

# **SITE AWARENESS IN MUSIC**

**– recontextualizing a sensation of  
another place**

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# INTRODUCTION

*“It sucks, don’t it... the moment you realize you don’t know shit.”*

*(Antagonist Negan in TV series The Walking Dead by Frank Darabont, season 6, episode 16: Last Day on Earth.)*

## URTEXT

I had a hunger for art music that could engage me as a listener, but I experienced a loss of relevance, a loss of touch and reason. The music seemed to have fallen into traps of strict patterns. I was just about to give up on music completely, wondering if I was witnessing the end of art music.

**An unformatting of society is needed.**

*Formatting*

*Regulating*

*Facilitating*

These words are about control. The terms are about defining what is included and what is excluded. They express the minimization of

*diversity,*

*risk*

and *danger.*

To enable safe survival, we construct a society that more and more deprives us of our abilities to survive outside the container of a safe society.

The brain interprets and make choices by association, on the basis of what the body perceives and of previous knowledge and experience. How humans listen, hear, see, perceive, interpret and react to their surroundings is based on cognitive structures. The cognitive structures are in essence inadequate, defective and lacking in knowledge. Since it is impossible to know “everything”, to have experienced all situations prior to experiencing them, the brain has evolved a unique ability to assume, to jump to conclusions, to create patterns and categories based on already-observed and perceived behaviour or occurrences.

Risk makes the body and brain aware and alert. Adrenalin is released to the blood, enabling the organism to make a sudden, intense effort. Risk implies something unestablished, uncertain, a danger, something unknown. Risk implies the possibility of failure and ultimately death. Risk increases anxiety and excitement, enabling the alertness needed to manoeuvre away from or solve problems. When something is at stake, interest comes into play.

The unknown is by its very nature beyond the body’s experience. Without risk, necessary attributes such as adaptivity, sensibility, joy and creativity are at stake. A crucial level of life, a necessary attitude and certain kinds of behaviour may be lost.

## BACKGROUND

Just as I hope the music I make is for the joy or benefit of some, I also hope this text will be useful to some. My self is not interesting, except that it is necessarily I, from my point of view, for my reasons, who do what I do.

I have a background as a composer. I was frustrated by the limited scope that on offered in what we can roughly and disrespectfully call the unconscious festival music format (max 15 min music for max 15 musicians, without technical aids, as everyone who works with contemporary music knows well). Why should I relate to that? I just wanted to drop it.

I had various ideas that never came to anything, such as a small aircraft ballet, a loudspeaker installation with simple synthetic sounds in a forest, an opera on God, a mountain plateau installation, a desert installation, a film shot flying at low altitude over the route of a prospective north Siberian transcontinental transport corridor, a Dionysian multi-day forest festival with art films and art music, a prospective wind harp on a building in Bergen with real-time signal transfer to a small cube somewhere in New York (2004) etc.

In 2007 I made *Molladalen* (a site-specific mountain concert for four trombones and a walking audience in an acoustic valley) and in 2009 *Fagervann* (an early morning concert around a small forest lake). Then I tried again to compose what I call “evening concert music” where I somehow activated a situation and worked with music for other art forms.

Then I started on the artistic PhD project *Site Awareness in Music – recontextualizing a sensation of another place*. It was conducted from October 2014 to January 2019 within the framework of the Norwegian Artistic Research Programme. My principal supervisor has been the composer and professor Ole Lützow-Holm and my assistant supervisor has been the visual artist Marianne Heier. The host institution was the Norwegian Academy of Music – Department of Composition, Music Theory and Music Technology.

This text is a reflection that is part of the artistic PhD. The programme has slightly different requirements from an academic PhD. For example, it is not even a requirement that the reflection should be in the form of a text, even less an academic text. However, the material must convey reflection, account for the process and review the project’s context, particularly its relation to other relevant art practices. I have chosen a sometimes essayistic, sometimes more theoretical text that draws on knowledge I believe to be important in elucidating the points.

## NAVIGATION

The project started out with the main title *Land Music and Comfort Music* – later changed to *Site Awareness in Music* – but it has kept its subtitle, *recontextualizing a sensation of another place*. The two original parts were intended to reflect each other. How could experiences and material from concert installations be transferred to landscape music, and how could experiences and material from landscape music be transferred to concert installations? But the focus of the project turned in a conceptual direction. In the following texts, I intentionally avoid dwelling on music-technical choices and components during the working process. Instead the emphasis will be on various approaches to the importance of the connections between sound-work, place and context.

## A READER'S GUIDE

I have already described my professional frustration and some of the backdrop for the project. In the rest of the [introduction](#), I give an outline of the project – what I have worked with and its phases. Here I will raise some issues which will be discussed in later chapters. This is an overview of the three artistic results, an introduction to the expression ‘site awareness’, and an overview of the project’s four phases.

In [part I: Siting](#) I write rather basically about what sound is and how it unfolds in space, before I continue with landscape and staging ideas and what I mean by *Land Music*. I would like to give the term *Land Music* a slightly different meaning. The term is in use – to some extent also in the form landscape music (*Landschaftsmusik* in German). From what I have come across, it has been used slightly incoherently in quite different contexts, also in conjunction with an ambiguous use of the term *site-specific*. I want to give the term

*Land Music* a more consistent meaning, clearly referring to the term *Land Art*. I also expand on the idea of ‘time in space’. This part is rounded off with a brief review of my method.

**Part II: What do we really know?** is a text about symbolic thinking, the brain’s cognitive apparatus and the link between memory and place. My point of view is that of an artist, a composer, and I am intrigued by the physiology of the brain and the possible implications for how I think and conceive music. In summary, this is expressed in my works through time constraints, contextualization and inviting the audience to make an effort.

In **part III: Three works and a travel log** I review and describe the three works that make up the artistic result of the project. In addition, here is a travel log with reflections from a research journey that in the end did not materialize as a work. Here I explain the choices I made, what I wanted to do, what I did, and what I did not do.

Finally, I round off in the **outline** with some thoughts on what the paths the project can open up.

## ARTISTIC RESULT

These are the artistic results of the project:

### Comfort Music

2015, 1 hour 30 min, for a divided audience at two separate locations – one a long bus ride – with different levels of information, 8 musicians and multichannel loudspeakers. Åsen Emergency Communications Exchange and flat-floor music hall at Vulkan, Oslo.

### Mirnyj

2018, 4 hours, 4 audio channels, 1 video channel. Flat-floor music hall or cinema. Soundscape, recorded violin and synthesized sounds. Soundscape and footage from a trip to Siberia, and generated monochromes and satellite images.

### Himdalen

2018, 12 hours 30 min, land music the entire evening and night outdoors in mid-November at the Combined Repository and Storage Facility for Radioactive Waste in Himdalen, Norway. 4 musicians, 12 audio channels distributed over the terrain, a listening post and a decentralized forest lake scene.

The three works are my attempt at deformatting. But they share an attitude and connectedness to places, and the way the music is *made for* or *informed by* certain places.

## SITE AWARENESS

By *site awareness* I mean a sensitivity to context and its connotations, and secondarily the consequences of context for perception. This is about both the context of creation and the context of realization – of music. Such sensitivity is necessary in view of the way our cognitive apparatus works.

1. We become more observant, with sharpened senses, when faced with a lack of clarity, difficulties and effort, and when something is at stake.

2. The brain remembers and maps place and spatiality with a system of neural positioning cells. Perceived stimuli are connected to place and grid-cell information. The stimuli are interpreted according to whatever the brain associates with the incoming information in order as quickly as possible to categorize and possibly identify the stimuli. Anything involved in this process affects the interpretation obtained. Experience, memory, understanding, the quality of receptors, placement, trending factors, context etc. all affect this quick process.

**Site**, via Latin *situs* – “place, position, situation, location; idleness; forgetfulness; effects of neglect”, to Proto Indo-European \**si-tu-*, root \**tkei-* “to settle, dwell, be home”.

**Awareness**, *Aware* Old English *gewær* “watchful”, German *gewahr*, Proto Indo-European root \**wer-* “perceive, watch out for”.

**The sense of place and the ability to navigate are essential to our memory and bodily existence in the world.**

### **In short:**

I try to create immersive, audiovisual projects that are connected to a certain place that I explore and embrace.

I aim to involve qualities and characteristics from the place, shaping a conversation, putting something at stake.

I conceive a music that activates a place, making created situations.

I do this because there is a close link between memory, comprehension and place.

### **Motivation**

I have worked with site awareness because context is of crucial importance for how we both remember and understand stimuli. Attention to the understanding of context in musical life has been too low. Contextual understanding is important in the composition and understanding of music, to what music is, why it is made, the situation in which the composer was: in which culture, in which country, in which era, political situation and so on. We must try to interpret a message from all this. This requires a lot of general knowledge. Musical knowledge alone is not sufficient to understand music. General knowledge is important for perceiving the world around us, navigating through it, through life. It is essential to have an overview of the context of which we ourselves, our society, our work, our lives and our thoughts are a part of.

I continue my work in a loosely defined and expanded field that stems from ideas of the *Gesamtkunstwerk* going back to Scriabin, Wagner and early opera. This broad field involves stagings, reality, integrated immersive experiences, even parties – and a certain seriousness. I also stand in a field of environmental music that relates actively to the surroundings. But my training stems from a structured, organic, *new complexity* tradition.

Learning is easiest through involvement, participation, experience and interest. Every experience is a type of learning. It has been important to accept the consequences of this in the work with the project. I have therefore emphasized the need for a sacrifice from the audience in various ways. I involve the body, participation and an element of uncertainty. This really means inviting the audience to become involved, to be present with the body, with all the senses, and to take greater responsibility. R. Murray Schafer writes that taking music to different concert venues is a relatively new phenomenon. It has closed the musical landscape (but opened up other aspects!). I myself greatly enjoy being outdoors, and I always scan or am alert to possible ideas and stagings – how a type of music or sound material could be played out in the environments I work in or think about. That the audience must go *out* and seek the music creates a close bond, a greater obligation. And this also involves time as a building material.

Why and how have I chosen the specific places I work with? The place must give me something, it must inform me in the working process. It is important to glimpse the contours of a theme and the potential for creating material that enters into a direct relationship with the site. I have explored many places, some with concrete research on site, others from my desk. First I looked for landscape types with possible interesting acoustic qualities. I realized that the conceptual anchorage to the place, that is the conceptual reason why the music should be *there*, was clearly more important. In approaching a site I had to see a potential for the creation of meaning-bearing connections between the materiality and the place. In the chapter Siting I go into what I think constitutes what I have chosen to call *land music*, why I think the concept should be linked with just such a practice. The term – as far as I know – has first and foremost been used in the German-speaking area as

*We interpret stimuli on the basis of what the brain associates with the incoming information. Interpretation is immersive.*

*Everything – historical events, political events, social events, cultural events, any situation – always happens somewhere in particular. A virtual event is no exception: ignited by a will, a code, somewhere, based on or as a result of certain premises or configurations of timing.*

*Remembering and cognition are closely connected to places, to our physical surroundings. Without a sense of place we lose our ability to navigate. Without the ability to navigate our bodily existence in the world has no chance.*

*We perceive in context. We interpret in context. We understand in context.*

*Unfamiliarity is a necessary premise for learning, for new experiences, for new connections. The more immersive or inconclusive a situation, the better the chances for navigation, and thus for learning and mapping out an internal individual-specific topology.*

*The siting of a work must be considered carefully. Siting must relate to the logics of a site. Siting must create meaning-bearing connections to the site. Context must inform personal choices.*

*If original circumstances are removed or withheld, our interpretation will be defective, or at best deficient.*

*The particularities of a situation or work may have qualities with potential for transcending its original siting. Recontextualization must be considered with the utmost care.*

*Consider the context of creation.  
Consider the context of realization.*



*Landschaftsmusik*, but as I understand it with an extra justification along the lines that the music is quite simply played in a landscape.

### **FIRST PHASE: COMFORT MUSIC – EXCLUSION**

The first work I decided to do within the framework of the project had to deal with a concert venue, a pre-conceived generic space. But the primary (given) location lacked the benefit of providing a sufficient *reason*. It was as if I could find no sufficient connection and cause for bothering at all to conceive the upcoming work. I had read the Italian philosopher Giorgio Agamben's writings on inclusion and exclusion – in short, on exclusion as an embodied and inherent part of inclusion. I decided to work with exclusion, to see if I could split the audience in two and deliver the work at two separate locations simultaneously. Before I could make the actual music, I understood I had to know the two locations and how to articulate them. I examined several options that had no resonance until the Emergency Communications Exchange (Åsen Nødsentral)<sup>1</sup> came up. The 'exchange' was built in a hurry immediately after the Cuban Missile Crisis in 1962 to maintain basic communication during a catastrophic event. Now it is abandoned, a ruin and a witness. The work examined separation and exclusion, and how a different context affected the perception of music and meaning. It was clear to me that this direction – challenging the audience, inducing risk and a lack of clarity, as well as partly testing an expanded musical format, was fruitful, and that these ideas had more potential.

The result is *Comfort Music*.

A thorough description with choices, stating what I set out to do and what I ended up doing, is given in part III below.

### **SECOND PHASE: CHASING AN IDEA – ATHOS AND DELPHI**

The preliminary idea for a land music work was to do a project around a mountain lake with high rock walls surrounding it. After research at a few locations in Jotunheimen, Norway, I realized that the emphasis I had put on natural acoustics was not central to the project after all. The nature romanticism would dominate the symbolic field. Instead an extensive search for abandoned places began – places that might connect up with the Emergency Communications Exchange (Åsen Nødsentral) that I used for *Comfort Music*. I studied some 50 locations all over the world with varying degrees of thoroughness, and discarded most of them. To give an idea of the process, some of them are listed in the chapter on method.

Amidst the exploration of locations I researched field recording techniques and equipment. I did a quick test of the natural humming of high-voltage wires in snowy weather near Vestmarksetra outside Oslo. Since I was a child, cross-country skiing in Vestmarka (woods), I have been fascinated by this weather-contextual soundscape. The crisp, static noise texture is significantly louder than in conditions of no precipitation. Rain and snow increase the conductivity of the air surrounding the conductor and thus increase the intensity of the discharge of energy.<sup>2</sup> The audible noise is quite loud, with a texture that can be described as a cleansed and sharpened version of white noise, as if the particles of the noise are larger, more 'zoomed in'. I have since continuously changed my requirements for an ideal, compact, high-quality, robust, lightweight, versatile, easy-to-use microphone array. I have not yet come to a conclusion.

While absorbed in such technical details and all sorts of considerations and mutually exclusive advice from different sources, I had pretty much ruled out what was planned to be the core of my project – a land music project around a mountain lake with high rock walls surrounding it.

Then in January 2016 I was asked an innocent, curious and precise question of the kind that only children ask, by my then six-year-old son: "Dad, what is speech song?" (*Sprekkesang*). It made me think of recitative and Gregorian Chant, and I wondered how much we really know about how music may have sounded more than 1000 years or even longer ago. It sparked off the question of *what we really know*. This widened my inquiries on sense manipulation into the broader question of how our cognition works, as touched upon in part II.

I had decided that context, and the concept of *site awareness*, were more important than technicalities. But what was at the core of this awareness? How should I go about investigating it? I chose to follow the little question that my son had asked, to write about it and see if it took me somewhere. I suspected it wouldn't result

directly in a concrete work, but it would nevertheless be fruitful to follow the process all the way from the seed of an idea.

I researched music from the first millennium, and found the *Great Canon of Repentance*, 250 verses that take hours to chant, and are still in use in the Orthodox Church. Probably one of the more authentic traditions for its use is in Athos, an autonomous, theocratic, monastic polity in northern Greece. I went to Athos at Easter 2016 to attend an authentic performance of the rite. The very organization of the landscape at Athos raises questions of historical lines, reasons and relations with the landscape, exclusion, excommunication, bodily presence, thought patterns and myths. Why, exactly, is Athos considered a holy mountain within the Eastern Orthodox Church? We must be aware of the frameworks that form the basis for our ideas.

During the same trip I also went to the ancient Greek theatre in Epidaurus and to Delphi. There, according to the myth, the priestess Pythia sat in a closed chamber and uttered strange oracles from the god Apollo, most likely intoxicated by narcotic gases emerging from the ground. This is blended into Greek mythology as a foundation of modern European culture. Early on, someone understood the potential of the gases emitted at the site and developed the idea of the oracle. They knew the place and they shaped a context.

As a result of the research trip to Athos and Delphi it was clear that perception, mental cognition and the problem of communication were important issues, especially over vast time spans. The connections among place, context and how we comprehend, listen and perceive are at the core of the project.

### **THIRD PHASE: MIRNYJ – SENSATION OF ANOTHER PLACE**

One of the places I had investigated was the mine in Mirnyj, Siberia. The subsistence basis for the town is its huge diamond deposits. The town has the world's second-largest man-made hole in the ground, with a rare, almost conical form, pointing downward, inward and backward in geological history, smelling of sulphur excavated in the atheistic Soviet Union. It lies there, a dangerous industrial hole abandoned as a modern ruin. It has become a distorted mirror image, an inversion of Athos so to speak, a symbol of what Athos is not. I had tried to rule it out, but it kept coming back to my mind, and when I mentioned this to Trond Lossius at a workshop in ambisonics he held, he just said, "go there and see what you find".

Both places activate the east-west schism. They activate myth and archaeology as access to past knowledge, a kind of ruin, a remnant of something not present, something lost or emptied. They activate thought patterns of different kinds, and provide justifications for territorial control.

Whereas Athos has its justification as a recontextualized ancient Greek idea of holy mountains striving upward to the ideal heavenly world, the pit is the opposite: an inverted mountain, a man-made hole in the ground, a grand scar in the terrain, looking backwards in geology and reality to economic life and political territory. The world is banal. I wanted to embrace and expose this banality. Athos was a premise for the Mirnyj project as its distorted image.

I had to travel there, to Mirnyj, not knowing precisely what to look for or what to do with the material I would gather, but to find out what intrigued me, whether there was anything worth working with. The work I ended up doing is made *from* this place. The choices are informed by all the impressions and information coming my way in the process. Briefly, the work consists soundwise of a recorded violin section of long, sustained harmonies, synthesized drones, field recordings from Mirnyj and a sampled Soviet song, as a 'found object'.

The result is *Mirnyj*.

A thorough description with my choices, what I set out to do and what I ended up doing, can be found in part III below.

#### FOURTH PHASE: HIMDALEN – LAND MUSIC

Modern musical notation evolved some 800-1400 years ago; even scripture is no more than some 5-8000 years old as a concept. Symbols and art are considerably older, and we believe symbolic thinking evolved in homo sapiens around 200,000 years ago. What an invention! A mythology is regenerative, genuinely flexible.

Imagine how impossible it would have seemed, if someone had decided 200,000 years ago that there was something so important to convey that they had to be sure the message would be understood – beyond the collapse of multiple societies, wandering cultures and customs, beyond travel, resettlement, completely new surroundings and languages – by us, today.

How would they go about it?

And what about us, today? What are the most vital insights that *we* strongly desire to convey to the future? How do *we* solve similar issues? What symbols can we use? How are we to convey a message? What kind of language should we use? How should we encode the information? What would the instruction manual on how to decode the message be like? How are we to communicate? How are we to understand what we know and know what we do not know? An understanding of cognition and the long evolution of symbolic thinking would probably be necessary. As would knowing that our comprehension is based on assumptions and connections, gathered and remembered associatively with a spatial locational mapping system in the brain.

Now, how on earth could I work with these issues? I decided to try to work with the Combined Repository and Storage Facility for Radioactive Waste in Himdalen. This is the only facility of its kind in Norway, planned, designed and owned by the Government, operated by the Institute for Energy Technology, an independent research foundation.

The result is *Himdalen*.

This is where the idea of *land music* is tested. Here, the site – the landscape – plays an important role. The purpose of the facility and our knowledge of it inform our perception. The acoustics of the narrow valley are activated by the sound emerging from the powerful loudspeakers. The work unfolds in different local positions. The time of year and the terrain have consequences for how the music is composed. The effort involved and the use of time – the duration – are absolutely central. What the audience has to invest affects the total experience.

All choices made in the process are discussed in part III below.

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<sup>1</sup> Telenor Kulturarv. (2015). Dommedagsrommet. Retrieved 28 January 2019 from: <https://telenorkulturav.no/nodsentralen-pa-asen>

<sup>2</sup> Dent, Robert. (n.d.). What causes the noise emitted from high-voltage power lines—is it static discharge, vibration from the 60-cycle field or something else entirely? *Scientific American*. Retrieved 28 January 2019 from: <https://www.scientificamerican.com/article/what-causes-the-noise-emi/>



# PART I:

## SITING

*“We have yet to articulate the importance of music and the immense cognitive and social terrain that it addresses.”*

*(David Dunn in Nature, Sound Art and the Sacred, 1997)*

In this part I will explain a few basics about sound, and will then go into *Land Music* and what I think the concept must involve, and how it relates to landscape and material. Finally I will give an account of my method and mention a few other related practices.

Music is never played in a vacuum. Music is dependent on a medium. The sound waves must have a material to be propagated in. Sound does not exist without space. Music is not played in a neutral zone, in a place uninfluenced and timeless. Nothing is neutral. Ever.

As soon as someone has put a name to something, interpreted a place or an action – contextualized it – the place appears after that action in a different way. It has been coloured, it has entered another space, so to speak. It has become a concept, it has become a name. The greater the diffusion of such a view, or the more such a specific interpretation is accepted, the more difficult it is to see the phenomenon as it is.

The **context of creation** informs the creation itself and our perception of the result.

The **context of realization** informs our perception of the result.

The work in this project is influenced by several related sources of inspiration. One of them is the physics of sound with its potential for manipulation. Another is the potential of music for creating mental spaces, where time and the density of information are important parameters. A third source of inspiration is awareness of context – the importance of the context in all sensory interpretation. A fourth source is situating, with an exploration of what I mean by the expression *land music*.



# SOUND

In conversations with people who do not work with music I often go into an explanation of what sound actually is, how the system of notes is actually built up, what makes a C a C and so on. It has struck me that it is important to bring this up when I also try to explain why I think that consciousness-raising around the *situating of music* (and sound in general) is so important: that is, how music and sound depend on a medium, a space, a place, to work – to be propagated. And then this ‘space’ is by its very nature not a neutral zone.

I will therefore offer a basic account of what I think is important to understand about sound and its behaviour in space, concluding with a few examples. For the reader who is knowledgeable about music, this will hardly be new, but for others it may be interesting.

I relate this to ‘aural illusion’, the way our cognition hears proportions and assumes contexts, and how sound can affect the organism physically. This by no means exhausts the subject. It is a wide field. Anyone who is interested can read Arthur H. Benade’s excellent *Fundamentals of Musical Acoustics* or Rossing, Moore & Wheeler’s *The Science of Sound*, which is rather more technical. And R. Murray Schafer’s *The Soundscape: Our sonic environment and the tuning of the world* is a superb place to start. The book is a review of the history of sound that is highly readable even for those who are not so preoccupied with the technicalities of sound or music.

## VIBRATION

Sound is a transfer of energy caused by any vibrating material. It is transmitted by longitudinal compression waves – in air, metal, stone, wood or water – in any material. The waves radiate outward from the source. In air, vibrating air molecules bump back and forth. There must be molecules to vibrate and transmit the energy. Sound always needs a medium to travel. When these sound waves come into contact with boundaries, they are distorted, deflected or reflected. Sound waves can deflect around edges and barriers. This is why we can hear around corners; it is called diffraction.

Sound waves can be regular and simple (sinus tone). They can be regular and complex (musical tone). They can be irregular and complex (impulses and a broad palette of noise). Normally we perceive sound through air. In order to be audible, it must be an oscillation (frequency) of at least sixteen beats per second in the pressure of the air around us.

## HEARING

The physical wave of air pressure is dampened by the outer ear, with its individual shape, so that we each hear at least some sounds slightly differently. The pressure wave continues into the ear channel to the eardrum and makes it vibrate according to the shape of the modulated carrier frequency. The three bones of the inner ear are attached to the eardrum and to one another and are set in motion accordingly. They in turn affect a fluid in the cochlea, so that the air pressure waves are translated into pressure waves in this fluid. Many very thin hairs or rods (stereocilia) wave together like reeds in water, but far quicker. These are attached to long neurons leading all the way via the auditory cortex to the cerebral cortex, the hearing centre of the brain. The nerve cells of each hair transmit impulses from the hair movements. The hearing centre combines the impulses and checks for earlier references and recognitions to create a perception of the incoming sound. If the sound is previously unheard it takes a longer time to set up a perception and interpret what it is. Similarities to earlier experiences therefore make the interpretation process quicker.

## PITCH

Pitch – or high and low tones – is the frequency of the pressure waves: a low pitch has low frequencies and thus relatively long wavelengths. A healthy young human ear can hear pitches as low as 20 waves per second and higher than 20,000 waves per second. This is expressed as Hertz (Hz). The lowest note on a typical piano is 27.5 Hz and the highest is 4186 Hz. Below humanly audible frequencies we call the frequencies infrasound (0.1 to 20 Hz). Above this we call them ultrasound.

## AMPLITUDE

The amplitude of the pressure may be so low that it is not audible to us, or so high that it hurts or damages our ears. This is the energy level of the sound – its volume. Our ears respond far more to low amplitude than to high amplitude. It is therefore practical to work with a logarithmic amplitude scale. This is expressed by the decibel scale, where the hearing threshold of a sound of 1000 Hz is set at 0 dB. This corresponds to approximately  $10^{-12}$  watts per square metre. A tenfold increase in the absolute energy level from  $10^{-12}$  to  $10^{-11}$  watts, as well as from 1 to 10 watts, corresponds to an increase of 10 dB. 10 watts per square metre is the threshold of pain at 130 dB, while 40 dB is the level of a quiet room in a home, average talking volume is 60 dB and loud orchestral music is 110 dB<sup>3</sup>.

## TIMBRE

What makes us distinguish the sound of a clarinet from the sound of a piano? Why do we immediately identify a voice as belonging to an individual person, even though we clearly hear same vowels, and thus words, regardless of who is speaking? The phenomenon is called *timbre* – the colour and character of a sound.

We practically never encounter a single frequency (sinus tone) in a naturally occurring environment. All sounds consist of composite wave forms, in combinations of two or more, most often of very many frequencies. This is a spectrum of pitches, developed over time and defining the timbre. To make it simple we divide sounds into two groups: harmonious and inharmonious. Harmonious sounds have a tone as a fundamental pitch (the tone we hear) and *overtones*. These are pitches relative to the main pitch, always in the same ratios, higher than the fundamental. The overtones (or partials or harmonics) also always have quite different individual relative amplitudes, and different behaviour over time with attack, decay, sustain and reverberation (ADSR). This combination constitutes the main component of timbre. In addition there are *formants*<sup>4</sup> a concentration of energy around certain frequencies, or preferred resonating frequencies. Formants are often studied in the context of speech studies, with an emphasis on the shape of the human vocal tract. However, the relative amplitudes of partials are formed by resonance determined by the shape of the mouth, chest, neck, sinuses, the body and material of the instrument, as well as the acoustics of the space from which the sound emanates and the air quality (temperature, pressure, humidity, etc.) of that place on that day. In addition, frequencies from secondary sources may sound at the same time, altering the spectrum for various reasons. The result is a modulated carrier frequency (main pitch).

## SPEED

The speed of sound is dependent on the medium it travels through. The denser the medium, the faster the sound. Molecules in air are diffuse, in water they are denser, in solids they are densely packed. In a dense medium the molecules have a short distance to travel before they bump into one another. On the other hand, the speed depends not only on distance between molecules, but also on how fast the molecules are able to move. Gas molecules move more slowly at colder temperatures.

In air at 20°C at standard atmospheric pressure (1013.25 millibars on a “normal day” at sea level) the speed is 343 m per second. It is slower in cold air – 331 m/s at 0°C. Sound travels approximately five times faster in water and fifteen times faster in iron.



The wavelength<sup>5</sup> varies with pitch and thus also with the medium and its temperature and pressure. Here are some examples of sound frequency wavelengths in air:

20 Hz at 0°C has a wavelength of 16.56 metres  
20 Hz at 20°C has a wavelength of 17.16 metres  
130 Hz at 20°C has a wavelength of 2.64 metres  
440 Hz at 20°C has a wavelength of 78 cm  
4186 Hz at 20°C has a wavelength of 8.1988 cm

The shortest wavelength a human can normally perceive is about 1.716 cm, equalling 20,000 Hz at 20°C.

## TUNING

Pitch is a continuum. The notes played by the keys of a piano are mere samples from this continuum – a set of pitches ordained by custom and the well-tempered tuning system. The system divides each octave into 12 equal so-called semitones in order to make all the scales on a piano sound equally well tempered, enabling transposition and modulation, i.e. the use of different keys in one piece of music with the same instruments. This was not possible before this tuning system was adopted in the 1700s. If they were tuned purely in one key, the interval ratios would change increasingly in more distant keys, sounding more and more “out of tune”.

The scales are derived from a) ancient tones or modes, i.e. sets of pitches used for a melody; and b) the concept of the repeating octave, which is an ancient Greek concept stemming from Pythagoras where the halving of a string results in a doubling of the frequency. Doubling of frequency results in a pitch an octave above, a completely different tone, yet with some characteristics similar to that of the whole string, due to the soundwaves adding up.

Middle A (a<sup>1</sup>) is nowadays most often tuned to 440 or 442 Hz, after having been tuned to a range from 384 Hz around 1600 in Rome up to cornets in the 16<sup>th</sup> and 17<sup>th</sup> centuries tuned as high as 480 Hz in the 18<sup>th</sup> century according to individual custom.<sup>6</sup>

Each of the tones is also given a MIDI specification number ranging from 0 to 127, in a system launched in 1981 by Dave Smith, where the 88 notes of the piano are given MIDI numbers 21-108.<sup>7</sup> These can be divided into equal cents (hundredths) – midicents – for more precision. Midicents are thus the intervals of equal-tempered semitones divided into 100 intervals. The decision to make a<sup>1</sup> = 440 Hz is just a choice.

## SOUNDSCAPE

A soundscape is what a place sounds like. The combined aural characteristics of a place (or area) make up the soundscape. Any place has its soundscape, whether it is a freezing, cracking forest lake, a busy playground early in the afternoon, the arrival hall at an airport or a desolate street by night.

Soundscapes can be divided into three sound source origins that often, one way or another, interact:

1. Geophony – naturally occurring, non-biological sounds from various habitats. Weather, avalanches, volcanoes, waves, wind, temperature affecting aural characteristics of natural materials etc.
2. Biophony – sounds emanating from animal life.
3. Anthropophony – sounds emanating from human life, including industrial noises, city life, transport and music.

Robert Murray Schafer's book *The Soundscape: Our sonic environment and the tuning of the world* is an important and highly interesting analysis and historic mapping of the soundscapes of the world. He reviews myths and historical texts looking for information and descriptions of the sonic environment. For many years he has run The World Soundscape Project<sup>8</sup> at Simon Fraser University in Vancouver, Canada. This is a huge research project mapping and documenting sonic environments that he thought would disappear in an automated and noise polluted world.

*“The power chainsaw produces a sound of between 100 and 120 dBA, giving it a sweepout in a quiet forest of 8 to 10 square kilometers. It is possible to theorize that by 1974 the combined ripping of the 316,781 power chainsaws produced that year alone, if operated simultaneously, could cover about one-third of Canada’s 9,222,977 square kilometers with their sound.” (Schafer 1977, p. 84)*

Our ears are always open. They cannot be closed like the eyes. This means that the sonic environment must be dealt with responsibly and with knowledge of the physics of sound.

Schafer assumed that just as our natural environment can be polluted, our sonic environment can just as well be polluted. Modern sonic environments have for a long time already been a consequence of more or less desired human activities. In the problematization of our sonic environments, there has been a unilateral emphasis on noise, or actually *volume* (sound pressure) – that the overall total sound volume is not too high, although subjective noise measurement has been implemented. Schafer showed that this is an oversimplification. Not only the volume, but the actual sounds that are present or not present are crucial for how we perceive our sonic surroundings.

When we leave the cities for holidays, one of the things many people appreciate is what we often call ‘silence’. Here I think a better understanding of soundscape can be useful on a societal level. What is it about the sonic environment we actually appreciate? Which qualities in a sonic environment can help us lower our shoulders, work well and be happy? In an anechoic chamber, total silence can be achieved. This total silence is artificial, and not what we humans desire. People report hearing their pulse and losing orientation. Therefore, what we in a daily language denote as silence, is not in the sense absence of sound. It is about the *quality* of the soundscape, the origins of the sounds and in what context they emerge. The actual sound spectrum in river noise, for example, does not differ much from the sound spectrum of steady traffic noise, but we perceive the two very differently. Which sounds are included in the soundscape, which are not, and why? In what way are the individual sounds of a soundscape or sonic environment associated with the characteristics of the place? In an increasingly large part of our modern lives, the sonic environment is a sum of designed sounds and sounds that emanate from mechanical processes.

I believe an increased awareness not only of noise in the sense of unwanted sound volume, but also of the qualities of our sonic environments, of an anchoring of sound and place is important for our mental health. This means asking other questions related to city planning, transport planning, architecture, product design, sound design, laws and regulations.

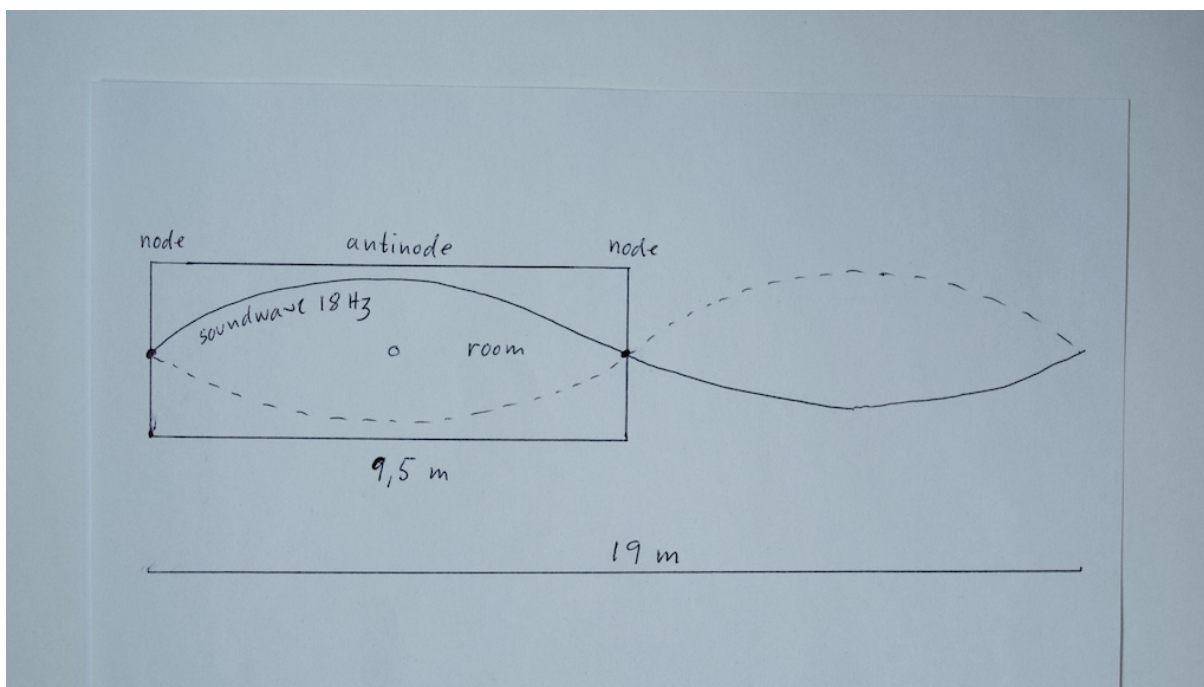
## LOW FREQUENCY VIBRATION

As described under ‘Timbre’, all objects, bodies, rooms or systems have certain resonant frequencies. The human eye for example has a resonating frequency of c. 18 Hz.<sup>9</sup>

This means that the shape of the eye, or the room, vibrates with a strong enough sound wave at 18 Hz, rather as when you feel that certain notes resonate much better than others when you sing in the bath – this is due to the resonating frequency of the bath. At 20°C the wavelength of 18 Hz is about 19 metres. A room 19 metres long would permit a full standing wave. A room 9.5 metres long would permit a half wave, letting it fold back on itself. The two nodes (zero-crossings of the wave) of the 18 Hz wavelength in such a room would be at each end, and the one antinode (maximum amplitude) at half the length of the room. In such a system, the antinode would appear at the same spot in the room.

If the sound source is steady, say a ventilation fan, there would be a standing infrasound wave (inaudible), with a maximum amplitude at a fixed location in the room. This was the case when engineering designer Vic Tandy worked in a medical equipment lab. Late one night he was working at his desk in the middle of the room and felt increasingly uncomfortable, sweating but cold, with a feeling of depression, and as if there was a presence in the room. He checked the equipment for leaks. Then “[h]e became aware that he was being watched, and a figure slowly emerged to his left. As V.T. recalls, ‘It would not be unreasonable to suggest I was terrified’. V.T. was unable to see any detail and finally built up the courage to turn and face the thing. As he turned the apparition faded and disappeared.”<sup>10</sup>

The following day he was working with a foil blade, went off and came back five minutes later to find the free end of the blade frantically vibrating up and down. This was more familiar than apparitions, so he tried using a foil all along the room. The vibration increased until the middle of the room, and decreased in amplitude until it stood still by the wall.



Sketch of 18 Hz soundwave in a 9,5 m room.

The 1 kW electric motor fan one metre in diameter that was installed created this low-frequency, inaudible standing sound wave. Such vibration affects the body, and if the wave matches the resonant frequency of the eye, the eyeball will vibrate and cause blurred vision. Wearing spectacles may add more obstructions or shadows to this effect. Other symptoms caused by low-frequency sound waves, depending on frequency, amplitude and the shape of the room, may be oppressive feelings, dizziness, middle-ear pain, watering eyes, respiratory difficulties, sensations of fear, excessive perspiration and shivering as well as hyperventilation.<sup>11</sup>

It would not be surprising for people in earlier times (at least since industrialization with low-frequency noise emanating from heavy machinery) to be terrified and assume there was some paranormal activity, given that the phenomena experienced had no smell, could not be measured or heard, and simply had no apparent explanation. The imagination scans the cognitive apparatus to search for any similarities in order to categorize the experience.

## THE MISSING FUNDAMENTAL

Imagine you are on the beach relaxing. Someone wants you to hear some music. They take out their phone and play the music. Assume it is piano music. The music contains bass pitches and low frequencies. You can hear this, you identify the lower tones in the music. But they are not transferred by the phone. A typical phone has a frequency response of +/- 3dB (quite even) in the range from 550 Hz to about 10,000 Hz. Below 550 Hz the response drops to -10dB at 450 Hz, -25dB at 300 Hz, and comes close to -inf dB at 130 Hz.<sup>12</sup> The middle C on the piano is 261 Hz and the C one octave below is 130 Hz. This means a normal piano has 27 notes lower than this that shouldn't be at all audible, since their pitches, their actual frequencies, simply are not physically emitted by the speaker in the phone.

However, you do in fact *perceive* those pitches, even though the sound quality is low. How can that be? Notes, or musical notes – in fact all harmonious sounds – consist of a fundamental frequency *and* *partials*. (Noise does too, but with a more complex spectrum.) These partials are integer multiples of the fundamental frequency. If you hit the C<sub>2</sub> / C key on the piano, its fundamental frequency happens to be about 65 Hz, and this is what makes it a C<sub>2</sub> / C. However, what makes it sound like this note on a piano, rather than the same note on any other instrument or sound source, is the *relative amplitude of the different partials*. The amplitudes of the individual partials determines *sound quality*, or *timbre*. It is what makes a clarinet sound as it does, and a trumpet the way it does.

The partials of this particular note are at  $65 \times 2 = 130$  Hz,  $65 \times 3 = 195$  Hz,  $65 \times 4 = 260$  Hz,  $65 \times 5 = 325$  Hz and so on. Now, your brain has figured out this periodic pattern of partials long ago, so without having to be aware of it, you know how it should sound. As you will remember, a frequency as low as 65 Hz does not reverberate at all from the crappy loudspeaker in that phone. Nevertheless, we “hear” these low pitches. We interpret the missing fundamental. We do not interpret it as a higher pitch, say two octaves up. We perceive a pitch that is not really present as reverberations in the air. The brain does the maths, bridges the gap of the missing lower parts of the information and interprets the perceived stimulus and its context (the sound of a piano), and gathers that the actual sounding partials fit the pattern of the low C, and hence interprets the sound as the low C.

## "AURAL GANZFELD"

This is a type of perceptual deprivation that takes place when one is exposed to a uniform stimulation field or uniform stimulation over time. The brain amplifies neural noise in order to search for possible missing value signals. The brain cuts off the constant, unchanged signal. One may experience a temporal sense of deafness to these frequencies. The sound field changes neurologically in the brain. Quick changes in the sound field change the stimulus situation, but the sensory apparatus experiences a lag, so that any new sounds are now filtered through the foregoing sensory deprivation, perhaps for a minute or two, depending on frequencies, volume and the actual sound situation. With very slow changes the brain may keep up with the process and gradually alter and adapt its degree of deprivation. Pseudo-hallucinatory percepts or an altered state of consciousness may occur.<sup>13</sup>

## AURAL ILLUSIONS

Diana Deutsch is a professor of psychology and has done extensive work on musical illusions and paradoxes. Many people are more familiar with visual illusions than aural illusions. But the brain has to interpret any incoming stimuli and always looks for patterns. Aural illusions take a variety of forms. Deutsch studied typical situations where the brain is likely to misinterpret the actual stimuli. Examples are octave illusion, verbal transformation, scale illusion, chromatic illusion, glissando illusion, tritone paradox, cambiata illusion, the psychophysics of timbre and more. The subject is studied in the wider field of psychoacoustics.

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<sup>3</sup> The decibel scale. (2018, September 21). *Encyclopedia Britannica*. Retrieved 28 January 2019 from: <https://www.britannica.com/science/sound-physics>

<sup>4</sup> Russell, Kevin. (n.d.). Formants. *University of Manitoba*. Retrieved 25 January 2019 from: <https://home.cc.umanitoba.ca/~krussll/phonetics/acoustic/formants.html>; Wood, Sidney. (2005, January 15). What are formants?. Retrieved 25 January 2019 from: <http://person2.sol.lu.se/SidneyWood/praaate/whatform.html>; Wolfe, Joe. (n.d.). Formant: what is a formant? *University of New South Wales*. Retrieved 27 January 2019 from: <https://newt.phys.unsw.edu.au/jw/formant.html>

<sup>5</sup> 1728 Software Systems. (n.d.). Sound Frequency & Wavelength Calculator. Retrieved 15 January 2019 from: <http://www.1728.org/freqwavf.htm>

<sup>6</sup> Haynes & Cooke, 2001.

<sup>7</sup> Anderston, Craig. (n.d.). Craig Anderston's Brief History Of MIDI. *MIDI Association*. Retrieved 15 December 2018 from: <https://www.midi.org/articles-old/a-brief-history-of-midi>

<sup>8</sup> World Soundscape Project – <https://www.sfu.ca/sonic-studio/worldsoundscaperoject.html>

<sup>9</sup> Tandy & Lawrence, 1998, p. 4, referring to NASA Technical Report 19770013810.

<sup>10</sup> Tandy & Lawrence, 1998.

<sup>11</sup> Tandy & Lawrence, 1998, referring to Temple.

<sup>12</sup> arve (alias). (2016). iPhone 7 Plus audio measurements. *imgur*. Retrieved 16 January 2019 from: <https://imgur.com/gallery/DRbus>;  
Pons, Melissa. (2014). Iphone and ipad speakers frequency response. *The sound design process*. Retrieved 8 January 2019 from: <https://thesounddesignprocess.com/2014/01/08/iphone-and-ipad-speakers-frequency-response/>

<sup>13</sup> Wackermann, Pütz & Allefeld, 2008.

# LANDSCAPE

“Our environment, conceived as landscape scenery, is fundamentally linked to our political landscape.”

(Kenneth R. Olwig, 2002, p. xxxii)

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|-----------------|--|
| <i>Land</i>     | A definite portion of the earth’s surface owned by an individual or home to a nation <sup>14</sup> |
| <i>Site</i>     | The place, scene, or point of an occurrence or event <sup>15</sup>                                 |
| <i>Location</i> | A tract of land marked by some distinguishing feature <sup>15</sup>                                |
| <i>Space</i>    | 1. A limited extent in three dimensions, a volume. 2. A period of time. <sup>15</sup>              |
| <i>Place</i>    | A particular local position of indefinite size <sup>15</sup>                                       |

I zoom out and back in time to find a foothold. For what is the relationship between landscape and interpretation? In *Part II: What do we really know?* I go into symbolic thinking, our cognition, gaps in knowledge, and the fact that making decisions that are as good as possible with inadequate information is crucial. I am also fascinated by the way the brain organizes memories by means of places. The connection between place, context and how we comprehend, listen and perceive is at the core of the project.

The book *Landscape, nature and the Body Politic* by Kenneth Robert Olwig is an original study of the power relations of landscapes. Olwig strikingly demonstrates how landscape and nature have been used to define the legitimacy of the ‘body politic’. He uncovers the connections among facades, impressions, concepts and power, as shown for example by the Scottish Renaissance monarchy’s use of theatre, and the idea of a “true” natural law laid down by the landscape and those in power, as well as the King’s narrative about close connections to the landscape as the legitimization of power, law and custom.

In the European Renaissance the German word *Landschaft* referred to a political entity (a judicially defined polity) more than a certain size of territory (a spatially defined area), in English comparable to the concept of country. The root *land* in landscape probably stems from PIE *\*lendh*, “open land, heath”, Middle Welsh *llan* “an open space”, Old Church Slavic *ledina* “waste land, heath”. Anyway, it seems it has meant “a definite portion of the earth’s surface owned by an individual or home to a nation.” Landscape is where we are, where we live, what we are used to, accustomed to, how we have to act in relation to the actual geography surrounding our lives. But it also provides an embodiment of the image of what the country is. It is the place of community, where community resides, exists, for reasons rooted in landscape conditions. The German suffix *-schaft* is related to the English *-ship*, from *schaffen*, to create or *shape*, Old Norse *skapa*. The shaping of land, in other words – both physical shaping in villages and towns, agreement on limits and land use, and the organization of rules: to which people and where those rules should apply. “The land is bound by custom, but the land also binds the memory.”<sup>16</sup>

The backdrop is as follows: Anne of Denmark, sister of King Christian IV of Denmark and Norway, married King James VI of Scotland and became Queen of Scotland in 1589. James then succeeded to the thrones of England and Ireland in 1603 when the last Tudor, Queen Elizabeth 1 of England and Ireland, died without children.

Anne took it upon herself to organize fantastic, expensive masques at the Royal Court, to induce audiences to envisage the new, now united ‘nation’ of Britain as one landscape scenery. This ‘idea of Britain’ was to replace the earlier concept of the three kingdoms of Britain as landscapes in their own right, as separate nations.

**Masque:** play involving dance, song, poetry and elaborate stagings.

One of the plays she instigated was *The Masque of Blackness*. Inigo Jones was the stage designer for this masque, which was written in 1605 by Ben Jonson. They worked closely together, and the focal point for the lines of perspective was the throne, the state, elevated above the public on a palisade. This was an early form of *Gesamtkunstwerk*, a form of total theatre that lasted hours. “The spectators were overwhelmed by music, dance, song and spectacle,” Olwig says. “At certain set times [...] all participated in a ritualized unifying dance”<sup>17</sup>, and at certain moments would “enter the *staged illusion of an imagined world*”<sup>18</sup> This staging is a political legitimization, meant to establish the idea of specific actions or ideas as “true”, with a certain person having “legitimate power”. This happened at the same time as the emergence of opera on the Continent – the Renaissance artists wanted to recreate the ancient Greek dramas, in which they imagined music to play a vital role. The first was *Daphne*, 1598, by Jacopo Peri, and the most famous was *Orpheus* by Claudio Monteverdi, 1607.

At this time, kings had to travel around their realm constantly to show the ‘body natural’ (Olwig’s term) to the public. “If people were to believe in the power of the state, they needed to see the body of the king who gave it authority.”<sup>19</sup> This was a bit tricky for King James, since he was shy and fearful. “The masque, however, provided a means for envisioning the body politic in abstract spatial terms. It provided a symbolic way to separate the king’s role as the surveilling head of state from his physical corpus as the symbol of the body politic.”<sup>20</sup> For Anne had learned from her mother “***that much of the power at court lay in the manipulation of the symbolic face which it presented to the body politic.***”<sup>21</sup> The king could be represented by the spectacle of the theatre. The masque was an engine for the larger political theatre of the state, and thus effective in creating a new myth, a new custom, to accustom the people to a new polity, to stage a new reality, to mindscape a people, to anchor the ideas of the new nation of Britain so that they were saved in and protected by the minds of the people; a symbolic representation, that is, staged in order to give an impression of the locus of power, its legitimization.

Ceremonies, performances, speeches, coronations, wars and weddings are theatre, stagings – a spectacle – to promote an image and impression of legitimate representatives of power. The stagings are formed to shape an ideal perception of the world.

*Landscape is the topography of our lives,  
the topography of our minds, of our existence,  
the place and reference for our conceptions.  
Landscape is a requirement for physical manoeuvring.*

*Landscape is the scenography of the state, with its territory, its terrain with food and  
water and mineral resources – its defensible areas.  
Landscape is the scenography of culture, of custom, of our ideas of power.*

*People need to choose to believe in the power of the state,  
in order for the idea of authority to work properly.  
All power starts out as an idea.*

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<sup>14</sup> Online Etymology Dictionary

<sup>15</sup> Merriam-Webster dictionary. Retrieved from: <https://www.merriam-webster.com>. This excellent dictionary is used extensively throughout the project.

<sup>16</sup> Olwig, 2002, p. 56.

<sup>17</sup> Olwig, 2002, p. 82, referring to Strong.

<sup>18</sup> *ibid.* p. 82, my italics.

<sup>19</sup> *ibid.* p. 89.

<sup>20</sup> *ibid.* p. 89.

<sup>21</sup> *ibid.* p. 5 – referring to Bech.

# LAND MUSIC

*“The way to transcend history, to produce that space which suspends time, is through imaging and hallucination.”*

*Gaston Bachelard The Poetics of Space (1957)*

*“To remove the work is to destroy the work.”*

*Richard Serra*

Sound and space are inextricably connected. Music – with its sound waves – depends on a medium, a space, a place, to be effective – to be propagated. And then precisely this configuration of ‘space’ is not a neutral zone.

When I work with space-, site- or place-oriented sound art or musical works it is vital to tune in to a sensitivity to the surroundings. It is a matter of searching for the articulation of the place. A listening attitude and considerate study of their characteristics can make both the place and the material *mean* something, vibrate and *have a consistency*. The place must inform the work.

When you are working with music, the time it takes to work out the details is so much longer than the time it takes to listen to the situations. Music is most often ephemeral, not connected to or dependent on permanent physical objects. Music unfolds in the domain of time. Time and timing are key to understanding staging and the creation of situations, making a place resound, and making space for reflection.

So the question is how to work with this. What strategies are helpful in creating meaning-bearing connections among place, time and material – in establishing what Andrei Tarkovsky calls “*a special intensity of attention*”? (see the chapter on *Time*).

## FORMAT AND CONTEXT

Site specificity (*the work being integrated with the site*) was originally considered the crucial characteristic of *land art*. Land art is conceived for a particular site, and transforms the surface, the structure and the materiality of the place, as Michael Lailach writes in the book *Land Art*. The artist Richard Serra has a precise definition that I think has stood up very well:

### Land art:

*“The specificity of site-oriented works means that they are conceived for, dependent upon, and inseparable from their locations. The scale, the size, and the placement of sculptural elements result from an analysis of the particular environmental components of a given context.”*

He continues to say that an analysis of the site also includes social and political characteristics – and that “[s]ite-specific works invariably manifest a judgment about the larger social and political context of which they are a part.”<sup>22</sup>

Sound art and sound installations may involve permanent objects, but even these are often more or less temporary. Instead of instituting a physical alteration of the site, *Land Music therefore must inscribe itself in the*

*memory of the site*. It must change the story of the place. Such a work deals actively with, builds upon and relates – with its reasoning and material – to the specificities of a place.

As described in the chapter on landscape, the origin of the word *land* has the meaning of an open space, open land, heath. *Land music* is thus a kind of intervention in otherwise natural or semi-natural surroundings – outdoors, in some terrain. An analysis of the physical, historical, social, cultural, and political particularities of a place results in musical material being informed by the context of the place when it was conceived.

So let me rephrase Sierra:Sierra's definition.

**Land Music:**

*“The specificity of land music works means that they are conceived for, dependent upon, and inseparable from their locations. The materiality of sound, the scaling, the spatial organization and the integration with acoustical conditions result from an analysis of the particular physical, environmental components of a given context. Land music works manifest a judgment about the larger social and political context of which they are a part.”*

For me it is an obvious approach to work with the place and context where and when the material is conceived. The music must be written for (or from) the place. Gaston Bachelard expresses this in his *Poetics of Space* (1958) as *transcending mere description and approaching the essential qualities of a space*. This encompasses a necessary attitude when engaging with a place. A detailed analysis of the place is necessary to enter into a dialogue with it, to create meaning-bearing connections. Without such an analysis the place will become something external, detached, a backdrop.

Land music is therefore conceived such that the sound material is meaningfully linked to specific place in which it sounds. The format of the sound material, its scaling, volume, spatial and temporal duration, how it engages with the acoustic conditions and the use of sculptural or theatrical elements, are results of an analysis of the particular environmental components of a given context.

The sound material has to engage with the acoustic conditions of the site. The work is integrated with the place on the basis of the characteristic aspects, and the context it engages in. The work may also itself shape a context with a basis in the characteristics of the place. But it must activate the place, engage immersively with it, put something to the test. The work cannot be separated from the place without losing meaning.

*Presence* is therefore an important precondition. Place is central to our memories. Diffusion in the terrain at a site requires physical presence. Being in a situation means involvement, means experience. This may be because the navigation of the body in something spatial – its localization – is important to the functioning of the brain and the placing of the self in relation to the surroundings that are to be understood. Presence is about the body *being there*. The body's experience of the tactile – smell, temperature, air humidity – the materiality of the vegetation and underlay and so on – arouses a different quality of alertness, just as the resistance in the *journey*, to the will to get there, builds up expectations and primes the thoughts. Meteorological considerations will be a consequence of these claims.

A land music work is a play with the elements, and must embrace discomfort and difficulties. To me, land music is not about something spectacular or about the beauty of a landscape or countryside or outdoor romanticism. Instead it is about activating a place, a situation, and also about *being* activated by a place or context.

The tactile experience is reduced to a representation when it is transferred to other places, other types of listening and other formats. What will be the consequences if it is not possible to realize a work in the specific place from which it originates? What can I do if it is not possible to get someone to *be there* with their body – if the work has to be completed as a representation? How can I recontextualize, if not the music, then the tactility, or create a sense of it – a sense of this other place?

Perhaps a new kind of presence can be created. Perhaps the representation must take on a format and make use of the realization context which in some way or other – brutal or subtle – arouses the look of expectation.

Space for focus, concentration and reflection is a counterweight to quick conclusions and non-committal ephemerality. Friction is a central element. I mean that *Land Music* is a way of confronting this. The audience must sacrifice something, travel (perhaps far) to get to a work. The audience must make time for it, must walk for themselves, use their bodies. They must experience the tactility, be present, *be in it*. Land music is in a way the opposite of the social development typified by the creation of accessibility, organization, effectivization and simplification: it is *inaccessible and unique*. Land music offers resistance.



I think we need a term for this type of practice, and that this term should be *Land Music*.

I defend this position on the basis that the attitude inhibiting the term is related to ideas which in their time were a prerequisite for what we describe as *Land Art*.

*Land Music* becomes a parallel to *Land Art*. Practices which are variants of being played out in specific places, or being exports of pre-existing music to outdoor areas, should be given other appropriate names. I have not gone further into these matters in this work.

## THE ZONE OF UNCERTAINTY

Specificity comes at a cost.

Information – messages – are composed of symbols. The more symbols are available, the more precise is the information each symbol can transmit. This potential for differentiation, or increase of information, is also called negative entropy.

### **Entropy**

Ability to change, second law of thermodynamics.

*The more information, the more is established, the less is the ability to change.*

Most societies tend towards better organization, more predictability, better safety, more specificity, documentation, regulation and information, i.e. away from uncertainty, from what is inconclusive.

But the zone of uncertainty is where creativity, intuition, adaptivity and manoeuvrability function or operate. In this zone our capabilities of decoding are crucial, and are tested and improved. If society succeeds in organizing itself away from this zone, it effectively removes our ability to relate to difficult, critical, deceptive, uncertain, unknown, unfamiliar, incompatible, possibly dangerous and impossibly foreseeable situations.

This is why an enquiry into unstable artistic situations is intriguing.

## TRANSFER

I also emphasize the dislocation [transfer] inherent in the concept of land music. Bachelard refers to the home, the house where we live in, the actual place, how it serves as a point of departure for our orientation in the world. The home is the baseline against which everything else is understood and interpreted. This point of origin has no greater a priori value than any other point of origin – it is just what it is. But it is what each one of us has, the place from which we consider the world. My work has been concerned with an attempt to dislocate or transfer the point of origin. An important element in this is to induce a bodily dislocation. Dislocation is an instrument for our reorientation, recognition of our relation to and positioning in the world. Dislocation is an instrument for context awareness.

I quote Kwon here, in her review of Don De Lillo's play *Valparaiso*: "An encounter with a 'wrong' place is likely to expose the instability of the 'right' place, and by extension the instability of the self." Hence, this is not a site-specificity per se, but a *going-out*. This going-out takes place concurrently with and integrated both literally and conceptually with seeking an *otherness, another place*. Something must be at *stake*. It is possible that the instability of an 'original' concert situation can be exposed by a recontextualization where pre-existing music is transferred from the concert hall to the marketplace, a park or the forest, but to establish a new situation it must be thorough grounded, thoroughly justified.

Dislocation represents learning and new experiences. It is when one steps out of something already familiar that new connections are established. The dislocation produces a level of risk. Without risk, necessary attributes such as adaptivity, sensibility, joy and creativity are at stake. A crucial level of life, a necessary attitude and certain kinds of behaviour may be lost.

### **Basics of information theory:**

1. Quantification of information – amount of information to be transferred.
2. Storage of information – attributes of the transmission channel.
3. Communication of information – coding of information (encoding and decoding).

Dislocation and risk are here also an expression of the defiance of expectations. Not of the confirmation of expectations. Of the creation of a challenging context where *manoeuvring in the unknown, in uncharted territory, with unstable or deficient information*, forces reflection and flexibility in the interpretations.

Risk makes the body and brain aware and alert. Adrenalin is released to the blood, enabling the organism to make a sudden, intense effort. Risk implies something unestablished, uncertain, a danger, something unknown. Risk implies the possibility of failure and ultimately death. Risk increase anxiety and excitement, enabling the alertness needed to manoeuvre away from or solve problems. When something is at stake, interest is brought into play. The unknown is by its very nature beyond the experience of the body. The unknown, the foreign perspective, exists in the realm of otherness, *another place*.

## ESCAPISM

Large parts of an increasing number of modern people's lives are played out indoors, or at least in urban environments. Many of us live in an *anthropophone* acoustic context. In earlier times everyday work was carried out in simpler surroundings, closer to nature. One could say that in society today there is a tendency to seek out the natural, although many features of social development point in other directions. It would appear that human beings have always been driven forward by dreams – dreams of another place.

Locations in landscape have in many cases been about creating other experiences of art than could be offered by 'the cube'. They have also been about taking seriously, exploring and using the relationship that art, no matter what, will have with its surroundings. In other cases it has been about escapism, about getting away – it may be about getting away from a stifling feeling of constraints, or evading specific surveillance. The last of these was the case in the Eastern Bloc in the Communist period. Claire Bishop gives a thorough review of many artistic practices which in one way or another put places or relations to the test in her book *Artificial Hells*. After Czechoslovakia came under Soviet control in 1948 the system turned out to be a repressive force eroding any space for private thought, with enforced organization of time, compulsory membership of organizations, collectively organized leisure. In Bishop's discussion of the Slovakian artist Alex Mlynářčik she writes of this situation that: "[R]ural relocation was a necessary consequence of 'normalization': action art had to take place illegally, and expelled itself to the margins of the city or more frequently to the countryside [...] to avoid surveillance: the landscape stands as a symbolic escape from contemporary social reality organised by bureaucratic directives."<sup>23</sup>

There is no shortage of examples of nature in music. Just think of the Pastoral Symphony of Beethoven or Olivier Messiaen's birdsong transcriptions for orchestra. It is many years since I first heard Alexander Scriabin's (1872-1915) *Preparations for the Final Mystery*. The Russian composer was influenced by mysticism and synaesthesia. He stood at the intersection between Late Romanticism and Early Modernism when he died, and since 1903 he had been working with plans for a grand project at the foot of the Himalayas in India. It was to be a seven-day, seven-night ceremonial performance with music, a light show, scents and dance, called *Mysterium*. Scriabin saw his utopian ideas as part of a higher, apocalyptic religious unity. He probably truly wanted to create something that would touch people's lives. But he did not have the time to work these ideas out, or to mobilize the production apparatus and funding. He envisaged a brand new culture where everyone was a participant in this total work, an early orientation towards the Buddhist thinking to which Karlheinz Stockhausen was also later to turn. This was an early idea of using the landscape with a mutable atmosphere and probably also a quite different orientation towards the concept of time. This work only exists in Scriabin's unfinished introduction<sup>24</sup>, his notes and in a potential collective memory, as a proposal. What have we missed out on? How might this have affected later music history? These ideas are an extension of Richard Wagner's *Der Ring des Nibelungen*, which in its time (written in 1848-74) exploded the temporal and scenographic framework of opera, which was the most comprehensive musical format of the age.

## ENVIRONMENTAL MUSIC AND SOUND ART

Sound art and environmental music make up a large and loosely defined field worth a separate study. The field is continuously diversifying, having been moulded by many widely disparate practices such as sound walks, discussions, performances, happenings, constructed situations, back through Fluxus, Futurism and the distended bubble of Late Romanticism, which burst to become all these ways of rethinking musical organization.

Let us have a look at it through the work of **Arseny Avraamov** (1886-1944) a Russian avant-garde composer. To celebrate the fifth anniversary of the October Revolution he composed a total work for the entire city of Baku in Azerbaijan on 7 November 1922, just seven weeks prior to the formal foundation of the Soviet Union. It includes many different factory sirens and whistles throughout the city, of navy ships on the harbour, of trains; it staged a formation take-off by several seaplanes, a brass band, a choir, soldiers, machine guns, cannons, with Avraamov and assistants conducting with flaming torches from rooftops. This was a spectacular noise event, a metaphorical re-enactment, to evoke the struggle and victory in 1917 as a theatricalization of life.<sup>25</sup> Avraamov had advocated a confiscation and destruction of all pianos two years before, in the spirit of destroying everything bourgeois, including the (well-tempered) twelve-tone scale, with abnormal expectations as to what the new dispensation – new ideals, new people, new *everything* – could accomplish. The year before Lenin had instigated the New Economic Policy, getting the wheels spinning again; the devastating civil war was finally over, having been a prolongation of the disastrous World War I. And this world war was the exploitation of a tense situation that had been constantly expanding through many revolutions in Europe, as people saw extreme changes in society with industrialization, material improvements, the organization of work and family life, changes in the soundscape, in the social, the political, communications, the technical, medicine. Things happened so fast (and yet still too slow). So much had to be reconsidered, reinterpreted, altered, improved.

New opportunities, new troubles, old problems not solved, impatience and tension. This of course was reflected in music and art by the ever-expanding techniques within the Romantic realm, stretched to the limits in Late Romanticism, and to bursting point at the beginning of the 20th century.

There was developed a wide range of new musical attitudes, a freedom to rethink, to detach oneself from the yoke of the performance conventions of music. Erik Satie had ideas of music as a continuous addition to the soundscape of daily life. Scriabin had had his plans for *Mysterium* since 1902. The Futurist Manifesto of 1909 was written by Filippo Marinetti, and the pivotal article *The Art of Noises* in 1913 by Luigi Russolo. Avraamov took part in demolishing and reorganizing Russian musical culture, also developing a microtonal system. Stravinsky had gone beyond Late Romanticism in 1913 with polytonality and polyrhythms in *The Rite of Spring* (actually *Sacred Spring* in Russian), in Vienna Schoenberg developed his twelve-tone system, using it from 1921; Edgar Varèse incorporated noise (“music is organized sound”) in his *Ionization* from 1931. And then there were the wars (Russo-Japanese, the Pogroms of the 40 years up until the 1920s, World War I). Violence, killings, raw life and death. Context greatly influenced and changed the thinking of many artists.

In the post-war area and the 1960s-70s there were close links between sound art practices and large-scale art/land art / a variety of conceptual art types / Fluxus – engaging in integrated relationships with an environment. Several artists/composers worked across disciplines, such as John Cage and Walter de Maria<sup>26</sup>. The sound art

### Symphony of the Factory Sirens

*The first cannon shot from the roadstead (in about 12 o'clock) cues the alarm horns of Zych, White City, Bibi-Heybat and Bailov plants.*

*The fifth cannon shot cues the industrial horns of Product Management Azneft and docks.*

*The tenth cues the second and the third groups of Chernogorodsky district.*

*The 15th cues the first group of Black town and the sirens of the fleet. At the same time the fourth company of the Armavir courses of red commanders and the brass orchestra playing Warshavyanka go to the pier.*

*The 18th cannon shot cues the plants of Gorrayon and the seaplanes take off.*

*The 20th cues the horns of the railway depot and the locomotives, that remain at the stations. Machine guns, infantry and steam orchestra, entering at the same time, get cues directly from the conducting tower.*

*During the last 5 cannon shots alarm gets to the maximum and terminates with the 25th shot. Pause. Recall (signal from the Magistral).*

*Triple chord of the sirens. Seaplanes descend. “Hurrah” from the pier. Cue from the Magistral. “L’ Internationale” (4 times). With the second half strophe the brass orchestra starts playing “La Marseillaise”. With the first repeat of “L’ Internationale” melody the whole square starts to sing all three strophes of “L’ Internationale” to the end. At the end of the last strophe the Armavir companies with orchestras return, met by “hurrah” calls from the square.*

*During the performance of “L’ Internationale” all the industrial horns and the railway station (depot and locomotives) remain silent.*

*Right after a joint triumphant chord, accompanied by cannon shots and bell-ringing, is played for 3 minutes.*

*Ceremonial March. “L’ Internationale” is repeated two more times at cues during the final procession. After the third (final) performance the sirens cue one more joint chord of all the horns of Baku and its districts.*

Arseny Avraamov  
“Horn” magazine, 1923

(Avraamov, 1922)

field of today can be said to have been developed partly in the wake of John Cage (think of his pivotal 4:33), as he in turn operated in the wake of Pierre Schaeffer and Edgar Varèse in particular. This strand of exploration looked at sounds “as themselves”, as decontextualized objects, and it could be argued that this was in compliance with the broad musical tradition that saw music as a thing in itself. I think there can never be any such thing as any true separation between context and music. Music cannot be truly abstracted from its contextual surroundings. However, it is certainly possible to go in the direction of detachment. Indeed this has been done to a great extent throughout the history of music. But one should be aware of the loss that comes with it.

I will mention some more recent examples of the integration of sound art with terrain and places. David Dunn has devoted himself to engage in site-specific interactions and research of environmental sound monitoring. His practice is both in the the scientific field and the aesthetic field. Since the 1970s he has investigated environmental music that I would denote Land Music. A good example is his *Skydrift* (1977) for a large dry lake bed in the Anza-Borrego Desert in California. Here instrumentalists slowly walk away while playing (for half an hour), from a central circle of voices and electronic sound material, until reaching inaudibility. Materiality is informed by and articulated at the site. The work resembles the idea of *Ten appearances*<sup>27</sup> (1981) by the Collective Actions Group (CAG), described in the chapter on ‘Himdalen: The Process.’ In the ‘Himdalen’ chapter is also a discussion of David Dunn’s *Espial*.

A consistent detachment from the ‘musical’ language of music in general is *Mårådalen Walk* (1993). Here Kjell Samkopf attached contact microphones to his boots and went on a hike in the mountains, with the soundscape perspective from foot level, through the transformations of the underlay along the path – a “soundwalk field recording”. In *Burraborangian Stones* (2003) the nature of listening is also a theme. These are field recordings of the soundscape in an Australian desert. They are subtly reworked in the studio for a 79-minute CD release in a greyish-brown A4 cover with newspaper text, pictures and listening instructions. Samkopf is interested in the fact that listening takes time – calm and stillness to quiet and sober the mind is key here, and Samkopf tries to expand the CD format to help create a responsive space for listening. Another example that activates the characteristics of certain places is Christina Kubisch’s *Electrical Walks*<sup>28</sup> (2003 ongoing). She has made a special coil-sensitive headset that amplifies electromagnetic induction, which exists just about everywhere, and has organized public walks in numerous cities. And Jana Winderen collects sound material from natural habitats – woods, cultural landscapes, underwater soundscapes – in more or less inaccessible ecosystems, and works with them decontextualized and then recontextualized either in a gallery setting like *Ultrafield*<sup>29</sup> (2013) or another outdoor setting, as in *Spring Bloom in the Marginal Ice Zone: From the Barents Sea to Lake Ontario*<sup>30</sup> (2018).

## THE CONCERT HALL AND TRADITION

We take our bearings from the places we know, where we have been, or which are important to us. Place has an effect on who we are, how we behave and the thoughts that arise. Place cannot be viewed as detached from the body. We are always in a place. Everything is a place. Everything relates to a place. No places are neutral. What the work is arises in the encounter of the work with the place and the recipient. That is why it means something to choose ‘the cube’ (or ‘the concert hall’) as a place, intentionally or not. The ‘concert hall’ is not just a more or less arranged acoustic space. It is also a vehicle for cultural formats and customs. The cultural formats have been shaped and adopted in societies quite different from ours, several centuries before our time, with other needs, other aesthetic preferences and more limited options. The ‘concert hall’ as concept by and large brings these traditions with it, even if it is relatively newly built.

Traditions have a tendency to be perpetuated not because they bring something good with them, but because they already exist.

Every place means something. The choice of realization always has consequences. But a specific place will have stronger connections than a generic place, which a concert hall is or strives to be. The place will to varying extents activate or paralyse our listening, perception and cognition.

*“The seemingly benign architectural features of a gallery/museum, in other words, were deemed to be coded mechanisms that actively disassociate the space of art from the outer world, furthering the institution’s idealist imperative of rendering itself and its values ‘objective’, ‘disinterested’, and ‘true’.” (Kwon, 2004, p.13.)*

Place is the scenography of events. Culturally important places take on symbolic, perhaps even mythical meaning. The seemingly neutral cube is a place with a set of particular characteristics, like any other place. Arranged

spaces such as a cube or concert hall make the claim that art must stand on its own terms. But they are not neutral. On the contrary, they are charged with custom, tradition, and their own logic of traditions for breaking with custom. Compromises are just not so visible. They appear as a priori basic ingredients, as a foundation necessary if one is at all to show or create art and music. To be 'specific' to such a location, a certain decoding and/or recoding is necessary. This would involve investigating the institutional, social, historical, architectural, physical and economic conventions in order to reveal their hidden operations. Consciousness must be active in the work of activating and staging the space.

## EXPORT TO THE OUTDOORS

### – As a disembodied concert-hall zone

Exporting music from “a (traditional) musical realm” to external positions to see what happens with the music itself is mere recontextualization of the music. This approaches both pre-existing music and newly-made music by applying a materiality, formatting and – in essence – concert (hall) thinking to an unconventional setting. In these instances, there is no real connection between the materiality and the place. The place is literally external, disconnected and fully separable from the work. The place is a backdrop.

The art critic Jeff Kelley observes that “site specificity was really more like the imposition of a kind of disembodied museum zone onto what already had been very meaningful and present before that, which was the place.”<sup>31</sup>

Site-specificity implies that the interaction with the site would be qualitatively different if recontextualized somewhere else. An action or realization at a particular place – any place is a place in its own right – does not imply site-specificity. A localization outside the cube does not in itself constitute a site-specific practice. Such a practice is more in the *art-in-public-places mode*<sup>32</sup>, an outside-the concert-hall-concert mode. The artist Henry Moore said of commissions that he tried to choose something suitable from what he had done or was about to do when asked to conceive a new public artwork. “*But I don't sit down and try to create something especially for it [the specific location].*”<sup>33</sup> This is a common mode of working, resulting in outdoor concerts of music perhaps inspired by, but not actually in a relationship or dialogue with a place.

Within visual art Jeff Kelley distinguished between ‘site’ and ‘place’. ‘Site’ to him would be *an abstract location* and ‘place’ *an intimate and particularized culture that is bound to a geographical region*, according to Kwon. He meant to highlight the limited social consciousness of site specificity in the *art-in-public-space* mode.

Similarly, Susan Hapgood has observed that “the once-popular term ‘site-specific’, has come to mean ‘movable under the right circumstances’”<sup>34</sup>. The term ‘site-specific’ has been watered down, turned around and used about *site un-specific* music in the sense of ‘*outside-the-concert-hall*’ concerts<sup>35</sup>. Likewise, the term ‘land music’ (in this case in German and in quotes as “*Landschaftsmusik*”) has been used in the sense ‘outside concert hall concert’ in outdoor settings as a disembodied concert hall zone<sup>36</sup>.

The consequence of such a decontextualization is that the site, context and environment in which a sound work unfolds, become irrelevant. Such a practice does *not* have a truly integral relationship with a place. It also means that the place is rendered irrelevant for works which in fact have a truly integral relationship with a place, if the works are decontextualized (moved). The works are emptied of their rationale. Richard Serra's famous statement in connection with the controversy about removing his public art installation *Tilted Arc* (a long steel construction at Federal Plaza in Manhattan, New York) – “To remove the work is to destroy the work”<sup>37</sup> – also applies to other site-based artistic practices. In architecture this would be like building a house completely adapted to local conditions on a difficult site (like *Summer House Storfford*<sup>38</sup> by Jensen & Skodvin Architects. The house is among other things built against and around a mountainside, which is included as a necessary wall, and it surrounds trees), and emphasizing that it is a site-adapted house, only to build the whole construction in exactly the same way in a quite different place, with a different orientation towards light, other terrain, other construction, climate and vegetation – and still claim that the house has the same qualities. The materiality of the object will be the same, but the rationale, that is the integration with the place, has been broken down.

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<sup>22</sup> Kwon, 2004, p. 74.

<sup>23</sup> Bishop, 2012, p. 143.

<sup>24</sup> However, the composer Alexander Nemtin spent 28 years at studying Scriabin to reconstruct and supplement the sketches into a 3 h 10 min work. (Scriabin, 1903-1915).

<sup>25</sup> Bishop, 2012, p. 65.

<sup>26</sup> Walter de Maria was an artist and composer. His pivotal *Lightning Field* (1977) consists of 400 stainless steel poles in a 1 mile x 1 km grid in Catron County, New Mexico.

<sup>27</sup> Bishop, 2012, p. 158-159.

<sup>28</sup> Kubisch, Christina. (2014-2017). *Electrical Walks*. [Soundwalk]. [http://www.christinakubisch.de/en/works/electrical\\_walks](http://www.christinakubisch.de/en/works/electrical_walks)

<sup>29</sup> Winderen, Jana. (2013). *Ultrafield*. Retrieved 25 January 2019 from [http://www.janawinderen.com/exhibitions/ultrafield\\_moma\\_10\\_august\\_3\\_no.html#.XEgSsy2DpTY](http://www.janawinderen.com/exhibitions/ultrafield_moma_10_august_3_no.html#.XEgSsy2DpTY)

<sup>30</sup> Winderen, Jana. (sound artist). (2018). *Spring Bloom in the Marginal Ice Zone: From the Barents Sea to Lake Ontario*. [Installation]. C. Shaw. (Curator). Retrieved 25 January 2019 from [http://www.janawinderen.com/exhibitions/the\\_work\\_of\\_wind\\_air\\_land\\_sea\\_2.html#](http://www.janawinderen.com/exhibitions/the_work_of_wind_air_land_sea_2.html#).

<sup>31</sup> Kwon, 2004, p. 108.

<sup>32</sup> Kwon, 2004, p. 63.

<sup>33</sup> Kwon, 2004, p. 63.

<sup>34</sup> Kwon, 2004, p. 38.

<sup>35</sup> Orchestra Vivo use the term site specific with little precision when they perform J.S. Bach and other music in their staged spatial performances in museums and other similar locations. This practice is a spatial performance of music in a public building. Orchestra Vivo. (2015). *3 antiphonal promenades*. Retrieved 22 January 2019 from <https://www.youtube.com/watch?v=YtMEAlBo1bY>

<sup>36</sup> The festival 'Mannheimer Sommer' uses the term "Landschaftsmusik" (translates literally to landscape music) for an outdoor performance. They organized performances of existing historical music, presented as "Ein Spaziergang wird an diesem Tag zur Reise durch Epochen und Stile der Musikgeschichte: Ganz gleich, ob mit Werken aus der Zeit der Mannheimer Schule oder dem Sound der zeitgenössischen Bandmusik, alle Musikerinnen und Musiker feiern an diesem Tag die gelungene Balance zwischen Kultur und Natur." NTM. (2018). *Landschaftsmusik – Konzert-Parcours*. NTM Nationaltheater Mannheim. Retrieved 15 January 2019 from: [https://www.nationaltheater-mannheim.de/de/stueck\\_details.php?SID=3152](https://www.nationaltheater-mannheim.de/de/stueck_details.php?SID=3152)

<sup>37</sup> Kwon, 2004, p. 12.

<sup>38</sup> Ellefson & Thorkildsen, 2014.

# TIME

*“If the regular length of a shot is increased, one becomes bored, but if you keep making it longer, it piques your interest, and if you make it even longer, a new quality emerges, a special intensity of attention.”*

*(Andrei Tarkovsky in Dyer, 2012, p. 9)*

*“Yeah, well, time is my medium.”*

*(La Monte Young in an interview with Alan Licht)*

Artistic experiences that claim the attention of the senses over time create their own zone. Time and duration are instruments of perception. The aim must be to create a materiality with a dynamic stasis: situations in which one loses the sense of time, in which one is caught and likes to be. If you have control over the balance between *scarcity* – or musical asceticism – and *information density speed* – or changes in time – you’re on your way.

La Monte Young (b. 1935) is well known for his pure-intonation durational works. In an interview with Alan Licht 9 July 2018, he said that he as a composition student had discussed this with his teacher at the time, who “said I should be writing like a young man with climaxes going here and there, and louder here and softer there.”<sup>39</sup> But Young wanted something else. He wanted to get *inside* the sound. And to have his audience get inside the sound too. The mechanism for this involves time and focus. You have to listen very closely and let time do its work. Young further says that “you get involved with the frequencies and it becomes a vehicle for meditation”.

Young is considered by many to be the first American minimalist, and he points to his relationship with sound as a child with wind and the steady hum from telephone poles.<sup>40</sup> I believe he is right when he says that “sustained tones were really necessary to allow music to evolve to a higher level.”<sup>41</sup> The *Well-Tuned piano* in *The Magenta Lights* (1964-73-81-present) is a solo piano work lasting almost seven hours, integrated with the light-based work of his wife, the artist Marian Zazeela. The title is a reference to Johann Sebastian Bach’s *Well-Tempered Clavier*, from the time when the tempered (equal) tuning system was being established in Western (European) music (as opposed to the tuning systems used in Eastern (European) music) and uses a fragment of the system. The work is improvisatory – La Monte Young has performed it on numerous occasions. The piano, however, is retuned to just intonation, which basically means it is restricted to a certain harmonic field.<sup>42</sup> *Time* is his medium, being influenced by Indian raga and meditation.

I myself am not a typical meditative person. But sustained notes and long-lasting situations, if they are allowed to work over a period of time, have a profound effect. I believe this is due to several things. One is our short-term memory. Time and forgetting belong together. When time extends beyond the sentence – that is, in short-term memory, which corresponds to the ability to remember 6-10 numbers for a few seconds, the concrete stimuli have already disappeared, and the short-term memory is fully occupied with the handling and sorting of the sources of the music.

But if the stimuli are relatively focused, the short-term memory does not need to work so hard. In sustained situations there are more static stimuli, and the density of the information behaves differently. If the neural signal continues to be sent to the hippocampus and the neurons learn the pattern, the neurons respond more easily. The brain relaxes, there is no immediate panic, it can work out what is happening.

However, the brain may enter a standby mode, a mode of rest, when we think of nothing in particular. This mode, however, enables *wandering thoughts*, a free flow of memories and thoughts about the future. It works as a simulation of the future. We are capable of evaluating different scenarios, in a form of episodic foresight. This ability to imagine a coming danger has grown into a spectacular ability to develop visions.

Time is a material that must be allowed to work. It is a little like the difference between getting into a warm bath – you certainly get wet – and staying there a while, immersed in the warm water. The heat is able to get deeper into the body over time. It is propagated from the outermost skin layer down into the muscles. With the aid of time in music you let the frequencies have their effect.

If the sound situation stays still long enough (needing careful and subtle treatment in order not to be statically boring) we can experience the perceptual deprivation which happens when we are exposed to a uniform stimulation field or uniform stimulation over time. The brain amplifies neural noise in order to search for possible missing value-signals. The brain looks for any deviation. Hallucinations may result. The brain cuts off the constant, unchanging signal. A deafness to these frequencies may arise. The soundfield changes neurologically in the brain. Quick changes in the soundfield change the stimulus situation, but the sensory apparatus experiences a lag, so that new sounds are now filtered through the previous sensory deprivation for perhaps a minute or two, depending on frequencies, volume and the actual sound situation. With very slow changes the brain keeps up and gradually alters its deprivation level. This is a 'Ganzfeld Effect'. The artists James Turrell and Olafur Eliasson have worked with variants of sensory disorder, manipulation and visual effects. Turrell's Ganzfeld works<sup>43</sup> can be found in variants all over the world. The one in the Ekeberg Park in Oslo has an egg-shaped white-painted back wall with gradually changing lighting that makes us lose the visual references for depth-vision, and even though the wall may be only 1 m away, we do not perceive it. Our eyes are filled with strong indirect light, and we feel as if we are staring into an endlessness.

A related effect happened at a performance of Julius Eastman's *Femenine*<sup>44</sup> (1974), basically, as I recall, repeating or insisting on a small cell of sound for almost an hour. At the end, when the audience started to applaud, the perceived sound of the applause was altered since the stereocilia and neural cells in the ear was tired of the previous stimuli, so the the new soundfield appeared as filtered.

Depending on the slowness of the changes we become alert, and a quite distinct sharpening of the senses arises because imperceptible changes in a stable situation can be dangerous if we are not aroused by an impulse.

With time as the building material – that is, extended time – an empty space for reflection can be set up. This depends on the materiality of the time. I first and foremost have extended, sustained, sound situations in mind. Monotony. Time creates space. *To space out*, we say, then we switch off, don't quite listen, enter a more fluid state. In this case it is an important quality. It is a kind of non-sensing, a kind of anaesthesia, that takes place in an aesthetic situation – that is, a combination of both aesthesia (the capacity for sensation or feeling) and anaesthesia (the opposite, an inability to sense).

Music that can *open up* time for us – perhaps we could say open up the *time-space* where we are, listen, know, exist – is perhaps important to us as humans; but also, and perhaps for that very reason, it is clearly more effective for us who work with art in the domain of time. If the music is too brief, it is like a still image you look at before you pass on. Short events have a short time-window, they do not have access to time-space. When the music extends over several hours it has the potential to open up this space, but this depends entirely on what the music consists of, where precisely it has been formed, and on our old friend – the context.

The experience over time of imperceptible changes lets time establish an obligation. Extended time, especially in the context of land music, creates social relations among the audience. The audience are there together, stand together in this, not as individual hostile audience members. Time establishes the need for everyday things too. Food and drink must be organized, and this further levels out any dividing lines in the audience and between audience and performers.

Not only precise musical material, but the proximity of the material, i.e. its spatiality and volume, are needed to create immersive situations. A short one is like the situation in the aforementioned bathtub metaphor. Extended time is often a missing ingredient in would-be immersive situations.

Durational music is a result of these considerations. But this requires not only time, but a carefully calculated *information density speed*. When this is mainly low and tends towards monotony it is precisely time as material that is our active ingredient, not an action-driven or motive-oriented narrative. Monotony becomes active over time. Then the material grows.

I decided early on that the use of time would be central: time for extended, sustained musical situations, and time for slowly-evolving scenes or processes. Time as material. The contextual themes involved vastness at various levels. It takes time to comprehend vastness. It takes extended time to communicate notions of extreme timespans. But it must also be short enough to engage the audience, if it is not to become an 'installation'.



The combination of duration and land music is key to a type of work – an attitude – that carries a potential for risk incitement, time and space orientation and thus for opening up a both physical and mental space for cogitation.

## INFORMATION DENSITY SPEED

The overall information density in musical textures and soundscapes varies. The term information density speed refers to the integral speed of its change. I will try to explain what I mean by this by discussing some examples in the following.

Éliane Radigue (b. 1932) works with extended, durational music. She has restricted her material to work almost exclusively with one synthesizer for many years. She works with sustained processes, tiny changes with tone generators, true drones. Like Alexander Scriabin, Karlheinz Stockhausen and La Monte Young she has been profoundly influenced by Buddhism, but only *after* starting to work with sustained, sparse yet immersive soundfields in *Adnos I* from 1974. Together with *Adnos II* and *III* this lasts for more than 3 1/2 hours, and is never boring because of the extreme unrest emerging from the almost infinite field. The sound quality is closed and dense with no spatiality – open and closed simultaneously. Her *Trilogie de la Mort* (1988-93) is equally rigorous. Her works demonstrate a highly consistent subtlety in information density speed which constantly and imperceptibly changes enough not to be experienced as static. They are more extreme in their economy than La Monte Young's. The economy of the material opens up time. Radigue's work is pioneering in durational music.<sup>45</sup>

It is an experience of how the sounds unfold over time. It can be compared to other bodily aesthetic experiences, such as long walks in the mountains in both summer and winter which are typified by slow movement in the terrain at a relatively monotonous pace, but which still constantly takes you forward in a vast, wild mountain landscape.

Vinge/Müller/Reinholdtsen's production of Ibsen's *The Wild Duck* (part 2)<sup>46</sup> lasted a good 12-18 hours throughout the night, depending on the type of day, with epic use of music and creaking, staccato sound design. Paradoxically, it was especially the repetition that made it possible to endure. The work induced time to lay out a mental space for the audience to make their own connections, to have time to spin out thoughts and associations.

In Märten Spångberg's dance production *Natten* (The night), time played along with rather than against the work. A mental state of sleepiness and exhaustion throughout a 7 1/2 hour dance production from 23:00 to 06:30 changes the whole situation compared with whether this all happened in daytime. There was continuous loudspeaker sound: I remember clearly rolling electronic arpeggio loops, field recordings of rain and thunder performing a kind of interval function between the scenes. The audience sat and lay along the walls on carpeted floor, and were free to go out in the foyer afterwards and drink. Some of it was pulse-based in long numbers, other parts were in very fluid textures. This created a floating zone, a vague state between waking and sleeping. For me the repetitive, liberating, motif-poor music bore up the production. It made it possible to accept the slow turgidity of the dance motions. At night, it is as if time stands still, you doze your way out of time, you are startled out of and into it again, and must reorient yourself. I fell asleep several times along the way, slipped in and out of consciousness, but with this whole staged state around me which was registered by the sensory apparatus although not communicated in the conscious state of the brain, which is after all trying to rest.

Alvin Lucier has in his physically experimental sound art universe worked with time, as in *Music on a long thin wire*<sup>47</sup> (1977), which is a conceptual and physical study of sound evolving over time. It is basically a suspended piano string, made to vibrate by an amplifier at each end with a sine wave oscillator, a magnet and microphones. A performer controls the oscillator. Lucier explores the poetry in what was previously seen "just" as science, combining art and science, not unlike the otherwise quite different practice of bio-art. (Bio art explores biological material).

I also mention Charlemagne Palestine's *Four Manifestations of Six Elements* (1973) and *Strumming Music*, where he simultaneously performs on two grand pianos. These were situated in the more experimental minimalist tradition. They are good examples of an attempt to establish a distinct situation, a state to be in. This is done with a certain extension of time and a focus on the sound situation, simplicity, control of information density speed.

I find the part of minimalism that really works with time as material interesting. It emerged more or less simultaneously with the New York School (notably Morton Feldman, Earle Brown, John Cage, Christian Wolff), preoccupied with indeterminacy and chance as a development of stochastic or aleatory methods in response (in short) to both serialized music and the combined infrastructure of expectations as to what music “is”. Morton Feldman’s use of time is typified by a relatively uniform, slow stream of musical events with a sufficiently high linguistic tempo to prevent it setting up its own space.

It is certainly unnecessary to point out that time alone as an element is inadequate. The tension arises in the way it is filled, the way the time is articulated. I think perhaps a well developed sense of time and place is crucial to the creation of an artistic situation that endures over time. You have to find the balance in a concept with both external and internal logic that bears up the staging; to fine-tune the situations with an ear for information density speed. This is closely integrated with the listening position. In this respect I am not thinking primarily of ‘sweet spot’ listening positions in electro-acoustic music and ambisonics, but of the listening context, the placing, the rounding-off in time and place. The time of day and the position of the body. Perhaps one finds no productive or clear answers to this. But the questions must be part of the process. These aspects are by no means immaterial. Postmodernism’s inconsequentiality has no place here. The details, the context are not immaterial, on the contrary they are crucial to the way we view a work, music, any input, sensory data or stimulus, how the brain perceives, interprets, acts and reacts.

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<sup>39</sup> Licht, 2018.

<sup>40</sup> Zuckerman, 2002.

<sup>41</sup> Licht, 2018.

<sup>42</sup> Kann, Gyle. (1997). La Monte Young’s The Well-Tuned Piano. *Kyle Gann*. Retrieved 20 January 2019 from: <https://www.kylegann.com/wtp.html>

<sup>43</sup> Turrell, James. (n.d.). *Ganzfeld works*. [Installations]. <http://jamesturrell.com/work/type/ganzfeld/>

<sup>44</sup> Julius Eastman, *Femenine* (1974), <https://www.youtube.com/watch?v=WHgDRv6NVCI>

<sup>45</sup> Bécourt, 2015.

<sup>46</sup> Vinge, Vegard, & Müller, Ida. (2010). *Vildanden del to – Director’s cut (by Henrik Ibsen)*. [Theater]. Blax Box Teater, Oslo.

<sup>47</sup> Lucarelli, Fosco. (2016, July 12). Music on a Long Thin Wire by Alvin Lucier (1977). *Socks*. Retrieved 25 January 2019 from: <http://socks-studio.com/2016/07/12/music-on-a-long-thin-wire-by-alvin-lucier-1977/>; Lucier, Alvin. (1977). *Music on a long thin wire*. [Music]. <https://vimeo.com/158971253>

# METHOD

With the creation of an artifact or a relational process intended for a public sphere comes a great responsibility because of the possible impact on other people and possible repercussions.

Format and context are in other words inextricably linked to the musical, auditory and thematic content. I have chosen to plan parts of my work according to the land music principles carved out above in order to try to build stronger, more grounded musical experiences. With a calculated format and context I believe it is possible to develop such integrated experiences.

I try to create immersive, audiovisual projects that are connected to a certain place that I explore and embrace. I aim to involve qualities and characteristics from the place. To connect content to place. To strive for presence and create a inconclusive situation, shaping a conversation, putting something at stake, taking the listener somewhere. A music that activates a place, making created situations. I do this because there are close links among memory, comprehension and place.

Put even more briefly:

- Connect content to place.
- Modify the realization context.

As Gaston Bachelard puts it: *“Imagination augments the value of reality.”*<sup>8</sup>

## MATERIAL

There are of course many material types that can be used. For me it has been important to pay attention to two factors.

One is, as mentioned above, that the material itself must have a justification in the place, in the context. It need not be taken from the place. Simply being taken from there and used there is not sufficient to create a meaning-bearing relationship. The audience must be able to grasp a relationship between material and place, the connection must be appropriate to the creation of meaning. Such meaning can be so many things, but it must be *capable* of manifestation. The meaning may lie in something historical, social, economic, cultural or the like. It may also lie in something sound-related that arises precisely there, a certain effect or something that activates the place and makes us ‘hear’ it in other ways than it is normally manifested.

The other is that the *format and expression* of the material cannot be drawn up without considering the place.

## TYPE OF PLACE

The type of place is a non-human system at some level, whether wilderness, cultural landscape, ruins, abandoned spaces, dross-scapes. The interaction is the interesting thing, where the sound is the engine or catalyst for the interaction, for the experience of the place, and the engine for navigation and reflection.

In the context of this project I have looked for a number of qualities:

- Places having the potential for risk, danger, uncertainty, ambiguity.
- Places where one can investigate time and future.
- Abandoned, deserted structures.
- Places exhausted, depleted or obsolete.
- Voids, ruins. Silence.
- Imprints and remnants.
- The neglected and the idle.

- The desolate.
- Places pared to the bone, all the way to the basic structure, far from anything Baroque and decorative.
- Inconclusive, open places.
- Sites of former industry, equipment or machinery.
- Contextual landscapes, resources and geology whose former use has had a site-bound logic.
- History and rationale connected to landscape.
- Specific qualities rather than general qualities.
- The possibility of using a location such that the anticipatory gaze is out of play.
- Scope for construction of imaginary spaces.

### Some investigated places

Here are some of the discarded places I have researched, to give an idea:

- Uksedalstjernet, at Slettmarkpiggen in Jotunheimen, Norway. Mountain lake.
- Tredjevatnet, Morka-Kolledalen in Jotunheimen, Norway. Mountain lake.
- Hardbakkatjønnna near Svartediket in Bergen, Norway. Mountain cirque.
- Pond 1290, Mjølkedalen in Jotunheimen, Norway. Mountain pond.
- Blåfjell, Røyken, Norway. Rock face in forest.
- Dausjøen, Maridalen, Norway. Forest lake.
- Delsjön, Gothenburg, Sweden. Forest lake.
- Centralia, Pennsylvania, USA. City abandoned because of subterranean burning coal seam.
- Mount Buzludzha, Bulgaria. Abandoned futuristic memorial monument from 1981.
- Donetsk Airport, Ukraine. International airport devastated by bombing in the war of 2014.
- Østmarksetra kommandoplass, Oslo, Norway. Abandoned underground military facility.
- Yasser Arafat International airport, Gaza Strip. Airport built in 1998, bombed, closed and abandoned during the Second Intifada in 2000.
- Hashima Island, Nagasaki Prefecture, Japan. Abandoned coalmine island.
- Kadykchan, Magadan Oblast in Siberia, Russia. Abandoned coalmining town, built by gulag prisoners.
- Kiruna, Sweden. Ongoing partial relocation/abandoning of town due to ground deformation from mining operations.
- Lysebotn new water power plant, Norway. Large 40 m high cavern under construction 1450 m within the mountain, in 2017 still empty before assembly of turbines and machinery.
- Neft Dazlari, Azerbaijan. Partly abandoned city construction on a network of oil rigs in the Caspian Sea.
- Norilsk, Russia. Formerly closed arctic industrial city.
- Onkalo, Finland. Radioactive Waste Final Repository under construction. To be abandoned when complete.
- Pripjat, Ukraine. City abandoned because of radiation after the Chernobyl atomic power plant explosion in 1984.
- Pyramiden, Svalbard, Norway. Abandoned Russian arctic coalmining town.
- KTH R1, Stockholm, Sweden. Decommissioned underground atomic reactor, reused as art space.
- Tellnes Mine, Sokndal, Norway. Open pit ilmenite/titanium mine.
- Udachny, Yakutia, Russia. Open pit diamond mine.
- Varosha - Famagusta, Northern Cyprus. City abandoned and closed down after the war in 1974.
- Flørli, Rogaland, Norway. Abandoned rural fjord village and water power plant.
- Holmenkollen leir, Oslo, Norway. Abandoned underground military facility.
- Kolmanskop, Namibia. Abandoned diamond mining town, being taken over by desert sandstorms.



Photo of aerial photo of Blåfjell, Røyken, Norway, with positions where I and Cato Langnes made impulse response recordings that we never even processed.

## GUIDELINES

These memory points guide my work until I find good reasons to break with them:

1. What is the **reason** for the work? Why does this work have to be done? And why by me? Will this work have a justification in a broader perspective? How can the reason and the material be connected? How the context informs my personal choices.
2. Consider the **siting** of the work carefully, including the physical audience position. Try to have the work engage in the relationship between *where* the audience is and *what is happening* where the audience is.
3. Embrace **time** and duration as tools of perception.
4. Search for the balance between **scarcity** or musical asceticism, and change or **information density speed**.
5. Remember to delve into **immersive** situations. Engage hearing and sight at least.
6. Work with **presence**, bodily presence. Try to establish a need for the audience to *do* something, offer something, inducing a need to explore, to *navigate* – geographically, mentally or with the ears.
7. Seek ways to involve **risk** at some level. Develop unclear situations. Keep inconclusive. Try to make indifference difficult.
8. Travel to seek out **unfamiliar** positions. Look for a sense of another place.

9. Expand the musical **format**.
10. Be bold.
11. **Litmus test**: I must be able to like what I make as a listener myself.

## HOW

I do research and sort and choose what I want to look for. I go somewhere – here. I listen, look, spend time, measure. Think through what I have researched about connotations and connections. Does it resonate? Am I able to conceive of something being brought to life here? How does it look? What about its accessibility? How will it be in a different season? What kind of equipment can be transported here? What possibilities does it open up? What possibilities does it preclude? In terms of an approximate budget, do ideas arise about a possible articulation of the place? What happens when I move around here? Do any positions stand out? What is this all about? How will sound be propagated here? What kinds of sound material will I have the opportunity to make? How will it be able to function here? What do the surroundings suggest, how will they affect the auditive? Will it drown in the wind? Will the dimensions be too big for the actual sound volume? To what degree can the sound fill the space? What are the echo effects? To what extent is this significant for the idea? I shout and yell – to what extent are the echo effects variable depending on position and direction? How will the sound material that can be relevant to compose relate to echo and timbral effects? Is a work needed here? Does the idea have a potential to affect the place, to say something about it, inscribe itself in its memory and that of the audience? Is the idea actually land music? Or is it sound-in-public-space? Does it actually have no business being here? What about practical things like walking distance, location in relation to the population, access to power, drinking water, overnight accommodation? What type of duration do I envisage? Do I have the capacity to do this? Who can I collaborate with? Would I myself be interested in coming as audience? What is the reason to work with, to get involved with this place, and do I know enough about it or will I come to know enough about it? Where is the potential for uncertainty, risk and sacrifice for the audience?

This type of question should arise and preferably find an answer in the survey.

## Participation

Claire Bishop writes about participation in art where, as a member of the audience, you become a static or active participant. Perhaps you have to participate in the formation of material that is created along the way. For me as an audience member this is usually something negatively imposed, something I have not agreed to. When I create something for an audience the participation I require must not be performative, or on display for other spectators – that is, not part of the others' experience of the work. The motive force I try to create for that involvement – that commitment – is the individual's experience of the work, with no requirement to be performatively on display for others. The commitment must be invited, open, friendly – with the necessary artistic conditions. In the case of *Himdalen* it is mainly a matter of accepting and preparing yourself for a night outdoors in November, and having to find your way around yourself with a headlamp, navigating with the map, moving in time and space, absolutely by choice, in order to build up your own experience of the entire situation. The further course of the work is not dependent on the actions of the audience. In fact that is not quite true, for in such a setting a distinctive social dynamic arises where you are affected by the choices and moods of others. But beyond that I place an emphasis on an open situation. You must have free choice.

## EXAMPLES FROM OTHER PRACTICES

Many practices operate with soundwalks, environmental music, site-oriented music, outdoor performances, actions, processions, durational music, sound art, kinetic installations, context-sensitive projects; these practices may be issue-specific, audience-specific, community-specific, landscape-oriented – and very probably a lot more that I am unaware of. The degree of contact with the components of the surroundings, the context and the environment varies greatly. A few elements have found their way more or less smoothly into other texts, since they specifically cast light upon certain matters discussed. Below are more examples that I have come across but not incorporated into other parts of the text. I will just mention these practices and very briefly say how I think the connection to site and context is handled.

**Janet Cardiff** and **George Bures Miller's** *Alter Bahnhof Walk*<sup>49</sup> is a precise, poetically striking site-specific soundwalk. They made the work for Documenta (13) in 2012. The public are given an i-pod and headphones with pre-recorded speech, soundscape and video. We are invited to follow the video, which is from the old railway station and is partly staged. Among other things we are guided past a monument to Jews who were sent to concentration camps from this station. It is all fused together into an augmented reality with several parallel time dimensions, a transfer in time and space.

**Malin Arnell** is a Swedish interdisciplinary artist. In her PhD project *Dissertation / Through\_Action* over 72 hours in KTH R1, a decommissioned nuclear reactor hall 25 m underground in Stockholm, she interacted with the place and the immediate area. Arnell and a companion were lying apart on the floor. For an hour they approached each other with minimal muscular movements until their feet met. It was quite silent. Then, whether it was before or afterwards I do not remember, she was naked and went up the stairway to the city streets above; those who were present got up and followed, she reached out and climbed over a wall. Then she began to gather branches and twigs and set them up against a tree. Some of us helped. No instructions. She found a cable drum which she rolled through the streets. It was all an insistence on the communicative powers of performativity in which, as Arnell writes in the dissertation, “all bodies (not only human bodies) come to matter through the world’s performativity”<sup>50</sup>. She made the physical objects and structures around come alive, often not by doing anything apparent, beyond having claimed that they would do so as a result of silent presence, actions and time.

**Robert Henke** works with audiovisual installations, music and performance art. The installations are often large-scale. I went to see and hear his *Deep Web*<sup>51</sup> (2016) which was shown in the old Zentralkraftwerk Berlin. It is a kinetic installation created in collaboration with Christopher Bauder. The locality has been used as a techno club and art space after it was decommissioned as a heating and power plant. The place is enormous and without windows. Everything is raw concrete. The sound is in eight channels with large speakers placed on the flanks. A smoke machine somewhere produces smoke, but does not fill the locality or the air in any way. Above this floating floor hangs a rig with 175 small, white spherical balloons. They hang in a grid in seven rows with 25 balloons each. Each one can be hoisted up and down individually with winches. On each flank there are six laser cannons, twelve in all, which illuminate these balloons. The beams strike only the balloons. Each laser cannon can shine on and illuminate many balloons. Everything is precise, nothing goes wrong. The programming is impressive. This is all the light there is in the hall, with the exception of blue indirect light in the flanks. The laser beams are sometimes monochrome, sometimes in many colours. It is overwhelming to lie beneath them and look up at all the geometrically moving forms. The soundscape is typified by bass drones, hard techno-like beats, sputtering clicks, a few polyrhythmic pulses, field recordings, sampled material and sometimes a harmony consisting of simple chords in simple relations with one another. The whole installation was set up in a limited, but central part of the hall. Both the auditory and the visual were directed towards this central space and established as space within the space. The power plant functioned most as a venue. The installation took advantage of the place, and was not countered by the place.

The staging that **Jones & Johnson** did in *The Masque of Blackness*, i.e. *the shaping of a context*, is also what **Aernout Mik** does in *Training Ground* (2006). This is a two-channel silent video installation, and portrays guards being trained in the treatment of detainees – from the a flow of immigrants to Europe – making them sit still. A fiction that appears to be a documentary. This is what Mik calls ‘created situations’, related to, but unlike the theatricalization of real-life events by Arseny Avraamov in post-revolutionary Russia and to the attempt at actual re-enactment in Jeremy Deller’s *The Battle of Orgreave* (see below). Mik says that “time takes on a presence of its own”. Long shots, resolutely non-narrative, enable forgetting. The camera slowly moves

along the staged action, sometimes more quickly than the actors, prompted by short instructional sentences by Mik. In the editing, they are cut so as not to create a narrative with spatial or temporal clarity, but an accumulation of moments one after another<sup>52</sup>. And the reaction to action is as if cleansed away. Long stretches of things that happen in this alienated situation play out without no guiding agogic rhetoric as to what emotions to express. The multiscreen projection is not in itself synchronic, with individual jump cuts and entirely black sections, keeping the viewer busy trying to determine connections.

**Jeremy Deller**, on the other hand, reshaped a political context with his performance *The Battle of Orgreave*<sup>53</sup> (2001). This is a staged re-enactment of the confrontation between British strikers and police in 1984, with a huge staff of volunteers and veterans, a restaging of actual events at the original site of conflict in Orgreave. This work has the profound function of discussing and remembering, commemorating the events that took place. The BBC reporting of the events at the time was deliberately changed in order to present a certain interpretation that matched the larger political picture that Prime Minister Thatcher was painting (and for which they later apologized). Tony Benn (MP 1984-2001) said: "It wasn't a mistake. Whoever gave the order [...] actually destroyed the truth of what they reported." The re-enactment helped to restore balance to the events, inscribing itself in a continuous political discourse and a collective memory of the Conservative Government's consolidation in favour of liberalism and free trade, working concretely with the memory of the veterans involved at the site.<sup>54</sup>

**Robert Smithson's** *Spiral Jetty* (1970) is an iconic example of 20<sup>th</sup>-century land art. The 35 min 16 mm film *Spiral Jetty*<sup>55</sup>, edited by Barbara Jarris, is a kind of portrait or semidocumentary version of the actual work. It can be seen at Moderna Museet, Stockholm. It starts off with a sunstorm and a brief associative review of the history of the Earth. A car drive en route to the site, filmed book pages with a map of the Great Salt Lake, a bookshelf with referenced books; more driving, a dinosaur skeleton, a steady voice-over. Filmed along a map closing in on the locations, with technical measurements and a reference to Bingham, it poetically describes the location of the site. The conditions of the soil and the algae colouring the water are mapped out, and then comes the construction of the Spiral Jetty. The sound is characterized by noise from construction machinery and a long scene filmed from a hovering helicopter following Smithson as he runs stumbling along the spiral; then the helicopter climbs and we zoom out to a medical description of sunstroke. The film evokes the grounding of the concept, managing to activate a sense of remoteness, and shows the construction, the scale and how it can be experienced. This is a good way of presenting such a work; the film becomes a separate artistic episode.

**Ulf Langheinrich** in his *Hemisphere*<sup>56</sup> (2006) creates an immersive suspended half-dome with projection on the inner surface, above a reclining audience group. The sound material is pared down to pure structure, electronic, clicks and noise with a distinctive quality. The visual material is also stripped down to pure colours, fine-grained noise and flickering strobes. Sound and visuals are closely integrated, are expressed at the same level. The materiality is so succinct, pregnant, direct and distinct that it seems like one unit. The tight, abstract purity with which one is surrounded in this installation creates an atmospheric of audiovisual landscape space which with its abstraction opens up a space of the imagination for the viewer. Langheinrich also works with field recordings of soundscapes from various places in the world, which he reinterprets with some processing.

**Daniel Ott** works in a field of new music theatre and interdisciplinary spatial or landscape practice. In 2017 he created a piece about one hour long, *Mittelland ist abgebrannt*,<sup>57</sup> in which ten groups of walking wind and percussion players went from west to east along the north side of the Mittellandkanal, which is part of the extensive channel system in Germany, while the audience stayed still on the south side. This was done near the site of an important battle between Romans and Germans 2000 years ago. The soundscape comes closer, disappears and comes back again when new groups take over, in a flow like an eternal procession from west to east, and evokes associations of other human dislocations and wars. Other works are also typified by processions and displacements. In *Phantom Synchron*<sup>58</sup> (2015) a group of people walk through and out of the city through several hours in the course of an afternoon. This is a soundwalk with action. The sound material in the works is often coloured by harmonies with tones on the winds, motifs and naivistic rhythms. Where *Mittelland* conceptually refers to the battle and migrations, *Phantom Synchron* explores different parts of the sonic environment throughout and on the move out of Weimar.

**Max Neuhaus'** *Times Square*<sup>59</sup> from 1977 is sited between 45th and 46th street on Broadway, on Times Square in New York, USA. He used preexisting constructional elements at the site – ventilation tunnels for the subway beneath the street – as resonators for the audio, basically a synthesizer generating a sonorous, muffled bordun texture. This functions by way of the tunnels, and the sound quality resembles the sound of a constant fan or



engine, but at the same time this is not so, as it is slightly more harmonious than one would expect. The installation runs continuously 24/7. This is a clearcut sound installation with an easy opening for many reflections, thanks to its reticent appearance.

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<sup>48</sup> Bachelard, 1994, p. 3.

<sup>49</sup> Cardiff, Janet, & Miller, George Bures. (2012). *Alter Bahnhof Walk*. [Soundwalk]. <https://www.youtube.com/watch?v=sOkQE7m3iPw>; Scharrer, Eva (Ed.). (2012). *Documenta (13): The Guidebook, Catalog 3/3*. Ostfildern: Hatje Cantz.

<sup>50</sup> Arnell, 2016.

<sup>51</sup> Henke, Robert, & Bauder, Christopher. (2016). *Deep Web*. [Kinetic audiovisual installation]. Alte Zentralkraftwerk Berlin: CTM festival <http://www.roberthenke.com/installations/deepweb.html>

<sup>52</sup> Kardish, 2009, p. 20.

<sup>53</sup> Figgs, 2001.

<sup>54</sup> Bishop, 2012, p. 30-37; Figgs, 2001.

<sup>55</sup> Smithson, 1970.

<sup>56</sup> Langheinrich, Ulf. (2006). *Hemisphere*. [Audiovisual installation.] Retrieved from: <https://www.ulflangheinrich.com/hemisphere>

<sup>57</sup> Ott, Daniel. (2017). *Mittelland ist abgebrannt*. [Music]. Retrieved 15 January 2019 from <http://www.kalkriese-varusschlacht.de/museum/veranstaltungen/detail/niedersaechsische-musiktage-30917/>

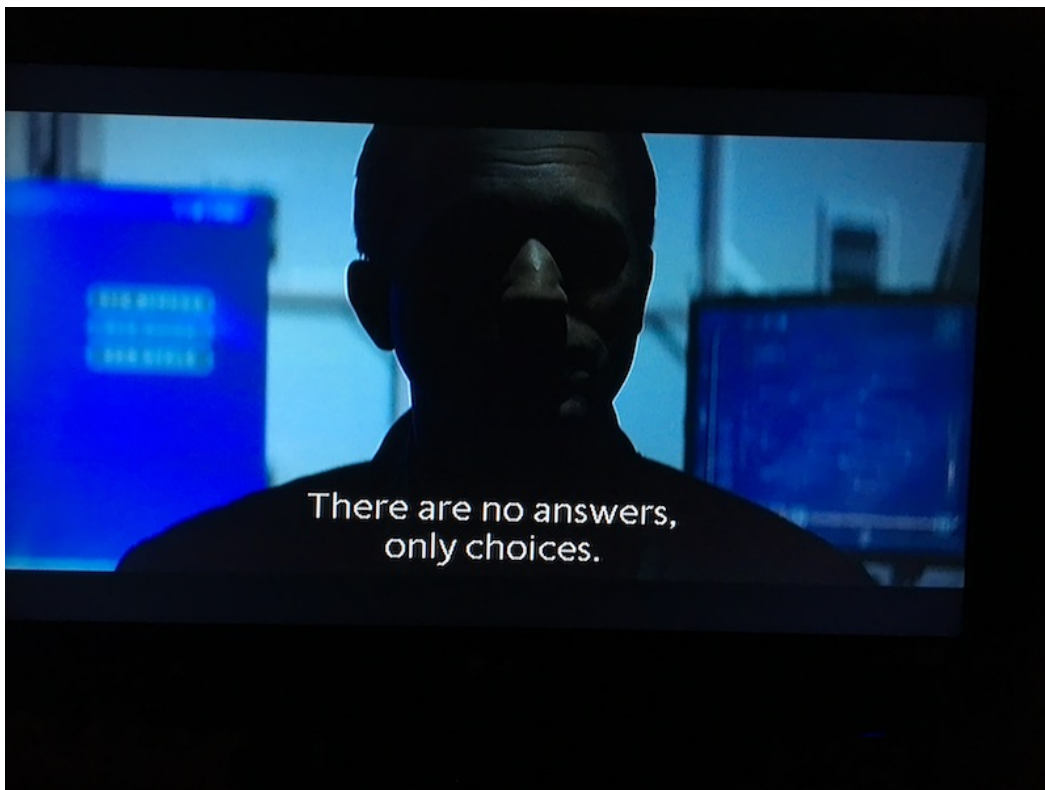
<sup>58</sup> Ott, Daniel. (2015). *Phantom Synchron*. [Music]. <https://vimeo.com/148232053>

<sup>59</sup> Neuhaus, Max. (1977). *Times Square*. [Installation] Dia: <https://www.diaart.org/visit/visit/max-neuhaus-times-square>



# PART II:

## WHAT DO WE REALLY KNOW?



*Screenshot from paused TV-screen: Solaris by Stephen Soderberg, 2002, based on the novel by Stanislaw Lem.*

*How can we tell what is real?*

*What are misconceptions?*

*What are knowledge gaps?*

*What is simply perceived knowledge shaped by custom?*

*What are actually meaningful new connections?*

*We trust a source. True <-> trust. We believe it. Trusting what we interpret as true is a choice.*

*Knowledge is flexible.*

*Knowledge is fragile.*

I am preoccupied with cognition and the linkages between memory and place as a composer because they tell me that place-orientation is important to the functioning of memory, and thus also to the way we understand art. The placing of art is not only important, it is crucial to the experience, and to the interpretation. For me this is a physiological key to attention to place and context, both in the preparatory phase of a work and in its curating, siting and realization.

Our brain is a fascinating organ that maintains order in the physical functions of the body and our sensory apparatus and how we are to understand and react to internal and external stimuli. External stimuli are sensed or registered through neural impulses. Then these are processed by the cognitive apparatus by comparison with what we already know or think we know, what we believe and what we do not know – our ignorance. On this basis we get an interpretation that is more or less adequate. From this we build new memories, or experience, as new impulses are filtered through the system and actions are determined.

A good understanding of our cognition goes far beyond the scope of this project. I have nevertheless included some thoughts on this topic.

## PERCEPTION, INTERPRETATION AND INTUITION

We interpret according to what we ‘know’, not what we sense.

**Interpretation is separate from perception, which is in turn separate from sensory stimuli.**

Daniel Kahnemann speaks of our thinking as split into system 1 and system 2 in his book *Thinking, fast and slow*<sup>60</sup>. System 1 is automatic and fast, with little or no effort, and is unconscious. System 2 directs attention to strenuous mental activities, associated with actions, choice and concentration. System 1 constantly detects the impressions from the outside world, and suggests further processing to system 2. If system 2 accepts, impressions and impulses become conscious convictions and actions. System 1 is comparable to perception, system 2 to interpretation.

**Perception** is what the brain *detects*, based on the stimulation of our senses.

**Interpretation** is the brain's *assessment* of stimuli, based on experience and context.

**Intuition** is quick decisions without a *conscious* justification.

As individuals, we know rather little. Navigatio in the unknown is based on familiar patterns. Context is always decisive for the outcome of the interpretation. Our perception of the world is based on our already-acquired knowledge, or our impressions, attitudes and beliefs. Intuition is unsystematized conclusions based on all our acquired knowledge, whether correct or incorrect. Intuition will not help unless we have collected lots of knowledge and wisdom. Our intuition will be defective if we rely on externally stored knowledge – knowledge not stored and processed in our brains. Knowledge feeds intuition. Experience and knowledge are the raw materials for intuition. Daniel Kahnemann calls this “expert intuition”. Intuition is quick decisions without conscious justification.

Our memory is limited without emotions. Emotions help us recollect memories. If our intuition is to function well (as “good intuition”) and help us make quick decisions, it is precisely the ability to manoeuvre in alien territory and situations, in new, previously unexperienced situations, on the basis of *internalized knowledge*, that increases the value and accuracy of our decisions. The better and more comprehensive the internalized knowledge, the easier, more useful and more accurate is the intuition.

*Interpretation happens – and is necessary precisely – in absence of something fixed.  
Interpretation happens – and is necessary precisely – in absence of something complete.  
Nothing will ever appear complete.  
Yet, interpretation is dependent on huge amounts of information, saved knowledge and association, to be as useful and informed to us as possible.*

If society in the future were to consist of less internal knowledge, to a great extent with a reduced emphasis on memory (simply not remembering things) and if we were to trust the ability to look up information whenever needed, this would be discarding experience and efficient reasoning. Adaptivity and the ability to cope with the unforeseen have to rely on previous experience and internalized knowledge – as much knowledge as possible –

with the scope to encompass foreign perspectives. If we were to discard internalized knowledge, we would discard all transfer value and manoeuvrability in unforeseen situations.

On the other hand, all the information gathered is of little use if we cannot manoeuvre in it, in the cascades and flow of information. We have to make decisions based on deceptive information. To manoeuvre in such a system the combination of knowledge and how to apply the information is the key. The ability to decode, to recombine information into new connections that might be of use in an unforeseen situation is the key to survival. This is transfer of meaning.

*We always want to combine our senses to build up a total impression of the world.*

*Speculation is trying to interpret what one perceives.*

#### **Culture**

*A loose, constantly changing and renewing set of thought patterns, communication patterns and behavioural patterns.*

*A set of shared values, customs, rites, cults.*

*A way of doing things, dealing with phenomena, explaining phenomena.*

*A common perception of the world.*

*A common landscape and territorial experience.*

*Culture is custom – accustomed – flexible.*

*Culture is a constructed perception of the world.*

*Culture is an organization of society.*

*Culture is a shaped mindset.*

### **Symbolic thinking**

*“The modernity of human behavior is not determined by skeletal evidence, not even by stone tool technologies. It is indicated by the ‘storage’ of symbolism outside the brain, especially in the form of paleoart (the collective term defining all art-like manifestations of the remote human past).” (Bednarik, 2006, referring to Merlin Donald)*

Symbolic thinking is representation. Something stands for something else. It represents something else. Creating generalized stories rich in imagery and figures replaces the original message and makes it easier to pass on to others for them to understand, as they gather the bits and pieces, recombine them and try to make sense of them. It is basically a storage of information outside each individual’s brain, a way of preserving knowledge or important events beyond what each individual can remember or has experienced.

This concept is absolutely fundamental to the later creation and use of myths.

This is a fantastic invention, enabling the ability to abstract. It must have spurred thinking and made it possible to keep vital information in its bare necessities alive, through imagination and recontextualization in every human and historical era.

The first use of symbols [palaeo art] that has been found is geometrical carvings on shells dated 450,000 years ago<sup>61</sup>. They were found with the skeleton of *Homo erectus* on Java in Indonesia. They show the use of abstract patterns carved consistently and with one and the same tool. The cognitive revolution started around 200-250,000 years ago according to some, or according to others around 115,000 years ago when living conditions were much more difficult in an ice age, and at any rate from 75,000 years ago.

## **PLACE AND REMEMBERING**

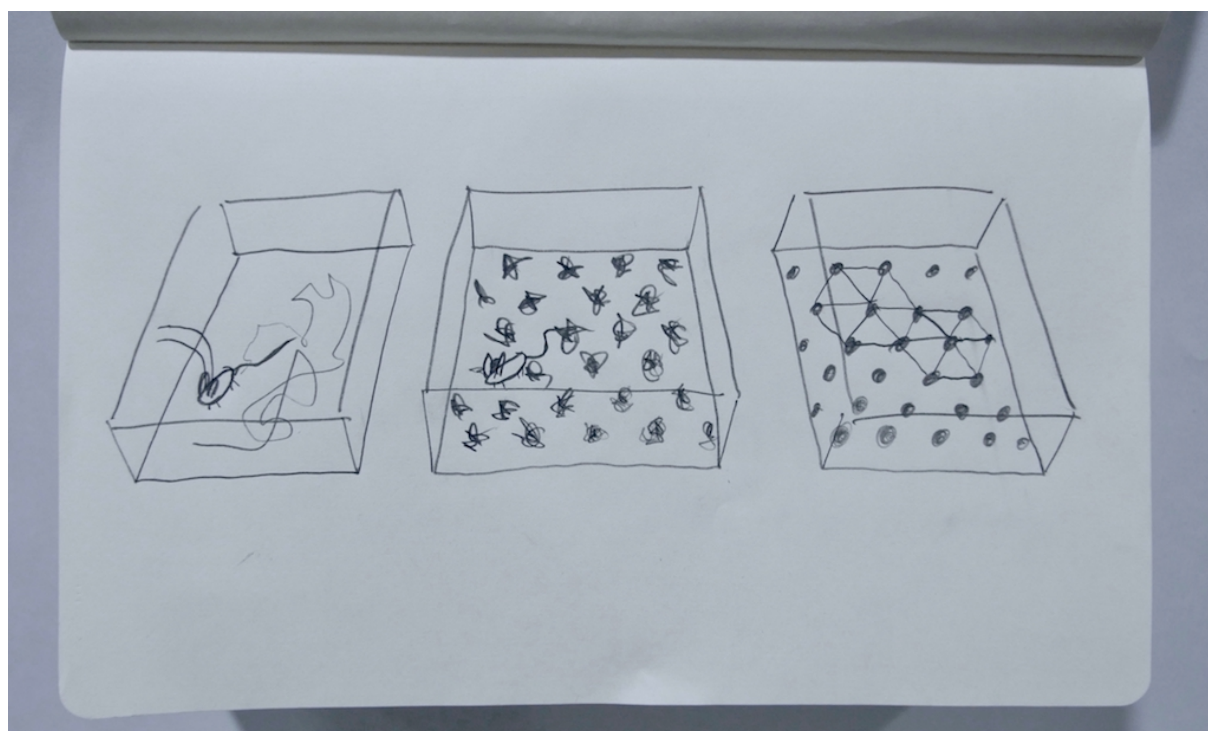
When memories enter our minds, they attach themselves to other, related memories – perhaps sharing surroundings, a feeling, music, sounds, meaning or a story. Memories very seldom stand alone, unrelated to other memories. They are collected in groups of associations. Espen Dietrichs explains that our memory does not store complete images or events. Only key elements are stored, as bits and pieces. When recollecting, the brain has to assemble these separate parts to recreate the memory impressions.

Memories are connected in networks of similar memories, or associated memories – associated for example with the same person, the same colour, the same place, the same topic etc.

*“A neuron somewhere in the brain sends impulses to neural cells in the hippocampus. If they are repeated, the neural cell learns, and fires (responds) more sensitively, which means less stimulus is needed for it to respond. A memory consists of many such connections. One neural cell can be part of many different memories. When something becomes a memory, new connections have emerged from neurons either turning on or off; and thus forming a pattern. These patterns are combined in networks in the hippocampus so they make sense to us”* (Østby & Østby, 2017, p. 34, my translation.)

But even if the incoming nerve impulses arrive in the right places, this is not enough for interpretation to take place. The information must be assembled, coded, in order for us to interpret what we sense.

In 1971 John O’Keefe found cells in the hippocampus that recall certain places.<sup>62</sup> These cells have the task of remembering exactly where we have been at any time. May-Britt and Edvard I. Moser later examined the area that connects the hippocampus to the rest of the brain – the entorhinal cortex. They found that when rats explored new places, cells in this area fired. Tiny metal electrodes were surgically operated into the rat brains to measure the firing. Single cells are activated only when you are at certain spots, both in light and in complete darkness. The cells fire nerve impulses in a repetitive, perfect hexagonal grid pattern in the brain<sup>63</sup>. This is a coordinate positioning system, also mapping the environment as far as I know with distance measurements. These are grid cells. They encode our surroundings. The cells fire when we are in specific places.



1. Rat moving

Electrodes inserted in the rat's entorhinal cortex

2. Firing pattern

Single grid cells fire when the rat passes certain points in the box.

3. Hexagonal position pattern

Each cell generates its own grid, overlapping others.

Photo of drawing after illustration in Abbott, 2014.

***“The hippocampus combine this location information with many other impressions from what we experience to store this in our memory. Location and space are important elements for our memory.”<sup>64</sup>***

Without these grid cells we cannot understand or remember the places where we are and in relation to where we have been. We construct these patterns everywhere we move, stand, walk, fly or drive. John O’Keefe, May-

Britt Moser and Edvard I. Moser were awarded the Nobel Prize in Medicine for this discovery in 2014. This system is what gives us a sense of place, our own navigation system. Further functions were found. Grid cells combined with place cells, speed cells, head direction cells and border cells, all constituting a constantly expanding mental map of our local environment, of our outside world. It thus depicts position, movement direction, speed and walls or limits. On top of this comes our contextual memory of places, landmarks etc.

These grid cells, central to our episodic memory, probably developed very early in the evolution of the mammals. It is impossible for us to form memories without connecting them to a certain place. This is our sense of place, and its task is to map our individual experiences and connect them in memory networks which in turn combine in a context-dependent memory.

Groups of specialized cells work together to deal with complex cognitive functions. Place-cell firings sometimes correlate with future locations.<sup>65</sup> When the rats in the experiment reached a choice point, representations swept ahead of the animal.<sup>66</sup> The place-cell groups preplay the possible future locations before deciding where to go. This is probably achieved by recalling the stored representations. “This interpretation implies a direct involvement of hippocampal networks in active problem solving and evaluation of possible futures[.]”<sup>67</sup> This is vital to the further understanding of memory – the storage of knowledge – and to thinking and planning.

### **Our memory, sense of place and ability to navigate are essential to our bodily existence in the world.**

Perceived stimuli are connected to place and grid-cell information. The stimuli are interpreted on the basis of whatever the brain associates with the incoming information in order to categorize and possibly identify the stimuli as quickly as possible. Anything involved in this process affects the interpreted result. Experience, memory, understanding, the quality of receptors, placement, trending factors, context etc. affect this speedy process.

#### **Sensation of another place**

*The brain learns when it experiences something previously unexperienced. When external stimuli are new, changed, altered, in a new setting, new connections are made. The brain maps, categorizes, sorts, arranges, connects and stores information according to the situation and associations. Learning and experiencing take place when connections are made. Acknowledging ignorance is fundamental to progress.*

*Navigation is crucial to our bodily presence in the world. Manoeuvring in the unknown, in uncharted land, with unstable or deficient information is central to learning, central to skill and central to experience. And thus also to the storage of information not previously known – either by the individual or by the collectivity.*

*Manoeuvring in the unknown is central to the recognition of unfamiliar perspectives.*

*Navigating, repositioning, is trying to understand.  
Risk and danger mediate interpretation and action.  
Inducing unfamiliarity is trying to understand.  
Risk and danger increase future manoeuvrability and improve interpretation.  
Uncertainty creates a space where navigation is necessary.*

*A level of dislocation, displacement, foreignness, creating a sensation of another place, enables new mapping. Of meaning. As recontextualization of one's own internalized 'knowledge', experience and worldview.*

*“The dynamics, the plasticity and the ability to learn and gather experience from past events are at the core of some of the brain's most important, but still most unexplainable, characteristics: the ability of independent thought and initiative and creativity. For what really happens when we get an idea and create something new? No one knows for sure.” (Dietrichs, 2015, p. 135)*

## **CONTEXT DEPENDENCY**

What we know about a totality determines what we comprehend from the new things we learn. Everything we experience is interpreted, comprehended in a context, a totality we previously contain or consist of.

The hippocampus constitutes a kind of theatre of memories, constantly playing, always in slightly new reinterpretations, slightly altered combinations, with add-ons from new information, recontextualizing the previous memories. Small cells are put together, combined – reconstructed – to create a scene that is played

out somewhere. Everyone has experienced that even people who have experienced exactly the same reality will develop different memories of that particular experience.

Memory seems to spin a separate, extra strong net of personal experiences, or events where the self has in some way been involved. Especially when there have been strong impressions and deviations from a norm.

When the brain is in standby mode, resting, we think of nothing in particular. This mode enables wandering thoughts, a free flow of memories and thoughts about the future. This works as a simulation of the future. We are capable of evaluating different scenarios with episodic foresight. This ability to imagine danger has developed into a spectacular ability to develop visions.

*“Memories are plastic, formable, unreliable for a reason: they are to be used, they are not museum objects. Memories are the precondition of future visions, plans, dreams and the imagination. This is where memory and the future meet. One would not be possible without the other.” (Østby & Østby, 2017, p. 223, my translation)*

The brain is a wonderfully malleable organ, formed by what we experience and what we do. Memories are not exact copies of the past. Memories do not form an archive. The past is not important to the organism. It is the future that is important. Therein lie potential dangers and potential partners. Our ability to create scenarios for the future and recall vivid memories has probably been a huge evolutionary advantage. The memory system is an open, flexible system that yields the possibility of creating an almost unlimited set of scenarios in our consciousness, which can all be evaluated consecutively.

Consider too the ancient Greek mnemonic technique *Ars Memoriae*<sup>68</sup>:

#### **Memory Palace**

*Also called the method of loci (journey method)*

*It was used to remember speeches that could last for hours.*

*You let key points of whatever you need to remember be represented by certain objects and visualize them in connection with particular locations.*

*To remember a lot, you create an imagined, envisaged route to follow, for example through a city or, if you happen to have one, your palace.*

*1. Either go to a place with many rooms or particular locations or create an imaginary one.*

*2. Carefully walk through and remember every room or location. The places and their order never change, but objects in them can change.*

*3. The strategy is to envisage that you walk to the first location and attach small portions of information to certain objects in that location, then continue the tour until your large piece of information is placed.*

*4. The rehearsal process involves imagining walking through and remembering the places, the objects and then the text or whatever you have associated with it.*

*The way our cognition works corresponds to the spatial positioning of our thoughts.*

#### **Amnesia**

Amnesia is an important phenomenon of memory. It happens *during coding*, since one's attention cannot be everywhere at the same time. It happens in *short-term memory* – the working memory can only manage about 20 seconds or 7 digits +/- 2. Many memories are not even held there for further processing. Worries and stress clutter the working memory. Short-term memory is precious; it occupies space, but is important to us. However, different layers of information that do not distract one another can be processed simultaneously. Amnesia happens *during decoding* (remembering and recalling). Cues can be mixed up, become attached to another, but similar memory network. And this takes the form of *childhood amnesia* – memories from before the age of 4-5 gradually decay and disappear around the age of 9<sup>69</sup>.

Impressions, memories and false memories behave quite similarly. Our memory is reconstructive and flexible. Switches take place. Memories are stored as fragments, separate content common to several memory networks. This is efficient and saves space. However, all memories must be reconstructed and recombined when recalled. And so we fill in the gaps with what appears likely. As a repository of props bound in a network maintained by the hippocampus. This also frees up our thoughts – to interpret, to adapt, to use the information, to recombine



it, to see if it fits or can help us understand the unforeseen, previously unexperienced situation we are facing. But it comes at a cost: Things may easily be confused, erroneously recombined. False memories can emerge. “All the small bits and pieces that together make up a memory make no sense until they are recombined in a scene where the action unfolds.”<sup>70</sup>.

**So:**

Memories are not fixed. In order to remember, the brain use place to organize the memories. We understand and remember better when our bodies take part, experiencing things with several senses. Personal participation is vital to memory.

Memories are influenced by new memories. Bits and pieces are recombined and reinterpreted, recontextualized in accordance with new (or forgotten) information. Memories are flexible, and open up our thoughts, adapting them to the solving of unprecedented problems – the concept of recombining is probably absolutely central here.

We remember difficulties and obstacles better. This is evolutionary. We have to find workarounds, to try to understand the core of the problem. This involves what Daniel Kahnemann refers to as system 2, which forces us to think. It implies repetition and potentiation. We stop and repeat actions when we meet obstacles. These obstacles become hooks that help us remember. They become points in memory, navigation points. It is reasonable that challenges have to be remembered in an evolutionary perspective, while what is straightforward can be dealt with more automatically, with little effort and little need to waste brain capacity.

Memories are interpreted on the basis of new information, or are established anew because information has been forgotten. Memories are regeneration of information, which is a malleable entity. It is important to remember that ‘new information’ in this respect is not qualitatively new. “*The human memory is a marvellous instrument of elimination and transformation – especially what we call collective memory.*”<sup>71</sup>

Fixing in writing removes this instrument of transformation, the contextually dependent interpretation. It removes what seems to be the most important function of memory – to be able to recombine known pieces of information in order to understand, comprehend, adapt to and solve future challenges, and plan for their potential scenarios.

The context is in other words crucial, you cannot ignore it if you are to know, sense or interpret a situation, including music. Nor is it ever irrelevant who the sender is.

1. **The context of creation** informs the actual creation of any message or piece of information – and our perception. Situations can never be neutral. Place is not neutral. Place always informs the ‘subject’, whether the ‘subject’ is sender or recipient. It must therefore be asserted that:
2. **The context of realization** also is central to the outcome of the interpretation of any piece of information. It informs our perception.

**Context**

“A joining together”.

Latin *con-* “with, together” and Proto Indo-European *\*teks-* “to weave, to fabricate”, “a joining together”.

The circumstances or facts surrounding a particular situation, influencing its meaning, influencing perception.

**Recontextualize**

From Indo-European *\*wret-* – “to turn”, latin *re-*, “back to the original place; again, anew, once more”, also in the sense of undoing.

## KNOWLEDGE GAP

When trying to understand the missing parts, the brain has to do so within current, available and present frameworks of understanding. This is why standpoint and context are crucial to what and how we interpret. We do not comprehend something in a neutral, logical or abstract way, as something real or actual, as an objective reality, as detached from context. Such a reality may exist, but no human being can claim an objectively valid perception of external reality.

The French sociologist Émile Durkheim says that “*society is memory*”<sup>72</sup>. Memory, or memories change every time they are retrieved. They are overwritten. They are influenced by new context when they are retrieved and interpreted. The memory is recontextualized. The collective memories of society, in books, courses of education, ideologies, politics and attitudes, are precisely in a process of constant change. Everything, including fake news, affects our collective ‘knowledge’. In purely physical terms there is no difference between right and wrong in our memory and perception. Misconceptions, misunderstandings and active changes in events remain in the collective memory of society.

Everybody has an individual, specific and personal history of experiences, cognitive capabilities and bodily capabilities, resulting in a supremely distinctive apparatus on the basis of which the outer world, external stimuli, what we sense and experience are interpreted.

### Cognition

The mental action or process of acquiring knowledge and understanding through thought, experience, and the senses. (Oxford Dictionary)

### Cognitive dissonance

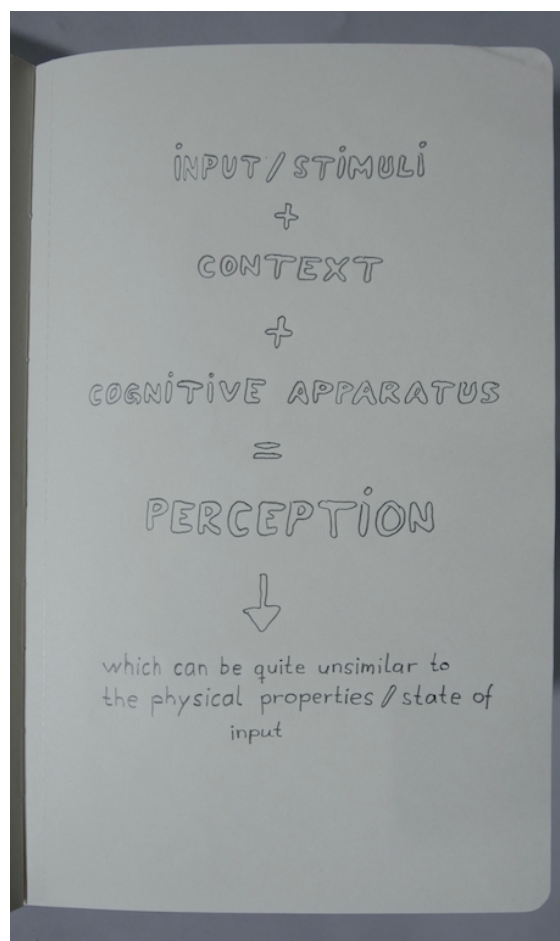
Inconsistency between beliefs and knowledge .

(Østby & Østby, 2017 – referring to Leon Festinger)

Everything is processed in context and based on what the brain thinks it knows. Our sensory apparatus gathers information – for example the sensed colour of an object. Then the context has to be considered. The stimulus is interpreted on the basis of perceived input, previous knowledge of similar situations and contexts, which may affect the need for immediate action. Therefore the brain constantly evaluates and interprets the perceived information coming from the surrounding world, creating an understanding aimed at survival rather than correctness. Our cognition opens up the possibility of conspiratorial thinking through the ability and the will to try to fill in the gaps, the shortcomings, the emptinesses. At the same time the brain learns what it repeats – feedback. Thus errors and misconceptions become self-reinforcing. Our interpretation is what we store. This therefore makes enormous ethical demands on utterances, on media, on the educational system, and on the individual.

The German-Canadian psychologist and criminologist Julia Shaw researches the planting of memories and the use of manipulative questions suggesting connections between events without connections and the use of memorization techniques<sup>73</sup>. She thinks there are hardly any limits to what people can be manipulated into remembering about what has happened (invented experiences). Her research is based on among other things the work on memory of the American researcher Elizabeth Loftus, who wrote the book *The Myth of Repressed Memory* (1994).

Our knowledge of the world around us is extremely vulnerable. It is challenging that the same brain we use to identify manipulation, for example, is or may be manipulated to a greater or lesser extent.



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<sup>60</sup> Kahnemann, 2013.

<sup>61</sup> Andreassen, 2014; Joordens et al, 2014.

<sup>62</sup> Moser, Kropff & Moser, 2008.

<sup>63</sup> A short introduction film: *Edvard and May-Britt Moser: A journey into entorhinal cortex*. (2011). [Information film, 5 min] Youtube: NTNU University. Retrieved 7 September 2017 from <https://www.youtube.com/watch?v=CguLe5pEpUY>

<sup>64</sup> Dietrichs, 2015, p. 127 my translation.

<sup>65</sup> Moser, Kropff & Moser, 2008.

<sup>66</sup> Johnson & Redish, referred to in Moser, Kropff & Moser, 2008.

<sup>67</sup> Moser, Kropff & Moser, 2008.

<sup>68</sup> Malamud, Carl. (n.d.). Memory Palaces : a millennial metaphor? *Mappa Mundi*. Retrieved 7 September 2017 from: <https://mappa.mundi.net/cartography/Palace/index.html>

<sup>69</sup> Østby & Østby, 2017.

<sup>70</sup> Østby & Østby, 2017, p. 41, quoting McQuire, my translation.

<sup>71</sup> Olwig, 2002, p. 52 – quoting Marc Bloch.

<sup>72</sup> Émile Durkehim referred to in Støstad, Mads Nyborg, & Gilberg, Liv Berit. (2017, June 10). *Jeg har et falskt minne. Det har antagelig du også*. nrk.no: <https://www.nrk.no/dokumentar/xl/den-forraederske-hukommelsen-1.13512390>

<sup>73</sup> Støstad & Gilberg, 2017.



# PART III:

## THREE WORKS AND A TRAVEL LOG

This chapter comprises a description of each of the three works that are the artistic results of the project. Here I give an account of the choices made, what I proposed to do, what I did, and what I did not manage to do.

The original project title was *Land Music and Comfort Music*. The two parts were meant to reflect each other. How could experiences and material from concert installations be applied to landscape music, and how could experiences and material from landscape music be applied to concert installations? The focal point in the project has turned in the conceptual direction. The question above has nevertheless remained. I attempt to deal with it in this chapter.

### Working with the unmade

How does one go about trying to create works with an abstract touch? There are many ways of answering an artistic question, and it is important to be aware of this. There are always alternatives. The important thing is to be able to choose something from the swarm of ideas and possible solutions, a concept that makes sense in the context, that gives coherence to the context it stands in. This is the difficulty in having to create something that does not yet exist, which has no list of ingredients, and which must come into being while the method is being developed. Like many people, I believe, I experience a helplessness and perplexity that it is difficult for others to help me find my way through. The creative phase, in which ideas, concepts and methods are developed in parallel with a mental trying-out of the material, is the great difficulty. It is in these waters that the basis for art is developed.

Later comes a working-out phase with tens of thousands of large and small decisions, demarcations, evaluations, considerations and compromises. In this stage I am dependent on having done good preliminary work with a lot of research.

I apply a lot of intuition and make discredational choices within a delimited or defined concept or domain. This is crucially necessary to be able to produce the comprehensive body of material for which I have gradually prepared them way.

The way forward to materialization is a winding path. It is very easy to forget the original idea, or perhaps not forget but lose contact with it. The project grows into an apparatus of its own along the way, where all the decisions and logistics can come to overshadow the idea. As if there is poor contact in a cable. It has been said by many people, but cannot be repeated too often. Make sure you remember the idea. Go back to it. What was the original desire, what was the intention, what was the rationale behind the idea? Why did you get it, what was the need, what was the impulse? Make sure you go back and check that the contact is plugged in at regular intervals. Ask yourself what the intention is with this. What is the main point? It is so easy to forget the original idea amidst all the byways of organization, planning, explanation, conception and research on a project.

#### **Abstract**

From latin *ab* – “from” and *trahere* – “draw off”, literally drawn away.

Something that concentrates in itself the qualities of a larger item disassociated from any specific instance.

It is a recurrent challenge to keep hold of the long lines. Not to fall for the temptation to vary more, to add new layers of detail, to develop the details. For in the everyday, concrete work of selection, working out, composing, editing, filtering the material etc., you are deep inside it, inside the material, in the progression of the seconds. I should have a sign hanging on the wall saying "Stick to the monotony! Don't depart from it!" Each time I have doubts – and in such a process there are doubts everywhere, constantly, about whether the material will hold up, about the actual idea, about whether the timing will be right, whether the small errors in the visual material should be corrected, masked, or can be left as they are – that sign could remind me to stick to the idea.

After all, I create various types of works, sometimes in the same periods, overlapping, with different demands, that must be done in different ways, with different emphases on the details, different requirements of the sound quality in the work, each of which demands its own unique solutions – even though they are supposed to be closely related in their themes.

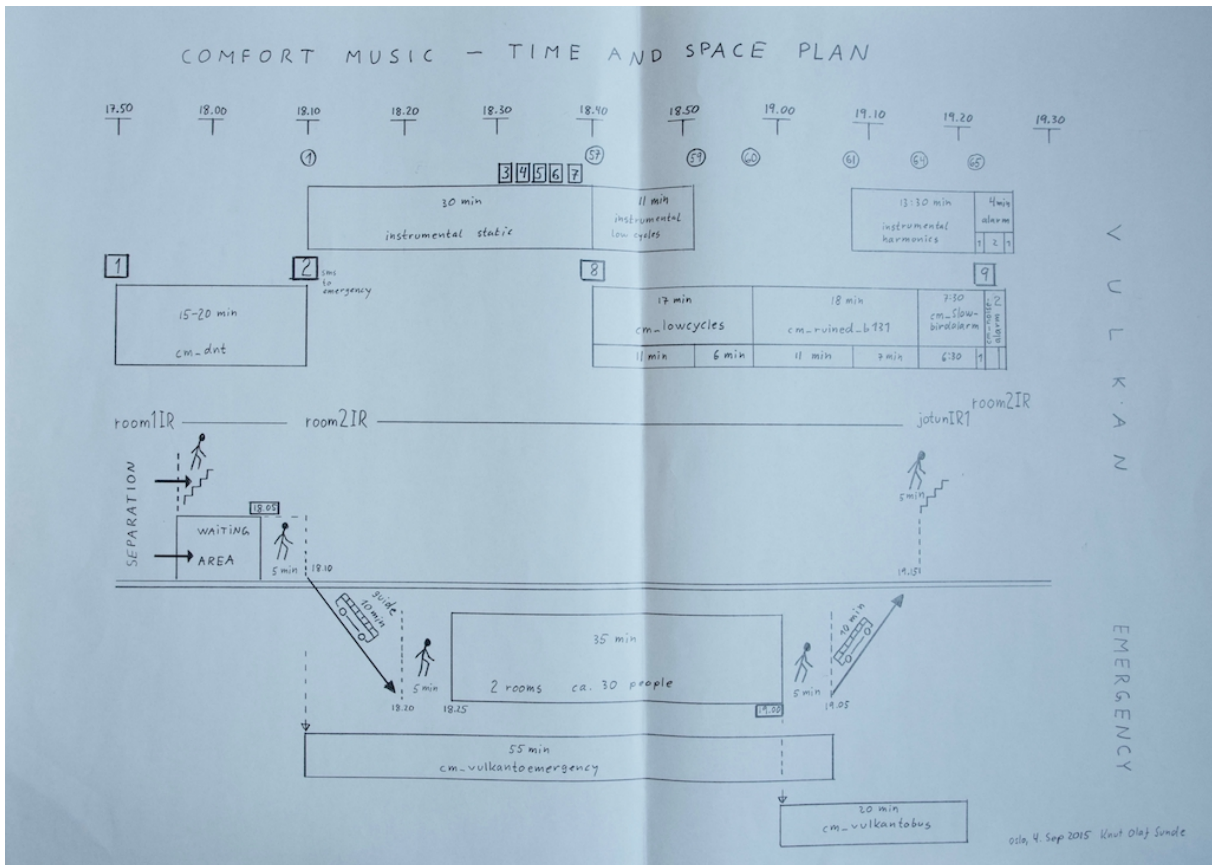
Changing modes is difficult. It is not difficult when you have a recipe, when you know how the task is to be performed. Daily life is full of this. But it is these long processes where the work grows up laboriously while one has one's doubts about how it should be, that are mentally demanding. What is the proper balance in maintaining the idea through the doubts? How far should one yield to impulses from the other works one is simultaneously creating? Should they affect the decisions? Obviously they will have an influence, whether we want them to or not, but should they affect the conscious choices? To what extent is it fruitful that they do so? Is it not precisely a point that the conscious choices are affected by such concurrent processes? The work is always, inevitably, created in a context – the context of which the auteur is a part. This affects all the decisions along the way.

The switches between modes are difficult because the thought, the idea, the notion of a situation in the not-yet-composed work can seem so clear (and sometimes so good) when it arises, but can be so vague and ephemeral. Sometimes a single memorandum, a few words, or just some lines, scribbles with a figure or two, may be enough to store this thought for days, perhaps months, but usually it is only a desiccated skeleton of that thought when it is brought out again months after it was noted down. The memory of it has changed, it is influenced by what I have done in the meantime; it also appears in a new light. And in any case, in the process as a whole, there is much doubt and uncertainty. Not for want of a credible idea, or because the work has nothing going for it, but there is no recipe for how the work is to be carried out.

Anything can at any time be approached in quite different but also good ways.

It is important to remind oneself of this, and that it does not mean that the exact way one intends to deal with the issue is, for that reason alone, any the worse.

# COMFORT MUSIC



At the Reseach Catalogue there is a 5 min introductory video, score, audio and the album release booklet.

<https://www.researchcatalogue.net/view/565811/565812/0/27>

The album can also be heard at

[https://open.spotify.com/album/3M15kosef8XHcljynX7zfq?si=fiLILub\\_RCOG-CsYUaFMtg](https://open.spotify.com/album/3M15kosef8XHcljynX7zfq?si=fiLILub_RCOG-CsYUaFMtg)

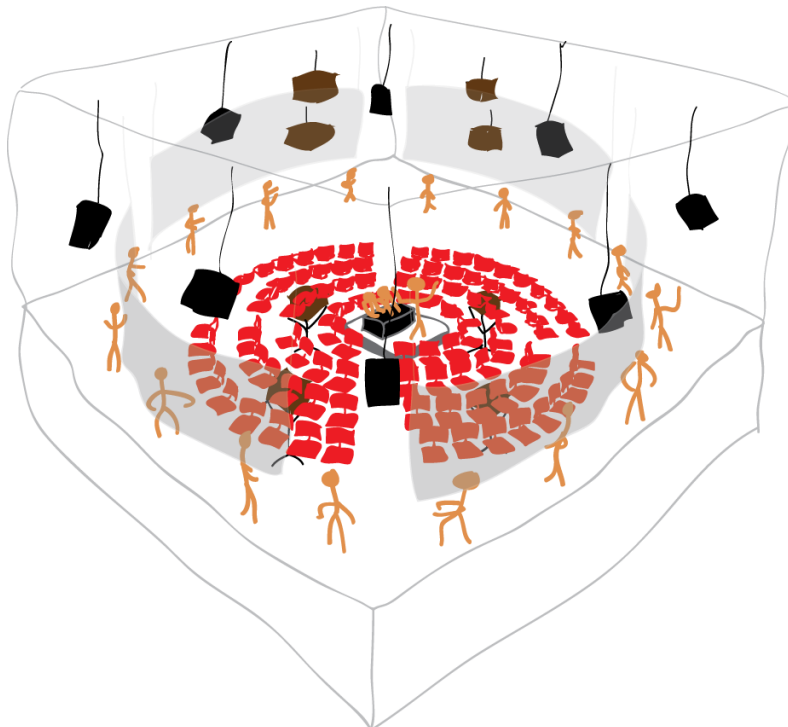
## CONSTITUENTS

Comfort Music is a staged concert that investigates the significance of surroundings and context for the way we relate to a situation or a place, or understand music. Through the use of two different localities, the role of the context for the understanding and interpretation of what is actually one and the same situation is put to the test. The locations are *Vulkan Arena* and the *Åsen Emergency Communications Exchange*, Oslo, and the event involved eight musicians (saxophone, trombone, vibraphone, piano, guitar, violin, cello, double bass), a conductor, three sound engineers, a bus with a driver, a 4-channel loudspeaker setup at both locations, and a divided audience.

Only Vulkan Arena was announced. This is today a concert club in a closed-down industrial hall where there was once an iron foundry. The second locality is the secret, forgotten and abandoned Emergency Communications Exchange at Torshov, Oslo. The exchange was built in a hurry immediately after the Cuban Missile Crisis in 1962 to maintain basic communications during a catastrophic event. Now it is abandoned, a ruin and a witness to the past. On arrival the public is divided into two groups with little information about what is to happen. The two groups are given quite different experiences of what is basically the same material. The information and the overview are insufficient. Each group must be aware that something is happening to and for the other group. This articulates the sense of a different place.

## PROCESS

I set out to do something with the space, to work with a created situation as an audiovisual performative concert installation. At the start of the work I had also formed some quite rudimentary ideas about the audio material, which had the potential to let the work go in different directions. I had quite concrete thoughts about an immersive listening situation with chairs in circles facing out over a podium, speakers beneath the audience, musicians in an outer ring and speakers above and in an outer circle, as well as four curving screens on which visual material would be projected. This is the sketch I made for such a situation:



The expectations of others can be unnerving. I had an agreement to work with the Oslo Sinfonietta. Musicians' ideas about the performance of music, what music is and can be, will always enclose the space of opportunity, more or less explicitly. Different people apply different evaluations to what their profession is actually about. Where do the musician's and the composer's expectations meet in terms of idiom, rehearsal, theatrical tasks, their mutually dependent roles? What ownership does the musician have of the work that is about to be brought



into being? What is the dialogue like in the ensemble? How does the composer communicate? What are the underlying attitudes before their meeting, and what premises for cooperation are taken for granted?

We set out for a workshop. At the wish of the ensemble it was scheduled for nine months before the premiere. Oslo Sinfonietta did not know what I considered doing, and were uncertain about the project. I understood that the ensemble wanted to ensure that a type of material would be used that made the ensemble come out of it well in terms of sound, and that it was to be challenging to work with in terms of the technicalities of the material. The workshop was also timed so the ensemble would be able to cancel.

This involved a resistance, an unwillingness that I attempted to handle, but I was unable to find a way. I remember an embarrassing session with the very able and likeable trumpeter Jan Fredrik Christiansen. I am very well aware of the possibilities and limitations of a trumpet, so I have no idea any more of why exactly we agreed to meet one on one. Different expectations caused me to fall into a politely questioning role where, to tell the truth, Christiansen spent time explaining and demonstrating things I knew very well from before, and I didn't stop him. This came to be because my musical ideas did not follow the lines for technical instrumental challenges, partly because I was struggling with quite different issues, such as place and context. Neither this single meeting nor a musical workshop and testing a musical material could help me with this. I must emphasize that I am sure everyone came with the best intentions. But I seemed to have become bogged down in expectations that partly came from the ensemble, and were partly my own projections in trying to create a material that could at all yield some sound in a workshop.

At the last moment I put together some sound material for the workshop. This may well have been material that could have been developed into something, but it had little to do with what I was struggling with in that phase. Oslo Sinfonietta probably felt that I was not using their time well. I felt rather shamed in the course of that day. I had brought little to the table and we had far too much time for it. Nor did I need them to test the material, if in fact I needed to test anything at all. I was caught up in my own perception of other people's expectations of me, which I tried to fulfil even though I was working in another direction. It just felt wrong.

Oslo Sinfonietta broke off the cooperation. Naturally, I was frustrated and bitter. After all I needed very able musicians, just not for scintillating music. All the same, the break was fruitful. It was like being set free. Set free from the expectations. I further realized that my position as a composer can only become truly interesting when I have broken free of these bonds. This was important if I was to be true to the project.

## **CHOICE OF LOCATION**

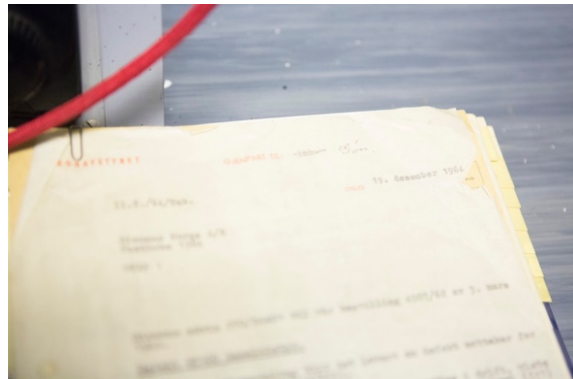
The issues of place and ensemble remained, however. I considered bussing the whole audience somewhere else after they had assembled at Vulkan. I did research on the history of the factory with the river as energy source and as the basis for early mill operations and later industry. The hall itself had aesthetically and functionally drifted far from this. Exclusion became an important theme to take hold of because it accentuated the experience of what are fundamentally the same events, but from different standpoints and situations.

Research at places now revolved around closed-down resource exploitation sites and nature areas of social or cultural significance. Places that were investigated at more than just the ideas stage were the Ytterborg beer halls beneath Gamle Aker Church with the old silver mines nearby, the old charcoal-burning stacks at Monsetangen by Solemskogen and the lake Dausjøen in Maridalen. The beer halls were rejected in view of the access problems, while the other two were too far away with too much travelling time, which would exceed the available time window in the concert logistics. Nor did I think they had clear enough links with the themes I wanted to work with.

But when I came across the Åsen Emergency Communications Exchange at Torshov in Oslo, the problem was solved. This is an emergency communications facility in the event of war or a serious crisis where the main exchange in the city centre would be out of action. This was to be a secret, and it is today a kind of contemporary ruin. The emergency exchange activates issues of exclusion, survival and potential war. Something ultimate could be set in motion.

I could work with that. The work with Åsen and Vulkan and how it was to be dealt with had taken over from working with visual projection material. I would have to get back to that in later works. The dynamic Aksiom Ensemble for new music fortunately had an opening in their calendar, and we established a good, hopefully long-term collaboration.

The emergency exchange is built in a bomb shelter in a basement. There is not so much room, it was just possible to send around 30 audience members there. I therefore divided the audience, wishing to see what exclusion and inclusion did to perception. Two groups were to encounter the concert not knowing what was to happen, and each from its own position was to experience what was fundamentally the same material, with different access to information.



Photos: Henrik Beck Kæmpe. Comfort Music at Åsen Emergency Communications Exchange.

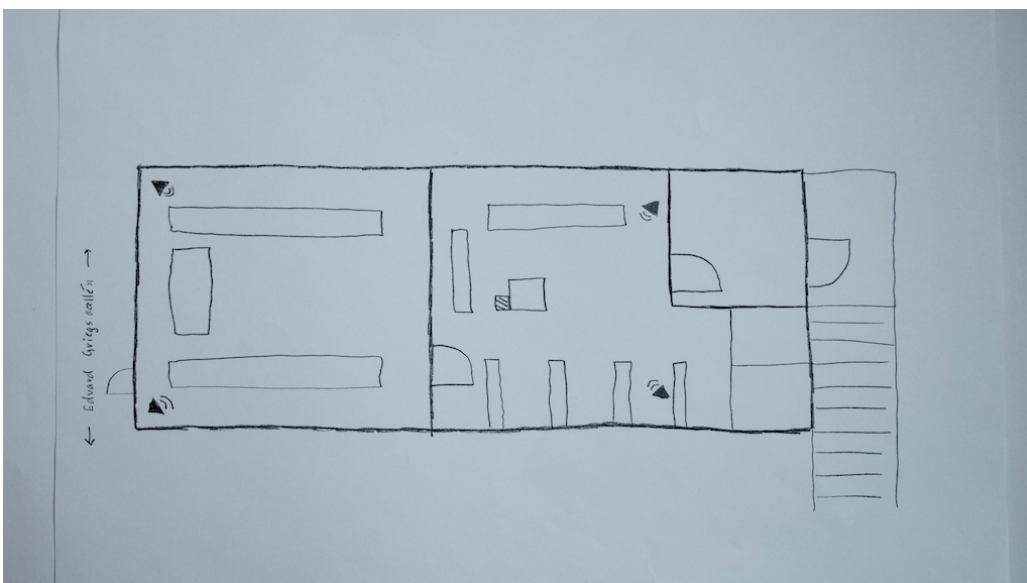


Photo of approximate blueprint of Åsen Emergency Communications Exchange, Oslo

## ARRIVAL AND ENTRANCE

During the arrival scene the selection or division of the audience took place. Two of the musicians stood there and welcomed every single member of the audience. They picked out audience members for whom they succinctly and politely opened the side door and whom they asked to be so kind as to step in there. The other audience members were shown up the stairs to the concert hall. They were given no more information. People who needed assistance (children, elderly, disabled) were to be accompanied by those they came with. If anyone asked what was happening, why, or wanted to join the other group for various reasons, they were met with a smile and directions to do what was asked.

The ultimate exclusion in recent times took place when prisoners arrived at the Nazi concentration camps during World War II. Out of a macabre idea of lightening the mood, and to camouflage what was to happen, to give a last impression of something else, to manipulate the new arrivals into being as calm and controllable as possible, small ensembles played light music on the platforms during the daytime. It must have been grotesque. And it is so difficult to put words to, and such a vile use of music that I will go no further into it here.

The arrival scene at Vulkan consisted in purely musical terms of a processed song. The song was a lightweight, lush-sounding popular hit from 1951, not so distant in time from the musical style of the songs that I imagine were being used in the concentration camps. The song I used is from a time when World War II was some way back in the past; it was a time of affluence, and it was still some time before the iron foundry at Vulkan was to close; the Cold War was gathering momentum, it is true, the fear of nuclear war had arrived. The song *De Nære Ting*<sup>74</sup> (The Close Things) by Kurt Foss and Reidar Bøe was about a constant longing for another place, but about finding “*the way back to what you have*”, to “*loving the close things*”.

This down-to earth song about the grass not really being greener on the other side can evoke associations with the lounge music in the bar in Stanley Kubrick’s *The Shining* from 1980. I must emphasize that the song *De Nære Ting* has no associations with anything Nazi or anything to do with the war. On the contrary it can arouse a gentle feeling, a wish for presence, to be in the situation one is in. To be alert to the concrete, what exists where we are. It is also situated in time midway between the ultimate alienation of the Holocaust and the Cuba crisis of 1962.

The song is processed such that the playback speed is increased somewhat and it is repeated over and over again in an ever-shorter loop which in the end is nothing but a pulse. It functions like waiting music that points to the fact that the split-off audience group is to do something else, that something is happening concurrently. The hall in the Vulkan Arena is up a flight of stairs. There people bought beer. Downstairs the 30 audience members sat in a side room shut off for the occasion and waited while a bad speaker crackled out the same waiting music. The conductor was there too and soberly welcomed everyone. He was to be their guide to the emergency exchange, and thus not present at Vulkan, where the musicians were. He was given his own script, which must be considered part of the score.

The conductor script can be read at Research Catalogue. It only exist in Norwegian:  
<https://www.researchcatalogue.net/view/565811/565812/0/27>

## SYNOPSIS

The following is an edited version of the synopsis I wrote as a background and explanation for the musicians.

### Vulkan

The Akerselva river, surrounded by good agricultural land, was relatively well protected innermost in the fjord, and was one of the important preconditions for the growth of Oslo. Oslo’s first ‘industry’ with grain mills arose in the Vulkan area along Akerselva more or less concurrently with the city itself. Later came the sawmill and the iron foundry, which was given the name Vulkan after the Roman god (Vulcan) who reigned over smiths and fire, and was supposed to extinguish malignant fires. The god Vulcan was a regulatory power – like modernity, which attempts to map and regulate actions and territories. Regulation tames what is wild. If there were nothing wild, there would be no regulation. Landscape, ideas, resources, industry, production, economy, technology, politics, social life, welfare, movements, patterns of behaviour, morality, religion, information – all are mapped and regulated and are central to the building-up of economic structures – for land, for states and for civilizations. The Vulkan iron foundry was closed down in 1968, and what remained was an empty,

abandoned industrial hall, a shell, a contemporary ruin, which has then been reoccupied by the culture and service society as a concert arena.

The Italian philosopher Giorgio Agamben writes about exclusion as the foundation of power<sup>75</sup>. Power – the power to regulate, or making of laws – is the power to exclude, or to set the law aside, to declare states of emergency. To include (some people) is to exclude (some others). This is a basic structure, also of modern western democracies. It is crucial to be aware of this when one develops societies and new policies, and in order to understand foreign perspectives. As I see it, this is related to our tendency towards perception based on expectations. This is based on the fact that our cognitive apparatus (the available cognitive structures) will always try to make external stimuli fit with already known information – no matter what the external stimuli actually consist of. Bertolt Brecht calls this ‘thinking before we have observed’. But to interpret and understand better we must be aware of this, and must try to maintain a listening attitude, be equipped to shift the framework of what we are attuned to. The ability to observe and navigate in unknown territory, to deal with inadequate information, is fundamental not only to the individual but also to society.

Will the extreme formulation, the critical situation, mean that the listener is more alert? Will it have a clarifying effect, demand a more responsive attitude? As an audience, will we prick up our ears, try to put the pieces in place, manoeuvre our way forward to recognize and grasp the perspectives of others?

Just as the demand of the modern for regulation cannot be met without the existence of something wild, Agamben thus claims that inclusion requires prior exclusion. Who defines the truth of the situation – the included or the excluded? In whose perception of reality should we put our trust? How important is the context to the perspective of different interests?

Anyone who rejects a common identity and collectivity in principle becomes an enemy of power, of the community, of culture so to speak, and thus of the state, because most countries are nation-states constructed around shared cultural reference points. This means that power structures will try to influence the outsider. But power structures try to counteract this precisely by creating (new) outsiders. They will create unities, or totalities, where those who are included are integrated in the unity. The power structures thus integrate by excluding. Doing this involves a potential for violence, and in the longer term they undermine themselves. They undermine qualities that any civilization will need. It is therefore important to distinguish between parallel realities that have arisen through the neglect of information, and foreign perspectives that have arisen through other available internal cognitive structures.

The world holds very varied views of the real nature of events, despite the fact that it has presumably never been closer to a kind of ‘perfect access to information’ than it is at present. (Different views of reality must be kept in mind in the assessment of fundamental capitalist economic models based on free competition, which assume that everyone possesses perfect information.)

The Cold War was subject to the same realities, but with two relatively easily identifiable opposite poles. ‘Relatively’, because many different conflicts of interest were disguised, were misinterpreted or were drawn into the maelstrom of the Cold War. On both sides great fear prevailed in parallel with optimism about the future, especially in the 1950s. Let us speak on the one hand of a kind of nuclear pessimism with the dystopia of war and the destruction of the world as the great concern of the ‘wild’. On the other hand we can speak of nuclear optimism, with technological development, the taming of nature and full mastery of the components and energy of the world in a regulatory optimism about the future.

### **The Emergency Communications Exchange**

When the Cuba Crisis arose in 1962, with misunderstandings and inadequate information, it was clear that all-out nuclear war was a real danger, and even Norway had to prepare for it. When the tension was at its highest it was decided that 13 secret telephone exchanges had to be built. They were to form a top secret, independent, secure communications network that would function even if the country ended up at war and it had to be assumed that the general infrastructure would be sabotaged, controlled or in the worst case entirely destroyed in the event of an outbreak of nuclear war. The exchanges were to secure contacts among authorities and important institutions. The rest of the population would provisionally have to manage as best they could with what would probably be very inadequate information and partly collapsed structures. Only a few selected politicians, and people from the Intelligence Services and the Armed Forces, as well as some selected top people from the telecommunications authority knew anything about this. The emergency exchange was not even shown on internal maps. The construction of the exchanges was highly classified. So far only a minority of such exchanges have been found. One is at Torshov in Oslo, hidden away in a bomb shelter in a cellar.

It was all abandoned, discontinued and locked up in 1963 when the Soviet Union began withdrawing the nuclear missiles from Cuba. The emergency exchange at Torshov lies there today as an abandoned structure, a ruin, still almost intact. It lies there as an image of a dystopia. Not only was the emergency exchange abandoned; the supposed dystopia has also been abandoned: the emergency exchange lies there as a symbol of an avoided dystopia that never happened. At least not yet. We can once more devote ourselves to everyday life, concern ourselves with the close things, until we have again sufficiently forgotten the art of navigating in an alien landscape, the art of maneuvering in unknown territory with insufficient information, trying to understand outside perspectives; until we again lack a fundamental alertness, again become inattentive, misunderstand and engage in encroachments.

Vulkan here represents something universal and open. It is visible, known, and publicized. It is an expression of earlier industry, production, economics, and now of culture – that is, of life. But it is still an empty shell. One function has abandoned the place, another has occupied it. All the musicians will be here. Most of the audience too. This group stands as a symbol of the people.

The emergency exchange represents the secret, the inaccessible and the hidden. It was long unknown, has been abandoned, an empty space, a ruin and has not been announced as a place for the concert installation. The conductor acts here as a guide for the minority of the audience. The conductor – the (power) elite – is separated from his ensemble – the people.

### Siting

As a form, the installation involves a spatial relation to a place. Vulkan and the Emergency Exchange both have aspects of abandonment. The two places have a conceptual relation to each other. The actual idea of the Emergency Exchange was to maintain basic structures in society in order, after a disaster, to return to normal; that is, to protect society – the means of production, industry, commerce, agriculture, the economy, the population, culture. But in the face of the given threat it was not thought that society could be protected concretely and immediately. Society had to survive, but it had to be assumed that much would be lost precisely in the desperate attempt to protect it. What was to be protected had to be sacrificed. The included had to be excluded.

The abandoned elements – the empty spaces in the ruins – remind us that everything is perishable. They remind us of what disappeared, who disappeared and what *could have* disappeared. The empty spaces are open, leaving space for interpretation. The empty spaces are where we must ask questions. They remind us of how fragile the linkages are, how little it takes before a fragile balance breaks apart in displays of power and violence. The linkages can be seen as thresholds, limits or quite simply as boundaries – that is, territorial boundaries. Power and law delimit and regulate territories, they create a space, an area for the exercise of power: a space, a territory, a place to be filled, defined, demarcated and regulated. Political power, or state power, lays claim to territories, that is places. Artistic power, as in a concert, lays claim to an audience.

The link between the use of Vulkan and the Emergency Exchange, each of which is in its way a kind of ruin, is the Emergency Exchange's intention to protect through exclusion. Audience and ensemble become actors in this fiction, in which a – gradually – more informed elite is sent to the Emergency Exchange, while the largest group and all the musicians – the people and society – remain at Vulkan. Many issues arise from this separation and labile situation. Musically, open spaces are created. The anatomy of listening is more or less turned around or reversed. The charged, partly collapsed situation requires navigational listening – as in a terrain; active listening, as when one travels by listening, just as one travels in thought. It is essential at all times to try to place oneself 'somewhere else' to build up and maintain the preconditions for understanding foreign perspectives. But since our 'somewhere else' is constantly in motion, we cannot remain anywhere for long. For then the preconditions lock on to particular motifs that gradually become known and included: then just *something else* is excluded, and we only *thought* we were navigating with a fresh ear in unknown territory. If we then settle into this frame of mind we are just as blind as before. Challenge, exertion and concentration over time, at any time, are necessary. It takes time to tune in to a situation; the pieces in the incomplete game must be fitted together; this requires us to reflect over the situation.

### Audio

To create such a situation musically, much information is omitted. To be involved, something must be excluded. Artistically I create open situations, (empty) spaces for reflection.

The title *Comfort Music* plays on the discomfort in the comfort. Comfort can mean both physical comfort and consolation. Consolation brings comfort. Consolation cannot exist without some preceding pain;

it requires earlier or chronic discomfort. *Comfort* depends on *discomfort*. At the same time this illustrates a comfort which is (perhaps) conscious about the absence of discomfort. The listener with his or her available cognitive structures is a not entirely unimportant part of the context.

In terms of sound the places are linked by the fact that the music that is played at Vulkan is also heard at the Emergency Exchange, while the auditory characteristics from the Emergency Exchange itself are used – as soundscape – at Vulkan [omitted in the final work]. The music has no classic ‘foreground’. Much has been cut out. Only traces, a framework, remain. There is no melody, no motif level. It is pure, with no concrete surface at sentence level, no linguistically formative sentence construction; no song, no speech, as if it is the ruins of music, a structure abandoned by humanity, by life. It is like an abandoned place. The framework is conspicuous. It is exposed structure, translucent, transparent music. It lies there open, empty, accessible. The music creates an open space which you must actively enter and navigate in by listening, by tuning into its frequencies. The music is typified by great persistence. Long, empty, contourless drifting floes – clear in their simplicity but unclear in their lack of direction – create an immersive sensation of being abandoned or lost. I had among other works Ulf Langheinrich’s *Hemisphere* (2006) at the back of my mind (see part I, *Siting*, Examples from other practices).

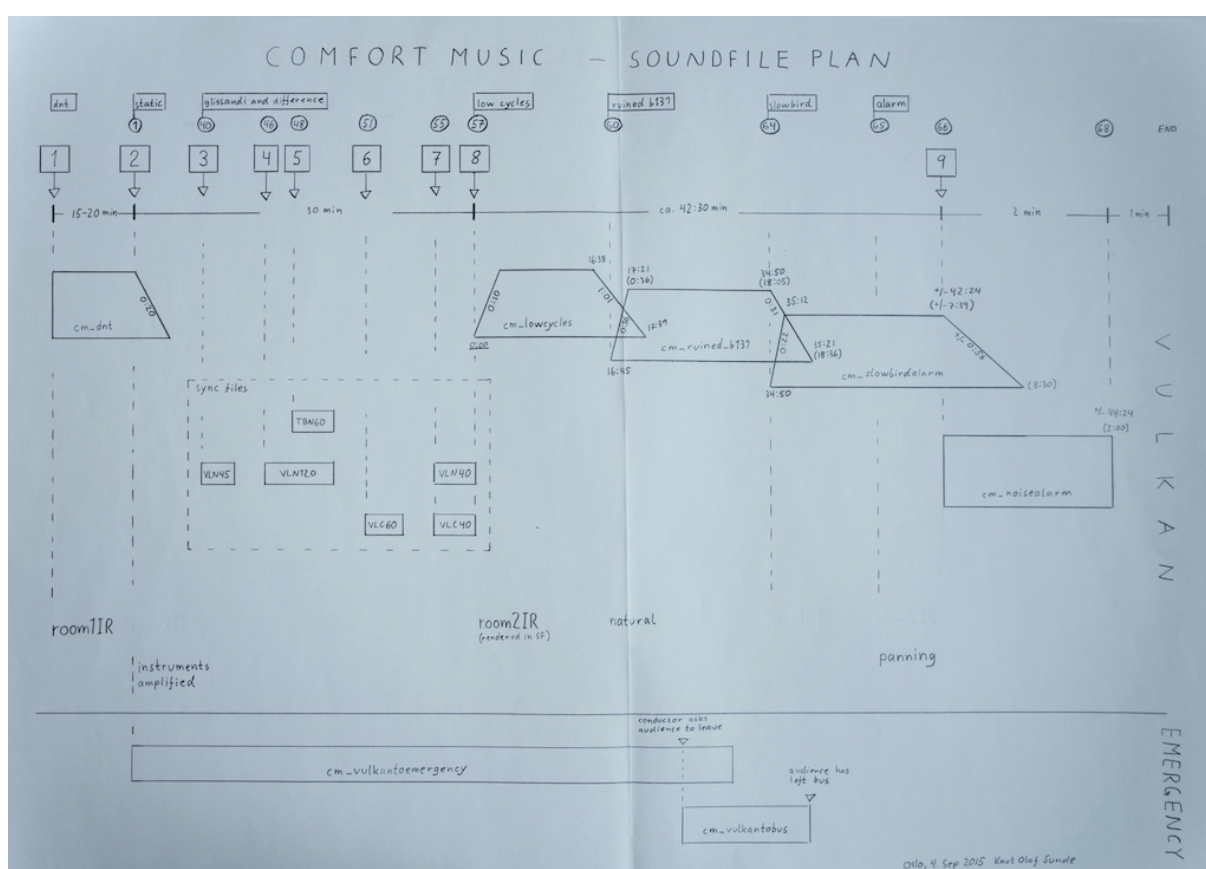


Photo of Soundfile plan for Comfort Music

Back to *Comfort Music*. As the arrival scene ends – with the fragmented lounge-music song – a minimalistic, static, repetitive instrumental movement on a few repeated notes begins. It consists on the whole of 16th notes at a tempo of 88. The harmony and instrumentation go slowly through a few changes. The situation is intense and static. Gradually, long sustained notes are introduced. After 23 minutes these merge into a few long glissandi with ‘difference tones’ as the result. The agogics have gone. The time aspect is thus more open. The harmonic field emerges and becomes more important. The actual sound, the frequencies, and in time standing sound waves in the space have built up and form an important element. A cyclic low-frequency electronic drone sequence with new added layers takes over after half an hour.

Then this all merges into a musical ruin: Beethoven’s *String Quartet no. 14 in C# minor, opus 131* from 1826, is one of the last works he wrote; the foremost by one of the most important composers in world history. Beethoven himself thought this quartet was his best work, and Franz Schubert remarked: “What is left for us to write after this?” Beethoven was almost entirely deaf when he worked on it, and the last string quartets were

considered to go far beyond what musicians and audiences were ready for at the time. A contemporary musician is said to have stated: “We know something is there, but not what it is.” One can say that this work marks the fault line between the Enlightenment with Vienna Classicism, and Romanticism with a turn towards nature and the emotions.

The first section of Beethovens's first movement is played at a very slow tempo and chopped up into quickly pulsating flickerings. We hear only remnants, flakes and husks of this work. After 11 minutes cello and double-bass come in with a veil of harmonics at an even slower harmonic pulse. Even more of the original music has gone, but in the form of an extra layer of disguise.

The musical ruins then drown in a distorted wilderness, a natural habitat – the free, the wild. Recordings of birds in different habitats have been combined at a low tempo into a kind of setting where nature has completely taken over – or perhaps this is where it all came from. Cello and double-bass still overlay it all with a slow harmonic veil. The work ends with an alarm and noise from the Emergency Exchange.

## INSIGHTS

The audience at the Emergency Exchange reported a feeling of claustrophobia. Being there, with what they had been told, with the music being played out, and the certainty of the other group remaining at Vulkan, meant that many thoughts about survival and crisis and who knew what had arisen. The music that flowed out from the speakers and filled the dense space created a space for reflection.

One objection might be that the work clearly functioned better at the Emergency Exchange than at Vulkan. The conceptual was more consistently thought through for that part of the work. At Vulkan a poster text was hung up saying among other things: *The two locations depict different potential courses of history, and furthermore explore the relationship between past and present as (thus far) an avoided dystopia, and a future that must live in our ruins as we live in the remnants of the past.* Incidentally the part of the audience here was told no more than that some of the audience had been sent somewhere else. In fact not everyone at Vulkan had this information with them either – after all some people go alone to concerts. If they did not read the poster either one could say that the whole conceptual foundation remained unknown to this part of the audience. The musicians and the best sound system were at Vulkan. For the part of the audience that had not been told that there had been a separation, the work appeared as a more or less ordinary, minimalistic abstract acoustic and electro-acoustic work. This is a weakness. The consequences of the informational choices that were made had not been sufficiently thought through to catch this. However, I have been told that those who knew this did think about where the other group was, or whether they were being monitored by them where they sat in the concert hall. But this part of the audience too knew nothing further of the place themes.

One audience member who was at Vulkan wrote this: “When it comes to the division of the audience I think – precisely with the idea of the different levels in mind – it was an interesting idea. But in that respect I quite simply have my doubts about whether it got through. It was done, of course, but I didn’t experience that the quality of the ideas broke through and became ‘present’ as a fruitful part of the ‘work’. The point was maybe precisely that it wasn’t supposed to, but in principle I consider this problematical. The fascinating thing about the division of the audience, viewed in purely intellectual terms, is – I think – that it is a radical break with the ideal of presence that permeated minimalism, and which in many cases – in my view – makes it rather uninteresting. Spatial aspects of the division are taken far – perhaps in fact too far – especially since the actual articulation of them was not satisfactory – in my ears and eyes.”

In my own view several members of the audience placed too great an emphasis on the ‘comfortable’ element in the title. The choice of title may have been counterproductive in that respect.

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<sup>74</sup> Foss & Bøe. 1951/1955.

<sup>75</sup> Agamben, 2010.





# CHASING AN IDEA – ATHOS AND DELPHI

In the project I originally meant to use acoustic measurements to recontextualize the sound of specific places. Instead I have turned more towards conceptual impulse response which, although it does not use measurements, puts our cognition to the test. The approach increases awareness of the meaning of the context and the significance of our cognition for how we sense and how we create stimuli. The project is a kind of metaphorical impulse response that makes us attentive to biases; not in order to strive for neutrality, but to clarify positions.

Impulse response is a method of measuring a system. In all simplicity it is about sending out an impulse and measuring the response. In acoustics the method is used to measure the sound qualities in a room, a hall or out in a habitat. The impulse that is sent out may be a strong sweep of white noise over the whole frequency range, or a short burst of white noise, an impulse, such as a pistol shot. With microphones you record the response, that is the sound, and how it plays out in terms of amplitude (which is the quantity of energy – that is volume) and frequency over time. Then you have made a sound imprint. You make sure you know the raw data for the impulse and measure the response against the source. The result can be used as reverberation in post-production in all kinds of audio processing.

In fact I travelled to Greece with a starting pistol in my luggage because I had intended to measure the sound in the two ancient theatres in Epidaurus and Delphi. This chapter comprises a travel log from Athos and an essay on Delphi with thoughts on an extreme situating which has inscribed itself in the history of the place.

## Einschub: starting pistol

I am not used to weapons. In Norway no licence is required to own and use a starting pistol, so I bought one and used it in Røyken and Mjølkedal.

In my simplicity I imagined that Norway in general had stricter rules in such an area than other countries. At Oslo Airport Gardermoen the check-in staff were uncertain about this so of course we marked the checked-in luggage regardless with the clear orange label saying that it contained a firearm. At the airport in Thessaloniki in Greece the luggage was naturally enough taken aside. I had to show a document saying that I had the right to carry it. I must admit that it was not that simple to explain what the purpose of the weapon was: to explain the project and the impulse response measurement where it was the sound that was the point, to make a sound imprint. The customs officer was very friendly, culturally interested, had himself been to Athos, thought the project sounded interesting but had to insist that starting pistols did indeed require a weapon licence in Greece. It had to be confiscated. However, I had a scheduled domestic flight to Athens a few days later, and they could keep it for me until then, and gave me the phone number of a higher-ranking customs official whom I could call during office hours the next day.

On the way to Athos I called the Norwegian police to ask for a short letter that explained that one was not issued with any papers in Norway granting the right to own the starting pistol, since there was no such requirement, and I sent this on to the customs officer. It is difficult to document a right that is not explicitly written down. The Greek senior customs official on the telephone was considerably less patient and declared that the starting pistol unfortunately had to be confiscated and destroyed. Oh well....

The backup solution, too, with large, specially bought balloons, had a poor reception from the museum custodians in Epidaurus. They were not having me measuring acoustics: it might damage the ruins (!), but they had no problems with other tourists bellowing, shouting and acting up. It probably required considerably more energy than these balloons could muster if any sound waves were to damage these ruins, so this was probably just a standard excuse to reject me.

## THE HOLY MOUNTAIN

This is a travel log and reflections from a trip to Athos and Delphi in Greece, 11-18 April 2016. The log explains the origins of an idea and how the context of creation is important, in this instance for what actually becomes or does not become a musical work. The journey to Athos enabled thoughts of long lines, unbroken traditions, absence, focus, concentration, cognitive priming and more. The incitement to go there, as it turned out, did not lead in the end to a concrete work. Although I was intrigued by the idea of following up on this, my judgement was that it would have to involve a stronger artistic emphasis on religiosity than I wanted to explore. However, the trip was an important prerequisite for choosing to travel to Mirnyj in Siberia. This, in turn, led to a concrete work.

**Athos** is a peninsula in northern Greece, an autonomous, theocratic, monastic state.

It is a separate territorial entity (polity) within Greece, also called "The Holy Mountain of Athos".

Women and children have no access to the theocratic state, and only a few men can come every day.

### THE QUEST

In January 2016 my 6-year-old son asked me what 'speech song' was. I guess he had heard some hiphop or rap with some friends and somebody at school maybe called it speech song. I said something about hiphop, *Sprachgesang* and recitative being used in churches for more than a thousand years, and now it was time to go play instead. A week later I sat in my studio, totally worn out from lack of sleep. My head felt like a ball of cotton wool, muffled, indistinct. Not a creative day. I wasted time surfing the web for used cabins, particularly poorly maintained shacks. They have potential, they represent an emptiness, not filled or pimped by someone else's taste. It got me thinking of ruins. How do we know what we know about ruins? And I wondered about early speech song as musical ruins.

### GREGORIAN CHANT

I researched *Sprechgesang* and recitative, song close to speech, using one or a few notes, in western music based on Italian monody. The concept of monody was developed in the 1580s by the Florentiner Camerata in their attempt to restore ancient Greek ideals. It meant "one person singing alone", but could include a sparse accompaniment, such as basso continuo or bordun. The ideals were filtered through the early medieval church and its Gregorian chant.

The associative research on this muddled day went on. Pope Gregory I the Great collected liturgical melodies from a variety of churches, so that his chants could be more consistent and uniform. He was a Roman by birth and lived c. 540 – 604 CE. The old melodies were probably transfigured during this process of assimilation. The reinterpretation spread over the entire Latin church.

What were these times like? They were difficult. The centre of gravity had moved east, the Western Roman Empire had collapsed in 476 CE. Crops were poor. Migrating peoples had destroyed large parts of Italy when the Eastern Empire attacked the Western Empire in 535 CE, beginning a twenty-year war, coinciding with a devastating plague in the 540s. Rome was left in ruins: only a few thousand people were left in the former centre of the world. These were Gregory's boyhood years.

In the tradition of Gregorian chant from the late first millennium, the rhythm follows the textual rhythm, the melody follows one of the modal scales. These were not transposed. Frequencies or tones were thus fixed. Melody moved stepwise. It was therefore unnecessary to write down rhythm or melody. But one needed to know the relative melodic change of direction on each stave as long as the mode was given.

Song was monodic, in one part. A second supporting part, the organum, was first described around 895 in *Musica Enchiriadis*, the first known book on music. Notation was at first in neumes – simple dots and streaks suggesting melodic direction or an ornament.

The Church had come to cultivate asceticism and completely rejected the use of instruments in the 400-500s. In order to become a Christian a musician was obliged to give up his profession. "Instrumental music risked the kind of sensual beauty that could spur one into committing every conceivable sin."<sup>76</sup> Music was

perceived as having the potential to influence or actually manipulate people into thinking otherwise than prescribed by the spiritual and religious framework.

## THE GREAT CANON OF REPENTANCE

So the advertisements for cabin shacks had me thinking. I didn't know very much about early medieval music, and listened to and read about church music from the first millennium. I quickly found and was intrigued by the *Great Canon of Repentance* – Megistis Kanon – the longest existing canon.

### Canon

Greek guideline, model, rule.

### Repentance

Regret, remorse.

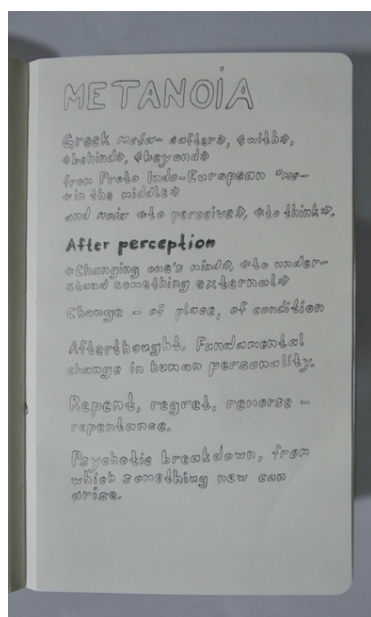
The Great Canon is still in use as part of the liturgy in the Orthodox Church, and I wanted to attend it in an authentic context. What then, is authentic? The context of its creation is an uncertain period; the political weight had shifted significantly, the Western Roman Empire had collapsed, plagues haunted the towns, the Migration Period destabilized many areas (the Bond Cooling Event may have contributed to this). Systems were not maintained, a new order evolved with Islam, and we know historically less about this time than both before and after. Who maintained the stories? Whose view is communicated?

The Great Canon was written by Saint Andrew of Crete<sup>77</sup>, who lived c. 660-740 CE. He was born into a Christian family in Damascus, Syria. When he was born, the country had been primarily Muslim for thirty years, after a fairly swift Islamic expansion in the early 600s CE. When I read about this, Syria was in the middle of a gruesome civil war. One of the belligerent parties – the Islamic State in Syria and the Levant (ISIL) – had conquered and meticulously blasted parts of the ruined ancient city of Palmyra. They saw their Salafist version of Islam as the only authentic and valid one. Non-Islamic and pre-Islamic cultural memories had to be destroyed, since they told another story. History was to be adapted to fit their worldview.

*Canon* is Greek and means guideline, model, rule. The Great Canon consists of 250 verses, a brief review of the Old and New Testament, and takes hours to sing. It is still used in the Orthodox Church at Easter and during Lent, which is a time of fasting, quietness and thoughtfulness, absence and asceticism, *to clear a space for reflection*. Repentance, or regret, is 'reflecting in hindsight', taking another position, and implies trying to change. To do things better this time. In the Canon, Andrew writes about the deepest remorse and sin. The ultimate repentance is *metanoia*. *Meta* means after, with, or outside, and *noia* is perception, thought and sensing.

*After or outside perception.*

Thus *metanoia* means changing one's mind, a fundamental change of mind.



### Metanoia

Greek *meta-* "after", "with", "behind", "beyond".

From Proto Indo-European \**me-* "in the middle" and *noia* "to perceive", "to think".

After perception

"Changing one's mind", "to understand something external".

Afterthought. Fundamental change of mind. Fundamental change in human personality.

Repent, regret, remorse – repentance.

Psychotic breakdown, from which something new can arise.

## ATTENDING THE CANON IN ATHOS

I asked Stig-Ragnvald Frøyshov, a professor of theology at the University in Oslo, and himself an Orthodox Christian, for tips on the various traditions. We talked about more or less musical traditions and more or less authentic traditions. The most authentic would be Athos. I have been preoccupied with ruins, abandoned things, remains, derelict places, and emptiness as a kind of blank canvas.

The monastic state of Athos in Greece is a medieval remnant, with an authentic, closed Christian tradition surviving from the era of the Byzantine Empire. The whole idea underlying the monastic life is to be isolated from the outside world, focused and concentrated, and Athos stands as a closed territory which will keep itself as much as possible outside the secular, concrete, pulsating surrounding world in an inward concentration on one thing, the divine.

It is exclusive, in that only 100 Orthodox and ten non-Orthodox men can enter every day. Women and children are excluded. In fact female animals are also excluded. As far as I know Athos is the only territory in the world that so consistently keeps the gender gap open.

I decided to go there to hear the Canon in as authentic a context as possible.

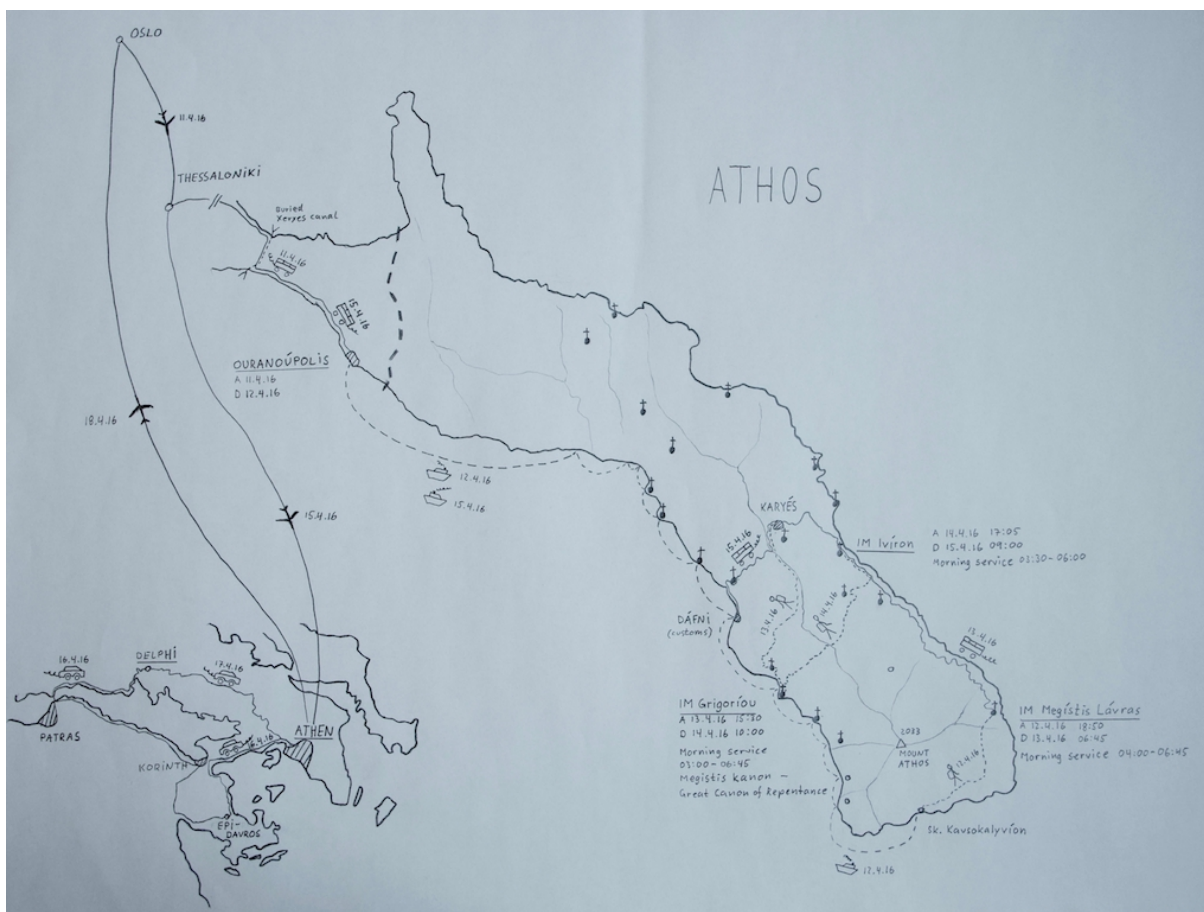


Photo of drawing of the the route to Athos, Athens, Epidaurus and Delpi.

### Dáfní, 12.4.2016 – 12:00

Dáfní is the small port of Athos. All transfers take place here, apart from a boat service on the eastern shore. It has been difficult to plan a route. Roads are few. Only trucks and local buses are allowed. Some monasteries are only accessible by foot along ancient paths. I want to walk, but asking for reservations is difficult. I've tried for weeks to call. Phones are not picked up. There is no official information for the monasteries, only a very helpful private web page<sup>78</sup> with some phone numbers reported by visitors. Most monasteries still use fax, and keep their e-mail addresses quiet. This has made planning a route difficult. Response from several monasteries has been non-existent or negative, and the response I *have* received restricts me to an awkward route.

### The southern boat, 12.4.2016 – 14:24

I am at the southern boat, planning to get off at the next and last stop, Arsanás Katounakíon. I don't know how far it is to Megístis Lávra, nor if I can get shelter there. I take food for several days as well as recording and photo equipment, adequate clothes etc. for summer trekking in the mountains, including my later visit to Epidauros and Delphi. The technical equipment is heavy. The backpack was probably the heaviest in Dáfni, 30 kg. Far more than recommended for just trekking.

Only men are around. There is something suspect about it. It feels awkward, abnormal. I am outside what these men have in common.

The main Orthodox Christian countries are Greece, Russia, Ukraine, Belarus, Bulgaria, Serbia and Romania. Most of the pilgrims and monks come from these countries, although men travel from all over the world.

### South slope, 12.4.2016 – 16:46

At the peak of Mount Athos (2033 m above sea level), there is a chapel called Metamorfosis Sotiros – a reference to the Transfiguration of Christ on Mount Tabor, Israel.

Snow covers the peak for a good part of the year, and it is often covered in cloud resulting from humid air squeezed up into cooler air and condensing.

### Eastern slope, 12.4.2016 – early evening

I had a break in the hillside above Skíti Timíou Prodrómou. The two men I had seen behind me caught up with me. They were pilgrims from Cluj Napoca in Romania, and recommended me to call IM Vatopedi, but I have already tried for four weeks to get in touch with them. I asked what they thought about the Avaton – they were twenty-something. They expressed joy, a sense of liberation, a wonderful feeling of freedom, freedom from temptation, saying that it was easier to concentrate here. And that men are men – we can't help being tempted.

### Avaton

Between 539 and 1046 a number of regulations helped to define the 'Avaton' that is still being practiced at Athos. In 1046 a Golden Bull (Chrysobull) was issued by the Emperor Constantine IX Monomachos "[...] *forbidding access to ... All women, female creatures, all eunuchs and all glamorous youngsters.*"<sup>79</sup> This formally settled the terms of the Avaton. The reason was to make celibacy easier, and because the Virgin Mary allegedly said so. According to this, men feeling the presence of women alter their social and sexual dynamic. In 1989 the EEC (the present EU) accepted that the rule on free movement of persons does not apply to Athos. Hence only ten non-Orthodox men are admitted daily to Athos. Women and children are never admitted.

**Avaton** is Greek for "what may not be set foot upon". As a term it describes a taboo, something forbidden, restricted and sacred. What must be avoided.

In this context, it has come to mean prohibition of women.

Athos is a monastic, theocratic autonomous polity within Greece. After the Eastern Roman Empire with its capital Constantinople (now Istanbul), not far away by sea, was ultimately defeated by the Ottomans in 1453 CE, Athos has survived shifting times as a remnant, a conceptually standing medieval ruin, of the Byzantine Empire. The 20 monasteries are still under the direct jurisdiction of the Ecumenical Patriarch of Constantinople.

The polity, or state, consist of a peninsula some 40 km long and 5-8 km wide. It has a customs border with Greece. No road crosses the border. Access is by sea only. A council of four men functions as the government, with its seat in the only village, Karyes. The main idea of Athos is segregation and asceticism. Monks have lived on Athos since around 300 CE.

### Holy mountains

In Greek mythology there were three main holy mountains: Olympus, Parnassus (just north of Delphi) and Athos. Just think of the idea of holy mountains (striving towards the sky, 'impregnable', unchangeable, unreachable (people didn't use to climb mountains as we do nowadays), up there in the wind and the clouds, 'near' the sun (sun god)).

One tradition says that the Giant Athos threw a rock at Poseidon during the Battle of Gods and Giants. This rock is said to have landed where the peninsula is today. Another tradition says quite the opposite – Poseidon was the one to throw a huge rock at Athos, crushing him where the mountain presides over the sea today. This rock-throwing recurs in the myth of how Delphi was located. Old customs are most often carried over as far as possible into new customs, where they may have to be recontextualized. The now-Christian hegemony required a new myth to explain the sacred place.

The Christian story is that as an old woman Mary, the mother of Jesus, 30-40 years after his death, was invited to Cyprus to visit Lazarus. She sailed with St. John the Theologian. A storm arose and they drifted off course, along the Anatolian shores and passed all the Aegean islands in the north, arriving at the shores of Athos, where IM Iviron is now located. Mary disembarked, and it is said that Jesus spoke to her from the sky:

*“Whatever you ask and pray for, O my Mother, is Yours always, if they keep my commandments! From now on this place will be Your share and Your garden and Paradise, and a haven of salvation for those who desire to be saved, but also a recourse and refuge and unshaken haven of repentance for those who are weighed down with many sins.”<sup>80</sup>*

### Custom

Customs are fixed when they are enshrined in scripture and explained as something that must remain intact, preserved permanently and in their entirety as holy archetypes. Or as timeless. Custom – cult – culture are all just a pattern.

Custom is not meant to be fixed. A dismantling of imagined barriers is necessary.

Customs must be customized for a society that changes through time.

*“The remembrance of custom is fundamentally flexible – memory is a marvellous instrument of elimination and transformation.”<sup>81</sup>*



1.



2.



3.



4.

1. Along the path between Sk. Timíou Prodrómou and IM Mégistis Lávras

3. Approaching IM Iviron from the south

2. Old path between between Sk. Timíou Prodrómou and IM Mégistis Lávras

4. Along the path between Karyés and IM Símonos Pétras, looking north to the hills just west of Karyés



5.



6.



7.



8.



9.



10.

5. Pilgrim's map of Mount Athos

7. Heremite cabins near Mikra Ag. Anna, seen from the sea

9. IM Simonos Petras to the left and the goal for the day, IM Osiou Grigoriou by the sea to the right. Mounth Athos in the middle.

6. Crossing the helipad at IM Megistis Lavras

8. Approaching IM Simonos Petras

10. The Central square in Karyes

### Hesychasm

Hesychasm is a mystical tradition of prayer that is important in Athos. It is a process of inward focus, repetition and solemn silence, until one ceases to register the senses, so as to achieve an experience of God. The specific prayer is a short sentence repeated over and over again while sitting still for hours. This is a kind of focus and concentration where one ceases to be aware of one's bodily appearance, becoming a mental stalagmite, gradually appearing, slowly adding presence, a kind of anaesthesia, a not- sensing.

A sense of floating may be felt when one sits completely still for a certain time, as the fluid in the organ of balance in the inner ear has fallen still and the nerves stop transmitting positional information to the brain. This is one possible physical effect of solemn, focused concentration. As soon as the head is moved, the motion again stimulates the nerves, again firing signals to the brain. Prolonged minimal stimulus has the effect of sensory deprivation evoking hallucinations including flashes of light and colours, which may turn into complex scenes.

### IM Mégistis Lávras, 12.4.2016 – 20:55

IM Megistis Lávras in the remote south east is the oldest monastery still standing, from 963 CE. I passed a heliport just outside and arrived at this medieval castle through a heavy gate at 19:10. No men around. It's huge.

I got a bed at a dorm, and had no time to change or wash if I wanted dinner. I was stinking of sweat. Sunset will be soon, when the gates close and no more visitors are accepted. A group of middle-aged Russians waited outside the dining hall. Doors were opened. I had no idea what I was supposed to do, whether there was some particular ritual or something, so I waited and observed. The large hall was decorated with icons everywhere. Benches around round tables. Plates for 7-8 at each table. Some black-clad monks (I presumed from the clothing) sat gravely around one table. The host stood smiling and showed me with a gesture where I could take a seat. I thanked him.

There we sat, a group of men, at the oldest monastery, in the April evening. Nobody said anything. There was bread and cold soup in some plates, potatoes on some others. A man in full-length flowing black robes sitting next to me was clearly dissatisfied with the food in front of him, snorting and gesturing. Nobody ate. After a while the host seemed to say a short prayer, and everybody crossed themselves. I had to make a decision, as the crossing ritual was already in progress. Not being religious, I have never crossed myself. I chose to adapt and do as the others did: crossed myself as best I could, attracting as little attention as possible. The discontented man did not start eating. I offered to swap plates if he preferred the food in front of me. He accepted in a brusque, dismissive way and started eating without thanking me.

A man dressed in colourful trousers and a worn-out T-shirt at our table fiddled with his phone. He was abruptly accosted by a monk who walked over to him, seized his collar, pulled him up and simply threw him out of the dining hall. This was clearly a serious offence, and since I had read there was a general reluctance towards photos, and video cameras were prohibited, I chose to be on the respectful side.

The monastery runs on Byzantine time, starting the day at sunset, while the liturgical day starts in the afternoon, and operates according to the Julian calendar<sup>82</sup> and is therefore thirteen days behind the outside world.

### Morning office IM Mégistis Lávras, 13.4.2016 – 06:42

I attended the morning office (*orthros*). A bell rang at 03:25. There was complete silence in this unmechanized medieval environment. After a while there were isolated sounds of doors creaking. The ceiling lamp in the seven-bed dorm had been on for the few hours of potential sleep. The service started at 04:00.

From outside in the dark morning I saw a man going in through a door at the side corner of the main church. Hoping that this was the main entrance, I followed after him into a long, narrow, empty room with *stacidia* chairs along the walls. Immediately to the left there was a door behind a red curtain to a small dark room with a large box containing some relics. All the walls were covered with icons. To the right there was a larger room with chairs along all the walls, and a small door in the middle led to the innermost chamber, also with *stacidia*, where the reading took place. There were three main rooms in the church, representing the Holy Trinity. It seemed like a blend of a transept and aisle church with the altar more or less in the middle, and a main dome above the transept intersection. The model for this church was the second Hagia Sofia in Constantinople, which was set on fire and destroyed in the Nika riots of 532 CE. The third Hagia Sofia was immediately erected and is the one that still stands in Istanbul.

The service mainly consisted of text recited in Greek, of which I understand nothing, lasting two and a half hours. The church was dimly lit by just a few candles and paraffin lamps, judging from the smell. The air was heavy, but at the same time chilly and rather raw. Priests and monks took turns on reading from different positions. Everyone came and went in no particular pattern. Attending the beginning did not seem to be

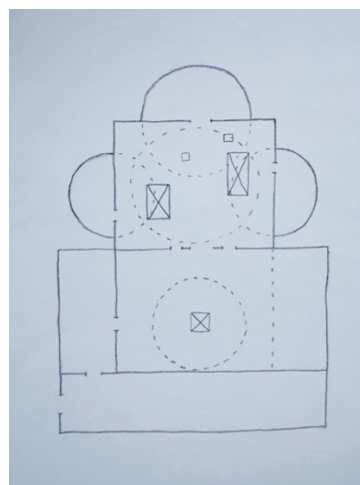


compulsory, nor did the end, so the service was not a collective performance from A to Z, formally presented, that everyone had to attend. Instead, visiting pilgrims walked around in their Adidas outfits and golden necklaces. Gradually, more men arrived. Monks shambled around all the time, shifting position, resting at new spots, in the high-armed *stacidia* chairs all around the walls. The armrests are high enough to support someone standing. One is supposed to stand before God, but the chairs had a flip-down seat. After all, men do get tired. A man walked around a couple of times with small bells and incense, as if a little too quickly, with slightly clumsy, over-long steps, and thus apparently recklessly. Monks walked around lighting and blowing out candles, setting out and removing reading tables, opening books for someone else to read. There were no instruments. No organ, no accompaniment. Barely any sound other than shambling steps and sometimes exaltations from the congregation. Everyone manoeuvred around in a pattern they felt was suited to the day, and there was no rush. The office takes time, a long time. This establishes a ritual space. The result is at the same time a more static and more vivid performance, which makes the service more personal. It also seems more inclusive (for the included), more participatory, than the Protestant service lasting 40 minutes, with people submissively sitting in one position on hard benches, receiving the word of the priest.

All monks have a full beard, black floor-length flowing robes (a cassock), a stiff black hat with cloth attached over the back (*kamilavka* and *epanokamelavkion*). The absence of women accentuates the sexual. Consequently, each man here is accentuated as a dangling penis.



Sketch of morning service IM Megístis Lávras, after memory.



Sketch of floor plan of the main church in IM Megístis Lávras, after memory.

### On holiness – hiking from Karyes to Grigoriou, 13.4.2016 – 09:20

All these monks have grown up in different places in the world with assorted backgrounds, and now take part in this rehearsed theatre – a huge, encompassing, truly immersive spectacle.

Almost all aspects of life here at Athos are part of a construct meant to shape this context. Everything is a part of this continuous play. And once it starts to play, it just keeps rolling. Stopping it is almost impossible.

What constitutes 'holy'?

In modern art, art becomes art when someone, preferably the artist, declares it to be art. Art is art because someone says so. In religion something becomes holy because it is declared so by someone. The nature of the 'holy' is determining, setting up the scene, deciding. The action shapes a context, creates a story.

What makes something so important that it has to be surrounded by a holy taboo, that it cannot be questioned? That it has to be declared holy, exempted from scrutiny, from questioning? The religious culture shapes context. An abstract god is instigated as creator, as an incomprehensible, impregnable, unreachable zone.

Who were these entities?

What could the first god-like idea have been?

When did someone start to conceptualize such an idea?

**Holy** stems from Proto-Germanic *hailaga*, and in turn from Proto Indo-European *\*kailo-* "whole, uninjured", also related to health.

The pre-Christian meaning is probably "that must be preserved whole or intact, that cannot be transgressed or violated".

The idea of deities was probably developed with society, its needs and opportunities through tens of thousands of years – as explanations, as guidance, as someone to refer the validity of the law to, as models to structure life around, as constructs to bridge the knowledge gaps. It is about learning, repetition, creating memories and new patterns in our brains, to make us behave and react in certain ways.

*Lead and mislead.*

One is led to do something. Or beguiled? The path is shaped to follow. It makes choices easier. I think of incense used in churches and the fumes of ethylene that Pythia in Delphi breathed, which intoxicated her and made her hallucinate. “And lead us not into temptation” is part of the famous Lord’s prayer (Matthew 6:13), with the prior instruction, “This, then, is how you should pray”. A pattern, a ritual is presented, where one is told (how) to express one’s *belief*, what one should think. However, what religion does, is precisely temptation in the shape of a promise. It tempts you with paradise, eternal salvation, a life after death, the idea that everything will be better, will be all right, that you will achieve peace – splendid comfort in a dismaying, complex, merciless, arbitrary world. It tempts you with order, simple structure and mild happiness.

**IM Osiou Grigoriou, 2016-04-13, 15:03**

My shoulders are sore. I walked from Karyes over the hills, passed through IM Simonos Petras.

The concierge at the guest house stared at my visa (*diamonitirion*):

– Hm. Protestant?

– Yes.

– .

He stared, moderately disapproving, into the air ahead of him for a second, before he wrote something in his papers. As if I wasn’t welcome, though nothing was said.

The twenty-something Father Hieronym from Florida was the interpreter when I talked to the Abbot, who is the spiritual and worldly leader of the monastery. The morning office starts tomorrow at 03:00 with an hour of prayers, then the Great Canon is recited until about 06:30. The Abbot will not allow me to record the Canon. However they have a recorder and will record themselves, and I can get a copy. I had of course asked about this by fax when I enquired about hospitality (the only medium of contact I could find), only to get a one-sentence answer:

Your request has been accepted only for  
one day, for <sup>the</sup> Wednesday 13 of April.  
Mone Porfyrios - 6-4-2016

**2016-04-14, 02:45**

The first wake-up was by a faint, distant bell ringing somewhere in the courtyard. Then came the woodblock, a *talanton* (which means balance, weight, and is the origin of the word ‘talent’). It has the sonorous sound of a quite large stick hitting a hollow wooden block or box. It is hit at two spots, so one sounds higher pitched than the other. The rhythm symbolizes the two natures of Christ as God and Man in the Holy Trinity.

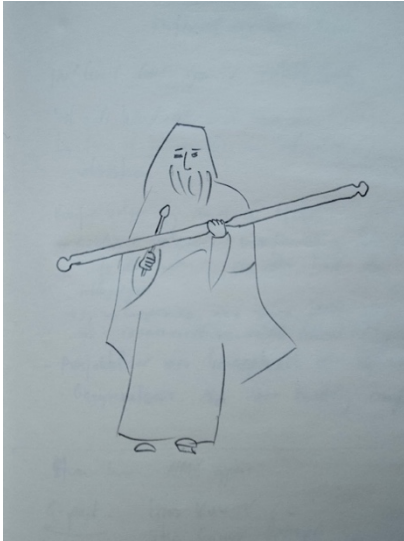


Figure: Talanton being played

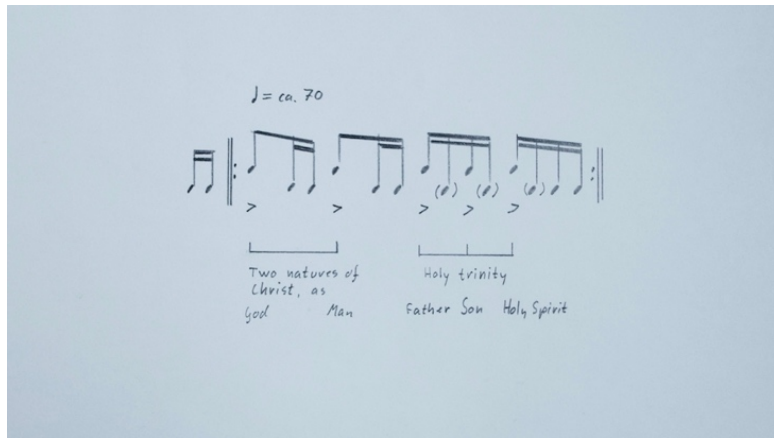


Figure: What was played on the Talanton

Somebody walks around the passages and courtyards of the monastery to wake up everyone, playing the talanton. The sound is distant, growing and resounding differently according to the shape of the space the player is passing through.

The Canon is extremely monotonous, the text is recited with indifference, verse after verse, sometimes with repetitions of a single word perhaps 40 times. After a week with four or less hours of sleep every night I fall asleep in my *stacidia* during the Canon. Dark men move around like dark shadows. It is sung with nasal voices. Intonation is clearly not important. It is partly sung homophonically in unison, but not much of a unison. Yesterday I was asked why I wanted to attend the Canon when I didn't understand Greek. I wanted to listen to the singing, I said. Now I understand the question better. Apparently the *musical* tradition at IM Vatopediou is far stronger.

At [kosunde.no](http://kosunde.no) the recording of the Canon from IM Osiou Grigriou and the Canon as text is presented.

The Byzantine song tradition is extremely conservative in the Athos monasteries. Instruments are completely banned. What I heard was a subdued, almost rushed, mumbling singing style. Not only instruments, but music as a concept is considered to have an obscuring effect, as something sensual, tempting, obstructing the words, occupying the available space for reflection. The almost total absence of music accentuates what is left of it.

There is no radio, no TV, absolutely no advertising, no illustrations. There are no chain stores in the small village of Karyes, merely a few cafés and a small grocery and souvenir shop. The monasteries are silent places. No voices are raised, there is only quiet speaking from time to time. There is almost no one around, apart from an occasional pilgrim, a monk watering some flowers or crossing the courtyard.



Photo of CD-R with the recording of the Canon (Megistis Kanon) the monastery gave me. It is dated 1 April 2016 because Athos keep the tradition with the Julian calendar.

### IM Ivíron, 2016.04.14 – 17:26

Iviron. Dinner is apparently in 5 minutes. I am drenched in sweat and dust. I just bumped into the Dutchman I met in the hills yesterday. Everyone wonders why I carry such a heavy backpack. I reply that as a Protestant I have to suffer in order to enjoy. At least people find that amusing and give a short snorting, but friendly laugh. I find no reason to stir up the social situation by adding that my status as a Protestant is only formal. Today's walk was 21.54 km. It took me seven hours.

I get the impression that many men here have a literal belief in miracles. This is a strange tradition from which conscious, critical, comprehensive interpretation has been removed. The filters of interpretation have been cleaned, the ambiguity of poetry is gone, depth of language (or the many layers of music) are also just gone. The concept of symbolism is... I don't know exactly... not present perhaps, or just ignored.

This is most peculiar. A thought pattern, a belief with its origin in texts so full of symbolic language, analogies, metaphors... How is it possible to interpret things literally in such a context?

In dogmatic literalism interpretation is set aside. A mental shift towards dogmatic literalism would be a most unfortunate setback, were it to gain territory in humankind as a whole.

## Mary

*“It is ‘unlawful for any man to bring forward, or to write, or to compose a different Faith as a rival to that established by the holy Fathers assembled with the Holy Ghost in Nicæa.’ They confirmed the Nicene creed that Mary should be referred to as Theotokos (Birth giver of God) and saying anything else was heresy.”*  
(Schaff, 1890, referring to Council in Ephesus 431 CE)

What happens when dogmatism is coupled with misleading translation? To both Catholics and the Orthodox, Mary, the mother of Jesus, is perceived as absolutely perfect, pure and incapable of error. This is strongly interpreted as not having had sex, being a virgin, not having been touched, being forbidden, holy.

In the Old Testament, collected and written in Hebrew from 6-700 BCE onward<sup>83</sup>, Isaiah 7:14 is perceived as a prophecy of the Messiah: “The virgin will conceive and give birth to a son, and will call him Immanuel.” The word used of the woman is the Hebrew *almah*, and is rarely used. It describes a) a woman, who b) is young, and c) has not (yet) born a child. Whether or not the young woman has yet had sex with a man is not conveyed by this word. If that is important to state, i.e. that a woman has in fact not yet had sex, there is the Hebrew word *betulah*, and this word is frequently used in the Hebrew Bible.

These texts were translated into Greek during the second century BCE. At that time Judea had been ruled by Greece for quite some time, at the height of ancient Greek culture. This was the ‘Septuagint’ translation. The Hebrew word *almah* is translated as Greek *parthenos* in this particular verse. *Parthenos* has the meaning of a woman who has not yet had sex – thus our present conception of the “virgin”. In other places, however, *almah* is translated as Greek *neanis*, which simply means young woman. Isaiah 7:14 is in fact the only place *almah* is translated as *parthenos*.<sup>84</sup>

The interpretation and choice made by the translators have had tremendous consequences. This interpretation grew stronger, since Matthew the Evangelist wrote in Greek and quoted the Greek Septuagint Bible. He is the only Evangelist to claim that Mary was made pregnant by the Holy Spirit (Matthew 1:18-22). Luke the Evangelist describes an angel telling Mary that she will become pregnant<sup>85</sup>, John the Evangelist says that Jesus is the son of Joseph, while Mark the Evangelist refers to Jesus as the Son of God without being more specific.<sup>86</sup> This translation has had huge consequences for later societies, including a possible influence on gender gaps past and present.

## Einschub: Luft von anderen Planeten

Take **Arnold Schönberg’s** (1874-1951) **Second String Quartet** with soprano, op. 10, fourth and last movement. The soprano enters with the famous phrase *Ich fühle Luft von anderen Planeten*. (*I feel air from other planets*, my translation.) Imagine interpreting that literally. The music was written in 1907/08 – the poem was written by Stefan George in 1907. Europe was tense. Industrialization and technological development had improved capabilities and wealth, yet all countries were struggling with working-class poverty. Several countries still had dynastic, dysfunctional governments. The strong states were France, The United Kingdom, unified Germany after 1871, the Ottoman Empire as the successor of Byzantium, Austria-Hungary and Russia.

The poem is understood in the context of the string quartet as the messenger of a new kind of music, a serial (well and evenly structured) music. It contains elements of what was to become Schönberg’s twelve-tone music, his solution to the problem of a perceived dead end in music, at least the end of tonality as he heard it. This musical and poetic moment has become the symbol of the dissolution of tonality.

The recording I am listening to: The Jewish **Kolisch Quartet** with the soprano Clemence Gifford, from 1936-37<sup>87</sup>. Rudolf Kolisch studied with Arnold Schönberg, and he started the ensemble to perform Schönberg’s music. Two months after the Nazi takeover in Germany the *Act for the Restoration of the Professional Civil Service* (Gesetzes zur Wiederherstellung des Berufsbeamtentums) was passed on 7 April 1933.<sup>88</sup> This act was used to exclude Jews, communists and other groups the Nazi regime wanted to expel, from their professional practice. Similar laws regulating access to official life followed soon. In September 1933 the *Reichskulturkammer* was established. Only Aryans, “true Germans”, “the racially pure” could be members. Joseph Goebbels stated: “In future only those who are members of a chamber are allowed to be productive in our cultural life. [...] In this way unwanted and

damaging elements have been excluded.”<sup>89</sup> The Nazi regime used and constructed custom in order to regulate a new society, with an emphasis on art and culture as markers. An entire spectacle dealing with origins and truth/belief was set in play. *Avantgarde* art, music, literature and architecture were banned, excluded and prohibited, burned or removed in this process under the designation *Entartete Kunst*.

Arnold Schönberg, himself a Jew, emigrated to the USA in 1933. When I listen to this recording, from 1936-37, my personal knowledge of music history at the beginning of the 20<sup>th</sup> century, with its nervous, aspiring hopes for a new era, the devastating calamities of World War I, political tensions and the dark times of the 1930s, as well as the coming World War II and the Holocaust, inevitably resonate with it. Such knowledge is crucial to the understanding of that work and that particular recording. This music can never be listened to as abstract pitches, rhythms and sonorities alone.

#### Karyes, 15.4.2016 – 10:29

I spoke with two men more or less my age in Karyes – Panos and Yannis – while waiting for the bus to take us to Dáfni. The crowd of men forced, pushed and elbowed their way to get on the bus. The mood was clearly irritable and aggressive with yelling, pushing and ill temper. Panos was grumpy, he did not appreciate such behaviour. I was grumpy, and couldn't resist noting that here, at this presumptively holy place, raw egoism ruled among the visitors. Then Yannis got grumpy.

Yannis lectured me on the alleged impossibility of surviving winter at Athos without God's benevolence. When he got up at 03:00 that morning he had also seen the Milky Way so clearly, thanks only to God, and the wonder of a beautiful male community, where everybody (!) was welcome. Everyone = men. Women are excluded from this "everyone". What does that imply about males thinking of women? Everyone becomes a term that does not include everyone. Yannis exclaimed that he was pleased, so sincerely happy that there were no women around. That he felt free.

#### Einschub: Homo Sacer

That made me think of the Italian philosopher Giorgio Agamben (b. 1942) and his thinking on power and law – exclusion as a prerequisite for inclusion – in the light of the old Roman law about a "Homo Sacer", a person who could be killed, but not sacrificed, and was outside the law, so the killer could not be punished, as the person was not regarded as a proper person protected by the law.<sup>90</sup>

#### Dáfni, 15.4.2016 – 12:17

"It is a human error, a human flaw, that we are so obsessed by memory," Yannis exclaimed. "We shouldn't look back, we shouldn't *save* so much. We should rather *create*, move on – in the belief, security and faith that new opportunities will come to us," he said, now in Dáfni, waiting for the boat to take us back to the secular world. "Reproduction, actually just the potential for reproduction, has spoiled parts of our ability to perceive, to sense, and to experience the moment, the present. In recent times, especially in the social media," he said. "Pictures are central to this flawed attention. They lead to a focus on the documentation of life, on saving, remembering, archiving. This leads to a focus on memories, a nostalgia, a kind of erroneous attention to what has been, to backward thinking rather than thinking about what *is* and what *will come*."

"That seems true," I said. "But everything boils down to our cognitive structures and context. We know only what we know, we do as our habits and learning have led us to do, we interpret on the basis of internalized knowledge, already 'known' information."

"The fundamental errors of the human mind, such as our obsession with memory, are in the cognitive structures," he said.

"Well, errors and errors, but yes, they are."

"I am a devoted believer," he said, "and God will always look after me. I don't need to look back, all I need is to *believe*."

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<sup>76</sup> Bush, 2006, p. 327.

<sup>77</sup> Odden, 2006.

<sup>78</sup> The Friends of Mount Athos.

<sup>79</sup> Denizeau, 2014.

<sup>80</sup> (Agioi\_Anargyroi (alias), 2010.

<sup>81</sup> Olwig, 2002, p.52

<sup>82</sup> Holy Trinity Russian Orthodox Church. (n.d.).

<sup>83</sup> Solevåg, n.d.

<sup>84</sup> Aschim, Aasgaard, Berge & Mørk, 2008

<sup>85</sup> Although: “‘How will this be’, Mary asked the angel, ‘since I am a virgin?’” (New International Version). Luke formulates the next verse as an echo of Isaiah 7:14 in Septuaginta translation. The tradition influences new ways of formulating events. (Aschim et al., 2008.)

<sup>86</sup> Aschim et al., 2008.

<sup>87</sup> Kolisch Quartet, 1936-37.

<sup>88</sup> Engenhausen, 2014.

<sup>89</sup> Adam, 1992, p. 53.

<sup>90</sup> Agamben, 2010.

# DELPHI IN FUMES

After leaving Athos I travelled to Athens, hired a car and drove to the ancient theatre in Epidaurus, then on to the small village Delphi up on a steep mountainside late in the evening of the same day. The following is an essay on extreme siting and on the creation of context that has been inscribed in the memory of the place.

Delphi is one of the most famous ancient sanctuaries in Greece. The small town overlooks the Pleistos river running from east to west down a quite steep southward slope. The settlement is from the Late Bronze Age, about 1600 BCE. To the north there are steep cliffs, with the terrain rising into the mountains and Mount Parnassus. Not far to the south is the Bay of Corinth. The shrines and monuments are gathered on the hillside just outside and above the town. Athens is – as the crow flies – some 120 km to the east, the city of Mycenae about 85 km to the south, the city of Patras some 70 km to the west and the strategic city of Lamia 50 km to the north – all substantial ancient cities.

## GEOLOGY

### Tectonics

Motion between the African, Anatolian and Eurasian tectonic plates holds Greece in a vice. The Corinth Rift Zone has two crossing faults below Delphi<sup>91</sup>, leading to recurring earthquakes. In ancient times, long before our present knowledge of geology, evolution and atoms, earthquakes must have been perceived as an immersively frightening phenomenon. The entire ground shook as if it was alive, pottery and furniture rattled or was crushed, some houses collapsed, perhaps there were even some landslides in steep terrain. And imagine the sound. The roar, the noise of bedrock clashing (this is geophony), louder and stranger than any manmade sound, or the normally occurring sounds in such a soundscape.

When the archeological site of Delphi was excavated a century ago, archaeologists found no trace of a chasm or vapours. They rejected the old stories about the oracle of Delphi inhaling vapours as a mere myth. However, more recent research has revealed that one fault – the Kerna Fault – is precisely below the Temple of Apollo. Another – the Delphi Fault – crosses east to west. Its precise location is difficult to determine, but projections suggest it is below the Temple of Apollo, putting the intersection below the temple. This geological situation is in a quite steep slope, where many rock slides over the years have formed this natural amphitheatre in the hillside. The bedrock of the area consists of sandstone, limestone and strata of bitumen. This porous ground is heated by the seismic activity, and gases are formed: carbon monoxide, methane, ethane and ethylene have been detected in springs in the faults.

### Narcotic effect

As a gas, ethylene was identified scientifically in 1865. Ethylene has a sweet smell. It was used as a surgical anaesthetic. It affects the central nervous system. Low concentrations of ethylene give a sensation of floating or disembodied euphoria, with a reduced sense of inhibition, of presence. Delirium and hallucination may occur. In high concentrations, the anaesthetic effect is complete, with unconsciousness or death as a result.

Aesthesia is Greek for *capacity for sensation or feeling, sensitivity*.

Anaesthesia is the opposite, an *inability to sense*. In medical terminology it means the *soothing of pain, relief of suffering, thus the removal of feeling, of the ability to sense*.

The effect of inhaling the identified gases matches the ancient description of the prophetic vapours.

The Adython, upon which no one was permitted to set foot, was a basement chamber, as we recall. It was small and enclosed. For weeks or months it was closed off, so that the chamber was gradually filled with the fumes, as the temple was constructed directly above the chasm. Only Pythia had access, and she only entered occasionally. She was then intoxicated by the gases, affected by drugs, with a euphoric and delirious appearance

and inconsistent utterances as a result. The theatrical impact was effective, and apparently established a credible canvas for the priests next door to state their 'interpretation' and thus give advice.

## POLITICS OF ANCIENT GREECE

The Bronze Age Collapse was severe in the Eastern Mediterranean and Middle East. It happened over about a century from 1250 BCE, and the causes were diffuse, probably complex. However, the Bond Event 2 is associated with this collapse, with its two peaks around 3200 and 2800 years ago, quickly causing severe drought in the Eastern Mediterranean<sup>92</sup>.

**Bond Events:** Recurring climatic fluctuations effecting temperature drops primarily in the North Atlantic Region.

A series of invasions and wars ruined almost all the cities from Greece via Anatolia and Israel to Egypt. Trade routes were ruined. Severe cultural collapse disrupted societies during this period. Literacy declined. Several centuries of decline followed, with depopulation and almost no written records. What was left was often isolated villages with little contact and trade.

The Trojan War may have been part of this collapse. Ancient Greeks saw the war as a historical event around 1200 BCE. Oral traditions about previous heroic activities surviving as records of war events seem to have been transmitted during the dark centuries following the collapse. Then a new era came. The isolated villages of Greece grew stronger, grew into city states with territories surrounding the cities providing food and mining resources, and materials for tools and construction. A reconstruction of the past began, with a cultural revival and epic poems. Homer symbolizes this, having lived around 800 BCE, passing on the old tales, enshrining them as scripture. The golden age of ancient Greece lasted from about 750 BCE to 27 BCE.

Until the mid-1800s CE the Trojan War was widely seen as mythical. This changed when ruins of the city of Troy were discovered and excavated from 1870 near Hissarlik in Turkey.<sup>93</sup> The city states shared a common Greek culture, but had no common political unity. They were all independent, members of a variety of alliances against their adversaries. This was the Iron Age.

## SITING THE MYTH

Greek mythology appears to us today as a strange and complex wonderland. The cast of characters is complicated, full of overlappings, variants and contradictions due to different storytellers and traditions over time in changing societies. The characters are presented with heroic qualities, and in general as models, as an explanation or way of understanding the world that emerged.

The characters are presented as having been born, and they may have children; they look like humans, but they do not die – they are exalted. In this system all the qualities of human creatures are given to them, although in name they are gods or deities. The deities mix with the humans. The deities are heroes and leaders, taking care of different sectors of society, nature, phenomena and life. Humans often challenged the gods and went to fight them, and if successful humans could transcend mortality and enter the sphere of the gods as mixed – born as humans, later to become gods or demigods. This could happen in particular after honourable and heroic actions or achievements, as in politics or sports – meaning saving someone or taking charge in a critical situation, and thus becoming a person people could count on, perhaps seek advice from. This suggests that a god was someone to look up to, to learn from, to be inspired by, to get advice from – not some paternal spirit to obey.

The conception of Zeus can be traced back to the Proto-Indo-European religion, from which stories with similar characteristics have come down to different cultures. We know little from this time, but Indo-European wanderers seem to have entered and settled Greece from the north east. A recurring concept in the Proto-Indo-European religion is a Sky Father – Proto-Indo-European \**Dyēus Ph₂tér* – Greek *Zeus*, Etruscan and later Latin *Jupiter*.<sup>94</sup> Try to pronounce it! Proto Indo-European may have been spoken as one language as late as 5500 years ago. This figure was seen as the father of a pantheon (a number of gods), perhaps a sun god (or simply the sun) with a counterpart in Mother Earth (Gaia).

No one stood guard over the right way of to believe. There was no orthodox dogmatism. Much of what we know about Greek mythology is from Homer's *Iliad* and *Odyssey*. What would later become heresies were thus not heretical, just variants of the stories. Priests and prophets therefore interpreted and guided people to a greater extent, helping them to make choices. Prophets had an important function in Delphi – they had the role of interpreting the "divine will" – and thus also had a say in important decisions regarding the State.

To legitimize Delphi as a holy place for rituals, worship and advice, it must have been important to explain it as the centre of the (known) world. This need was fulfilled by shaping a context. A myth explains the



localization of Delphi. It starts with Zeus, who in order to establish the centre of the world (Mother Gaia) sent out two golden eagles, one in each direction. Where they met, he was to throw a rock to see where it fell. It supposedly fell in Delphi. The Omphalos (a pillar statue) in Delphi (in Greek 'navel', as in the navel of the Earth) represents this rock. Then the god Apollo slew the serpent *Python*, which was here to protect the navel of (opening into) Earth/Gaia, and built his temple at this exact site.

### Speculation

My speculation is that only priests, prophets and dignitaries were allowed to raise their voices in the sanctuary area. It is at least possible to imagine that only a few were allowed to do this, to use the acoustics of the place. Probably before and for a long time up to our own times, lowering the voice was a sign of respect, submissiveness and humility. Delphi was the supreme sanctuary in Greece, located on a steep hill. Certain spots in the sanctuary can produce a sublime acoustic effect. Perhaps the acoustic use of the place was reserved for special authorities.

## THE ORACLE

### Discovery

From at least 1600 BCE there was prophetic activity at this site. According to Diodorus Siculus the first to discover it was a shepherd<sup>95</sup>, who noticed his goats behaved strangely when near a chasm in the ground. When he got close he hallucinated and began to see future events. Now word spread and eventually it was decided that only one person at a time should be the prophet, sitting safely above the chasm on a tripod. Only later did Homer write about how the site was appropriated? by Apollo, the god of music, truth and prophecy and more.

From around 600 BCE the Oracle was rededicated, or recontextualized, in the first Temple of Apollo, and now served as a place of worship for the Apollo figure. Every month or a few times a year it was possible to seek advice from the Oracle.

### Pythia in her adython

Visitors seeking advice first sacrificed, then were led to a chamber adjacent to the Pythia priestess, which was a role filled by different local women. Her role was to be a medium through which Apollo spoke his oracles – in tales and messages.

She sat in a closed chamber in the basement of the Apollo temple, on her special Tripod. This chamber was the Adython, to which no one but the priestess had access. The visitor asked for advice. Pythia was in a state of delirium and trance, uttering inarticulate speech in a daze. This was then 'translated' by priests in a chamber next door into verse in comprehensible language. The old stories say Pythia sat over an opening in the ground, a small chasm. Fumes – *pneuma* – are said to have emerged. This was explained by Apollo having fought and killed the snake Python there. Python was supposed to have fallen into the chasm as Apollo slew it, and the gases came from its decaying, rotten corpse. People took advice on any important decisions, including engaging in wars.

Plutarch was a priest at the temple in the first century CE. He noted that gases evaporating in the Adython had a sweet smell like perfume and that the underlying rock might have had a vein of vital essences that produced the gas. Around 361 CE Pythia claimed that she could give no more oracles because the temple had collapsed and the spring had fallen silent.<sup>96</sup>

**Adython** a place where one may not set foot upon. A forbidden place with no entry for ordinary people.



John Collier: Priestess of Delphi (1891)

## AFTERMATH

Roman hegemony increased during the last 100 years BCE and Greece was absorbed in 27 BCE into the realm of the Roman emperor Augustus. Delphi lost its position as a meeting place, sanctuary and centre for managing truths and treasures. Its significance was reduced since it could no longer play a prominent role of intervention in political developments, since the city states of Greece were no longer politically independent. The people in charge were not operating in accordance with the culture of Delphi. Important decisions were now being made in Rome.

Nor must we forget the seismic activity in the area and the way the ground shifted slightly from time to time, which meant that the fumes either did not pour out as much as before or stopped altogether, pouring out elsewhere instead. And Christianity spread fast during the first centuries of the new millennium. After first having been persecuted by the Romans, Christianity was decriminalized in the Roman Empire in 313 CE and made the state religion – indeed the only permitted religion (except for Judaism) in 380 CE. The oracle of Delphi was ultimately closed down in 381<sup>97</sup> or 392<sup>98</sup>. The old Greek mythology with its polytheism, which had been holy, was now to be forgotten and hidden away behind the new pattern of omniscient truth and holy thought. Nevertheless, many of the old ideas were transmitted to the new faith.

A very potent symbol is the tripod. The tripod is an ancient symbol of balance and stability, as it is quite simply physically stable, right there before our eyes. Pythia's tripod was the most famous throughout ancient Greece. This symbol continued with the Christian Holy Trinity, a balanced and stable way of combining the old polytheistic custom with the new monotheistic ideas by joining three deities in one. Polytheism also survived through Christianity's pluralistic cast of characters – the saints, who took care of separate territorial areas or phenomena in life, with roles not entirely unlike those of the different deities in Greek, Roman, Norse, Arab (etc.) mythology. The mythological idea of sacred landscapes was also transferred.



*Tripod. N38°27'02.02" E022°52'47.95". Photo: Knut Olaf Sunde*

## IN-SPIRE

*Pneuma* is a Greek word meaning *breath, wind, air in motion*. Air in motion includes smoke, vapours, fumes and wind. In the Stoic philosophy, *pneuma* is the concept of the *breath of life*. It is the material that sustains consciousness in a body, and constitutes the human soul as part of the *pneuma* which is the soul of Zeus. The human soul, as air, was also linked by the ancient Greeks with the *pneuma* encompassing the entire world. All this is quite understandable and straightforward, and good explanations and concepts, considering that they did not possess all the scientific knowledge we do today. On the other hand, the reality surrounding them 2700 years ago was much the same as it is today.

The Pythia of the Oracle breathed in fumes – vapours of ethylene. These filled her and transformed her personality: she could be understood as *inspired*, apparently in contact with the gods able to utter their prophecies. The Greek concept of a connection between life/mind/spirit/soul and air is not surprising. After all, air is necessary for us to breathe, to give and sustain (animal) life. This concept was also translated into Christianity with the Holy Spirit (or Holy Ghost), from Latin *spiritus*.

The Holy Spirit fills everything, is everywhere, and does not have the shape of a human body (as the other two deities do). *Inspire* (from the Latin *inspirare*) has the same root, meaning to breathe into, stimulate, animate, give rise to. The Old Testament was written in Hebrew. The Greek translation of the Hebrew Bible (Old Testament), called the Septuagint, translates the Hebrew term *ruach* as *pneuma*, meaning *breath, air*, thus spirit and inspiration. *Pneuma* is what is used throughout the New Testament, which was originally written in Greek, and where the figure of the Holy Spirit is introduced<sup>99</sup>. Our language today, and our concept of how we conceive ideas, are influenced, *inspired*, by previous concepts, customs and practices long gone, but still persisting in time by way of regeneration and adaptation. The specific institution of the Oracle was closed down and allowed to go back to nature, and the site became ruins in the future, but the ideas found ways to sustain themselves through recontextualization.

## SOMEBODY KNEW

What is ingenious in this whole process is the combination of the knowledge of the hallucinatory effect of the narcotic vapours with the use of the terrain, the erection of a temple and sacred site, and the entire explanation, story or mythologization of the area, its patterns of why and how and to whom. But most importantly, how it was used to exert power; to control leaders and important people, and to advise them in their decisions. In other words the entire use of the place with its incredible influence on both concrete actions and later cultural ideas and customs. Its contextualization.

This is an example of extreme site awareness and the construction of a controlled spectacle, a complete performative theatre meant to shape and maintain the illusion. This was done by someone who understood its effect. Someone saw an opportunity to make an impact, to exert power. Human beings want to hear some kind of truth. To fill their knowledge gaps. They want to make connections, so they can believe they understand.

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<sup>91</sup> de Boer, Hale, Chanton, 2001; Piccardi, 2000.

<sup>92</sup> Bond et al, 1999; Wanner et al. (2008).

<sup>93</sup> Sande, 2009.

<sup>94</sup> Mallory & Adams, 2006, p.408-9, 431); Proto-Indo-European Religion. (n.d.); Kraggerud, 2009; Sky Father, 2016.

<sup>95</sup> Nevins, n.d.

<sup>96</sup> de Boer et al, 2001.

<sup>97</sup> de Boer et al, 2001.

<sup>98</sup> Piccardi, 2000.

<sup>99</sup> Levend Water, n.d.

# MIRNYJ



## **COBÉT**

Proto Indo-European \**ksun-* “with” and *vetu* “council”, hence “with council”.

*Vetu* related to Proto-Slavic \**vět-iti* “to inform”, Slavic *věst* “news”, English *wise*, Dutch *weten*, German *wissen*, Norse *vite*, “to know”.

Russian *soviet* “council”, “advise”.

At the Research Catalogue there is a 6 min introductory video from the premiere, and full length film with stereo audio. <https://www.researchcatalogue.net/view/565811/565812/0/27>

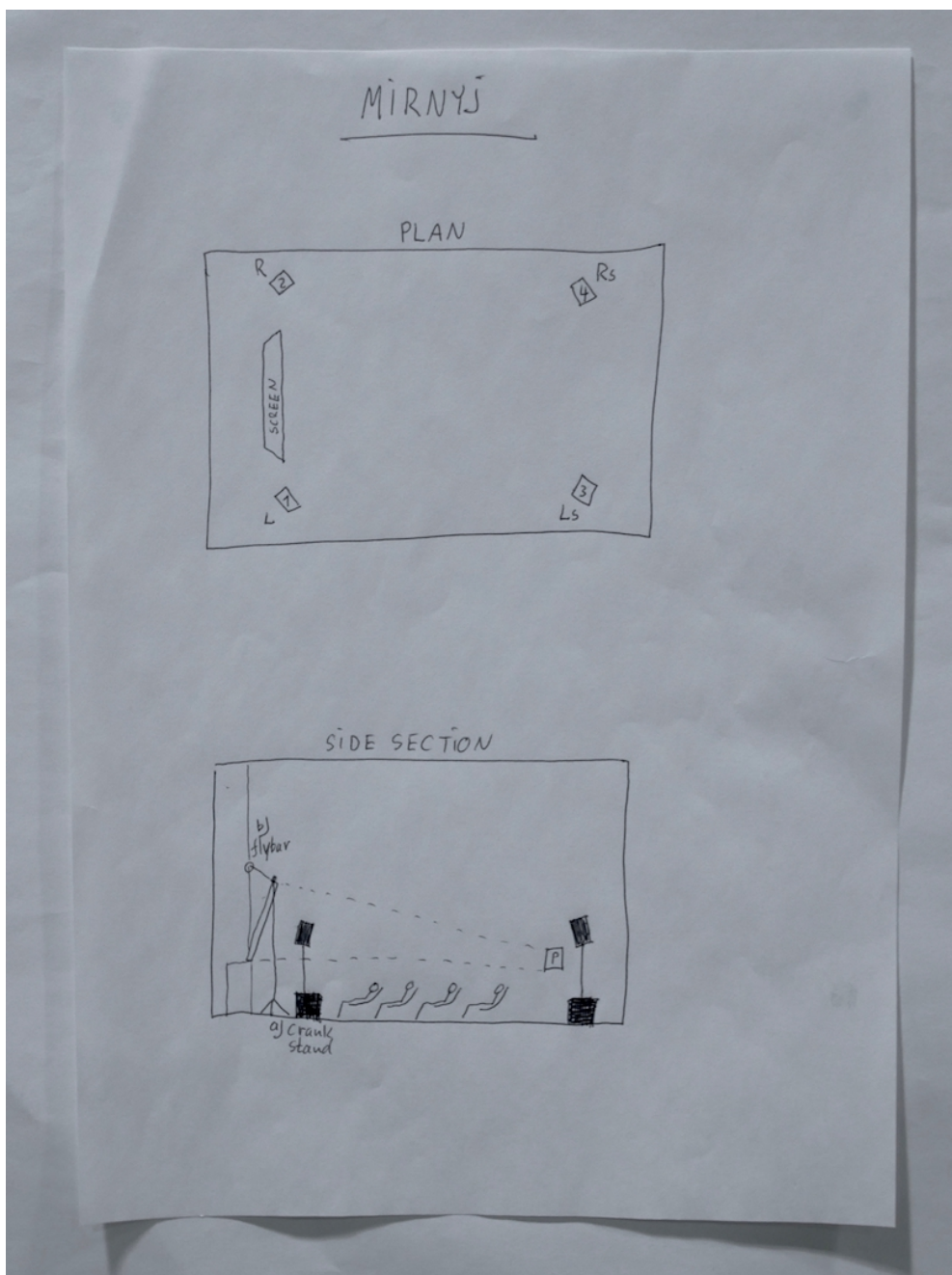
At <http://kosunde.no/2017/02/27/russia/> thoughts from the travel to Siberia are collected.

At <http://kosunde.no/2018/08/22/mirnyj-2/> practical information on the work Mirnyj is presented.

## CONSTITUENTS

A four-hour audiovisual work, based on a trip to Siberia and the mine in Mirnyj. The abandoned open-cast pit, as a remnant space resulting from the excavation of resources contributing to the state and local community, is observed and functions as a focal point for the connections among place, memory and understanding; for manoeuvring in the unknown, always with unstable and deficient information. The sensation of another place is vital to the recognition of unfamiliar perspectives. The sound situations are sustained, sparse and tense. The sound material is from recorded violin, synthesized sounds and the soundscape from Mirnyj. The video material was filmed along the travel route in Russia, around the pit in Mirnyj, at the town Mirnyj, in a generated flickering sequence, and hovering over satellite imagery.

The work is intended for an audience lying on a flat floor, surrounded by a 4-channel loudspeaker system, looking upward at one flat, suspended projection screen. It is also possible to view the work in a cinematic setting. It can run as several shows in succession during the day. The premiere used deckchairs and a tilted frontal screen.



Mirnyj rider sketch

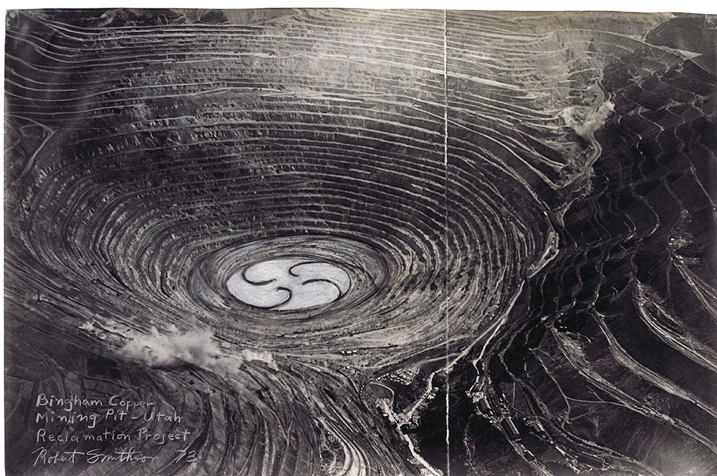
## PROCESS

### CHOICE OF LOCATION

I didn't give up on Mirnyj after the broad research phase. The dimensions, the regular conical form, the location in Siberia and thus the scope for contextualizing the place in a broad political territorial spectacle were the reasons for this. The open-cast pit in Mirnyj has a rare, almost conical form – manmade, pointing downward, inward, backward in geological history, smelling of sulphur, excavated in the atheistic Soviet Union. It sits there as a dangerous, industrial hole, abandoned as a modern ruin.

Whereas Athos has its rationale in a recontextualized ancient Greek idea of holy mountains striving upward to the ideal heavenly world, the pit is the opposite: an inverted mountain, the world's second-largest manmade hole in the ground, a grand scar in the terrain unpreserved, looking backward in geology and reality, to economic life and a political territory. The world is banal. I wanted to embrace and expose this banality. Athos was a premise for the Mirnyj project, which was its distorted image.

But it was probably Robert Smithson's *Bingham Copper Mining Pit – Utah / Reclamation Project*<sup>100</sup> that gave me the idea. Smithson worked for the last two of his 35 years with several land reclamation projects. The aim was to propose the transformation of ruined industrial landscapes, such as wastelands, abandoned industrial sites, airfields, and open-cast mines into new kinds of public art. Markings on maps and images of found objects were to be the building material for the art. *The Bingham Copper Mining Pit – Utah / Reclamation Project* from 1973 is a proposal for a revolving disc with a spiral pattern at the bottom of the open-cast pit if it was closed down. In the nineteenth century Bingham was a small village, now gone, in what in 1973 had become the biggest manmade excavation; it has been operational since then and is even larger now and still the biggest. Physically, Smithson's expansive land art proposal is quite simply markings on a photograph. The potential alone, or the vision and dimensions of it, are striking, and make it an important work. I immediately thought of how sound could behave in such a gigantic acoustic space. How much would I have to upscale to fill it? And then I was unable let go of the idea of Mirnyj, the existing open-cast mine with the most regular conical shape that I had found in my research.



Robert Smithson, *Bingham Copper Mining Pit – Utah Reclamation Project*, 1973  
Wax pencil and tape on plastic overlay on photograph, 20 x 30 inches (50.8 x 76.2 cm)  
Art © Estate of Robert Smithson/Licensed by VAGA, New York, NY  
(<http://notations.aboutdrawing.org/robert-smithson/>)

However, I did not know what kind of work it would materialize into. I had to go there, to do the research, to look, listen and see what I could find.

### Another place

This work is an attempt to create a sensation of another place.  
How could I possibly go about achieving this?

I did not know how to encompass it, but I knew I was attempting to create a sensation of the vastness of Russia, its troubles, its sacrifices. Moving the audience to Mirnyj would not be possible. This was testing the idea of a

work informed by a place, where the choices were informed by all the impressions and information gathered during and after the journey. The work has been made *from* this place.

## THE TRIP

Luckily, I knew the Russia expert, Home Guard officer and comic-strip creator Kristian Krohg-Sørensen, who was more than willing to help me out as an interpreter and travelling companion. We flew to Moscow and spent a few days there going to museums and exploring the city.

I had attended the Great Canon of Repentance in its entirety on Athos, Greece, during Easter the year before. Parts of the Canon are also used at the beginning of Lent in the Orthodox Church. I wanted to attend at least one part of the Canon in a Russian monastery as well, perhaps still thinking I would incorporate a recording of this early medieval work in what I was about to do. The timing of the trip was meant to accommodate our presence at a Canon service, as well as being early enough in winter to experience the cold Siberian climate, as we hoped for stable, cool air to record in.

**Lent**  
the 40 weekdays  
from Ash Wednesday to  
Easter observed by the  
Roman Catholic, Eastern,  
and some Protestant  
churches as a period of  
penitence and fasting.

A regional train took us to Sergiev Posad near Moscow. This city hosts The Trinity Lavra (Monastery) of Saint Sergiev. We were late for the service, but attended and recorded almost an hour of reciting and singing, standing in the *stacidias*. I had of course asked permission to record in advance. A very welcoming Father Dionysy, an acquaintance of the aforementioned Stig-Ragnvald Frøyskov, showed us around and we had a chat after the service. I recorded the lively crows of the monastery, also not incorporated in my work.

I had ordered supplemental batteries that didn't arrive in time for our departure from Oslo, then quickly borrowed a battery from Notam the day we left, and counted on buying more in Moscow. Easier said than done. Special batteries are rare and require knowledge of store brands and areas of the city where you can look for certain kinds of stores. Google turned out to give quite unreliable answers, similar shops gave dead-end advice. After a pirate taxi sightseeing tour of possible shop locations with a retired Armenian colonel, the camera and electronics company Canon was unable to help on the phone and asked us to send an e-mail request. But then the time came for the train departure. We had to resign ourselves and hope for the best.



Photo of drawing of a brief outline of the travel route.

The train took us from Moscow to Yekaterinburg in 27 warm hours – the temperature regime (literally) on board the train was +26 degrees centigrade. The experienced travellers dressed in T-shirts and shorts. In Yekaterinburg there was time for dinner with two women who had also disembarked from the train, heading for China, until the time came to take a taxi to the airport. We passed the Ipatiev House where the Tsar and his



family were executed by the Bolsheviks in July 1918 to prevent their release. The taxi driver, who turned out to be a boxer, supported the Russian takeover of Crimea from Ukraine and claimed that every country cheated with doping in the Olympic games.

Mirnyj is located in central Siberia in the Sakha Republic. The time zone is UTC+9, while Yekaterinburg is UTC+5. The four-hour flight departed at 01:40 and took us eight hours ahead to Mirnyj Airport. We were met by Dmitry Y. Ivanov, Natalia Y. Ivanova at Yakutia Travel, who took us to the only hotel in town (where the receptionist, slightly astounded, confirmed that the wi-fi system in the hotel was operated by Alrosa, and only Alrosa employees had access) to gear up for recording.

All the buildings are built on pillars anchored in the permafrost. We were taken to see the war monument, present in almost all Russian towns, commemorating the 'patriotic war' and Russian heroism and sacrifices, and to a peculiar, recently erected statue in honour of Stalin. How did that happen?

We were out shooting clay pigeons with shotguns and drank vodka at 28 degrees below zero, driving in a 50-year-old scooter on the taiga. We took a wood-fired *banya* in Dmitry's brother's private banya and dacha. He worked with and hunted small game. The day before we came it had been a bit chilly, he said – it was -50°C. We were served frozen raw elk liver over conversations about pollution by slag in the rivers, about private ownership, the future of the town, what was here before the diamonds were discovered, how goods and people were transported, and how the profits from the mining were distributed and the town was run. On another day we were in a remote nature park with sad yaks and bears. There were stricter alcohol laws than in the rest of the country, and you couldn't buy beer on International Women's Day, 8th March. We took a guided tour of the kimberlite museum. We asked about driving to Udachny, an outpost with another large open-cast mine. It is about 500 km farther north and would take time we did not have.

We flew on for a stopover in Novosibirsk, the third-largest city in the country, with a rich range of cafés and bars, then on to St. Petersburg, to understand the most European of the Russian cities, in our own vicinity, but still mentally so far away.

The whole journey was really pleasant, not just the continuous talks with Kristian Krohg-Sørensen, but also the meetings with people along the way who told us about themselves and their activities, asked questions and were interested in what we were looking for in Mirnyj, and wanted to help.

Russia is a huge country, as big as the whole of North Africa. The space that the Russians have available, the resources they have, must do something to their mentality, their understanding of place, their use of landscape, the scope of their thinking. At the same time you get a feeling of being in the far north of the continent, north of mountains and the warm air. East of the Urals the terrain on the whole slopes down northward, from the Central Asian steppes and the mountains. All the big rivers run north towards the Arctic Ocean, which is frozen for half the year. There is lots of space, but also a strange feeling of being hemmed in by something, of being stuck. The rivers are used as 'zimniks' – frozen ice roads – in the winter, but with the spring thaw everything is inaccessible. Many roads have little or no firm surface. The Trans-Siberian Railway must have been hugely important when it opened, but here it is far to the south, extremely far from towns like Mirnyj, Lensk and Yakutsk. The size and the problems with supplies that make the country so difficult to defend make it equally difficult to invade. In a way it is so vast and uniform that there are hardly any places to go.



1.



2.



3.



4.



5.



6.



7.

1. Main square in Mirny  
3. Playground dragon, Mirny  
5. Part of WWII memorial monument in Mirny

2. Soviet orders given to Komsomol<sup>101</sup>  
4. Second generation housing; wooden tenement barracks, Mirny  
6. Meal at the datscha of Dmitry Y. Ivanov's brother  
7. Kristian Krohg-Sørensen firing shotgun at clay pigeons before drinking vodka in -28 °C



8.



9.



10.



11.



12.



14.



13.

8. Frosen moose liver, at the datscha of Dmitry Y. Ivanov's brother  
10. Knut Olaf Sunde at work at the rim of the pit  
12. Grocery store (in Russian 'produkte'), Mirnyj.

9. Backyard of the datcha, continuous wood chopping  
11. K.O.S. at work along the road to the south of the pit  
14. Third generation housing; concrete lamella in Mirnyj

## THE WORK AND DECISIONS

In the following I will describe the work and decisions made during the process of composing.

All the material is based on two weeks of continuous conversation from 27 February until 12 March 2017 on the journey in Russia, with Kristian Krohg-Sørensen. We went to museums and exhibitions, including the Armoury of the Moscow Kremlin Museums, the Museum of Political History of Russia in Saint Petersburg, the Savrasov Kimberlitov Museum in Mirnyj, and we attended one part of the Canon of Repentance in the Trinity Lavra of Saint Sergius monastery in Sergiyev Posad outside Moscow.

## RUSSIA'S ROLE

Russia appears in the work as a metaphor for thought patterns, for what we have been taught to think. The relationship between the pit as a negative (excavated) space and its positive value stands as a symbol of potential or lost/spent potential, of monotony, emptiness, of our knowledge gaps, of the remnants of what has been. The gap is also present in the video material, and time is set aside just so it can be there, to create open spaces for the audience itself to forge connections, interpret, imagine. It is an invitation to go on a mental journey.

To create an immersive mental journey extended time is necessary. Short duration requires effectiveness; you have to hammer in the message, the solution; it is a rhetorically closed effectiveness. Short duration is like a courier. It carries a message about something specific that has to be dealt with, and then you can get on with your business. Long duration is more rhetorically open, creates more ambiguity. Long duration opens up time for considering the pros and cons, it invites more evaluation, detail and room for movement. In purely physiological terms it also leaves time for the fluid in the balance organ of the inner ear to settle, with the result that the neurons stop transmitting positional information to the brain.

Russia's ambivalent and difficult historical relationship with the rest of Europe, and the dimensions of the country, are therefore a good metaphor for the use of time, which became a central building block in the work. The work has a very long contextualizing approach, opening up the idea of Russia and what it is, what it struggles with as a country. Its vastness takes time to comprehend. Only after almost two hours do we close in on Mirnyj. The space and spectacle unfold slowly. The work *Mirnyj* is also a study of monotony, using the Russian landscape as material.

Russia struggles to determine where it has to situate itself between east and west. The country is in the grip of a constant polarization. This follows from its size. Different interests literally pull in different directions, towards different geographical and political centres of gravity. Through time, the country struggles with its identity.

It is important to emphasize that *Mirnyj* is not a documentary about Mirnyj, nor about Russia. But it takes its point of departure in the place and my encounter with it. It takes this as a starting point for saying something about the myriad alternative directions the course of history can take at any time, on the basis of all the different decisions and choices that the people and states of the world make at any time. You always have a choice. There are no fixed answers, you only face choices. But does the textual narrative open things up? Or close them? For whom does it have which of these functions?

## AUDIO

The work opens with a fluid half-hour of intense violin textures. It has only one musician. We recorded long tones that I had planned, which I used as sound material for composing and editing in studio. I think that the combination of acoustic instruments, often slightly processed, and synthesizer material give the human touch to a raw, chilly and mechanical sound situation. From the beginning the violin establishes a pure, sharp acoustic treble with relatively high frequencies. There are only sustained tones, immediately establishing a slowness. The harmonic relations are simple, with a few resulting summation tones and difference tones, resounding within the walls.

The function of the synthesized sound is to make a more or less mechanical sounding monotony with stretched-out sound walls, of sound masses – work as drones. A sonorous, subtly changing bass for filling the hall for a substantial time, enabling a sensation of largeness, of a vast space.

The soundscape from Mirnyj starts with the first images from the ground, halfway through the work, with my footsteps in the snow, heading for the rim of the pit. Traffic, wind, barking dogs come along. These are

ordinary, honest sounds, from the area around the pit and the town, although the soundscapes are blended with the continuous voice of the abstract, synthesized drones throughout.

## SAMPLING / FOUND MUSIC

The song at the end is *Pesnya o Dnieper*<sup>102</sup> (Song about the Dnieper). It was composed by M. Fradkin, and E. Dolmatovsky wrote the text in 1941 after Nazi Germany's Operation Barbarossa. The Dnieper runs through Ukraine and Kiev and is in the historical core area for Russian culture and self-understanding. Strong feelings are associated with these rivers and areas, and people back then were evacuated in droves. The song expresses a proud, patriotic love of the landscape, as culture and nerve. What opened as a string movement, with an extended acoustic instrumentation, and continued with electronic sound material with soundscapes, is rounded off with found music, acoustic and pathos-filled.

## VIDEO

Cato Langnes, sound engineer at Notam, always says regarding the quality of microphones and the kind of array to bring that *the best microphone is always the one you have available!* Thus any recording at all is always preferable to no recording having been done because of equipment that is heavy, impractical, simply unavailable or has not been brought with you. The same goes for the video. On this trip, I had to be responsible for the video myself. This was a prerequisite for the work, and would affect what it was to become.

There are few humans in the footage, and hardly any dialogue. The footage is characterized by long shots, observation, a standing overview of the landscape, views from a train, and the hovering bird's-eye view of satellite imagery.

The train scene is in a way a *chant*. It is a journey through the landscape with long scenes and changing details, but where the big picture persists.

I say with Geoff Dyer that "[...] it is equally impossible to film anything like a horizontal view of a landscape from a train without a similarly alert viewer saying 'Ha! Tarkovsky! Stalker.'"<sup>103</sup> What does the train trip tell us? With a train one is restricted to the rails, one cannot deviate. Is history fixed? How could it have been otherwise? During the train sequence the text gives an account of the historical context. All the same, the landscape we look out at is inconclusive. It just is; certainly it is made use of and organized in changing ways, but it does not end up with any particular kind of polity or organization. The constant motion has an inexorable direction. It is constant transition.

The scene goes on so long that it perhaps establishes a kind of focused trance where you develop an extreme focus, a sense of presence, at the same time as the experience of your physical "I" is transformed, perhaps into something hovering. An immersive tension arises, into which you are absorbed; you lose your sense of time, your awareness of yourself, of what is outside, and it becomes – well, perhaps something like a hesychastic experience: a process of inward focus, repetitions and solemn silence, until one ceases to register the senses, so as to achieve an experience of something outside oneself. The term is associated with a kind of ascetic prayer. The point is to establish a lasting situation, perhaps by repeating something over and over again. This produces a kind of focus and concentration where one ceases to be aware of one's bodily appearance, like a mental stalagmite, gradually appearing, slowly adding presence, a kind of anaesthesia, a not-sensing.

A sense of floating may be felt when you sit completely still for a certain time, since the fluid in the organ of balance in the inner ear has fallen still and the nerves stop transmitting positional information to the brain. This is one possible physical effect of such focused concentration (misinterpreted as a divine presence in earlier times).

An abstract flickering scene immersively fills the field of vision. Two streams of monochrome colour slowly change, meet and interact in a static and very fast flickering between the two colours. The intensity imposes a perceptual deprivation where the brain amplifies neural noise in order to search for possible missing value signals. This flickering 'Ganzfeld' can make geometrical patterns or colours appear if you keep your eyes wide open and watch, especially when seated closer to the screen so that it more or less fills the visual field.

A red dot appears centred in the flickering, increases in size and suddenly becomes a red Earth, continuing the zooming-in to Mirnyj from space. (The scene is a reference both to Lars von Trier's *Melancholia* and to Stanley Kubrick's 2001: a Space Odyssey, in which Johann Strauss the Younger's gentle, harmless waltz *An der Schönen Blauen Donau* becomes its opposite in the scene where the space station floats in orbit around the Earth. In Von Trier's film the planet *Melancholia*, in the course of several days, is drawn inexorably towards

the Earth in a highly oppressive gravitational dance to the accompaniment of Wagner's yearning Liebestod from *Tristan und Isolde*.)

We are on the ground, *there*. Footage from the pit is inconclusive, non-judgemental. We just watch the details of the altered landscape, in slow pans shot with a monopod. The subsequent city scene encompasses live still images of building facades and some city life with people on the central square. A flyout scene gives glimpses of the landscape from a distance, from above, and takes us into the clouds, obscuring directionality.

After a while hovering satellite imagery takes us across areas to which industry was evacuated. Important Soviet industrial areas were Minsk, Kiev, Donbass in eastern Ukraine, Leningrad and Moscow and many other cities in European Russia, joined between the wars by annexed industrial areas. But the Winter War with Finland in 1939-40 showed the Germans how weak the Soviet Red Army was. And the German attack on Belgium, the Netherlands and France, as well as Denmark and Norway, was quite swift. Stalin was surprised by the sudden German attack on the Soviet Union in 1941, and immediately started evacuating its industries from the most developed western areas to the vast territories east of the Urals – some 2400 km, a huge number of enterprises, vital equipment and people. It had to be done. The western territories could not be defended, and the Soviet Union could not afford both to lose its own production capacity and thus yield to an increased, strengthened German production capacity. What other country can evacuate almost 70% of its industry thousands of kilometres away in the course of an autumn, at the same time as fighting a critical war? What other country has the space to undertake such a strategic move? The displacement of the industrial resources changed Russia's own perspective, withdrawing it from Europe. But Russia had time. Russia had space. Historical time and political time were at the country's disposal – Russia could wait, wait until time had healed the wounds and Russia again could have its own way.

Here I want to mention *The Jefferson Grid*<sup>104</sup> by an anonymous, allegedly Israeli photographer. It consists of satellite images from Google Earth of the consequences for the landscape of the geometrical territorial demarcations in the American midwest. The system was introduced in 1785 because the old (English) way of surveying land took its point of departure in the concrete topography. This corresponded poorly in scale to such vast, 'new' areas as the USA now quickly had to map, divide up and make use of. For that reason Thomas Jefferson proposed a logical, geometrical grid system that was easily definable and made possible the sale of land without anyone having viewed it. The different ways of organizing the landscape have important consequences for actual land use, land articulation and population mentality.

## TEXT

I have aimed at a kind of succinct, sober, objectively verse-like form in the text. The texts are concise fragments. For me there is much poetry in facts, in reality, in all the ambiguity that exists in reality, and in the attempt to grasp all the small events that can have great and unforeseen consequences. The poetry in the randomness of reality, which always arises, is formed, is influenced and developed as a constant recasting of the matter of which the world, culture and history consist. I have attempted to avoid emotions and evaluations; to ensure that everything in the text is correctly, rigorously and compactly expressed, clearly if tentatively, with one consistent voice. The data are objective, testable and calmly presented, without pathos in the actual text.

I have chosen the large font size, capitals and a placing in the centre of the screen to give the text its own place above the image. The text is not a voice-over or commentary. It rarely stands in a concrete, direct relationship with the image that is shown at the same time. I have therefore often chosen to fill the screen in such a way that the text enters the picture and is part of the visual expression.

The text starts off with a slow long-term historical approach. The selection has been based on an emphasis on pivotal events with some detailed context. The Revolution with its opportunistic circumstances is fairly neutrally presented. Information on the mine and the town of Mirnyj is bare and factual. Then the evacuation of the industries and the Russian sacrifices are presented.

Many points are omitted so the audience itself can connect the fragments. I believe that the objective, rigorous expression along with the abstract, undulating drones in the soundscape can evoke – precisely through absence, seriousness, emptiness – an emotional response. It becomes like a negative that produces a sense of Russia's distinctive, severe vulnerability.

The primary sources for the text are conversations with Kristian Krohg-Sørensen during the trip 27 February to 12 March 2017, The Museum of Political History of Russia, Saint Petersburg, Savrasov Kimberlitov Museum in Mirnyj, *Livelegen* (book) by Tor Bomann-Larsen, Dan Carlin's *Blueprint for Armageddon* podcast, conversations with Dmitry Y. Ivanov and his brother and Natalia Y. Ivanova 4 to 8 March 2017, and Georgy Alexandrovich Kumanev's article *War and evacuation in the USSR 1941-42*.

## SCREENING

I hoped to get further in finding out how to actually use a pre-existing production space; in better understanding how I could create a work using the premises of such a space, avoiding working against it and avoiding a *subdued-by-format* creative process. I imagined the audience lying flat on the floor, looking upwards – in the direction of the sky – at a horizontal screen suspended above them, with back projection from above, and surrounded by multichannel audio filling the space. This is apparently more difficult to accomplish than one would immediately think. Many concert venues have ceilings too low to allow an ample distance, even for ‘short throw’ projectors. The flybars may be dimensioned only to carry a certain array of lighting, with weight limitations. In that case a custom-built floor standing array would also either have to be either expensive or occupy visual space. In the Jakob Church in Oslo, the ceiling is naturally high, and we discussed possible solutions.

I had also planned to work with two-channel video with contrasting and supplemental material. Quite early, this was reduced to one channel, but the notion of two screens still remained. The idea was that two opposite audience groups should lie opposite each other on the floor, looking upward at two screens, 180 degrees opposite in relation to each other. However, when in an all-encompassing workflow being asked how two opposite screens with identical content would function, and if that was actually the intention, I had to realize that this was a remnant of an abandoned idea and instead go for one video channel and one screen.

At the end of the day, we ended up with a large, tilted frontal screen and deckchairs to sit comfortably on for four hours that would provide a good head and eye angle to the screen. This gave us a certain element of dislocation in the space, a rupture, a shift in expectations. The idea was borrowed from the artist and filmmaker Hito Steyerl and her deckchair- and tilted-screen work *Factory of the Sun*<sup>105</sup> (2015). This is a video installation on a loop, in a space in a custom-built room with a blue grid on all walls, floor and ceiling.

## NOT ACCOMPLISHED

I had the idea of a semidocumentary work. I travelled with a DMS (double mid/side) mic array, camera and interpreter. I tried to contact Alrosa (the mining company) giving them reasonable notice, to get access to the production plant, but got no response. The guide said that they never gave outsiders – only business connections – access to the mining complex. I would have had to work much longer to make contact with someone and build a relationship if I was to get on a guided tour.

We travelled on a tourist visa. But we had to work, to create art. Well aware that the police in Russia can arrest you for very small things, we did not want to arouse too much attention. We kept a relatively low profile. We asked about a starting pistol – the town’s sports club must have one? No. Or rather yes, they did, but they had run out of blanks, and it would take too long to order new ones. One of our guides was incidentally a former policeman.

We were invited to a clay pigeon shooting range. It was cold, we had a good time with a variety of characters – men only – some tough guys, others not quite so hard, but friendly and teasing, often dressed in camouflage-patterned thick winter jackets. None of them were willing to go off with us to the pit to fire some shots. It is probably absolutely not permitted, so there was nothing odd about that. I had a starting pistol confiscated in Greece, and naturally did not travel out with a new one to Russia. It was enough to imagine the questions at customs.

Instead we tried with big balloons I again had brought, which had worked very well in Greece, but there it was +30°C. Here it was -25°C, and they just collapsed lazily when holes were stuck in them. We bought what we could find of fireworks in a shop that sold weapons (and of course had no blanks), but there wasn’t enough energy in them. So the sound measurement with impulse response couldn’t be done. All the same we had a conceptual impulse response. The trip and its purpose were known – observations, the gathered material and choices resulted in a work, as a kind of measurement.

## INSIGHTS

### Observer

It might be objected that this is exploring a history which is not my own. My outlook is from Norway, a small northern neighbour of Russia. When I grew up the Soviet Union was something clearly outside our realm, inaccessible, huge and dangerously hostile. I do not claim to present a historically correct and complete story. I know this window into Russia is just a glimpse. Although I have tried to present the events in a both objective and balanced way, it is precisely from my position that this work was done. Interests change according to standpoint and worldview, that interests mean to protect. Interests shift across a border.

Public dialogue has narrowed down into knowledge niches over the past few years. The result is niches of misunderstanding and misconception. Attitudes are reinforced in echo chambers. Today, many people seem to take pride in being offended by this or that. In combination, these factors impose simplified perspectives on one another that seem to be on the harsh and hostile side. Exchanges of knowledge are vital, transfers of meaning are vital. The attempt to understand other people's views and arguments is fundamental to collective existence. If I were the only one to be allowed to understand myself, I would exclude outside, perhaps more objective views on the matter – divergent views, views not necessarily consistent with my biased experience of being myself. It is vital to tell a story from different angles. The issues I present regarding Russia will be presented differently according to the background and standpoint of any other author. Even 'objectivity' is presented in a pattern coloured by its time and by the available knowledge. Russia and its position and integration in the world are important. Russia is truly unique in its size and history. Understanding of the observer's perspective is necessary.

### Associations

Mirnyj – that is, the open-cast mine – evokes associations with ancient Greek theatre, both in its physical form and functionally; the Greek theatres were places for trying out ideas, exposing them to view. What does this have to do with Russia, Siberia, the huge distances? The place worked well as a platform for raising many questions.

Why is the antagonism so strong even in our own time? In World War I ordinary people were cannon fodder, and it was not rare for them to protest against the prevailing order and the regime that had led to it. This came from somewhere (naturally also farther back in time). But without World War I one can imagine there would have been no Russian Revolution; nor would there have been the intense bitterness among surviving soldiers all over Europe (and large parts of the rest of the world) and among the family members who reached their forties in the course of the 1930s, and by then had reached the authoritative age when they were in central positions everywhere in society. The feeling among both sides in the war, that World War I had all been for nothing, was strong. Many had stated that the Armistice was nothing but a long truce that would end with a new war. The Ottoman Empire collapsed, as did Austria-Hungary; new countries, and in time self-determination, came to the Middle East (and then to almost everywhere). Germany was decimated. And for some time the balance, often maintained on a knife-edge, was able to offer enough stability for society to develop rapidly. But World War II came. And then the antagonism of the Cold War. And this antagonism, the very idea of hostility between civilized countries, between integrated groups of countries in the same parts of the world – we still cultivate it.

### Agogics

Have I given the listener enough responsibility?  
Maybe the text becomes too insistent?

It may be objected that when I am arguing for release from a straitjacket, which can be summed up as 'leading through agogics', this function is merely transferred to the text. That is certainly possible.

I do not have the same experience with images and text as with sound. I am a little uncertain about the effect of the text. Language easily glides into something concrete and explicit, as I have experienced while working with it. I have sought advice from supervisors and textual experts I know. I have tried to keep the text concise, pared to the bone, to avoid flowery language and subjective descriptions.

I must emphasize that I am not arguing for a fundamental showdown with the melodic, or agogic, level. Rather, it has been interesting to explore how the music can open up the situation more, can create greater space for reflection than I have felt was possible with an agogic level that restricted the space of reflection more to particular pathways. The large surfaces between the text fragments even things out and provide space for



thinking; space that has consequences; and which helps us to think. This is the intended function of the text in *Mirnyj*. It must in other words be possible for the listener to create his or her own space.

### City scene

In my view the city scene did not function as well as the rest of the work. The people introduced an element of life, but the length of the scene and the amount of and quality of interaction with the people did not sufficiently take up a position that expanded or completed the work. Perhaps it would have worked better if there had been shorter or fewer shots with people? What does this portrait actually say about the city? It shows a realism, parts of everyday life outdoors. Perhaps the work would have been even more consistent without these city scenes? Or what if the city scenes had been entirely without people? After leaving the city square with the sledging scenes, I also return to them later. Perhaps it would be enough just to use one. In retrospect I see that the work loses intensity with these city scenes. It falls apart slightly. I think it manages to pick up momentum again. But if I were to revise the work I would probably look at exactly this. It is difficult to predict the effects of all the scenes, in relation to one another and over time.

### Risk and memory

The work is about trying to take a foreign perspective and explore a kind of music that uses what we know about the significance of context, place and spatiality for perception, interpretation and memory. This involves a dislocation of meaning. We all have our mindsets, but we can try to expand them by applying them to foreign perspectives – places unknown to us, unfamiliar settings where navigation is necessary. I travelled to explore a space and situations and did not know beforehand what to do with them. I must do this, as I want to convey to the audience a map a terrain, to explore ‘dangers’ and ‘the unknown’. I have exposed myself to risk – artistic risk. It will be up to others to determine how well it has worked.

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<sup>100</sup> Smithson, 1973.

<sup>101</sup> The Soviet state awarded orders (орден). These are given to Komsomol 1928: order of the red banner, 1931: order of the banner of red labour, 1945-1948-1956: order of Lenin, 1968: order of the revolution. <http://smkrsm.ru/smk/90.php?etc.htm&id=61>

<sup>102</sup> Soviet Music, 2001-2019.

<sup>103</sup> Dyer, 2013, p. 54.

<sup>104</sup> The Jefferson Grid is an instagram photo series. Bliss, Laura. (2015, September 16). Photographing the American ‘Grid,’ One Square Mile Per Frame. *Citylab*. [About Instagram photo series ‘The Jefferson Grid’.] Retrieved from: <http://www.citylab.com/design/2015/09/photographing-the-american-grid-one-square-mile-per-frame/405610/>

<sup>105</sup> Steyerl, Hito. (2015). *Factory of the Sun*. [Immersive video installation]. 23 min.



## THE MIRNYJ TEXTS

### 1.

Dnieper and Volga  
are the largest  
river systems on the  
Great European Plain

The terrain and rivers  
are oriented towards  
the southeast

Moscow sits some  
150 m above sea level  
The Moscow river is a  
tributary of the Volga

which floats calmly  
through woods and  
farmland more than  
3000 km over the plain

to the Caspian Sea  
28 m below sea level

After the Asiatic Huns  
crushed the earlier  
eastward moving Goths  
in a westward expansion  
in the 300-400s CE

The Goths went west

The Kievan Rus federation  
was established by  
Vikings who settled among  
nomadic peoples around  
Dnieper in the 700s CE

It was destroyed  
by Mongol invasions  
in the 1200s

The Grand Duchy of  
Moscow emerged  
in the 1300s

Eastward expansion  
both geographically  
and culturally under  
Ivan the Terrible from  
the 1500s

Conquering Siberia  
which formerly belonged  
to the Mongols

The eastern focus left  
Russia without access  
to either the Baltic  
or the Black Sea

Sweden dominated the  
Baltic Sea  
Finland  
Karelia  
Ingria  
Estonia and Latvia

although many  
territories  
shifted forth and back  
in wars

Tzar Peter the Great  
decided on a western turn  
to transform Russia into a  
modern European country

Peter conquered Ingria  
during  
Great Northern War  
1700-1721 to gain access  
to the Baltic Sea

and founded  
Saint Petersburg  
in the swamp at the  
outlet of the Neva

to be the new  
capital of Russia  
and a stronghold with a  
new and powerful navy

5 million inhabitants  
make the present Saint  
Petersburg by far the  
largest city in the  
Nordic region

### 2.

A man enters  
the compartment

He is about 30

We converse

He is an officer  
in the Russian Navy

on his way home to  
Perm for military leave

– I did my compulsory  
military service on a  
submarine, so I have been  
into the Norwegian fjords  
frequently  
he says with a smile

3.

Throughout the 19th  
century there were  
numerous revolutions  
in Europe

Karl Marx  
released  
Das Kommunistische  
Manifest 1848  
and  
Das Kapital 1867

The upper class and  
nobility in the western  
Russian cities spoke  
French and German as  
their daily languages

while workers  
and farmers  
spoke Russian

The word for the  
colour red  
in Russian also means  
beautiful

Tzar Alexander II  
reluctantly abolished  
serfdom in 1861

It happened the day before  
Abraham Lincoln took  
office as President of the  
United States

leading to  
the US Civil War  
1861-65  
Slavery was a  
central issue

But in Russia, the now free  
farmers often got land  
with bad soil  
and had to pay a new tax  
to the former landowners  
as compensation

To many this meant  
serfdom continued  
in practice

The Russian Social  
Democratic Labour Party  
was formed 1898  
splitting into Menshevik  
and Bolshevik factions  
in 1903

The Bolsheviks left  
the Labour party  
in 1912

The First Duma  
was called together  
in 1906  
It was dominated by  
people inspired by the  
British Parliament

Tzar Nicholas II  
could have supported  
the democratic  
development  
but instead he  
dissolved the Duma

The tensions caused  
by military strategies  
imperialism  
alliances  
and nationalism exploded  
in Austro-Hungary in 1914

The territorial states  
acted as if trapped in a  
political game  
without sufficient time  
for good decisions

Farmers and workers  
died in high numbers  
as poorly equipped  
soldiers

Food shortage  
and war frustration

Demonstrations on the  
International Women's Day  
8 March 1917  
escalated to become the  
February Revolution

Tzar Nicholas II was  
forced to step down  
a week later

Bolshevik leader  
Vladimir Lenin  
was exiled from Russia  
and lived in Switzerland

He was unable to return  
Due to the ongoing war  
over vast territories  
on the eastern front

Erich Ludendorff was  
the leader of the German  
military as well as the  
German civilian  
Government at the time

Ludendorff hoped a  
return of revolutionaries  
would further undermine  
Russia's cohesiveness and  
stability and eventually  
pull Russia out of the war

so that the Germans  
could focus  
on the Western Front  
before the Americans  
arrived

He arranged for a  
return of many  
revolutionaries  
in covert operations

Lenin arrived in  
Saint Petersburg  
16 April 1917

He called for  
peace  
bread  
and land

but he also called for a  
global war  
between the  
proletariat and  
capitalism

The interim government  
led by Kerensky  
passed the most  
progressive and liberal  
legislation in Europe

But they planned the  
'Kerensky Offensive'  
1 July in Galicia  
in present  
western Ukraine

Feeling obligated by  
substantial economic  
war support from Britain  
and France, even though  
they had given up the  
goal of total victory

Two million Russian  
soldiers deserted  
during the summer  
Their morale  
discipline and will to fight  
had evaporated

The interim  
government was  
greatly weakened

Russia  
was  
facing  
defeat

The previously  
marginal Bolsheviks  
promised they would  
pull Russia  
out of the war

They gained support  
during the summer

The Bolsheviks  
took power  
7 November 1917 in the  
October Revolution  
and ended Russia's  
participation in the war

But on poor terms

|  |  |
|--|--|
| Immediately<br>an even worse civil war<br>broke out  | immediately<br>contributing<br>to the country's<br>economy   |
| The Tzar and his family<br>were executed by the<br>Bolsheviks in July 1918<br>to prevent their release                                 | Diamonds are pure<br>carbon, a volcanic<br>mineral, the hardest<br>of all known  |
| Lenin reluctantly<br>instigated the<br>New Economic Policy<br>in 1921  | formed more than<br>2.5 billion years ago<br>under high pressure<br>and temperature in the<br>mantle deep beneath<br>earth's surface |
| a capitalistic<br>liberalization<br>to get the<br>wheels spinning  | erupting through<br>deep-source volcanic<br>kimberlite explosion<br>tubes  |
| It was successful  | 80-90 million years ago  |
| The New Economic Policy<br>was abolished by<br>Stalin in 1928<br>as the first five year plan<br>of the command economy<br>was launched | Hydrogen sulphide (H <sub>2</sub> S)<br>evaporates from the<br>ground as a component<br>of the volcanic gases                        |
| 4.   | The quarry is<br>the second largest<br>man made hole<br>in the world   |
| Mirnyj<br>Мирный   | with a depth of<br>525m<br>and a diameter of<br>1250m  |
| Мир – world, peace, quiet, system  | Discontinued,<br>groundwater being<br>pumped out   |
| Мирный – peaceful, silent  | until the<br>underlying tunnel<br>mining operations<br>also come to an end   |
| <i>STOP!</i><br><i>RESTRICTED AREA</i><br><i>Quarry 'MIR'</i><br><i>Passage prohibited!</i>  | All ground is<br>initially owned by<br>the district<br>Mirnyj Rajon  |
| The Mir deposit was<br>discovered 1954 in what<br>was then uninhabited<br>wilderness   | Alrosa<br>mining company<br>operates the<br>concession   |
| Komsomol youth came<br>to build the town<br>to patriotically<br>serve their country  |  |
| during the<br>blooming<br>Moscow Thaw<br>under Krushchev   |  |

in practice  
alone  
sustaining  
the town

When diamond  
operations end  
the town will  
close down

- Do you see the plane up there?  
- Ты видишь там самолёт?

[Bust inscription]  
*To the  
commander in chief  
of the armed forces of USSR  
Generalissimus  
Joseph Vissarionovich  
Stalin  
From veterans of the  
Great Patriotic War  
and thankful descendants  
9 May 2005*

[Wall poster]  
*Our faithfulness  
to the fatherland  
gives us strength  
Military service  
and a contract  
gives self-confidence  
and stability in life  
Apply to the nearest military commissariat*

5.

In our brain  
grid cells  
place cells  
speed cells  
head direction cells  
and border cells

constantly code  
our surroundings  
and constitute  
a hexagonal map  
of cells depicting  
our environment

The way the brain  
records  
and remembers  
movement in space

is closely  
connected to  
memory

What we know  
what we think we know  
what we believe  
and what we sense  
in which context

form our  
perception  
of the world  
around us

6.

Magnitogorsk  
Магнитогорск

Expansion  
as a steel city  
during Stalin's first  
five year plan

A closed city  
(restricted access)  
from 1937

Unternehmen Barbarossa  
started 22 June 1941

Germany attacked  
the Soviet Union

The next day a  
Council for Evacuation of  
Industries was set up

The western areas  
of the Union  
near the neighbouring  
European countries  
were the most  
industrialized

and vulnerable

The previous and present  
Russian western borders  
cross the  
Great European Plain  
of farmland and woods

|   |   |
|---|---|
| with no natural or clear topographical boundaries   | A Closed Administrative Territorial Formation   |
| A relocation of industry to the east of the Urals to the cities of western Siberia kept critical production out of reach of Germany | Internal gate crossing from the closed city to the exclusion zone of МАУАК Маяк               |
| Incomplete official records list 2,593 relocated companies  | First facility constructed 1945-48 in great haste and total secrecy                           |
| Critical elements and machinery were often dismantled at the last minute with no time for documentation                             | Surrounded by a 250 square kilometre exclusion zone   |
| In reality approximately 32,000 enterprises were moved  | not shown on Soviet maps  |
| After the evacuation 70 % of Soviet industry was east of the Urals  | The former Lake Karachai was a dumping site for atomic waste                                  |
| Again inadvertently shifting Russia's centre of gravity eastwards   | 8.  |
| The war devastated the economy again generating extreme rebuilding needs  | Russian Empire / Soviet Union<br>loss of lives 1914-55:                                       |
| Emphasis was on modernization of heavy industry and deployment of natural resources   | 4-5 million in World War I 1914-17  |
|   | 8-13 million in the following Russian Civil War 1917-22                                       |
|   | (of which about 5 million died of hunger, 1921-22)  |
|   | 6-8 million died during the Soviet famine 1931-32   |
| 7.  | 2 million killed during the Great Terror of political repression instigated by Stalin 1936-38 |
| Chelyabinsk<br>Челябинск  |   |
| Eastern domestic border gate  |   |
| Ozyorsk<br>Озёрск   |   |



27 million  
killed during World War II  
1941-45  
– 16 % of the Union's  
population

At least 2.7 million  
died in the GULAGs 1929-55  
(18 million were interned,  
4.5 million never returned)

A total of  
50-58 million  
people

9.

Ekaterinburg  
Екатеринбург

*By the coastal vines, by the steep banks  
Did we grow up and learn to love  
Oh Dnieper, Dnieper!  
thou art wide and mighty  
Above thee, cranes are flying*

*Oh Dnieper, Dnieper!  
thou art wide and mighty  
Above thee, cranes are flying*

*Thou hast seen battle, thou father of rivers  
Under the mountain we went to attack.  
He who perished for Dnieper will live for  
centuries  
For he has fought like a hero*

*The enemy attacked us, we marched away  
from Dnieper  
A deadly battle raged like thunder.  
Oh Dnieper, Dnieper!  
thou flowest in the distance  
And thy wave is like a tear.*

*From thy streams the enemy was drinking  
He did choke on thy water!  
One glorious day we marched forward  
And once again we reached thy shores*

*Let the blood of fascist dogs flow in rivers  
The enemy will never take Soviet lands.  
As by the eternal Dnieper, all enemies are  
wiped out  
By our Army and our People!*

Song about Dnieper, 1941  
Music: M. Fradkin  
Lyrics: E. Dolmatovsky  
English translation: Kristian Krohg-Sørensen  
Source: sovmusic.ru

# Epilogue. Bolsheviks' Victory and its Price

The Civil War in Russia finished by November 1922 by complete annihilation of active units of the White movement in the territory of the country and joining of the buffer Far East Republic to the RSFSR.

The Russian revolution resulted in the victory of the Bolsheviks, who strengthened it with establishment of the new state – the Union of Soviet Socialist Republics (USSR). For the Bolsheviks it was a major step towards spreading of their ideology to other peoples and states, and ideally – to all countries of the world, that was unambiguously stated in the "Declaration on formation of the Union of Soviet Socialist Republics". Formation of the Soviet Union on December 30, 1922 initiated unification of territories being parts of the former Russian Empire before the revolution based on a new foundation. This process lasted for almost two decades.

The Russian Revolution of 1917–1922 became one of the most significant and tragic events in the Russian and world history of the XX century. It entirely reformed the country and set a development vector for decades ahead, as well as considerably impacted many global historical processes.

The population of Russia paid a huge bloody tribute: according to different estimates, over the period of 1917–1922 8 to 13 million perished. About 2 million, including outstanding figures of science and art, had to emigrate to other countries. About 7 million children became homeless.

We can still feel consequences of the Revolution in the Russian society.

Photo of text poster at The Museum of Political History of Russia, Saint Petersburg.

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# HIMDALEN



At the Research Catalogue there is a 50 min documentary film, production maps, musical score, storyboard and the audiofiles from the listening post. <https://www.researchcatalogue.net/view/565811/565812/0/27>  
A review by Rose Dodd on Himdalen, published by Seimograf.dk 27 December 2018 are accessible at <http://seimograf.org/node/10014>

## CONSTITUENTS

Land music the entire evening and night outdoors in the end of November. Composed for and realized on 24 Nov 2018 at and around a Combined Repository and Storage Facility for radioactive waste in Himdalen, a narrow unpopulated valley surrounded by pine forest hills, 45 km east of Oslo, Norway. The work required four musicians and 12 loudspeakers – 4 at the gate to the facility, 4 at an equal distance of 85 m away from a central spot, 4 along a hiking track, a listening outpost overlooking the central camp and an acoustic scene using three positions at a lake.

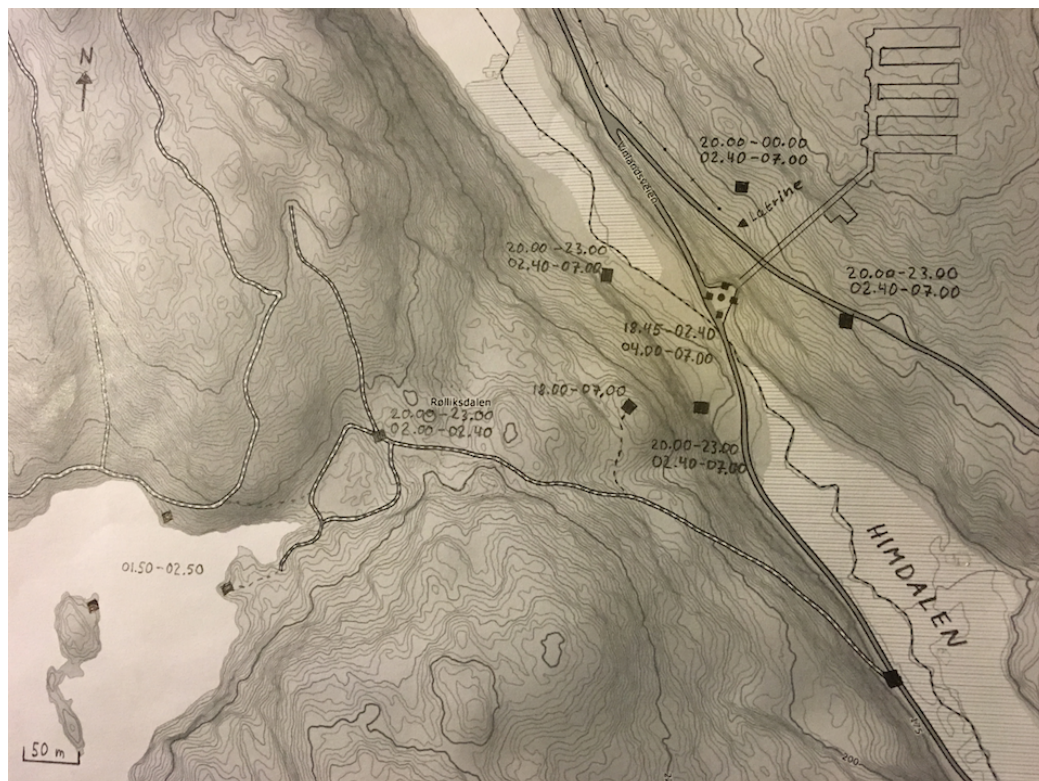
The project explores regeneration as concept, and the sustainability of information. It requires the audience to be bodily present, to navigate, to decode information, to combine deceptive information, to reach local positions at different times, to experience a subjective version of the work. Perception is a matter of who we are, our cognitive structures – a result of custom, choices and context. Ignorance of context yields misunderstanding.

### Einschub: Short note on more performances

Some people have asked me to repeat this work, or to restage it at more pleasant time of year. In advance communication I used the term a 'site-specific concert'. Now the term *concert* is widely used of a 'performance of musical works that can be repeated in multiple concert venues'. Himdalen is probably not a concert; it is more like an event, a happening, although not as raw activism. It is detailed and mapped out as concert music often is, but intended and made for this particular place, time of year and time of day. It is practically speaking a one-time-only performance, and that is not easily conveyed by use of the term *concert*. There are no repetitions. I would never say never, but I would rather go on doing something else than repeating this event, even though it could perfectly well be performed again, at the same place, time of day and time of year. On the other hand the term 'concert' implies a musically mapped-out course of time, suggesting that this is no installation or activist performance.

## AUDIENCE INFORMATION

A map was handed out to the audience. The map showed approximate times for activities at each position. On the back was a contextualizing printed text (in Norwegian). The text is shown on the next page.



1951 - First Norwegian research reactor.

KLDRA - *Combined Repository and Storage Facility of Low- and Medium-Radioactive Waste*. The only one in Norway is at Himdalen - east of Øyeren, between the nuclear research plants in Halden and on Kjeller, in a rock hill in forest terrain with low population density, at a local authority boundary. Built in 1998, it is 63% full in 2018.

At Himdalen radioactive waste is disposed of from industry, the health sector, the armed forces and nuclear activity at the Institute for Energy Technology. Examples include luminous exit signs, markers and sights from military weapons, smoke alarms, industrial radiation sources, or contaminated remains from industrial plants such as paper, tools, clothing, air filters and demolition waste.

'Repository' means final storage. The waste must not be moved, it must stay here forever. When it has been filled with 10,000 concrete-filled cast steel barrels in the eight 'sarcophagi', operations cease. Then the complex must still be monitored institutionally for 300-500 years, subject to among other conditions restrictions on land use.

One of the four halls is for storage. There are for example 166 barrels with a total of 35 grams of plutonium. Before KLDRA Himdalen is closed this long-lived waste must be moved to a new temporary storage which will perhaps be built for a period of 100 years, or will perhaps go straight to a final disposal of fuel and long-lived medium-radioactive waste, for which there are considerably stricter requirements.

In addition, spent reactor fuel and other long-life medium-radioactive waste are now stored at Halden and on Kjeller. Uranium, plutonium, thorium, some of it formerly highly radioactive. A proportion of this is unstable metallic uranium with or without aluminium casing. If this comes into contact with water it can react to form uranium hydride, which ignites spontaneously in air and explodes. This has to be stabilized - a time-consuming process - before disposal.

A series of reports and reviews attempt to find answers to what we should do. A new intermediate storage facility for long-lived waste, perhaps collocated at Himdalen? We also need new capacity for low- and medium-radioactive waste. Or should we build a final deposit in deep geological formations (500 to 1000 m below ground level) and with constructional barriers, this too perhaps at Himdalen? "*It is a generally accepted principle that future generations must not receive higher dosages of radiation than the generations that have produced the waste*" (NOU 1991:9). For spent fuel the need for storage will in practice be eternal - up to several hundred thousand years - possibly millions of years (DNV GL 2014-1329).

In such a long time perspective other events or influences must be considered. These may be climate changes and geological processes such as earthquakes, shifts in tectonic plates and ice ages. There may be a new major war. It is impossible to predict how long today's societal structure - our basic civilization as such - will endure. Our written culture developed 5000-8000 years ago. The last ice age ended between 10,000 and 20,000 years ago, and we - *Homo sapiens* - evolved around 250,000 years ago. How are we to imagine the situation in 300, 5000 or 100,000 years?

Himdalen, 24.11.2018

## **RIDER**

### **Personnel**

|                           |                            |
|---------------------------|----------------------------|
| Guitar:                   | Ole Martin Huser-Olsen     |
| Pump Organ:               | Jonas Cambien              |
| Percussion:               | Anders Kregnes Hansen      |
| Double bass:              | Christian Meaas Svendsen   |
| Cinematography and light: | Mattias Pollak             |
| Photo and light:          | Henrik Beck Kæmpe          |
| Technical producer:       | Morten Minothi Kristiansen |
| Production assistant:     | Bjørn Erik Haugen          |
| Producer (Notam):         | Jøran Rudi                 |
| Developer (Notam):        | Thom Johansen              |
| Sound engineer (Notam):   | Cato Langnes               |
| Food:                     | Erik Engblad               |
| PR:                       | Ellen Ugelvik              |
| Composer and concept:     | Knut Olaf Sunde            |

### **Instruments**

#### Percussion:

Vibraphone

Aluphone: c#1, e1, g#1, h1, c2, c#2, d2, b2

Crotales: b1, h1, c2, c#2, e2, a2, b2, h2, c3 (sounding two octaves up)

Rin / singing bowls – pitched: h, d1, ebi, a1, f2

Sound plates: a1, h1

12 string guitar

Pump organ from Vestre Haramsøy organ factory

Double bass

### **Audio equipment**

8 subwoofers

8 top loudspeakers

1 custom-built, battery-powered, quadrophonic loudspeaker element setup

3 battery-powered guitar amplifiers

1 computer

5 media players, multichannel (WavePlayer8) – 4 x 240 V, 1 x 12 V

2 mp3 players

4 small 6-track mixers

3 small field stereo recorders (for outpost Cb, Gtr, Perc)

1 eight-track field recorder (for main position A)

3 microphone stands (for outpost Cb, Gtr, Perc)

Double MS microphone array for recording main post A (2 x directional, 1 x omni, 1 x fig 8.)

5 microphones for recording musicians at A.

7 microphone stands with XLR cabling

XLR signal cabling for loudspeakers

Blue electric cabling for B, C, D, e

6-800 m cable

### **Video and light equipment**

20 dog-collar LED lights

8 LED lights (5 1-foot and 3 2-foot), a mix of type Aladdin and Velvet

Light filter dark amber from LEE filters

Batteries V-lock, two for each lamp

Video camera and photo camera

### Other equipment

1 tripod table for rin / singing bowls  
8 note stands  
8 note stand lamps  
5 stands for microphones / field recorders  
1 canoe with paddle  
1 stool for guitarist at outpost  
2 campfire pans  
1 m<sup>3</sup> birchwood, matches  
6 chairs  
2 tables  
1 grill  
1 package charcoal, lighter fluid  
Food  
10 digital stop watches  
1 ladder, telescope type  
10 walkie-talkies for remote communication  
14 tarpaulins  
Various batteries  
First aid kit  
Fire extinguisher  
Bin bags  
Toilet paper, antibacterial  
Gaffa tape  
2 desiccants  
Soldering equipment  
1 truck and ropes for pulling pump organ  
Drill, saw, pickaxe, spade, axe, knives, working gloves

## **PROCESS**

### **CHOICE OF LOCATION**

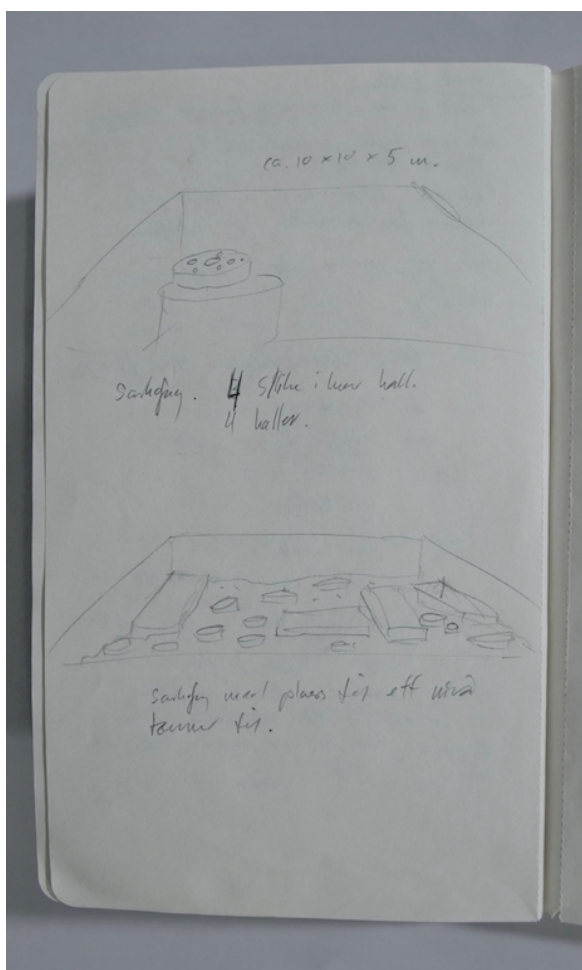
The *Himdalen* work has developed over time. In November 2013, in the project description with the application for the artistic research project, I wrote about land music. I proposed working with Uksedalstjernet in Jotunheimen. The development away from this is explained elsewhere. But it is this – working outdoors, with the landscape, with music that relates directly to the landscape, to the specific place where it is played out – that has become *Himdalen*. I began on the research project in the autumn of 2014, and already then dropped Uksedalstjernet after research at the site. In 2015 I abandoned the idea of finding a magnificent landscape, rejecting such a romantic angle of approach. Then in 2015 I worked with the Emergency Exchange at Torshov, and had opened a door to a landscape that resonated. In 2015 and 2016 I conducted broad research to find out what I actually wanted the term ‘land music’ to mean, and what kind of place I could work with to demonstrate it. I travelled to Greece and Athos in April 2016 to pursue an idea and rejected the idea of working specifically with that. I was unable to put aside the idea of Mirnyj, and decided to travel there to see if there was anything about the idea that could become something. The Mirnyj journey was planned for February 2017 when, in October 2016 at a meeting with my main supervisor Ole Lützow-Holm, I discussed this last work and what it should become, what was important to accomplish. One of many places where I had conducted broad research was Himdalen, with the time perspective in mind. The preceding month I had gone to the Norwegian artist Hege Tapio’s ‘Article Biennial’ exhibition in Stavanger with bio art as the theme. Bio art is an artistic practice that works with biological material, using among other things genetic technology. I went to Stavanger solely for taking in the exhibition. The American artist Joe Davis was represented by the work *Malus ecclesia: The oldest Eden*.<sup>106</sup> This is a proposal for a work that encodes 50,000 Wikipedia articles in binary code in the DNA string of an apple plant culture to become a new Tree of Knowledge. With its endless scope, the poetry in the work is just as striking as the technology in it is complex. Before I had talked about the unfathomable question of communication over the extreme timeframe that arises when long-lived radioactive waste is to be handled and deposited. Ole gave me the idea of linking these two ideas: the time scale involved with radioactive waste

and the scope of saving knowledge through DNA coding. Himdalen was the place that could activate this complex of themes.

The future abandonment of the storage facility has poetic qualities. It is its actual purpose to be abandoned, a future ruin (the line 'Alles nur künftige Ruinen' sung by Einstürzende Neubauten echoes in the back of my mind). A final repository (for radioactive waste) is a place for storage, that must not be opened. It resembles a sanctuary, as a holy place, untouchable, and as a safe place, a protected place. These meanings connect up with religious symbolism – how and why our societies keep certain things hidden, stored away, a secret.

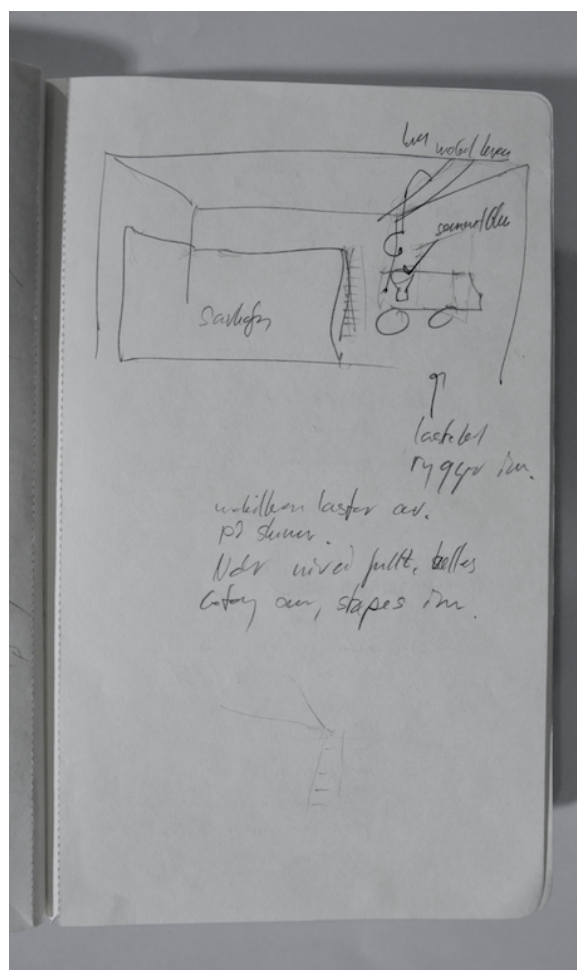
I hesitated for months before contacting the operator, the Institute for Energy Technique (IFE). But when I did, they found the theme interesting and acknowledged my pursuit of conceptual questions and the locatedness I was working with artistically as research – from an artistic perspective. IFE wanted to cooperate, but stressed that of course they had to do so within certain operational and legal constraints. On 2 May 2018 I was on a visit to and in the facility. Some sketches from my notebook are shown below. (For technical perspectives filtered through my cognition, have a listen to the listening post files, linked to from the heading *Listening Post*.)

A month later, the rules had been tightened up, so from now on IFE had to be far stricter with such visits. The door was sadly finally closed, literally, to the possibility of staging parts of the coming work inside the facility. However, we were allowed to mount a musical work right outside.



1. Sketch after memory of interior of sarcophagus from the inspection platform. The text says:

- a) c. 10 x 10 x 5 m
- b) Sarcophagus. 4 such in each hall. 4 halls.
- c) Sarcophagus with room for one more layer of barrels.



2. Sketch after memory of side section of one hall. The text (probably) says:

- a) mobile crane
  - b) cement mixer
  - c) sarcophagus
  - d) truck backs up
  - e) mobile crane unloads, on rails
- When level full, concrete is poured, cast in.



## TIME AND MANOUVERING

The very act of moving about in the local terrain with inadequate information is also referred to in Eduardo Sánchez and Daniel Myrick's mystical horror film in the documentary style, *The Blair Witch Project*<sup>107</sup>, and in Andrei Tarkovsky's *Stalker*, where the title figure guides two others to the mysterious Zone "[...] [a] place of refuge and sanctuary. A sanctuary, also from the cliché."<sup>108</sup> Frank Darabont's post-apocalyptic zombie TV series *The Walking Dead*<sup>109</sup> (2010-present) modestly said puts human beings to the test with permanent, imminent mortal peril and chronic resource scarcity, while John Hillcoat's inexhaustibly despairing, black and beautiful portrait of a post-apocalyptic, hostile, joyless, toneless, cold, grey and dead dystopia with no future, the filmatization (2009) of Cormac McCarthy's *The Road*<sup>110</sup> (2006), dwells upon and simply exists amidst the impossibility of maintaining a constructive role as a parent when absolutely everything around you has come undone.



Access tunnel. From tour May 2 2018. Photography beyond the gate at the end of the access tunnel was not permitted.

The night is important. Our biological clock makes most people tired; the body is programmed to sleep. Perhaps you can at least lie down and rest a little, possibly you can sleep but not deeply; maybe you drift back and forth between being half asleep and semi-conscious, then a diffuse perception of time sets in, and the distinction between dream and reality, the sleeping and waking state, is obliterated.

Duration is important for the same quite concrete reason. The idea is to take away the possibility of listening and paying attention to sentence elements, motifs and variation, and to prepare you for a more trance-like listening state. The duration also opens up other spaces for reflection, several in succession; you have time to let your thoughts wander, travel with your ears, in your thoughts, establish your own world and a whole world of the imagination on the basis of what you hear, what happens, what you feel with your body in the way of resistance, discomfort, relief and rest, faced with both the inconclusive situation and the lake, and its openness; you are free to do as you yourself want and on the basis of what you what you know about the place.

The time of year is an interesting issue. At first the idea was to set it in May; a bright time with short nights, much birdsong, a presumably relatively light mood. Many years ago I had an idea for a Dionysian whole-day-and-night continuous listening festival in the woods, and it is possible that this thought was at the back of my mind when I imagined May. In addition, the deadlines for the project played a role. Then I developed problems with my right hand, my working hand on which I depend, and had to have som surgery. This meant that the tight time schedule had to be changed. I put the concert off until September. It is part of the story that I do not create the musical material before I know what I am dealing with. The date of the concert will have great consequences for the context, especially outdoors. Such a project is like the brain itself; it is flexible and subject to formation, constantly susceptible to influences. The concept changes, and absorbs husks of elements when the preconditions change. In the end I decided to place both the Himdalen concert and the Mirnyj concert at the end of November, close to each other, to have time to work everything out and so that the adjudicating committee could be present at both concerts.

This was a choice I was satisfied with. November is dark and cold. The leaves have withered and fallen from the trees, which stand naked and brown. The landscape is dead, ready for winter. The vegetation is thus also more open, the sound carries better. At night the temperature is normally lower than during the day. The air is often calmer, more stable, it sinks down, lies at rest. This will favour the diffusion of the sound in the landscape space. The Himdalen valley is very narrow around the KLDRA portal, around 45 m at the bottom, with around 50 metres difference in height, and roughly speaking 250 m wide at the crest of the ridge. This produces a nature-close acoustic environment.

The weather is a variable that follows from my statements. It is as it is, conditioned by the place, the time of day, the time of the year, and meteorological variations. You have to accept that: relate to it, not pretend it isn't there, isn't a part of the work, of the experience that colours it.

One of the premises of the work is *presence*. The body must be there. You must be able to sense it, sense the time, feel the weather, the temperature, the smell. Sense and hear the sound waves in precisely *that* landscape space. The work makes use of a quite particular landscape space, and you have to be *there*, move on, walk, doze, navigate in both time and space, experience it. This is because the brain experiences and remembers and associates by means of mapping, as explained in more detail in the chapter on cognition.

Experiencing this kind of work requires a discipline, a sacrifice (of comfort, of other uses of one's time); requires an effort to make a connection. Himdalen demands a sacrifice from the audience. An investment, if you like. This is related to Alan Kaprow's first happening *Eighteen Happenings in Six Parts*<sup>111</sup> (1959), which were events over six days rejecting a narrative structure and audience/performer division that involved risk, excitement and fear, encouraging the audience to make their own connections between material and idea. I would also like to point to the obscure action *Ten appearances*<sup>112</sup> (1981) by the Collective Actions Group (CAG). Here, in a snowy field outside Moscow, ten people met up, took hold of ropes and walked outwards in each direction towards the woods for as long as the ropes were. I stress a close relation between event and the localization of the event, and the use of time to further lay out a mental space for the audience to make their own connections.

KLDRA activates thoughts about extreme time perspectives. It is in a fairly desolate East Norwegian forest terrain. In itself it is not such a terribly charged terrain, at least not for us who are used to just such a terrain. And thus one avoids a romanticizing, exoticizing attitude to the landscape. It stands there as it is, honestly.



Research in Himdalen Oct 30 2018. From left Bjørn Erik Haugen, Morten Minothi Kristiansen, Jøran Rudi, Knut Olaf Sunde, Mattias Pollak. Photo: Henrik Beck Kæmpe



Production map Himdalen detail A.

## CLARIFICATIONS

A project like *Himdalen* requires a number of clarifications, agreements and permissions that go beyond what one in normal cases sees as the composition of a musical work – that is, the composer's traditional role. Here are some of them:

- Permission from the landowner Statbygg (owner of the property KLDRA)
- Permission from the operator, the Institute for Energy Technology – degree of access. I had been on a visit inside the mountain complex in May 2018 and wanted to use the halls and the tunnels during the concert event. In June 2018, though, new restrictions were adopted with further constraints on access to the complex in connection with national work on the safeguarding of objects. It was now not possible to get access to the facility during the concert, but borrowing electric power was feasible. I had decided at an early stage that this would not be a deal-breaker.
- Permission from the local authority and the police as regards public assembly at an official site.
- Permission from private landowners.
- Permission from users and rights owners in the area – various hunting rights, rights to use private roads.
- Access to and conditions for loans and rentals of equipment, rain protection and operation in the event of rain and snow, low temperature, condensation. Functionality and life of batteries at low temperature etc.
- A detailed electricity plan.

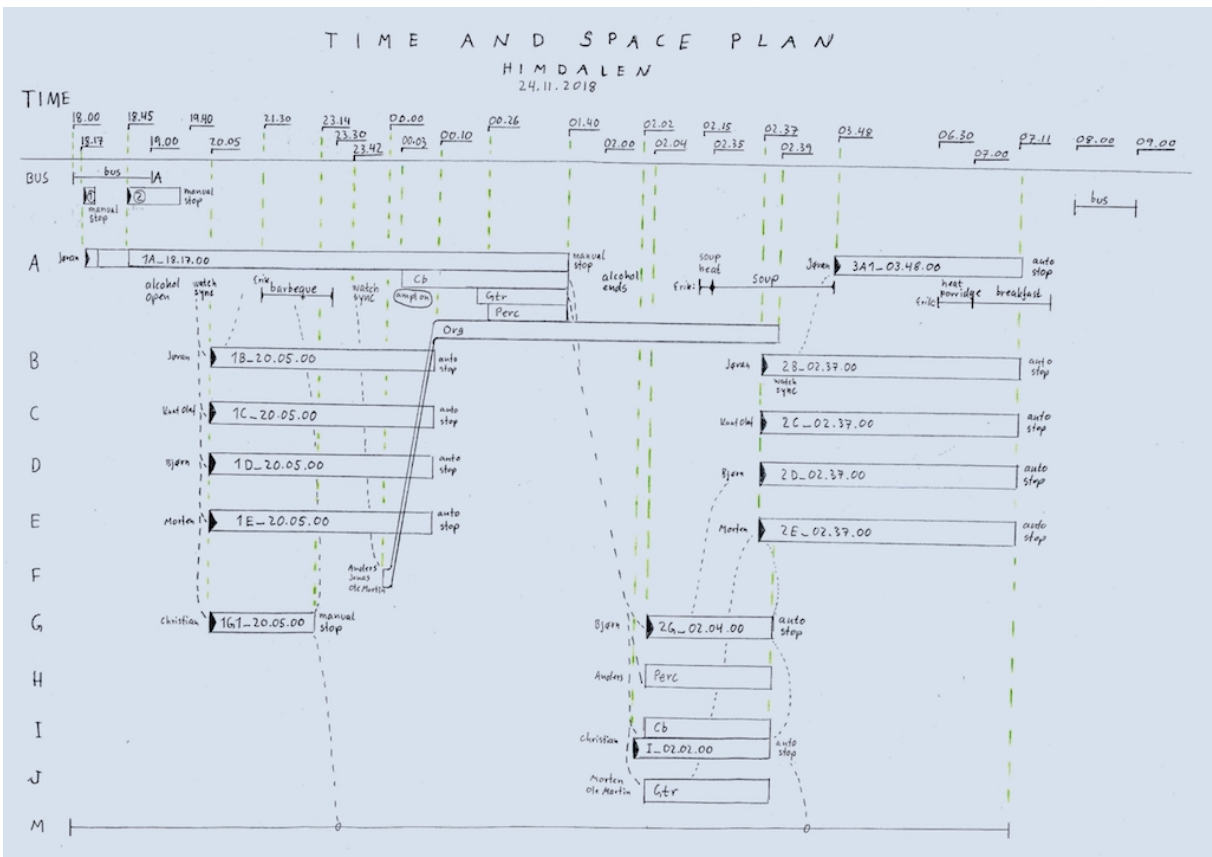
## THE WORK AND DECISIONS

### TIME AND SPACE PLAN

Initial sketches are typically a few keywords and a rudimentary drawing. I rarely keep these. They are re-thought, written over again, drawn again. Many more or less detailed plans are made, refined, or keeping somewhat track of parts of the work. I seldom work those out in a readable form. This is the time and material planning tool, a well known, still working tool for overview:



Time and material wall plan



Time and space plan (more accurately a soundfile plan) for the crew to have some overview of the event.

In addition to the score for the acoustic scene, I made a thorough storyboard for all the crew to follow. The storyboard can be seen here: <https://www.researchcatalogue.net/view/565811/565812/0/27>.

But to make it easier and give the crew an overview, I wrote a summary of what was to happen where and when. This crew summary is shown below:

### Crew summary

*The bus leaves shortly after 18:00 on Saturday 24 November 2018 from Oslo Central Station. Everyone is given a sheet of paper with a map on the front and a text on the back. At 18:17 a CD is put on the sound system of the bus. It gives a brief introduction with practical information that I have recorded.*

*At 18:45 track 2 is started. This is the music, noise. There are two tracks because of the possibility of delayed departure. For that reason the timeframe cannot be fixed. At the same time we are ready at Himdalen. Some people arrive by car and are given a map. At 18:17 the same spoken intro, with silences, so this moves seamlessly into 18:45 when the music begins. So the same sound is heard outside and on board the bus, which arrives around 19:00.*

*At position M there are two mp3 players with headsets and 9 sound files which I have recorded with texts from reports and thoughts on storage, communication and time. The audience can come and hear these at any time. We hang up a sheet of paper with the tracklist.*

*The sound is now played at position A. We have lit a fire in the two fireplaces. Alcohol is served from 19:00. The clocks are synchronized in advance. Jøran, Knut Olaf, Bjørn, Morten and Christian go to B C D E G and start media players at 20:05:00. This is a pulse-based scene where the distance between the speakers is important. It alternates a little between just B C D E without A, and A B C D E, so it will be clearly noticed, and a part with just G active and the others quiet, so that from down at A something faint will be heard from up in the forest suggesting that the area activated is larger. This then transforms into a bass situation and calms down.*

*At 21:30 the barbecue is lit, food is prepared. Morten goes and turns off G. It has to be actively turned off, otherwise it jumps on to the next file far too early. At the same time, a check on M.*

*Then at 23:42 Anders, Jonas and Ole Martin go towards F. Christian (in hiding) tunes the bass. At 00:00 Jonas begins to play, that is he treads on the organ on the trolley, which is then pulled slowly by Anders and Ole Martin with stooping shoulders, for 10 minutes along the c. 400 metres to A. The sound slowly approaches A, the electronic material slowly fades out, and we are in progress with the acoustic scene. At 00:03 Christian, who has remained at A, begins. The media players at BCDE now end on auto. They do not have to be actively turned off because they are mono files that did not have to be linked, and therefore have the "single play" setting.*

*The three from F are in place at 00:10. Ole Martin on guitar comes in at 00:22 after tuning in hiding, and Anders on percussion comes in at 00:26. There are long notes, long-sustained situations, like everything else, until it becomes a slow, pulsating section. This lasts until 01:39. All the instruments are amplified here at A, and a sound file with slightly expanded bass plays at the same time.*

*At 01:39 the instruments and sticks are packed effectively. At 01:40 the computer DAW is stopped actively at A, so it does not go too early to the next event (this applies to A and G because they are four-track sound files that must be linked in continuous play). Jonas on the harmonium remains seated and keeps treading. Anders, Ole Martin, Christian, Morten and Bjørn go via F to G, H, and I. Bjørn to G, Anders to H, the other three to I. Morten helps Ole Martin aboard the canoe.*

*Morten starts the media player at I at 02:02. Anders, Christian and Ole Martin make sure the amp is on, that they have power at their positions, and that the volume is reasonable. They also start the field recorders, check that the tape is running.*

*Then the acoustic scene part 2 begins at 02:04 over the water. Bjørn starts G, which plays an organ recording – the same material as Jonas now continues to play down at A. Now at 02:00 the alcohol serving also has to close at A.*

*At 02:15 Erik begins to heat the night food, now that the speakers are not using power down there, and we can use the wattage for cooking until 02:35.*

*At 02:20 Jøran, Knut Olaf, Bjørn and Morten go respectively to B C D and E to start them at 02:37. This is again a bass situation, now with further allowance for the normal low activity of the time of day. They play until it is over at 07:11.*

*Acoustic scene part 2 is over at 02:39. At H I J amplifiers and field recorders are turned off and Christian also turns off the media player. Morten goes up again from E to G and turns this off. No stress, because it has now come to the end and stopped by itself, but it may be a good idea to switch/turn off the power. Then on to I and help Ole Martin ashore with the canoe. On the way back Morten checks that everything is in order at M.*

*The night food is ready and is eaten from 02:40 until 03:40. Anders, Jonas, Christian and Ole Martin have now played for 2.5 hours in the middle of the night and are no longer needed artistically except for their presence. The rest is well deserved, maybe someone has 'supplies' in an inside pocket.*

*At 03:48 Jøran starts the computer DAW at A and we hear soft drones that mix with B C D E and play until the end at 07:11, after going over to birdsong recordings from Himdalen from May 2017 around 06:30. At the same time Erik makes breakfast porridge, which is ready at 07:00. All the players stop at 07:11 after a very long fade-out. Jøran turns the sound down and off. Porridge and coffee. People pack their gear and the bus comes. Bus departure at 08:00. Back at Oslo Central Station at 09:00.*

*Now the joyful disassembly work starts, perhaps after a little rest.*

## LISTENING POST

The listening post was on the ridge, lit up, on the opposite side of the valley, with an unimpeded view down to the base camp outside the gate. An mp3 player was hung up there in a bush, with two headsets. A sheet of paper with a list of the sound files was also hung up. The sound files consisted of speech that I had recorded, in Norwegian. They are texts from reports, articles and thoughts on storage, communication and time.

The sound files are accessible at <https://www.researchcatalogue.net/view/565811/565812/0/27>

Here are the sound files with durations in minutes and seconds:

- |                             |       |
|-----------------------------|-------|
| 1. Irradiated fuel          | 01.40 |
| 2. History                  | 02.37 |
| 3. Intermediate storage     | 2.19  |
| 4. Nature's nuclear reactor | 08.21 |
| 5. New facility             | 03.22 |
| 6. Radioactivity            | 01.49 |
| 7. Radioactive waste        | 04.37 |
| 8. Time perspective         | 02.03 |
| 9. Inspection               | 03.52 |

## ATOMIC WASTE HANDLING – FINAL REPOSITORY

The treatment of radioactive waste is complicated and expensive – physically, economically and politically. (Unlike other energy forms, all waste from nuclear power is in fact treated, while coal-fired power plants for example have considerably emissions to air.) The final repositories must have physical safeguards able to resist dimensioned threats. The time perspective is determined by the type of waste to be stored and/or deposited in the repository. If the different half-lives of the waste are expected to reach safe levels in the course of the next thousand years, for example, there is no need for dimensioning against the most extreme geological threats; but terrorism, major war and information about and knowledge of the plant are a challenge. Permanent storage of long-lived waste must protect humans and the environment against radioactive radiation over several hundred thousand years.<sup>113</sup>

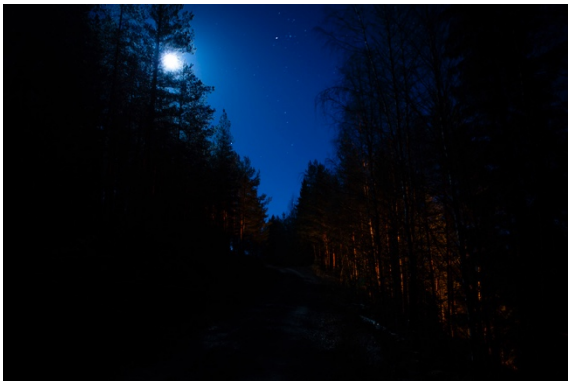
There are no final repositories in the world today (2019). Only Onkalo in Finland is under construction, and Sweden is planning one. Geologically deep deposits are today considered the best way of handling atomic waste. The documentary film *Into Eternity* from 2010 by Michael Madsen follows the construction of Onkalo,

the Finnish final repository for atomic waste. Onkalo means 'hiding place', or small cave. The film opens with a voice slowly reflecting, thinking, saying: "I would say... that... you are now at a place where we have buried something from you to protect you, and we have taken great... pains to be sure that you are protected. We also need you to know that this place should not be disturbed. And we want you to know that this is not a place for you to live in. You should stay away from this place, and then you will be safe."<sup>14</sup> The film beautifully balances facts, concerns, scientific solutions and ethical considerations.

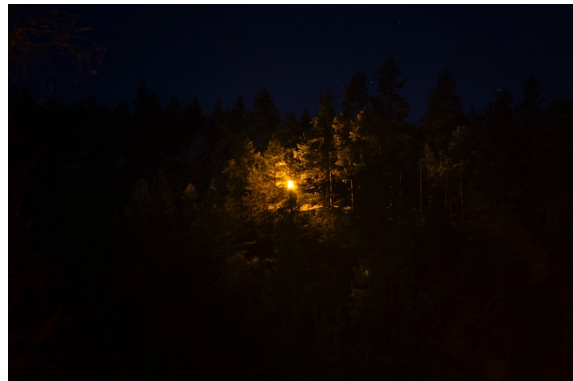
The handling of these substances is what we human beings do today, on the ground, that has the most far-reaching time perspectives. This raises many questions – including matters of communication over extreme timespans, which is what I wanted to deal with in the work with Himdalen.

The question of how to accomplish long-term communication with deficient information where you need a transfer of meaning, means of encoding and decoding, is in itself intriguing. Himdalen is a natural geological fault. This weak zone has been thoroughly evaluated and is regarded as safe for all risk scenarios. But in this artistic context it functions as a reference to Delphi, where the evaporation of gas from weak geological faults beneath the site was a necessary component in contextualizing the spectacle of the oracle, one could say of the political theatre and its trustworthiness. It also functions as a reference to Mirnyj, where an open-cast mine dug 500 m into the ground for the extraction of geological resources (diamonds) – actually with even deeper underground mines beneath the pit – shows that we will in fact keep digging and drilling if we stumble across evidence of further resources underground.

The concept of 'knowledge' has a suggestion of fixity, of something learned 'once and for all'. But that is self-deception. In reality there is constantly change. Human beings are mutable, their opinions are mutable, their need for action is mutable. This leads to changed perceptions of the meaning of information or facts. In addition there are coincidences and misunderstandings. This is a permanent state of affairs. Regeneration is permanent. Constant change is permanent.



1.



2.



3.



4.

1. Himdalen at small road east, between position B and position C.  
3. KLDRA position A towards ch 3

2. Himdalen from main camp up towards M.  
4. KLDRA position A towards ch 1 and 2



5.



6.



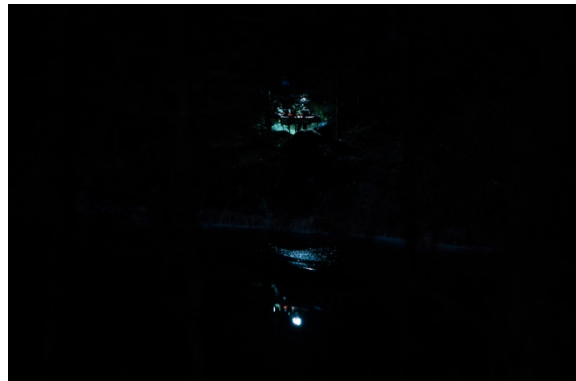
7.



8.



9.



10.



11.



12.

5. Himdalen road (Vinlandsveien) southwards between position A and position F

7. Himdalen position A. Guitar: Ole Martin Huser-Olsen, Bass: Christian Meaas Svendsen

9. Bråtatjenn acoustic scene part II heading position J to the left

6. Himdalen position A. Guitar: Ole Martin Huser-Olsen, assisted by Knut Olaf Sunde

8. Himdalen position A. Organ: Jonas Cambien

10. Bråtatjenn acoustic scene part II heading position H

12. Himdalen main camp A late at night 11. Bråtatjenn acoustic scene part II position I

## ENCODING DNA

What is the most stable information-carrier in a very, very long time perspective – let us say two hundred thousand years ahead – as far forward as it is backward to around the time *Homo sapiens* established itself as a species? We must allow for the possibility that all systems will have been broken down. Language is continuously developing and will be incomprehensible in the course of a few thousand years. As long as expertise in linguistic history is available this can be solved. But we must allow for the possibility that such knowledge can be lost. Physical markers are a possibility, but they will be worn down, eroded and covered up by weather and vegetation. Objects in hard materials such as stone, shell or ivory have turned out to be able to endure very long with inscriptions, but this requires relatively well protected storage. The disadvantage of this is accessibility – finding them again when you do not have a map, when you do not know what type of materials you are looking for, when you do not have the key to the objects or what might be inscribed in or on them. All solutions with concrete information are highly vulnerable. The more concrete the medium, the more contextual knowledge is necessary to understand the information.

Symbols are more enduring than actual language. Symbols stands for something else, represent something, have value as transfers of meaning, and can have more general qualities which may survive. Symbols have survived in mythological narratives, but they are susceptible to far too concrete interpretation, especially if the surrounding society is focused on images, as ours perhaps is, compared with other historical epochs. The concrete overshadows the transfer value, which remains hidden from us.

Nature's own regeneration is perhaps the most stable kind. Nature uses natural regeneration as its storage solution, constant renewal and adaptivity for its slowly evolving permanence. This is perhaps the most reliable carrier of information there is in the extremely long term. The longer the time that has passed, the farther away from the original you have come in a process which for long periods does not have so much change; in other periods it shifts more sporadically, more in upheavals, but compared with our bodily perception of time it is still almost constant from year to year.

If one could encode a message in the DNA of organisms, the DNA, if the species survives in the evolutionary process, would be passed on to ever new generations. Then the code would exist even if future mutations could alter it, mess it up more or less – we do not know. It would remain for future intelligent life to find the key to decoding the DNA. That would be difficult, but not inconceivable. *We* have found it, after all. It is a long shot, clearly. But what if it is the best we have?

The nitrogen bases A T C G form the base pairs in the DNA molecules. The ordering and sequencing – in threes – of the base pairs is the information code which specifies the sequence of amino acids necessary to form a protein. A single gene can consist of between 150 and 1 million such bases. The genes follow one another as codes in the DNA molecule, which joined together make up chromosomes. In human beings there are between 86 and 2968 genes per chromosome, and we have 23 chromosome pairs. Around 95% of all DNA is non-encoding. At least this chunk does not control the formation of proteins – that is, the development of the actual material of an organism. Some of it has been found to have other roles. But there are still many 'empty places', or else we have not yet discovered their function.

*Is the placing of biological material with encoded type messages of some kind a plausible way of communicating, warning of, marking a storage site for radioactive waste – in an artistic context? Biological material which would regenerate in the habitat, with positions encoded?*

I must point out that the complex at Himdalen does not contain, nor does it need to safeguard long-lived or dangerous waste. In Norway we do have two research reactors, but no nuclear power stations. For that reason the volumes of waste are small. Most of what ends up at Himdalen comes from hospitals, research and industry. All the same, the place has transfer value and activates issues of communication, especially over an extremely long timespan. I contacted Dag Undlien, a Norwegian biologist, physician and professor of medical genetics to discuss the idea of and possibilities for binary encoding of non-encoding DNA in various organisms (genetic manipulation). It is fully possible in restricted use in laboratories, but strictly regulated. Genetically modified organisms, on the other hand, can only be released into the environment after approval by the Crown.<sup>15</sup> In the

### **Regeneration**

Latin *re-* "again" and *generare* "bring forth", "produce", from Proto Indo-European *\*gene-* "give birth, beget".

Renewal and restoration.

Regeneration is nature's solution for saving, developing and discarding information, inherently taking care of natural adaptations.

Trial and error.

Permanence is temporary.



decision on the release of material “*considerable emphasis must also be placed on whether the release has social utility value and is suitable for promoting sustainable development.*”<sup>116</sup>

At Himdalen the vegetation is typified by much pine forest. Biogeographical calibrations of fossils show that pine DNA has one of the lowest silent mutation divergence rates among plants. Calibrations place the origin of *Pinus* at 190-102 million years ago.<sup>117</sup> What if one encoded a sequence in pine DNA, which uses nature’s own information storage channel – the regeneration of the organism – and which has a low risk of mutation within the necessary time perspective (which is up to 200,000 years)? I discussed such ideas with Anne-Marte Bakken Kran, who is a physician, consultant, in microbiology at the Oslo University Hospital Ullevål. How would it turn out, how would it look?

And how does one design the key not just to this code, but to the structure of language, to where one must search, how it is to be decoded technically speaking, and the context for the interpretation?

I do not know.

|   |     |   |     |
|---|-----|---|-----|
| A | AAA | T | TAC |
| B | AAT | U | TTA |
| C | AAG | V | TTT |
| D | AAC | W | TTG |
| E | ATA | X | TTC |
| F | ATT | Y | TGA |
| G | ATG | Z | TGT |
| H | ATC | – | TGG |
| I | AGA | . | TGC |
| J | AGT | 0 | TCA |
| K | AGG | 1 | TCT |
| L | AGC | 2 | TCG |
| M | ACA | 3 | TCC |
| N | ACT | 4 | GAA |
| O | ACG | 5 | GAT |
| P | ACC | 6 | GAG |
| Q | TAA | 7 | GAC |
| R | TAT | 8 | GTA |
| S | TAG | 9 | GTT |



## CONTEXT OF CREATION

In the daytime, in the city, it proved difficult to actually draw up the material. It must have been difficult to step outside, to get into a kind of durational mode. Unfortunately the Norwegian Academy of Music, where I had working space, closed down completely to all staff and students as early as 22.00 – and earlier still at the weekends. So I could not work at night back in the city.

I had to isolate myself, to create more time and space to draw up the material. I have had the disposal of a cabin in the mountains, above the timberline. There, time is open, the landscape is open, and I can work all night and all day as much as I like. This has helped me to develop a state of mind that on the whole let me create the work. The context of creation had to be of a character that contributed to the composition of this music. The music is therefore wholly dependent on who the composer is, when and where the composer lives and works, *has* lived and worked, what the composer knows and does not know.

I am influenced by several composers regarding the audio material, perhaps especially with the concept of information density speed in mind. I can briefly mention Roland Kayn's cybernetic work *Tektra*, Éliane Radigue's *Adnos I, II, III*, La Monte Young's *Just Charles & Cello in The Romantic Chord* and his *The well-tuned piano*, as well as David Dunn's *Espial*. There is of course more. The influences are numerous, countless. They comprise all the artistic experiences and knowledge acquired until now by each and every one of us. I keep remembering and forgetting works and artists and composers that have influenced me.

### Espial

Music is strange stuff. For long periods it is full of resistance, on rare occasions with musical joy. I recently heard something by David Dunn that gave me a relatively specific idea, an acoustic one, for a possible future work, and that is so rare, and I was so happy about it, that I immediately had to call my supervisor Ole Lützw-Holm to tell him solemnly how happy I was about finally discovering that piece.

Ole had suggested, four years ago, in 2014, that I look into David Dunn's work. I had bought the album *Music, Language and Environment*<sup>18</sup> (1996), and listened to *Nexus 1* from 1973, an experiment for the site Hermit's Gorge in the Grand Canyon with trumpets, and I thought 'Well, yeah...' to myself, having my own works *Molladalen* (2007) and *Fagervann* (2009) in mind, and forgot about it.

Then in September 2018, after completing *Mirnyj*, while absorbed in producing material for *Himdalen*, I packed for a 4-hour drive to the mountain cabin to get some substantial work done. The Dunn album was still sitting there, on my desk. Since FM radio signals were no longer transmitted in Norway, and I haven't bothered to upgrade to DAB radio in my car, I either had to drive in silence, in company with my own thoughts, or listen to some podcasts or music. This would normally be an easy choice. However, having to compose a lot myself, every day, I had to be careful about my mental capacity. In such periods, I find listening to other people's music obtrusive; at the very least I have to be careful not to poison or influence my vague and fragile state. I grabbed the Dunn album, perhaps with no fear that it would intimidate my state of mind.

I particularly listened to *Skydrift* and *Espial* in the car. *Espial* (1979) is a combined material work. Dunn recorded it himself, playing a violin outdoors in the desert. He had made a body of 21-tone just-intonation material lasting 3 1/2 hours, playing very long, sustained, harsh tones with long glissandi, responding to environmental events. Then this was chopped into 7 parts and they were layered one on top of the other in playback by seven cheap cassette recorders. The combined recording of all this is what I heard in the car. It is a stunning, tactile-sounding piece with sustained spans of evolving, rather bluntly executed harmonies.

I was ecstatic. I had to listen to it multiple times, in the car, and felt, as I sometimes do, as if my senses were ahead of me, far outside the body, extremely alert in a laidback way, as if I grasped everything ten times quicker than normal, and could therefore take in huge amounts of information with no effort at all, with a complete overview of the constantly changing situation that a car drive (along Norwegian roads) is. This was a rare, powerful aesthetic experience. The music catalysed a mental flow, described by Mihaly Csikszentmihalyi<sup>19</sup> as a state of effortless concentration so deep and clear that the sense of time is lost.

### Einschub: July 27, 2018

*I need to know exactly what to work with, before I can actually start elaborating the material. Now it is four months until the Himdalen concert. I shall make about 12 hours of music until then. There are four weeks I cannot use for creative work (I have to do four-channel audio mixing for *Mirnyj*, allow time for production meetings, continuous writing-down of reflections, making film sequences, meetings and courses at NMH, as well as bad days, sick leave, living a family life with two children and so on). Basically I have to make 1 hour of sound a week. Everyone making music knows that is more than a lot, close to impossible. This timeframe is now part of my material –fundamental raw material for my work. As it happens, the basic sound ideas for the project have all along circled around long timespans, monotony,*

single processes and so on. And I have striven throughout this project to resist the inherent, acquired, learned reflex to vary, always vary the material.

These are the details that eroded composing time, as well as absorbing and drowning out the need for overview, keeping the actual sound processes of this project simplistic. One of my biggest challenges, as regards craftsmanship, has been precisely to trust the material, to dare to maintain monotony, really to use time as a material. But now, over the coming months, I simply have to. I have to view the very limited time as a friend, as part of my material, contributing to what the end result will become, to work with audio material, processes, technical solutions and artistic choices that are possible to realize in such a short time, also in practical terms. I must maintain a close relationship with the technical producer, and Notam, producing the project, avoiding a bureaucratic production line, and at the same time keeping a close eye on the limited budget. I have to husband my time, not get absorbed in meetings and technical decisions. This will also be a study of how to conduct such a project. When I am in the middle of it I have the initiative, I am the main producer, I make the music, I am responsible, and it is my name that will be associated with the result. So I am dependent on good collaboration with everyone – just to make it happen as smoothly as possible, but also so the collaboration will be pleasant. And hopefully will have a good, interesting artistic end result.

### **Vulnerability**

Early on the working process I had prepared to get everyone who would be involved in place early, and to create the material at a late stage – that is, when I knew what, when, where and who I could work with. But when there are delays, or people are no longer able when the dates are changed, this complicates many processes. It drains time and energy from the few available days.

At the same time this kind of mediation is stimulating. The project wobbles like a huge portion of jelly I am trying to carry in both hands and which is extremely difficult not to drop on the floor. It wobbles all the time. All the time there is the risk that there will be a little too much lopsidedness somewhere in the system, and such lopsidedness could topple the whole project, because it will exceed the limits.

### **Institute for Energy Technology reported to police**

In the final phase of the work with Himdalen, just three weeks before the premiere, *Aftenposten* [the most important national newspaper in Norway] had a front page article on 30.10.2018 headed “Doubts about Nuclear Safety”<sup>20</sup>. The Norwegian Radiation and Nuclear Safety Authority had reported the Institute for Energy Technology for discrepancies at the Himdalen complex. The Radiation Authority thought there were serious breaches. IFE itself had reported the discrepancy, but maintained that it was due to the fact that several layers of requirements and rules had been changed along the way in the operational phase. I had not managed to read it when Knut Bjørnar Larsen from the Institute for Energy Technology called the same day and asked what I thought about the possible need for a team of watchmen outside the plant during the concert. Just afterwards the Aurskog-Høland municipality called about the application for an alcohol licence that I had sent in. Inasmuch as we wanted to serve outdoors after 23:00, an exception had to be made, and exceptions had to be dealt with politically. It had been put on the municipality’s agenda on 19.11.2018. The local authority had itself reported the Institute for Energy Technology to the police for the discrepancy<sup>21</sup>, and preferred to have it processed by the police before the local authority meeting got the issue of the alcohol permit on its table. Politicians are obliged by their programming to be concerned, and were perhaps thinking about the signals they would send by not only approving the concert at the plant (which had long since been granted approval), but in addition by granting an alcohol permit when at the same time they were worried about safety.

Of course these worries are at different levels, and are not necessarily about safety here and now. One imagines that the municipality would like to signal the greatest possible concern as their input to the political game about the possible expansion of the complex.

### **Einschub: politics is staging**

The political game is theatre, by no means in a negative sense. But different parties demonstrate their interests and try to present them in a favourable light, and it all follows a more or less regular script. It is a political staging where one manoeuvres and legitimizes in order to influence, persuade or manipulate attitudes in favour of one’s own view or one’s power base as a basis for working with other matters.

## INSIGHTS

The sound files were synchronized with clocks and decentralized media players that had to be started manually. It would have been technically possible either to connect up sound cables or to programme an interface for wireless synchronization, but this had to be rejected for reasons of both economy and time. The solution was to plan the audio material according to the available playback equipment as follows:

At position A the distance permitted the connection of all four speakers to one mixer and computer. The sound material here was 4-channel files in a DAW (digital audio workstation) on the computer. For the speakers spread over positions B, C, D and E we had drawn 240 V from a fuse box and there was power we were able to borrow from the actual system of the Institute for Energy Technology in order to run such relatively power-hungry equipment. We did not have the option of drawing cables for sound signals. Each of these speakers was connected to a clearly marked media player with a memory card with mono files for that specific channel, and a mixer. At several points these four had to be turned on or off at the same time. Perhaps we would have been able to use large memory chips and let the media players run continuously with silent intervals in the quiet periods. But the assessment was that irrespective of this it would be safest to re-synch these along the way because of the risk of losing synchronization as a result of the small differences in the playback speeds that such equipment can have, especially if affected by cold and moist, which we could not predict. This kind of equipment is not necessarily designed to play 100% in synch with other units.

The clocks had to be set in advance. Each of the crew had a clock, and everyone had a schedule with clock times, positions and actions. It was a challenge that the clocks turned out to be hard to synchronize. When you pressed the button to reset the clock time, it was reset to the nearest second in an internal counter, unlike if you started the actual stop watch function (in which case it started exactly when the button was pressed). We could have used the stop watch function, but by then everything had been planned and printed out with clock times; it would be too complicated to relate to or work out new numbers for timing, and there was no time to write about and print out new material. Instead one person had to rehearse and test the clock synchronization to allow for the internal (unfortunately individually set) timer in all the clock units, until they were sufficiently synchronized.



*Ongoing synchronization of clocks.*

From the listening post with sound recordings of me talking about radiation and the handling of waste and about the naturally occurring reactor in Gabon two billion years ago, you looked down at a small group of shivering people trying to keep warm through the night around two fires. They stared into the flames outside the concrete portal of the eternal refuge. This is far from populated areas: it is desolate forest – bare, cold, dark night. The experience changes radically when navigating in the terrain. The diffusion of the sound is closely connected to the body's specific position. You use your ears to get your bearings, to map the terrain, to experience the place.

The monotony borders on stasis. Time is nevertheless used as an important instrument for avoiding stasis. The small changes just take place over such a long time. This meant that things did not stand still at all; that would have been intolerable. The level of intensity kept the situation tense all the time, according to the levels I wanted through the course of the hours.

The totality functioned well. The overall shape of the intensity curve kept up one's interest all the way without becoming static or unbearable in a negative way. Even the part between c. 03:40 and 06:30 kept this up, and in the right context, i.e. the time of 'day', the sleepest part of the night. I had tested listening to this

part several times in daytime and thought it was far too hard. But at night during the testing I had sunk into the chair and just existed with the sound, accepting it and experiencing that it held up. I had chosen to stick with the nocturnal experience and rely on the material, on the idea. I chose rightly in this.

We should have tested and prepared the lake sequence better. The guitarist paddling out to the island in the lake worked fine, but the musician should have had time to paddle over and test the sequence before it was part of the performance. Then he would not have had to search for the landing place, and would have noticed the missing amp cable in time. If we had managed to practice this, the planned time window for getting there would have been enough. But as things went, it was too little. The musicians arrived at Himdalen with the audience bus, and we did not have the canoe during the inspection some days before. All the same this sequence worked well, I have been told. As for myself I am easily annoyed by such shortcomings. In addition we in the crew had to walk halfway through the lake scene to start the speakers at B, C, D and E again. One of the field recorders had not quite started or was functioning incorrectly. Another only recorded half of the session. The third recorded all of it. The assessment of the setup with a recorder by each musician was that it would all have to be synchronized in the work afterwards, without the delays from the sound sources. In retrospect I can see that we could have had one central field recorder standing on a point that recorded it all. Despite this it was possible in the post production to put together the lake scene for the documentation film.

A battery LED lamp made it possible to light up a fairly large area. Practical notion: Take along a Gladpack and tape for packing down the cable sheets in the event of rain. Chargeable batteries should be laid in a Pelicase along with a shoe drier to keep them warm and ready for use. Rather than using tarpaulins, which must be hung in the trees, one can hire a pop-up tent to protect the mixer and large speakers from rain, although the aesthetics of it might not add up. Also, it is important to be clear about what the crew must and can say to the audience. This was communicated, but not clearly enough.

If there had been acid rain at this time of year, the performance would have been different. We had rain protection for the equipment, but very little for ourselves. It would have been tough going.

It takes a lot of work to realize such a project. In practice it is not possible, at least not for me, to be in charge of the PR as well. One important lesson is that resources must be set aside for dedicated marketing. This was difficult to organize because the project was planned to and really cost more than we had at our disposal. Like very many art projects it was greatly underfunded and that necessarily had to affect something. Unfortunately one of the things underfunding often affects is marketing, which is a discipline in itself.

Irrespective of this, it is always important to have firm control of the finances. In this project I am responsible for the finances and keep the accounts. This has worked well, but is resource-intensive. No matter how well a project is planned, there will always be unforeseen costs. A minimum of 10% should be set aside for these. In this project we should probably have budgeted with 15% unforeseen because of the complexity. I think it is more important to increase the 'unforeseen' account than to inflate any more or less fixed budget items. It is important anyway that the need for this is pointed out and communicated clearly to the funding sources.

At one point the speaker at C stopped playing and I was called up on the walkie-talkie by Morten Minothi-Kristiansen, who had discovered it. After a little counting and testing of the actual behaviour of the media player I gave him instructions on what he should set it to, and when he should start it so that everything would be synchronized again. Walkie-talkies and a detailed and clear 'storyboard' that I had with me all the time were very useful.

My assessment is that this work functioned better than I had anticipated. I was tempted to vary, but I stuck to the monotony. The acoustic landscape space was exploited. The terrain around us with its different locations was used, and the audience found its way around in it. The base camp functioned as a chilly camp where a few people tried to keep warm in front of a clearly present gate to something. They knew what it was, something abstract and intangible, but they were not allowed to see it, and they did not have access to it – in other words an 'adython'. Everyone was free to do what they wanted, yet they were nevertheless linked together in this situation, in collective listening, each reflecting separately but with the same external information. An abstract, magical situation was established in close contact with the place, which aroused associations. The work required the body to be *there*.

## AFTERTHOUGHT

*After the Second World War, in the middle of the 1900s, the big victorious nations helped reconstruct devastated societies in Europe, which gradually developed a European Union. Worldwide commerce thrived, borders became less physically divisive. In earlier times, borders had been a matter for rulers and their battles for power. At this time they were increasingly seen as markers of identity and customs. A globalization took place, and human beings became more equal in relation to one another; but with more equality the small differences also became more divisive. Whereas earlier the need for organization was met by states and empires, it now gave way to a growing patchwork of international agreements, leaving the stage to global corporations not answerable to any political body subject to societal control. Countries and societies were bound by invisible networks, leading to absurdities and increasing frustration with the lack of global jurisdiction.*

*The insurgency happened after a period of uncertainty, with weakened institutions and some unrest. It led to a global reorientation with different solutions around the world, all involving close integration of conglomerates of neighbouring territories, which in turn took part in looser collaborations with other political and territorial entities.*

*This 'Insurgency Period' with its reorganization shares characteristics with the Migration Period around 400-600 CE, arguably including some events in 100-900 CE. This was a time of invasions and crisis, and there are considerably fewer written sources from this period than both before and after. In times of crisis institutions are weakened – by everything from less funding via fires to outright war. People need to give priority to what is absolutely necessary. The second priority is the collective memory of society.*

*We certainly know considerably more about the Insurgency Period than about the Migration Period, but the information we have is deceptive and difficult to interpret. In fact, we have enormous amounts of information, but of low or unclarified quality.*

*We can only speculate about what happened. It may seem that 'origin' and 'source' lost their weight as concepts, since much of the information is characterized by doubtful origins and unknown sources, but formally appears as indubitable information. Why this came to be we do not know, but the transition to this period seems to have taken half a century. Some historians claim that people no longer differentiated among speculation, entertainment, comprehension, reality and true information. They point to evidence of the dissolution of many systems of verification. This may have contributed to our continued difficulty with reality, true information and comprehension.*

### Communication

Latin *communio* – “to participate in something”, “that which is common to all”, *communicare* – “to do together”, “share”, “divide out”, “inform”, “unite”, “participate in”.  
Based on relatively common perception.  
True common perception is in essence impossible.

### Excommunication

Latin *Ex communio* – “outside the common”. Literally not being allowed to take part in the (Christian, religious) communion.  
Those excommunicated in a religious context are excluded from ecclesiastical activities.

### Inclusion

Latin *includere*  
From *in-* + *cludere* (“to shut”), “to shut in”, “enclose”, “insert”.

Inclusion involves absence of the excluded.  
Inclusion is impossible without exclusion.  
Inclusion includes exclusion.

*State borders, cultural borders, religious borders, all regulations of policy, benign or otherwise, in an in-group, presuppose and inherently involve policies towards an out-group.  
Regulations are thus about deciding on the degree of excommunication and exclusion to use.*

(Agamben, 2010; etymonline.com)

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<sup>106</sup> Steinke, 2014; House, 2014.

<sup>107</sup> Sánchez & Myrick, 1999.

<sup>108</sup> Dyer, 2013, p. 48.

<sup>109</sup> Darabont, Frank, & Kang, Angela (Directors). (2010-present). *The Walking Dead* [TV-series]. New York, NY: AMC. 42-67 minutes

<sup>110</sup> Hillcoat, John (Director). (2009). *The Road* [film based on book by Cormac McCarthy]. 111 min

<sup>111</sup> Bishop, 2012, p. 94.

<sup>112</sup> Bishop, 2012, p. 158-159.

<sup>113</sup> Vahr et al, 2015, p. 3.

<sup>114</sup> Madsen, 2010.

<sup>115</sup> Norway is a constitutional monarchy with the world's second-oldest constitution, which is still in use. In legislation 'the Crown' is therefore still used as a concept in the sense of 'the King's Council', although the true meaning has long been 'the Government'.

<sup>116</sup> Genteknologiloven (The Gene Technology Act), 1993.

<sup>117</sup> Willyard et al, 2006.

<sup>118</sup> Dunn, 1996.

<sup>119</sup> Csikszentmihalyi, 2016; Kahnemann, 2012, p. 47.

<sup>120</sup> Furuly, Jan Gunnar. (2018, October 30). Tvil om atomsikkerhet, *Aftenposten*

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# OUTLOOK

*Site Awareness in Music* is an attempt to contribute to a better understanding of the cognitive and social terrain of music. It could be summed up as investigating the connections between music and social and actual terrain (place), as well as how these are connected to our memory and cognitive perception of the world around us.

These are the most important findings:

There must be a meaningful connection between place/context and materiality in the work with sound if there is to be any artistic point in making use of an 'external' location. The introduction of effort, dislocation and obligation contributes to a strengthening of the cognitive experience. Open surfaces in music may help to establish a fluid zone for the listener. In particular, the combination of extended time consumption, open surfaces and a meaning-bearing connection to place has the potential for powerful aesthetic experiences. All these points are wholly dependent on formal rigour and musicality in the execution. Given this, the effect can become more profound. With this, the project also points to the potential inherent in a reorientation of format, context and time.

Increased attention to the conventions surrounding *format* and *context* is useful to whoever is working out ideas. The constraints that limit the scope of ideas must be exposed, and preferably changed, such that the *idea* is raised further up in the value chain. Admittedly, the *idea* will never be able to manifest itself in any neutral zone. Nothing is ever neutral. No position is neutral. The *idea* will always relate to the context at the time and in the place of its conception. Format and context are inextricably linked with the way the brain perceives musical, auditory and thematic content in a musical work.

This should have consequences for the way the infrastructure for the music is arranged, in terms of financial priorities, the *basic structures* of the concert halls and the conditions that apply at the curatorial level.

In addition to such a reorientation, the conventions around *time* are important to look at. Historical and other effective patterns naturally limit the scope and format of the ideas – the space of possibilities for the ideas – at a far too early stage. Instead, we must ask how we humans listen, and explore more listening positions.

In this is also an opportunity to increase the general awareness of our sonic environment. An increased awareness not only of noise understood as unwanted sound volume, but also of the *qualities* of the sonic environment, of an anchoring of sound and place is important for our mental health. This means asking other questions related to city planning, transport planning, architecture, product design, sound design, laws and regulations.

Another finding is that there is a great need for clarification of concepts such as *outdoor concert*, *site-oriented*, *site-specific* in music, and *land music*. Clear concepts are important tools for having a clear-cut dialogue about practices which relate in varying degrees to, break with or redefine the 'concert venue'. Perhaps the themes that I have raised in this reflection could be investigated and clarified in a book format.

The combination of durational and land music is key to a type of work, an attitude, that bears a better potential for the opening up of a both physical and mental space for cogitation. I have restricted myself to the musical and artistic, more conceptual side, rather than taking a more technical approach to psychoacoustics. I believe this has been the correct approach. But a more thorough understanding of parts of this field and a combination of this with general knowledge of the human cognitive pattern will create a better basis for creating precise works in the future. The crucial element is to know more about the effects, applied artistically, to immersive, sited, durational musical works. What if music can work with surgical precision and predict and produce quite specific reactions? This can be viewed cynically, but is a matter of finding, exposing and being aware of the functions.

Some artistic projects that I might consider interesting to work with are:

- Engage with other art forms and artists to create combined, total works.
- Develop durational immersive sound works and land music, possibly integrated with Ganzfeld sensory deprivation.
- Combine psychoacoustics with a close relationship between site and materiality in an obscure maze setting, of some similarity to an enduring game, sonically and physically confusing, at a carefully selected location.
- Record and describe sonic environments and find a suitable way of conveying them in a listening situation, as a variant of sonic ecology
- An exploration of the notions of time and open texture taken to the extreme in an extended orchestral setting.
- Establish a listening series, where people come together in a high quality listening place, and listen, together, to recordings of selected works, including concerts, if live presentations are possible.

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Knut Olaf Sunde  
Oslo, 22 February 2019



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