natural senses are unable to register. New, and hitherto uncharted perceptual worlds has been disclosed one after another. But to Wollaston, this extra human expanse of sound was still just a phantasmagorical idea of a possibility for – opening up through the heterosonic dissemblance between his and other's hearings – a specter in the spectrum, haunting his silence.

What we however still share with Wollaston is that position of radical inability to actually experience these frequencies as anything than just *other*. We can still only imagine *how* they sound, what it actually would be to *hear* them as, for example, a cricket or a bat is as imaginative now as then. What they offer us is those "excursions into unknowable worlds" or *umwelten* Baron von Uexküll described. With instrumentation and computation we can detect, represent and analyze them - in short: *know* about them. But instruments mediate, re-present, they do not open up a new sense in us when plugged in. They always have to translate what they detect into a sensation we are familiar with for us to even be aware that they have detected something. Hence they transform and codify sensation into data, information, a *signal*. Since vision is the preferred sense of western science (what is visual is most easily quantifiable) the most common mode of representa-



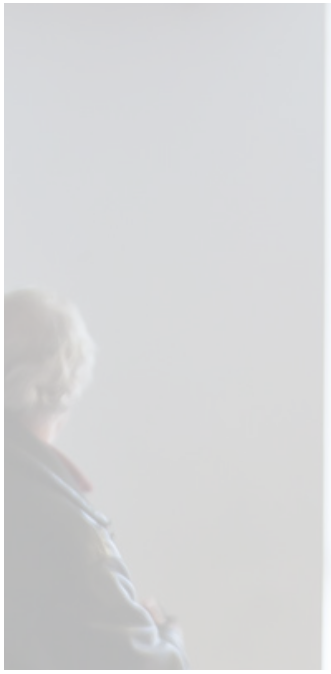
6 For example, that bats and whales use sonar and echolocation to "see," that birds have internal compasses to navigate with over their long distance migrations, or that fish communicate with coded messages that are sent through the water via electrical fields, that bees and doves see ultraviolet and infrared light, or that the Mantis shrimp have 16 (!) receptors for color (while we have four), or that dogs can smell the onset of epileptic seizures 45 minutes before they occur. We also know that we ourselves have more senses than our explicit five, that are internal and unconscious, like balance, or senses that are receptive to the levels or carbon dioxide in our blood and so on. (Hughes, 2001, p. 5)

tion is done with imaging technologies. In most types of analysis of sound the acoustic signals is turned into images or graphs. "[I]*n the cases of the sciences of sound this translation allows sound to be measured, and measurement is predominantly a matter of spatializing qualities into visible quantities.*" (Ihde, 2007, p. 55)

In *Listening to What I Cannot Hear* (2009), composer David Dunn transposes the frequency of inaudible ultrasonic recordings of bats and household applications down to sonic range. Norwegian artist Jana Winderen does something similar in pieces like *Silent Field*, *Out of Range* (both 2014) and *Ultraworld* (2012), where she uses time stretched recordings of ultrasonic bioacoustics and sounds from places normally inaccessible like the oceanic depths to create immersive sound installations and performances. These artistic examples express a shared longing to make the *inaudible audible*, but indirectly also express the fundamental impossibility of this desire. Even though innovations in technology have made it possible for us to become aware of a structure of hitherto unfamiliar regions of perception, the longing for these to make sense, to solidify into empirical observation and, eventually, to come under the "gaze" of knowledge, results in a compression of the other realm into the range of this one. Dunn's work introduces a foreign register of sonority, but only by first contracting it into our own, translating it into a familiar pitch, and also by this integration reducing it. What is dragged into this side is the ghostly traces of a sonorous reality that persists as mystery. Maybe it makes sense to say that we have made another world observable in an epistemic sense (we can make a scientific sense of it) – but it is still just as imperceptible.[7]

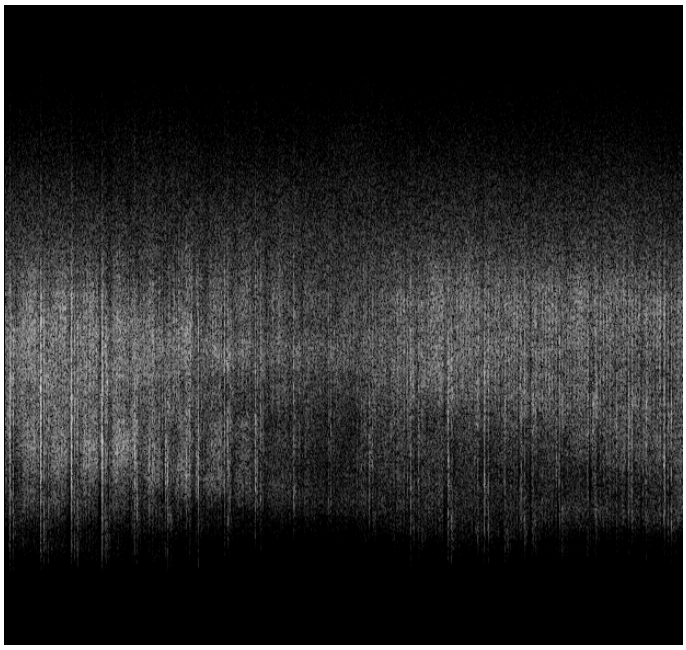
The merit of the artworks mentioned above lies precisely in that they fail with what they assume to do, and thereby they intensify the impossibility of the transgression they seem to suggest. But in that sense they do not express this much different or in any more acute way than they would do as simple artistic illustrations of the science they rely on. In this respect, Petteri Nisunens and Tommi Grönlunds work *Ultrasound Installation* (first created for Manifesta 1, 1996) works better. It does not only address a "beyond," but manifests and make the very unstable fringe between here and beyond into a phenomenon:

> *The Ultrasound installation consists of two facing parabolic mirrors placed about 20 meters (the longer the better) from each other. In the focal point of each mirror is a speaker and a small LED-light. The very high pitched sine wave sound played through the speakers create a kind of sound beam between the mirrors. In optimal acoustic conditions the sound is heard only between the mirrors, not elsewhere in the space.*
>
> *The pitch of the sound coming out of one of the speakers is about 16 000 Hz while the pitch of the sound coming out of the other speaker is moving randomly between 12 000 Hz and 20 000 Hz. This random movement of the pitch is caused by a geiger meter measuring the constantly changing background radiation of the air in the exhibition space.*
>
> *Besides the sounds coming from the speakers a spectator standing between the mirrors can hear a third soundwhich frequency is the difference of the two above mentioned frequencies. This modulation sound is coming from all around, its source cannot be defined. This phenomenon together with the two other high pitched sounds somewhat distorts the spectators perception of space.*[8]



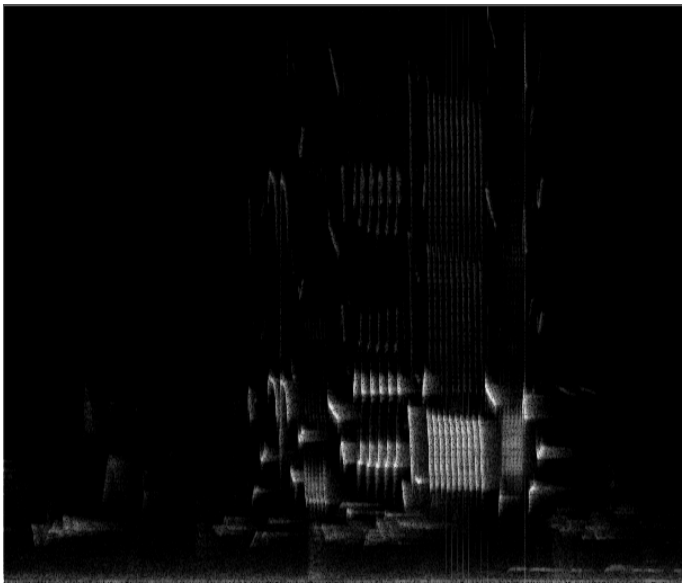
7 Something similar, but on another level, could be said about Alvin Luciers *Music for Solo Performer: For Enormously Amplified Brain Waves and Percussion* (1965), in which infrasonic, 8 to 12 hertz alpha waves are translated into audible sound, by placing EEG electrodes on the performers head and then amplifying the electrical signal and sending it to loudspeakers that activated different percussive instruments; and Christina Kubisch's *Electrical Walks* (2004) that utilized special headphones that could pick up electromagnetic fields across urban environments and turning them into audio, making cash machines, cables, antennas into strange sound machines during a walk in the city. Lucier's and Kubisch's works operates by a translation between different sense modalities, turning intangible electric impulses or radiation (light) into mechanical movement and audio, and into signs for a perpetually absent sense-signified.

8 From the artists' website, http://g-n.fi/1996_ultrasound_rotterdam.php.

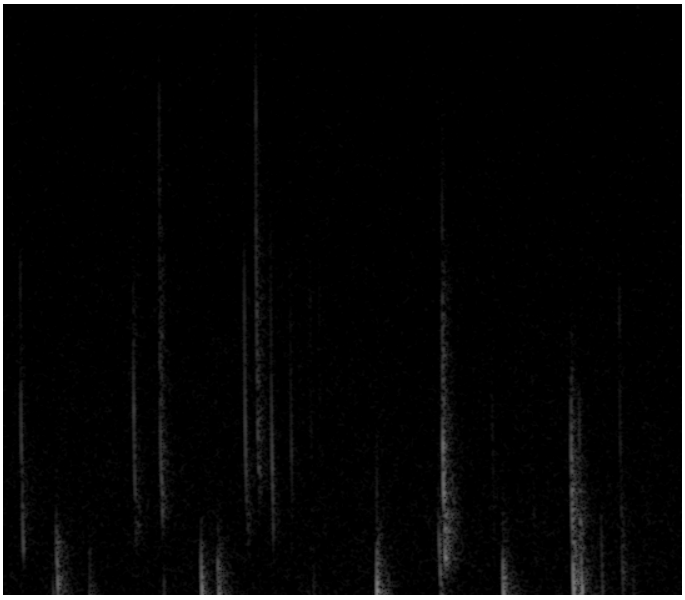


Spectrogram of stridulations from a swarm of crickets

What I find more interesting than making the inaudible audible, and what I try to do with *I Can no Longer Hear the Noise of Crickets*, is this paradoxical attempt to listen to the inaudible *qua* inaudible (the-in-audible in-the-audible). Instead of hearing this suggests an acute listening, or atonement to the events on the "infrathin" (Duchamp) horizon of the hearable – of not-quite sensed little appearances and disappearances. This final but indeterminate silence, open but unaccessible like the night, or death, is filled with another sonority that is neither sound nor muteness but the noise from an unknowable source, "*a ceaseless message that forms itself from silence*" (Rilke, 1992) and calls for an endless interpretation. But is this not just the same old voice of the Absolute speaking again? Not at all! Rather it is the riddle that something as everyday as another person, or another animal asks of you, if you really listen. Hearing, like looking, is an act that acknowledges distance to what is observed; listening, on the other hand, "*is an act that brings us closer to what we are not, the parallel world of the extra-human.*" (Toop 2010)



Spectrogram of the calls from a wren



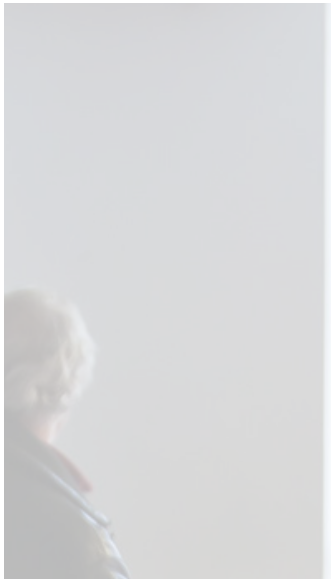
Spectrogram of the ultrasonic calls of a bat

Paradoxically, it is the very experience of my own limitations in the face of the other that guarantees limitless freedom. One's incapacity turns out to be the condition of a radical capacity of imagination. Even if they turn out to be practically impossible to transgress, my limits indicate virtual extensions of experience *with* the other. Although not for me, also my world grows through the other's as the inexhaustible surplus that mine alone cannot contain. The world is always infinitely more than being mine. I can only feel a great humbleness in front of it and a desire in suspension which do not seek possession. And in that the empirical measure of what is "human" audio and audition is blurred, at a level of sense experience, also the distinction of the human species from other animals gets diffused and noisy; while at the same time giving the transcendence of other animal senses a reality beyond (or "before") the merely unobservable, in that I can take them in without reducing them to that of my own.

SONIC YOUTHS

In the yard of Blomqvist pre-school, as well as in some other schoolyards in the Malmö area in south of Sweden, another kind of insect buzzes in a pitch that is audible to some ears only. At night a special kind of mosquito becomes active, but this one is a completely mechanical bug. Named after the likeness of its signal to the sound of the well known and hated bloodsucking insect, "the Mosquito" is a electro-acoustic device invented in Wales by Howard Stapleton in 2005 and hit the commercial market in 2006 through Stapleton's company Compound Security Solutions. Described by the company as a "teen deterrent," and modeled on various ultrasonic "pest deterrents" that has been around for a while, its purpose is to prevent loitering,

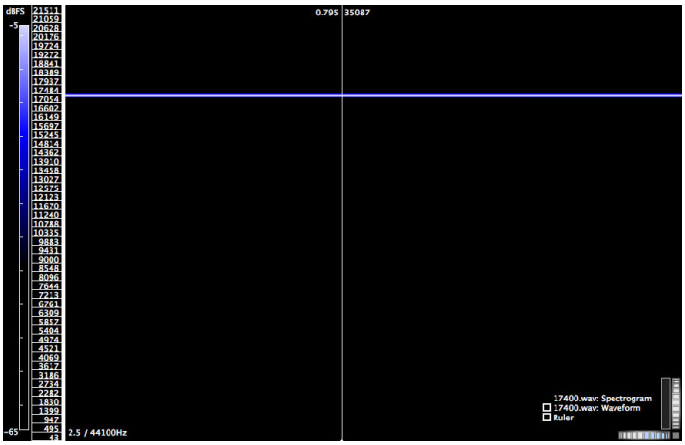
or “anti-social behavior” by emitting a pulsating tone at 80 – 100 decibel that is designed to be unpleasant, leaving the place where it is installed just as unpleasant to use as a gathering place. However, this signal is set to a frequency of 17,4 kHz, which is said to only be audible to persons under the age of 25, allegedly leaving people over that age completely unaffected and unaware of the sound. By utilizing one discriminatory aspect of heterosonic phenomena, the company effectively created a non lethal but effective sonic weapon targeted exclusively at the sensations of young persons, with a noise that only exists for the non adult audience.



The device – which is a small speaker box to be mounted on a wall outside, for example, a store, – has become very popular with shopkeepers and owners of property around the world, since it has (in contrast to the pest repellants it is modeled on) proved effective in scaring away unwanted beings congregating in front of their businesses and in their turn scaring away potential consumers. Also Blomqvist pre-school had problems with teenagers using their schoolyard at night as a place to smoke and drink in a noisy manner until they installed a Mosquito, then everything turned “silent” again.[9] The unwanted noises of teenagers were effectively silenced by a silent noise. The school, which at day functions as a place made for children, is at night a place that functions against them.

9 http://www.skanskan.se/article/20110608/MALMO/706089687/-/malmo-testar-larm-som-skrammer-unga

The heterosonically social dimension of subjective perception thus has consequences on an explicitly social scale as well: on the level of societal relations in public space. Urban public and private spaces is structured and organized also according to sonic architectures. These are invisible and not yet as controllable as its visual counterparts, but nonetheless structures space in a very material way: sounds, noise and silences can act as passages and obstructions, openings and closures. The heterosonic signal of the teen deterrent draws acoustic borders in space with parallel realities, cutting the path for some, clearing the way for others. The Mosquito is part of a new type of acoustic urban planning, based on targeted inclusions and exclusions, attractions and repellations.



Spectrogram of the Mosquito and Teen Buzz 17 400 Hz tone

The Mosquito is, as already stated, modeled on ultrasonic rodent repellers. And even if the rodents does not seem to be particularly scared by these sounds they do however have an extensive communication in ultrasound, beside the audible squeaks we hear. The mouse is known to produce ultrasonic distress calls that, like in a stealth mode, flies over the register of what some of their predators can hear, like snakes and vipers. The mouse creates an acoustic crypto-space of communication, that evades the control of those who restrict their use of space. And not only danger, but also desire is expressed within this secluded zone, as the male mouse apparently sings a “love song” in purely ultrasonic notes (Holy & Guo, 2005).

The adolescents targeted by the teen deterrent were very quick in appropriating this “silent” sound into a “counter-attack” as someone soon converted the signal into a downloadable mobile ring tone, “Teen buzz,”, and being able to, not unlike the mouse facing its predator, send spectrally “encrypted” text messages to each other “above” the alert ears of a teacher in the classroom, for example. Even a dance tune were made, with one melodic part hiding in a ultra-adult range – maybe expressing a joy of belonging to an exclusive sonic habitat. This was possible because the very operational effectiveness of the Mosquito-tone as mechanism for control – its heteroauditiv-

ity – produces an excess which escapes control and is capable of subverting this very effectiveness. The acoustic zone of exclusion could be turned into inclusion, or rather, the hierarchy of who is included and excluded is turned upside down.

Even though these examples are somewhat practically negligible they express something like what Michel de Certeau have described as *tactical* spatial practices of everyday life, that appropriates, reinvents and exceeds the use of the *strategically* produced structures and institutionally ruled and controlled everyday geography (De Certeau, 1984). The heterosonic could also be described as kinds of acoustic "heterotopias" insofar as they unfold indeterminate auditoriums within or between the order of places, or even as informal sonic "counter-publics" inside a not-so-public public space; an excess of space as so many Chinese boxes, a proliferation of new and semi-cryptic spaces within space within space...

For sure, the adult still has a *quantifiable* access to these spaces via technology, and no information can be hidden there forever, meaning that it also gets reterritorialized and again opened up for control. All children that become adults will themselves one day be excluded from these domains as well (which introduces the strange thought that one not only gains but also loses experience with time). But as a place to inhabit, the one hearing it will always know it in a more direct and full sense, thereby turning the pedagogical relation between a knowing adult and ignorant child on its head. When I was standing next to my father, what I in all my doubts did not understand, was that in fact I knew more than him and not the other way around. I was the instrument, the prolongation which his senses needed to become aware of the presence of the crickets, translating the for him inaudible (and up until then inexistent) into a vocal and discursive description. I could sensibly verify what he would have needed a technical prosthesis to be able to empirically validate. Of course, he could always chose to doubt the legitimacy of a subjective and juvenile testimony. After all the statement of another subject is easier to dispute than the results on a seemingly lifeless and unbiased apparatus. I want to present one final image then: a sonogram of my not yet born daughter. After the first ultrasound scan of a fetus – where inaudible sound was used to visualize the invisible – not even the womb was no longer a place where the child was out of reach for the dissecting gaze of the adult, but the unborn ears were probably the ones coming closest to actually hearing the sound enveloping them.

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