Ilari Hongisto

Nature Sound Trilogy

The thinking behind three electroacoustic pieces created of sounds of nature

Skriftlig reflektion inom självständigt arbete
Till dokumentationen hör även följande inspelning:

CD (audio-cd): stereo-versions of the pieces.

DVD (data-dvd): surround- and stereo-audiofiles of the pieces, listening scores, extraexamples.
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1. BACKGROUND

This study focuses on three of my compositions and the thoughts, as well as trends, in the history of music linked to them. In this paper, I bring to bear my own background as a composer and scholar of music as well as a practicing musician and music producer. Originally, I am a drummer and percussionist and graduated from Turku Conservatory in 2005. A year later I finished my Master's studies at the University of Turku where I majored in musicology and Finnish. I began my composition studies while still studying at the conservatory, in Tuomo Teirilä's class. After graduation I continued to study composition Turku University of Applied Sciences, majoring in composition. I was awarded with a Bachelor's degree (BA) in spring 2010, and then continued my studies the following fall at The Royal College of Music in Stockholm (Kungl. Musikhögskolan i Stockholm, KMH), now majoring in electroacoustic music.

The composition studies preceding my time at KMH focused on traditional postmodern composition, the focus of which was mainly on composing for instruments and voice. The use of electronics in my compositions arises from my own interest in music technology: I had my own mobile studio and was working in a recording studio at the time. Thus it felt natural to transfer the expertise I had gained in this field also to new art music.

The original idea of tape-pieces composed merely of sounds of nature was born already in 2009. My family has always been interested in nature, but it was my father's ornithological interest in particular that led me to the bird tapes. Although composers throughout history have used the singing of birds and the entire natural environment as a source of inspiration and musical material, I decided to take the idea even further. Thus, the idea to compose a trilogy of electroacoustic music based entirely on sounds from nature was born – the sources included not only the sounds of birds but those of frogs and insects as well. There was an abundance of material available; through my circle of friends I was not only able to access the recordings archives of YLE (Finnish National Radio), but also to skim through some private collections and recordings of a few nature enthusiasts.

With regard to the sounds of nature in general, I was drawn not only to their richness but also to the fact that they are constantly around us, even if we are not always aware of their presence. The sounds of nature are inherently intriguing – they haven't been purposefully produced to be interesting. At the same time, I experienced this kind of composing as a search
to renew the music vocabulary of mainstream art music which in my opinion has become somewhat predictable. It often feels as if – in electroacoustic music in particular and why not in traditional instrumental/vocal music, too – the technical solutions in the production of sounds and their combinations are more interesting than the finished pieces themselves. Many pieces have to be spoken interesting, like the saying goes in Finland – meaning, that the piece is only interesting when the composer has told everything about it and it’s background, and after long talks the piece seems to be an interesting one. Thus my nature trilogy is also a kind of a reaction against to my own tiredness of supposedly new compositions which, in fact, often sound more like modern music from decades ago. Also, it’s the constant search for “novel and eccentric” sounds that has begun to numb my ear – a new sound without a musical thought is still only just a sound. In my own case I decided to outsource the production of sounds to nature, and while I concentrated on composing as interesting pieces as possible from the material available to me.
2. THE PIECES

The three works discussed below comprise a trilogy of nature sounds, which together form one entity with a total duration of about thirty minutes. Each work utilizes no other sound material apart from nature's own sounds. All of the works belong to the acousmatic tradition of electroacoustic music and have been realized in the 5.1-surround-format. The works have been attached to this study as stereo- and surround-sound files (wave). In addition, listening scores for each piece attached in two different formats have been included: the first is material-based on screenshots of the sequencer program (Logic Studio), and the second shows spectrograms/signal-listening scores created in the Acousmographe program. In the Logic-version one is able to view the number of tracks that there are going on at the same time. At the same time there is colour information about, for example, pitch and behaviour of the sounds – the information is indicated in the front sheet of the Logic-score. In the Acousmographe-score one is able to view the resultant sounds from the Logic mixdown. These are represented as the dynamic waveform of the signal and a spectrogram analysis showing frequency ranges in the piece as well as color-coded amplitude information, both correlating to time.

2.1 Kaakkoismuutto (2009, duration: 9’10”)

Kaakkoismuutto is composed entirely from the sounds of birds, a total of 125 birds. The piece begins with sounds of the night singers of northern Finland, continuing on with sounds of the day singers of the southern part and the archipelago of Finland – then there's a sudden movement on to the sounds of the birds in Goa, India. The listener travels from Finland to India like actual birds: The Finnish word Kaakkoismuutto means the immigration of some Finnish birds from Finland to India for the winter.

The sounds of the birds are used to create harmonies and conversations contrapuntually and are used as soloists as well. There is a variety of different sonic landscapes in the composition, which move around the listener. The composition evolves like landscapes below a flying bird: you never hear a bird sing again later in the piece. The sounds of the birds are not edited or heavily effected so that the original nature of the sounds remains. Nor is the pitch of the sounds manipulated – there are only the natural sounds of birds, even though they are streaming from loudspeakers.
2.2 Matkalla (2011, duration: 9’32")

Matkalla is Finnish as well and means (to be) "on the road". This piece is created from the sounds of frogs. There are over a hundred frogs singing in the piece, but the lowest sound is the one to follow; it travels from Asia to Africa, through the Americas from south to north, and finally to Europe. The listener can imagine the kind of soundscapes different frogs from different continents create.

The sounds of the frogs are used to create harmonies and contrapuntal conversations. Similar to the birds, some are used as soloists as well. One of the interesting things is the polyrhythmic diversity which the frogs create when singing together. There is also a variety of different sonic landscapes in the composition, moving around the listener. There are three sonic levels in this piece: the frogs, the natural background sounds of nature and artificial backgrounds. The sounds of the frogs are not heavily edited or effected so that the original nature of the sounds is preserved. Nor is the pitch of the sounds manipulated.

2.3 Taivas alla (2012, duration: 9’00")

Taivas alla has been composed of sounds of insects from around the world. The sounds are mainly sounds of different types of crickets, a total of around 50 sound sources. The sounds of insects didn’t offer as interesting a basic material as the sounds of birds and frogs, which is why, in order to guarantee the attractiveness of the piece, I permitted myself to employ more effects, programming and sound manipulation. With the assistance of sound manipulation, the spectrum of the sounds was formed wide: there are both extremely high and extremely low sounds in the piece. The variety of high tones in particular makes the timbre of the piece interesting. There’s also not as strong a programmatic background in Taivas alla as in Kaakkoismuutto and Matkalla – my goal was to compose a clear piece which complies with classical ways of thinking about a piece: the piece features a distinct high point as well as an interesting beginning and end. Some sounds recur in different contexts during the piece, which are intend to create a sense of both cohesion and wholeness.
3. METHODS: compositional and working methods

The point of departure in the compositional work was the sounds, their tone colours and rhythms, not so much the melodies, and especially not harmonies. While I utilised a slightly different approach to the material in each piece, my working methods in terms of the approach to the material remained somewhat constant: the goal was to create as interesting new music as possible of as interesting sounds as possible, however in a manner which shapes clearly into pieces, music – not into sonic landscape art. At the same time the goal was to maintain the specific characteristics of the sounds of nature; I tried to avoid excessive manipulation of the sounds – the sounds of nature were to sound like sounds of nature also as parts of the pieces.

An initial problem was the abundance of material; in the beginning there were thousands of samples available for each piece. Due to their richness of timbre, the bird sounds used in Kaakkoismuutto were more versatile compared to the frog sounds used in Matkalla, and downright supreme compared to the insect sounds used in Taivas alla. Based on the differences in different sound sources, I ended up categorizing the material on a different basis in each piece.

At this point I would also like to it is worth noting that all the samples which I used were certainly not studio-quality material, quite the reverse. In fact, one of the challenges in of the composing compositional process was to make the material, that which resembled documentary recordings, as good quality and as in tune as possible, the aim being a studio-quality general appearance of the resulting sound. Thus while in the process of classifying the material I had to quite harshly ruthlessly eliminate most of it. I rejected over more than half of the samples because their sound quality was not n't good enough: the reasons for disqualification included various noises or static, sounds of other animals in the background, sounds of rain, streams or other water sources, problems in with the recording technique and traffic noise. It was necessary to keep Part of those some samples were necessary to keep even though despite their inferior sound quality wasn't sufficient. Almost with Nearly all of the samples used in the pieces, I used, alongside were processed using a frequency corrector and a match-equalizer as well as , also de-essers, multiband compressors and noise reduction tools (plug-ins) such as noise reduction by Logic Studio and Noise-X by Waves.
3.1 Classification of material

The actual quality-based elimination and further classification of material was a challenging process as there were more than enough interesting sounds available to create many more pieces in addition to these three. I employed brutal methods which are familiar in the studio work process: “Kill your darlings” and “Less is more”. As mentioned above, during the first disqualification round I eliminated the bad quality samples. For this I used a very trivial method of computer folders, and of course the trash can. After the first round, I categorized the samples into separate folders, which were different for each piece. The principles for categorization are described in detail below. Next I made yet another round of quality-based listening. Since there was now less material remaining, I was able to focus more clearly on the individual pieces: I eliminated material based on whether the categorized sounds were interesting and fit the context and general idea of the piece. In all of the three pieces I applied the same classification method, while pursuing a slightly different categorization in each individual one.

In Kaakkoismuutto I categorized the material first on a geographical basis. The beginning of the piece is constructed of the sounds of Finnish birds from Lapland to the archipelago; the final part in turn employs the sounds of Indian birds (see Acousmogarpe, page 21; Logic 4:49). After the geographical categorization I sorted the samples into different folders based on pitch (see Logic page 1) and whether they were rhythmic or melodic. The rhythmic singers were further classified as pulsating or free-pulsating singers. In the melodic singers’ category, I separated birds singing in glissando-like manners. In Matkalla the crucial basis for categorization was both the geographical division into different continents (see Logic page 1), and the occurrence of a single frog on multiple continents. After the geographical categorization, my aim was to find a distinct selection of different samples as possible for each continent which would still form an interesting window to the various sounds for the listener. The insect sounds in Taivas alla were not as rich in timbre and varying as the sounds in the two other pieces. Hence the categorization principles also differed quite significantly from those of the two earlier pieces. Here I divided the material into active, passive/static and evolving sounds (see Logic page 1).

Based on the sound quality and the material I needed, the suitability and attractiveness of the material, I estimate that well over 90% of the original samples ended up in the trash can.
Numerically expressed, only approximately 300 samples from the original 5000 were selected (see Logic-listening scores).

3.2 Studio work

Although in this study I divided composing and studio work into different chapters, it is important to note that in electroacoustic music the two go hand in hand in the finishing process of a piece: part of the composing methods were born in the studio, and part of the studio methods seem as if they were adopted straight from the composing classes. A good example of this is the contra-punctual thinking I’ve used and its execution in the piece trilogy, of which in more detail in the following chapter.

The basic operations in studio do not vary much regardless of the type of sound or material from different musical genres worked with; the goal is to produce a certain type of material from material with certain quality, with the equipment available. During the years of working with popular music in a studio, both as a musician and a producer, I have developed a certain routine in the use the right equipment, hardware and sound manipulation tools for each situation. But the benefit of working with electroacoustic music is that it makes studio work a creative process. New art music brings fresh light to the studio work and offers new applications for old tools, re-thinking, problem-solving, learning.

I used the Logic Studio -sequencer program with its plug-ins and Mercury-bundle by Waves. As loudspeakers I had either my own (8020) or KMH’s Genelecs, and as interface I most often used my own Digidesign 002. In Kaakkoismuutto studio work was all in all traditional, meaning that I didn’t use any stretching and tuning tricks. The rich material didn’t really need any post-production for results to be interesting and of satisfactory quality. As tools I mostly used various compressors, multiband compressors, equalizers, delay-devices, reverb-gear and mastering tools (Waves Mercury-bundle). Echoes and delays were in auxiliary-channels, which I utilized to create an entity in the "same space"; small details weren’t crucial in Kaakkoismuutto. Thus, in order to maintain the original mood of the singing birds the pitch of the bird sounds were not changed nor was the material otherwise edited. What caused the biggest puzzle was placing the sounds into the 5.1-surround-listening. Excessive running of sounds around the listener would, in my opinion, be mind-numbing and old-fashioned; the thoughts of traditional spatiality of odd sound source directions are nevertheless most often intriguing, but I find that they rarely bring extra value to the music itself. I still set out by
listing through the various options to run the sound in 5.1, utilizing all these alternatives in
the whole trilogy. I wanted the focus to remain in the sounds of the birds and the wholeness of
the piece, not in circus tricks seeking an awe-effect. Thus the sounds move around sparingly
but in my opinion still meaningfully in Kaakkoismuutto. Thus, in my view, the most significant
extra value gained via the 5.1-listening wasn’t the effect of sounds moving around but that
this way there is more space for the sounds in the sonic landscape than in a traditional stereo
setting.

The sound material of Matkalla was rich as well, but I found it a bit less interesting. Therefore,
I post-produced the sound to a slightly larger extent without touching the high tones or
editing it in a way that would have changed the nature of the sounds too much compared the
original ones, thus making them unrecognizable. The tools used were also somewhat the same
as in Kaakkoismuutto. The most significant difference appears in the mixers of the pieces: in
Matkalla the plug-ins are remarkably more often placed in the normal channels as opposed to
bus-channels. This means that each frog’s sound has been manipulated independently. By
doing this the purpose was to gain extra nuance/colour in the sounds, and tune in some
important elements. In total, the piece has been built through more details than
Kaakkoismuutto.

Taivas alla differs most from the two other pieces of the trilogy. In order to make the trilogy
sound interesting throughout, I used the authority to manipulate the sounds more fiercely
and to use more processors than before. The most important but also the harshest method
was the use of a sampler: I made sampler instruments (ESX24-sampler) out of the most
attractive sounds so that the sounding pitch of the original sounds changed, sometimes
radically so. Creating an instrument made it possible to play chords and also enabled fine-
tuning. It took some effort to create low sounds that were missing from the insect sounds
almost altogether. To achieve this I used different pitch changers (Time and pitch machine), a
sampler, rough equalizers and filters. I also used plug-ins, tuned to sound low in the reverb.
Bringing in the low sounds enabled making the spectrum of the piece extremely wide, and in
my view at the same time fascinating. This also shows in the comparison of the
Acousmographe-scores with one another. In addition, more technology in general was
involved in Taivas alla than in the two other pieces: although the basic tools were mainly the
same, I used them notably more radically here. For example rough limitings and compressions
highlighted exactly the types of intriguing traits from the sounds sought after: silent static,
vibrating, pitches that otherwise would have remained unheard. There were sound
manipulation tools practically for every sample in the channels, and on the other hand also on
the buses. Still, the result sounds like insect sounds, eventhough I feared too synthetic a
sound. The co-operation of technology and nature flowed, to my experience, exceedingly well
in each piece. In Taivas alla the extensive use of technology made it possible to shape the
material into, in my view, a fascinating entity. Bargaining with originality enabled making
more interesting music.

3.3 Composing

My own background is more in composing traditional new music (instruments and vocals)
than in electroacoustic music. Thus, in this trilogy I have aimed at building electroacoustic
pieces so that the outcome would fulfill the demands of established piece-conceptions, in
which each piece has a beginning, a middle and an end as well as clear cruxes and different
types of connecting elements which tie together the sections of the piece.

One carrying theme in the whole trilogy is the handling of rhythm. The rhythms of nature
don’t follow the time-valuing way to perceive and share time. I decided to utilize this aleatoric
nuance in all the pieces – I let nature call the rhythm of the details. The intriguing naturalness
of agogic variation is what distinguishes these pieces from much of other music. Similarly, as
composers of electronic music outsource the production of rhythm to technical devices, I
outsourced it to nature. I also placed the rhythmic elements breathing in different frequencies
to converse with one another. At this point one can speak of a circumstance of a rhythmic, free
counterpoint, produced by a sequencer program, in which different rhythms are forced into
simultaneous action, the goal being to form new, interesting, often also random combinations.
I also find that the feel of cyclicity brought forward by loops of different lengths works well
(cf. e.g. Tenney, Ligeti, Penderecki Cage, Stockhausen). The heterophonic constructions that
were born worked out excellently in my opinion, and at least to me they seemed as if they
were working independently, under their own laws, offering something new and fresh. An
example of this can be found in the beginning of Taivas alla where three different insects form
a rhythmic whole (see Logic page 1). In similar parts I also used samples conveniently
distinct, but still fitting together. Thus, as a working thought I used the concept of timbre
counterpoint – some sounds go hand in hand, some don’t. As my own working term I also
used forced canon. Thus in all three pieces I utilized the possibility brought along by the
sequencer program to set each sample to begin at slightly different point with itself. This
technique brought out the rhythmic subtleties of many samples and I was satisfied that I had
managed to utilize a traditional composing technique which to my knowledge hasn’t been
previously used in this way with nature sound material. (Dallin 1974.)

Geographical categorization of the material in Kaakkoismuutto and Matkalla was used as a
method in the composition. In other words, geography influenced the structures of the pieces.
This categorization posed various challenges. One of them was creating a meaningful
combination out of the samples according to their origins, that is, to create interpolations
between different sections, for example continents. I used a traditional graphic timeline: I
designed the geographical transitions first and composed then the transitions of the local
material. Another challenge was the principled decision not to use the same samples again
later in the piece, while still maintaining a coherence. On the other hand, this made the
composition work more straightforward. The idea was to produce novel-sounding material,
but there was also a risk of too much formality. This is an example of the way serial
composers trap themselves by imposing rules on themselves to which one has to apply. In
Matkalla I used a solo frog as a glue between different parts of the piece. This frog would
smoothly take the listener from a continent to another. In Kaakkoismuutto this wasn’t
possible, which is why I made use of sounds sounding well together, in order to produce a soft
fade in / fade out -fashioned ride.

In addition to rhythm, timbre is an apparent carrying element in the trilogy. These important
choices for composing work were made already when categorizing the material. Thus, again,
the lines between categorization of material, studio work and composing work are flickering
and thin. An important detail in the pieces is however the use of samples differing from the
mainstream sample material – for example in Kaakkoismuutto, the glissandic singers form an
entity like this (see Acousmographe page 28). Also, the layout of sounds into a 5.1-image is a
crucial matter in composing work, although I tried to keep this aspect in a small role.
However, in Taivas alla I strongly utilized the movement of sounds: in the piece in question I
allowed the same sounds to re-appear, however often re-manipulated, to improve the timbral
cohesion. This way the "train-like" rumbling at the end of the piece becomes allowed,
however the differences to the former being the emergence of a new rhythmical element, the
different use of "the train whistle" and moving the the insects creating the train sound in the
5.1-picture (see Acousmogarphe pages 28–30). Taivas alla differs from the two earlier pieces
of the trilogy in a few other ways: In addition to the re-appearing sounds, there are a number
of quick and forceful cuts, while in the earlier pieces things happen in a smoother fashion. Moreover, the cuts in Taivas alla are also mechanically produced; while in Kaakkoismuutto and Matkalla these stem mainly from the sound material itself, not as directed by the sequencer program. The use of dynamics is also different in Taivas alla, the transitions and changes are quick and grand. This was a method used for keeping the piece interesting despite the timbral poverty of the samples. (Dallin 1974.)

In Taivas alla I utilized the excellent idea of Bill Brunson to gather the insects into small bands. A large part of the piece extracts containing aleatoric polyrhythms was in fact born this way. Insects with a personal sound were gathered together to make music simultaneously. In this context, let us promote the significance of humour in music. Although dealing with serious music, sometimes humour should not be inhibited but rather brought forward for the listener's delight. This is a thought I tried to carry throughout the piece trilogy, too. The rest of the whistling in Kaakkoismuutto, the low-croaking solo frog in Matkalla and the train scene with its whistles in Taivas alla all function as fine examples of this. I find it most important that the choices I make as a composer inspire emotions in the listeners and that I’m able to convey various meanings through music.
4. THINKING ABOUT THE PROCESS

4.1 Sounds and their contexts

I have been repeatedly asked whether I recorded the nature sounds myself. Had I done so, I could have chosen the microphones, recording techniques and other devices myself, and controlled the amount of background noises – in other words – could have begun making choices already in the recording phase that would then have affected the composing work. Such an approach would create a deep connection to the material and at the same time give the best kind of a starting point possible for making music out of a small amount of material. Excluding the sounds of crickets and cranes I had in fact managed to capture myself, most of the composing process in this trilogy is based on a large number of samples from all around the world. The recording work, the pre-production phase, was outsourced to hundreds of professionals around the world; a lifetime wouldn’t have been enough, and neither would my skills, to record a quantity of samples as large as this. It is this approach that offers an interesting and versatile starting point for the composing work, in which the purpose is not so much to make the most of a few original sounds but to build fascinating field-like constructions, poly-rhythms, timbre-fields, spots and so on, out of a vast material. Moreover, using the outsourced vast material makes it possible to use any one sound only once in the piece, like for example at the beginning of Kaakkoismuutto (see Logic page 2).

The sounds used in the trilogy form their own context. The natural "habitat" of the sounds, the surrounding sounds, were eliminated from the recordings, and the purpose of the composition work has been to make music out of the sounds themselves, Matkalla, however, has an exception to this rule: there is a backward-flipped, manipulated sound of rain audible (see Logic 4:23), the timbre of which fitted both the story and the soundscape of the piece well. The sound emerges and passes in a fade in/fade out fashion, making it barely noticable. Removing it, however, would be noticed. This is to point out the importance – even necessity – of a sound in a piece. Some of the contexts created by the sounds of nature sound rather synthetic and imaginary. This applies to all the three pieces, though not to all their movements. In fact, the contexts were categorized into two different groups already in the processing phase: natural contexts (background noises, sounds that in my view identify as nature sounds etc.) and imaginary contexts (nature sounds that didn't sound natural to my ear). For me, this method was suitable in differentiating parts of the pieces into different categories on a conception-level. Whether this method can be adapted to other kinds of
pieces, too, remains to be seen, but for example in instrumental music a similar division could be made between, for instance, traditional instrumental sounds and new playing techniques. (Kuljuntausta 2002 and 2006.)

In hindsight I am quite satisfied with my choices: by avoiding too excessive a processing and sound manipulation I had to learn to analyze and categorize the material itself more particularly. On the other hand I don’t believe I would have been able to make more of the pieces musically by carrying out more daring sound editing. In my view the same applies to 5.1-listening: by applying heavier sound transformation I could easily have made the listening experience more varied. Would this have taken off the attention to the structure of the whole or the timbre? I believe the experience depends on the listener.

I am most satisfied with the rhythmic outcomes in the pieces. I still enjoy the pulseless pulsativity (as I’ve defined it) the rhythms of nature form together. These rhythms are not weighted down by centuries of conservatory tradition or constraint to play well. These rhythms just are and sound, they do not attempt to be free, precise or complicated. They have been this way and still will be after our time has passed. This is what makes it intriguing to make music out of them - as if one would catch the most fascinating fish from a great herd and put them in the aquarium to be looked at – but without the evil of imprisoning nature. (Kuljuntausta 2002 and 2006.)

4.2 Acousmographe

Acousmographe is basically an analysis tool for any kind of sound and can be used to make listening scores for any kind of music. Acousmographe can be used as a basic tool for teaching, composition and sound research. While note-based music is normally read from traditional scores, Acousmographe is intended for music which is sound-based such as electroacoustic music. However, it can also provide an interesting point of view regarding the sounds of instrumental/vocal music.

Acousmographe operates as a transcription tool for sound-based music; note-based music is composed using notes written into scores and can be transcribed from sound into written notes. With this software the electroacoustic music composer is able to obtain printed information of his/her work. While in my nature sound trilogy Acousmographe was employed as a tool to produce the sound-based listening scores, it could be also be applied in several different ways in the compositional process: to provide a detailed visual display of sound in
order to guide and confirm the composer’s listening experience, to provide an overall picture of a work in terms of form and and the disposition of materials – have all the wanted possibilities of sound been used? – or, for example, to reveal both new and hidden details of the sound that may be difficult to grasp by listening alone.

As mentioned before, Acousmographe produces both signal waveform and spectrogram views of sound. This generates much information about the sound but still leaves something missing, namely the low register, where, as a matter of fact, all the action happens. This register is quite opaque when there is much happening within the sound as can be seen, for example, from Taivas alla acousmographe page 11-12. Yet when the sound material is not sounding constantly or when the various sounds occupy registers on their own, Acousmographe offers more than enough information to get a good picture of the sound. A good example can be found in the counterpoint between two soloist birds in Kaakkoismuutto (see Acousmographe page 8-13). To illustrate this one bird can be places in the left channel and another one in the right; then by making a two channel score it is easier to both see and hear the contrasts between the two different sound sources (see Extra Example Kaakkoismuutto, placed after the Kaakkoismuutto-scores). This type of solution can be produced when using 5.1/6-channel files. In this case, the problem is that the visual layout becomes very complicated when one cannot view all of the information within one image.

Photosounder is software that produces sound from the analysis of any graphic document. Photosounder works like a spectrogram player. And interprets the graphic material such that white (and lighter parts) of a photo are louder than darker portions. Black sections are silent. Time is read from left-to-right and more pixels on the horizontal axis create a longer piece. In Extra Example Photosounder (placed after all the scores) you can see a photo and then the spectrographic representation of the sound file made from the photo. The software works in both directions. Software of this kind may perhaps be useful in the future of electroacoustic music in its many forms. A composer could then use the spectrogram picture like an original note-based score, selecting details in the picture, drawing music. This can be the basis of the compositional process such as linking hearing and imagination to notation adapted to electroacoustic music. Acousmographe-scores can also be an interesting step for copyright and marketing matters in electroacoustic music: In Finland, for instance, the Finnish Music Information Center, which promotes Finnish art music, does not do so with works of electroacoustic music because no scores are available. An additional interesting matter in
Acousmographe-scores is its application withing the concert situation of electroacoustic music. In "normal" concerts the audience can see the performers, which is usually interesting. By showing the Acousmographe-score of a tape-piece on a screen, a visual aspect could be added to the concert experience which could help make electroacoustic music both more visually interesting and understandable for wider audiences.

4.3 Piece, composer and name

It feels as if it was easier in older times: the composer composed, the player played, the listener listened. Today the concept of a piece is constantly changing. At the same time composers have passed on responsibility from themselves increasingly to musicians for example with the help of the much praised improvisation (e.g. Ligeti, Penderecki, Lutoslawski etc.). Similarly, the responsibilities of the composer have been passed on already for decades via aleatory methods and similar composing techniques (e.g. Cage etc.). Also the role of the listener is at a turning point: nowadays it is quite common that the listeners actively take part in the music itself, produce sound, engage and participate. At the same time it is being debated what is new, what is old, what is what to whom. How does this trilogy at hand relate to this kind of an ideology? As mentioned above, the pieces of the trilogy are like traditional pieces by their shape and form. Yet they are based on rhythm and timbre, being at the same time very far away from the tune-up systems of the world of instruments. Do the pieces offer anything new? Anything new, which in my opinion is what every new composition should offer.

I believe that this piece series is something new, something other than recycled music. Although in principle the sound material already exists, it is been collected from such a wide area and used in such an unexpected way that the result sounds novel when you come across it for the first time. Of course my musical thinking and piece forming methods affect this, too, but I believe it is the timbre that is the first, but hopefully not the last, element creating the sense of novelty. On the other hand one must keep in mind that some people, exactly the same ones I once got the samples from, take a special interest in sounds of birds and other animals. For those interested in and familiar with bird sounds, Kaakkoismuutto is unlikely to sound movingly new by its sound material. Hopefully the musical construction creates a different kind of a mood despite this fact. In any case, experiencing music is in my view so listener-specific and personal that one shouldn't worry about the reception of the pieces that much,
but in fact just wait expectantly. What is music or new or interesting to a person is an impossible question to answer, although I readily recognize it to be an intriguing one.

It can also be debated whether you need to be familiar with the background of the sound material used in the pieces to make more out of the pieces. Or is it quite the opposite? Will knowledge of the fact that the pieces have been constructed of nature sounds change the approach to them so that they transform into a series of nature documentaries one sees in TV, in which one travels from Antarctic through the rainforests to the flora and fauna of New York. The listener concentrates on spotting the sounds and doesn’t focus on the sounding material as a composition piece. On the other hand, if you know that it is for example frogs that are producing the sounds, you don’t have to think about it anymore and you can concentrate on the music instead. Different listening paths like these offer an interesting topic for further discussion, for which in my opinion composers use too little time. One can only wonder the different ways in which pieces can be heard and understood. Getting engrossed in reception studies could make the work of many composers who base their work on repetition a little lighter for the listener. On the other hand, it would be good for composers falling into fireworks of too much variation to think of the fact how much musical information can a person absorb in a given time.

For me, an important dimension of music and at the same time composing is the naming of pieces and the signification content of the names. In this trilogy the names of each of the pieces represent their own viewpoints both to the sound material and the pieces as wholes. Different musical cultures have distinct naming traditions of their own which opens up a meaningful new window to playing with name meanings. I’ve studied the names of music earlier in my musicology Master’s Thesis, so I’ll open up my thought process on the subject a little bit at this point.

In popular music, the names of compositions are usually connected to the lyrics. This applies not only to popular music but also to classical vocal music. An example of one such classical genre is the Lied. Through lyrics, the meanings of composition names are connected to matter and nature (for instance cars and places of nature), well-known scenes and their immediate surroundings (for instance wars and countries) as well as politics, comments and social criticism – though powerful social criticism is less common in classical music than in popular music. Critique towards society is probably the greatest thematic difference that separates piece names in popular music from those in classical music. The most common themes of song
names and lyrics are love and relationships, in both popular and classical music. Also
descriptions of different emotions or emotional states are common in both fields.
Furthermore, among other possible themes are religions, mysticism, myths and fiction.
Metaphorical themes whose meanings are left for the listener to decide are also common.
(Hongisto 2004 and 2006.)

However, composition names can also form other kinds of connections to the work itself than
just those related to the themes of the texts: composition names can describe the music itself
(Sibelius: Water drops¹) in both popular and classical music. The name of a composition can
also change the listener's point of view if it is something totally different from the content of
the text itself. This puts the listener into a situation where she or he has to re-evaluate the
whole meaning and purpose of the composition. Therefore, the trigger for the interpretation
is the unexpectedness, which, similarly as unexpected performer names within a certain
genre (Kiss), triggers a need to find an indirect interpretation for the name. The whole
thematic material, the whole meaning of the composition, is as if lighted from a new point of
view because of the name (Vaughan Williams: London-symphony²). (Hofmann 1993; Hongisto
2004 and 2006.)

Compositions names can also work as labels that are related to neither the text nor the music
in any way. Names of this kind may, for example, refer to the time when the piece was
composed or the state of international affairs. Thus they are metonymic, based on an indirect
meaning relation, such as, for instance, Messiaen’s String quartet for the end of times.
However, composition names do not always have to make sense (Rush: YYZ). They can also be
entirely absurd, or, for example, just ordinal numbers (Apulanta: 1–13). In classical music, it is
not rare to use generic numbers when the meaning of the name is based on a direct meaning
relation (Fourth string quartet/Fifth symphony). It is even far more common to have names
that are somehow connected to the music itself in classical music than in popular music, in
which the text usually co-operates with the name of the song – one way or another. (Hongisto
2004 and 2006.)

¹ The work is composed for pizzicato strings, which sound like dripping water drops.
² The name emphasizes Williams' nationalism and, on the other hand, the fact that a composer who usually
portrays the countryside makes an exception and portrays London, a metropolis – the same is reverberated in
the occasional haste of the music.
Piece names thus form a similar meaning agglomeration as does using nature sounds as the sound material of the pieces. I know that the pieces have been composed during my college time in a Swedish music college and I wish that they would also be performed internationally. Yet I used the language of a small nation in the names, my own mother tongue, Finnish. Is it necessary to know the meaning of the names? Maybe I’ve answered the question already with the linguistic choices I’ve made, maybe I haven’t. The piece names contain extra significance value for the pieces. They can open up a new window to the meaning of the work as an entity. They can also flip it around, change the listener’s point of view to the piece. They can grow one’s interest or prevent the listener even from ever listening to the piece in the first place. The names can be so multidimensional and ambiguous that the interpretation is a kind of an aleatory process, extra-value lottery for the named culture product. Names contain great power, in art as well as in any other activity and communication between people. It can also be contemplated on whether a piece must be named at all. An important question for a working composer is when to name the piece: is there first the name and then the piece – in the planning phase – during the work process – or only just when the work is finished? How much do the time of name-giving and the content of the name influence the composing process? To my knowledge this is a topic which hasn’t been thoroughly covered in musicology, but as a topic it would be most interesting. (Derrida 1995; Hofmann 1993.)

4.4 About genres

My trilogy, made of sounds of nature, can be related to various eras and trends in the history of music. The piece series can most easily be defined as postmodern music or new occidental art music, which has been electronically produced. At the same time the pieces relate to the inheritance of concrete music (see e.g. Schaeffer), which has its roots in France. There are also elements of minimalistic tape music (e.g. Reich) and why not also spectrum music (e.g. Saariaho) in the pieces. Furthermore, the series can be connected to a vast canon of composers who have drawn their inspiration from nature. In Finland, for example, this group entails Sibelius, Klami, Rautavaara and Saariaho among others, and elsewhere for instance Haydn, Beethoven and Messiaen – there are almost few composers who haven’t been touched by nature in any way.

Whether or how precisely a composer should categorize his own work into a given musical genre, can be debated. It is worthwhile? to identify the pre-existent main genres (e.g. electroacoustic music) and to be able to place one’s own work within wider tendencies, for
example along the modal-tonal-atonal -axis. However, it often appears that generic definitions function as a means of pursuing specificity through the rhetoric. In practice, this appears as a "must" to come up with a generic box for the piece, because in its "specificity" it doesn't otherwise conveniently fit into any locker with other pieces. When this happens, genres form into even smaller categories and the field of genres falls to pieces, at the same time losing its ability to describe music meaningfully. In reality a categorization like this is done for example by listing the existing genres consecutively and adding in one of your own expansions.– Studying names and genres, it can be noted that the naming cultures of popular and art music seem to be approaching one another, and I with my own work, including this trilogy, am firmly in the same boat. A similar phenomenon describes the genres of both popular and art music: the genre field is shattering as an ever larger group of genres is being discussed simultaneously. As concepts, the names and genres of pieces are coming closer to one another. Is this development something to be worried about? Perhaps it is needless to be concerned, but what is certain, in my opinion, is that the only way to make art music interesting and culturally significant is to keep its quality high: to always seek new when making music and to aspire to offer something unprecedented. This, in my view, is the clearest difference between popular and art music today, hopefully also tomorrow. (Borthwick – Moy 2004; Fabbri 1982; Samson 1989.)
5. CONCLUSIONS

I’m happy with how the trilogy worked out. I will name it Luonnos. The name is, again, a very polysemous Finnish name. It translates as “a sketch”, but also strongly associates with the word "nature", on the other hand with the grammatical case "in nature". Thus I hope that as such it offers ideas that support listening to it, to a convenient extent. I think that at the same time Luonnos ties together the individual names of the three parts of the trilogy and grants the wholeness a shape. Moreover, all the words and word combinations sound differently and therefore create an intriguing entity in relation to music, which, via its sound sources and other musical choices, likewise sounds differently.

I learned a lot during the process of making the pieces. I was previously unfamiliar with handling such a great number of samples, which, in my opinion, succeeded well in the end. Also, I found this kind of work surprisingly time-consuming. I also learned numerous new composing techniques, or rather learned to apply old techniques to the sequencer environment. Thus, the most significant new thing I learned was perhaps expanding my creative application; how to apply for example the idea of a batteria of a South-American samba crew to pulsatively flicking and cracking insect sounds and in this way produce new rhythm patterns which I wouldn’t otherwise have come to think of, let alone tried to produce. Also, writing this thesis was a great learning opportunity. It both forced and allowed me to put into words the kinds thoughts and deeds I came across while composing. By re-living the process I was able to repeat the work stages and form a more coherent picture of my own work. On the other hand, I also found that there is a lot of room for improvement and development in my own working methods. Furthermore, I came up with a few musical ideas worth working with in the future. Making the listening scores with Acousmographe-program was totally new to me. Thanks to the practicality of the combination of a signal analyzer and a spectrogram, I believe the program will stick with me as one of my technical routines when making music. In the future I will use Acousmographe both as an analytical and compositional tool. Having a visual image of what one is doing with his/her ears provides new dimensions to compositional working routines: one of the examples of this was the visibility of the fast cuts and heavy edits I used in Taivas Alla (see Acousmographe page 21 and 32-34). It gives one pleasure to see one’s own musical ideas in electroacoustic music.

How to continue? I plan to compose a piece, approximately 15 minutes of duration, drawing from the original material of all of the three pieces. I’m also going to use parts of the trilogy
and their edited versions in the new piece. My goal is to combine the most interesting and distinct features of the sound sources to create a whole that would function independently. I plan to start this work in autumn 2012. Through this essay my motivation to set to work grew all the more. The writing process structured and clarified my thoughts and sharpened the objective of my new piece. Most of the work I'll do as before, but not all. I will take the new thoughts and ideas that have been born during this work to the process of composing and will continue along the most important path on my composer's career – a path of life-long learning and discovering.
6. REFERENCES


APPENDICES:

The listening scores (Acousmographe-scores, Logic studio -screenshots)

The Pieces on dvd (surround- and stereo-versions, Wave 16 bit. 44100 Hz)
Violet: very high pitch
Blue: high
Green: quite high
Yellow: quite low
Orange: low
Red: very low

Kaakkoismuutto
for 5.1-tape
(Listening score)
Duration: 9 minutes 10 seconds
Extra Example Kaakkoismuutto.
Matkalla
for 5.1-tape
(Listening score)
Duration: 9 minutes 32 seconds
Ilari Hongisto

Time: 0
Duration: 9 minutes 32 seconds

black: low solo frog
red: Asian frogs
blue: African frogs
tyellow: South-American frogs
brown: European frogs