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The Corporeosonic Composer

Corporeality, Feedback and Movement in Electronic Music

A thesis submitted in partial fulfilment of the requirements of
University of Surrey for the degree of
Doctor of Philosophy

School of Arts
Department of Music and Media
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Declaration of originality

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Summary

This artistic inquiry contributes to the field of performed and acousmatic electronic music by nuancing the relationship between musician and instrument as going beyond control into intimacy, immersion and shifting identities. The main streams of inquiry have been to explore conceptualisations of corporeality in electronic music and how such music can be created in relatedness with the gestural body.

I have contextualised the inquiry with corporeality as movement (Sheets-Johnstone) and with the feedback works of Eliane Radigue. I have created a gestural feedback instrument, which has allowed me to explore the movements of the body and of electronic music in performance and composition and to explore the relatedness between musician and instrument. This instrument is explored practically and conceptually with the goal of reaching beyond technological descriptions and the concept control. Through my practice I have explored concepts such as touch (Peters and Parviainen), living individuals (Rodgers), behaviour (Smalley and Keep) and contemporary animism (Bird-David and Viveiros de Castro) in composed and performed music. The music and the performances have been analysed and the findings fed back into the research process. The inquiry is documented in video recordings, technical documentation and process notes.

Symbolised by the concept the corporeosonic composer, I have outlined a nuanced form of relatedness between musician and instrument based on intimacy (Bennett) rather than control, and with an attitude in which movement is primary and sounds are seen as living, perhaps spiritual, agencies. Sounds thus leave the ontological status of objects to instead become subjects and individual persons (Strathern). The relatedness between these sounding subjects and the musician has been conceptualised as corporeosonic states of relatedness, as different forms of literal and apparent touch (Peters), and as shifting identities within a context of contemporary animism (Willerslev and Hedeager).
Acknowledgements

Through this research project I have had the pleasure of collaborating with a whole range of amazing musicians, dancers, video artists, performance artists, actors, directors, choreographers and others without whom there would have been no music. My warmest thank you for your generous creativity Joop Oonk, Angelina Jandolo, Chris Kilding, Nicolas Salazar Sutil, Matthew Sansom, Paul Krause, Alma Grace, Antigone Avdi, Antonio de la Fe, Claudia Palazzo, Claudia Robles Angel, Danai Pappa, Evangelia Kolyra, Fumi Tomioka, Jia-Yu Corti, Neal Spowage, Petra Söör, Rahel Vonmoos, Reynaldo Young, Tara Silverthorn, The Leopard Ladies (Anne-Gaëlle Thiriot, Laura Doehler, Annie Lok & Sylvia Hallett), The Ahhhness Collective (Nihaarika Negi, Lesley Asare, Kayleigh Handley and James Monaghan), Chris van der Weide, Chloé Gayet, alKamie (Brian Curson and Robyn Stuart), Gonzalo Catalinas, Cody Choi, Ada Ooi, Nathan Johnson, Melanie Canno, Lucia Gonzalez, Marina Guarnieri, Karolina Laskowska, Jacqueline Mitchell, Fenia Tsikitikou, Karen da Silva, Aleksandra Odic, Tom Wilson, Kirill Burlov, Gemma Rowan and Ixchel Rubio Martinez. A big thank you also to everyone who helped me with documentation of performances: Antigone Avdi, Nicola Carter, Sebastian Melo, Asawari Jagushte, Viktor Zeidner, Euan Henderson, Sam Digney and Matt Thyas.

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This portfolio constitutes the main stream of inquiry in this research project. The pieces are also the main research methodology together with the second stream of inquiry: the conceptualisations and contextualisations in the exegesis.

It is recommended that the pieces in my portfolio be listened to consecutively, because they represent a development from the initial design of the gestural feedback instrument to the solo performance *Seeress*. Gradually pieces change focus from the explorations of the physical body in the feedback instrument and pieces such as *Duet*, towards interacting with movement and behaviour of imagined agencies as in *REACH*. In the final step, *Seeress* focuses on identity and how the body is conceptualised as six selves and how this notion is manifested as relatedness between these selves, both in my body and in that of the music. The last piece, *Zaragoza Ice*, further explores these concepts in a cold butoh world of glass and ice.

There are two types of pieces in the portfolio. The first – the gestural feedback instrument – is, despite its nature as an instrument, also a form of composition. It is created in close relation to my body and shaped by my idiomatic movements at the same time as the instrument has shaped my body and taught me movement: in music, in body, in sound. It consists of synth patches that are shaped in corporeosonic states of relatedness between the instrument and me. I term it an instrument, but it has function and importance way beyond that. The second type of pieces is performances. These include pieces where I perform live: solo or together with other performers such as dancers, musicians, video artists etc. It also includes a performance without music, *Cement Mixer*, in which I explored the body and relatedness in performance.
1. The Gestural feedback instrument

The instrument was created in 2013 and 2014 at the University of Surrey and during a residency at IDKA in Gävle, Sweden 15-27 June 2013.

2. Performances

Duet

<table>
<thead>
<tr>
<th>Year</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9’00</td>
</tr>
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*Duet* is a dance performance with the prototype gestural feedback instrument. The performance was developed in collaboration with choreographer and dancer Joop Oonk. It was premiered on 14 December 2012 at the iFIMPaC conference at Leeds College of Music.

**Credits:**

Choreography and dancer: Joop Oonk

Video documentation: Joop Oonk

Cheap Blue

<table>
<thead>
<tr>
<th>Year</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>2013</td>
<td>6’00</td>
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*Cheap Blue* is a dance performance with the live electronics setup in collaboration with choreographer and dancer Joop Oonk. It was premiered on 10 February 2013 at University of Surrey and subsequently performed on 22 March 2013 as part of an Agony Art event at Chisenhale Dance in London.

**Credits:**

Choreography and dancer: Joop Oonk

Video documentation: Agony Art
REACH

2013 ca. 40'00

Improvised performance with the gestural feedback instrument, premiered at the Corporeal Computing conference at University of Surrey on 5 September 2013.

Program notes:

REACH is an improvised performance exploring a digital mediation between dancer, musician and visualiser, via gestures (or physical thinking). The artists can’t see each other, but communicate through a mediation of forms (sonic, kinetic and visual), performed through a gestural feedback instrument controlled by the musician and through a Kinect-based instrument controlled by the dancer. The mediation becomes a third character, which only the audience can see, through which the artists can reach out (or in), and maybe find each other.

Credits:
Performers: Annelie Nederberg and Angelina Jandolo
Developer: Chris Kilding
Concept and direction: Nicolas Salazar Sutil, Matthew Sansom and Paul Krause
Video documentation: Sebastian Melo

There May Be Trouble Ahead – An Experiment

2013 ca. 50'00

Collective improvised performance with the live electronics setup premiered at Chisenhale Dance in London on 18 October 2013.
A: PORTFOLIO

Program notes:

Agony Art is curating an unorthodox evening, inviting artists who have previously shown work in one of our events to participate. The day will conclude with the presentation of a collective performance work.

Exactly what this work will be, is not yet known; it will be devised, over a period of ten hours, by the artists present on the day.

No matter what, we’ll face the music and dance!

Credits:
Created and performed by: Alma Grace, Annelie Nederberg, Antigone Avdi, Antonio de la Fe, Claudia Palazzo, Claudia Robles Angel, Danai Pappa, Evangelia Kolyra, Fumi Tomioka, Jia-Yu Corti, Neal Spowage, Petra Söör, Rahel Vonmoos, Reynaldo Young, Tara Silverthorn and from The Leopard Ladies: Anne-Gaëlle Thiriot, Laura Doehler, Annie Lok & Sylvia Hallett
Video documentation: Antigone Avdi

The Earth Will Absolve Me

2013  ca. 90’00

Live art performance with the live electronics setup in collaboration with the Ahhhness of Things collective. Performed at the Hat Factory in Luton 11-13 November 2013 and in the Police Station in Ipswich as part of the SPILL festival 31 October 2014.
Program notes:

*Figures rise through the earth, searching for worlds lost in slow-dancing tomatoes and beetroot jars.*

*They are healers of sweat.*

*Markers of the fall.*

*They are skinning their dreams beneath carpeted walls.*

*The Earth Will Absolve Me is a series of installed performances that occur within a landscape of soil, beetroot, tomatoes and carpet fragments.*

*Breathing in the space between live art, theatre and installation – this work explores beauty, intimacy and tenderness using everyday materials, creating a tableau that examines the ideas of femininity within different cultural contexts. This is a piece about our return to our primal roots.*

Credits:

Performers: The Ahhhness of Things collective (Nihaarika Negi, Lesley Asare, Kayleigh Handley and James Monaghan)

Additional performer in Luton: Chris van der Weide

Additional performer in Ipswich: Chloé Gayet

Video documentation in Luton: Asawari Jagushte, edited by Annelie Nederberg

Video documentation in Ipswich: Pacitti Company

Seeress

2014  ca. 35’00

Solo performance with the gestural feedback instrument and live video visuals. The piece premiered at a GEIGER event at Storan in Gothenburg, Sweden on 4 April 2014 as part of a tour funded by RANK Sweden. The tour also included performances at Fylkingen in Stockholm, Sweden on 26 May 2014 and at an IDKA event at Stora Teatern in Gävle, Sweden on 27 May 2014. *Seeress* was further performed at Ivy Arts in Guildford on 28 January 2015.
Credits:
Visual concept, virtual reality theatre, live video performance, lighting design, direction and movement work: alKamie (Brian Curson and Robyn Stuart)
Concept, music performance, feedback instrument design and costume: Annelie Nederberg
Video documentation Gävle: Viktor Zeidner
Video documentation Guildford: Euan Henderson, edited by Annelie Nederberg
Sound recording Guildford: Sam Digney

Cement Mixer

2014 ca. 3’00

Solo performance exploring relatedness with a cement mixer. Performed as part of the DUENDE residence in Fara, Lesbos, Greece on 16 July 2014. (no documentation)

Zaragoza Ice

2016 ca. 28’00

Improvised performance with the gestural feedback instrument and butoh dancer Gonzalo Catalinas on 5 November 2016 at Etopia in Zaragoza, Spain as part of the Radical dB showcase.

Email conversation with Gonzalo:

Zaragoza Ice is based on ideas from an earlier performance I did called Seeress. I want to use it as a conceptual starting point to see where we can take it. My idea with having a dancer like you onboard, is that you can also be one of these personalities, changing according to the flow of the piece and in response to the music and to me. For me you can provide impulses to respond to and someone to relate to on stage. For me, movement is the most important part of music. I hear movement before I hear harmony, rhythm, timbre etc: all these are just aspects of movement. I am interested in how this movement transfers between bodies and sounds.
A: PORTFOLIO

Credits:
Butoh dance: Gonzalo Catalinas
Gestural feedback instrument: Annelie Nederberg
Video documentation: Matt Thyas
A: PORTFOLIO

Documentation on USB flash drive, Vimeo and University of Surrey repository

Vimeo link: https://vimeopro.com/user9336955/phd-portfolio-annelie-nederberg
Password: Straight.Ahead1

Pieces:
1. Duet
2. Cheap Blue
3. REACH (excerpt)
4. There May Be Trouble Ahead – An Experiment
5. The Earth Will Absolve Me Luton (edited)
6. Seeress Gävle
7. Seeress Guildford
8. Zaragoza Ice

Video examples:
9. Ancillary gestures and rhythms in REACH rehearsal
10. Physicality with panel speakers
11. Timbral affordances at IDKA
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14. Ancillary gestures in Dietro
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16. Corporeosonic immersion state
17. Behaviour in REACH dress rehearsal
18. Technical walk-through of the gestural feedback instrument software
19. Technical walk-through of live electronics setup
1. Introduction and methodology

What I seek to form, to compose, to promote – I can’t quite find the right word – is a *syrrhèse*, a confluence not a system, a mobile confluence of fluxes. Turbulences, overlapping cyclones and anticyclones, like on the weather map. Wisps of hay tied in knots. An assembly of relations. Clouds of angels passing. Once again, the flames’ dance. The living body dances like that, and all life. (Serres and Latour 1995:122)

Background

I am a composer of electronic music. My practice spans varied but connected fields: I compose acousmatic music, I collaborate with choreographers and directors in the performing arts, I perform with live electronics and I design sound for drama and film. I frequently venture into contexts unknown to me, such as sound art and performance art, out of curiosity and the joy of exploring sound in as many ways as possible.

This research project started as a desire to examine the role of the body in relation to this practice. From its minimal role in the laptop performance era, the body has during the last decades taken centre stage in a development of a plethora of control interfaces that reconnect the body with electronic music: the Wiimote, the Kinect, and the whole DIY scene with its hands-on approach to creating sounds have revitalised electronic music and brought musicianship and virtuosity back into it. However, research has focused on the technological solutions and objects from a rather atomistic and reductionist perspective. The focus has been more on the construction of control interfaces than on the actual creation of music with them. Few researchers have explored the role of the physical body itself with its wealth of knowledge, experience and expressivity in the process of performing and composing electronic music. I lack a deeper aesthetic and holistic discussion about how this corporeal turn affects the resulting music; how the body makes this music meaningful; and how we can conceptualise the body in this musical practice.
1. Introduction and methodology

The goal of my doctoral studies is to problematise the body in a context of electronic music. By inserting my own body in the compositional process, I am looking for artistic resonances that give insights into the multi-faceted relations between the body and the sound.

Initial ideas and considerations

My initial research proposal had the term corporeality as its focal point and outlined an exploration and problematisation of this concept through first constructing a gestural feedback instrument that would allow me to explore my own bodily relation to music. I would then work in collaboration with dancers to explore this instrument in performance, in parallel with acousmatic music. Through this work, I would also explore concepts that the process brought up. This proposal has largely remained intact, except that I expanded the exploration of corporeality in performance to include not only the bodies of dancers, but also my own body. Out of the feedback instrument also developed a live electronics setup that used the same feedback ideas, but also added objects and internal computer feedback. Furthermore, I decided that my music must be seen as electronic music rather than electroacoustic music, as discussed below. The term corporeality was and is fundamental for this research project and has consequently not changed.

Corporeality refers to the materiality of the body, its ‘fleshiness’, but without reducing it to a biological object. Instead I am using it as Maxine Sheets-Johnstone (2011)1 and Holger Schulze (2012) do. Sheets-Johnstone stresses corporeality as a process and as consciousness. Corporeality is characterized by movement: ‘a kinetic bodily logos attuned to an evolving dynamic situation’ (Sheets-Johnstone 2011:xxxi). Schulze discusses corporeality as a deep, fundamental connection between music and sound. He sees sound not as ephemeral and ethereal, but thoroughly corporeal. Sound vibrates through materials: ‘an airquake, a stonequake: a trembling and quaking of bodies and beings’ (Schulze 2012:198). Schulze draws on Jean-Luc Nancy, for whom the corporeality of the body is ‘a genuinely sonic and tactile phenomenon’ (p. 203). The tonus in human beings is a tension that discerns human living beings from dead human bodies, a tension that ‘trembles through our bodies as a tone’ (p. 203). Corporeality is then the sonic vibrations of living beings, the tensions that are present in both the materiality of sound and the human body.

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1 See chapter 2.
1. Introduction and methodology

I initially used the term *electroacoustic music*;² because it encompasses both acousmatic music and *live electronic music*, which are genres in which I locate my lineage. However, the term electroacoustic music has come to mean a certain academic and artistic discourse that I feel increasingly alienated from, maybe because I am instead approaching fields such as performance art and other less rigid art forms. Alternative terms for my music such as *digital music* or *electronic music* are in their definitions no more clear or precise than electroacoustic music: all three alternatives use technology as a defining factor, which is problematic when most contemporary musics at some stage involve electronic technology. Some form of aesthetic approach might have been a more useful delineation. Despite this, I have chosen to use the term *electronic music* for my music because it unties me from the specific discourse and style of electroacoustic music. I do, however, see some of my fixed media work as acousmatic compositions because I employ electroacoustic techniques and I do see my performed music as live electronic music, but I do not consider this music as a subset of electroacoustic music.

**Research questions – streams of inquiry**

*But between the facts* run the threads of unrecorded reality, momentarily recognized, wherever they come to the surface… *(Langer 1954:228)*

My research is conducted as an artistic research inquiry in line with what Henk Borgdorff (2011) terms *artistic research*, Robin Nelson (2013) terms *practice as research (PaR)* and Brad Haseman (2010) terms *performative research*. These have in common that the artistic practice is central to the inquiry and often constitutes the subject matter, methodology and outcome of the research in an emergent process. The terms are used for research from within the artistic practice, conducted by arts practitioners, and in a context of research that is targeting other forms of knowledge than traditional scientific research does, and therefore creating and exploring alternative methodologies.

² ‘Music in which electronic technology, now primarily computer-based, is used to access, generate, explore and configure sound materials, and in which loudspeakers are the prime medium of transmission. […] There are two main genres. Acousmatic music is intended for loudspeaker listening and exists only in recorded form (tape, compact disc, computer storage). In live electronic music the technology is used to generate, transform or trigger sounds (or a combination of these) in the act of performance; this may include generating sound with voices and traditional instruments, electro-acoustic instruments, or other devices and controls linked to computer-based systems. Both genres depend on loudspeaker transmission, and an electro-acoustic work can combine acousmatic and live elements’ Emmerson and Smalley (2001).
1. Introduction and methodology

In an artistic research inquiry, the subject matter is gradually found through the process, and the research problematises itself as it moves along. Instead of research questions, Nelson proposes ‘lines of inquiry’ to draw attention to the researcher’s doing-thinking along a thread that typically affords substantial insights rather than ‘answers’ (Nelson 2013:10-11, 30). Drawing on the idea of knowledge as liquid (see below), I have chosen to reconfigure Nelson’s lines of inquiry into *streams of inquiry*, which more accurately reflects the fluid nature of my research process.

I initially proposed two research questions

- **What is corporeality in electroacoustic music?**
- **How can the gestural body and its sensory knowledge inform the processes of composing and performing electroacoustic music?**

These were reformulated as two streams of inquiry:

- **Conceptualisations of corporeality in electronic music**
- **Electronic music creation involving the gestural body and sensory knowledge.**

These represent two approaches to the inquiry: one that embraces theory, conceptualisations and critical reflection, and one that embraces my artistic practice, in which I engage my gestural body and its sensory knowledge in the creation of music. I have gathered observations and insights that occurred during this process, and searched for resonances in literature and in the practice of other artists. The conceptualisations that resonated deepest in me have become cornerstones and pointers to further practice and further conceptualisations. The feedback processes in my music have in a sense spilt out into the research, and formed it into a dynamic *bricolage*, in which pieces form, split, dissolve, change shape and colour and, with some purification, hopefully unite into a coherent whole.
1. Introduction and methodology

Context

In my contextual review, I have explored the intersection of body theory and music created with electroacoustic feedback. Because body theory is an expansive field, I have chosen to focus on movement as conceptualised by Sheets-Johnstone. One reason for this is that movement is what primarily carries meaning in my music. Another reason is that Sheets-Johnstone takes a multidisciplinary approach to movement and explores it from a range of different perspectives, which is the way I want to approach my research. A cornerstone in Sheets-Johnstone’s theory is the need to ‘language’ the experience of movement ‘because language is not experience’ (2011:466). Similarly, my research seeks to language the bodily experience of music.

Although my practice encompasses other sounds and techniques than electroacoustic feedback, it constitutes a substantial part of my research and therefore justifies a contextual focus. In addition to how feedback has traditionally been conceptualised, I propose a number of other, more bodily-informed conceptualisations based on a review of aesthetic concerns within primarily Eliane Radigue’s feedback music composed 1967-1970.

Knowledge as liquid

For me, knowledge doesn’t come from books. It comes from experience. I call this kind of experience ‘liquid knowledge’. It is liquid. It is something that runs through your system. It goes through the body. (Abramović 1999:n.p.)

The term tacit knowledge – the knowledge that we do not know that we know and are unable to describe, but is revealed in our actions – was coined by Michael Polanyi in critiquing Aristotle’s ranking of theoretical knowledge as ‘higher’ than practical knowledge (Nelson 2013:42). In my artistic praxis, I am making tacit knowledge explicit through critical reflection (Nelson 2013:37) as well as seeking the knowledge that Borgdorff describes as ‘a specific articulation of the pre-reflective, non-conceptual content of art’, or ‘thinking in, through and with art’ (2011:44). Moving between different forms of knowledge – practical, theoretical and experiential – sets these in action and establishes resonances between them, which is what creates new knowledge (Nelson 2013:52). Knowledge can therefore be seen as liquid rather than fixed and absolute. It moves dynamically along the spectrum between tacit knowledge held in people’s heads and bodies.
1. Introduction and methodology

and explicit, codified, structured and accessible knowledge (as described by Leonard and Sensiper in Nelson 2013:38).

Judy Quinn (2010) describes how the conception of knowledge as liquid featured already in Old Norse mythology. Knowledge and learning flows from mouth to mouth, which reveals the oral origins of learning. Knowledge – as a fluid – can be spilt, contaminated and withdrawn, and drinking this transformative fluid enhances intellectual powers. Even when the written word arrives, the metaphor of liquidity remains in the sagas: graphic representations of runes are mixed into the beer that is handed to the hero. The solid written word thus becomes liquefied, not the other way around, which ‘conveys the performative character of aural comprehension’ (Quinn 2010:183).

My own image of artistic knowledge is of a soup of things: ideas, concepts, sensations, skills, technology – all thrown into a pot from where pieces can be lifted, examined closely, thrown back or discarded. Some pieces sink to the bottom and yet others dissolve to form part of the broth. In the end, with a good stirring and boiling which fuses and concentrates the flavours, the result might be a tasty soup where all the pieces have a function in terms of flavour, texture and colour.

Methodology

... a region where you are partly blown by the winds of reality and partly an artist creating a composite out of inner and outer events. (Bateson 1977: 245)

My research methodology has been dynamically designed to elucidate the streams of inquiry that have emerged through my reflective practice. It can be best described as bricolage, which Robyn Stewart (2010) outlines as a multi-methodology, drawing on performative research, heuristics and the primacy of practice. It is described as

...a pieced together, close-knit set of practices providing solutions to a problem in a concrete situation. The construction changes and takes new forms as different tools, methods and techniques are added to the puzzle. [...] In creating a bricolage, the bricoleur appropriates available methods, strategies and empirical materials or invents or pieces together new tools as necessary. The choice of research practices depends upon the questions asked. The questions depend on their context, what is available in that context, and what the researcher can do in that setting. (Weinstein and Weinstein in Stewart 2010:127)
1. Introduction and methodology

Bricolage addresses the need for the research strategy to reflect the complex and emergent character of artistic research. As in performative research, the practitioner is choosing from their existing techniques and tools to identify and validate those that can contribute to the specific line of inquiry and repurposing these as research methods, instead of employing research methods from other traditions (Haseman 2010:151). Bricolage contains elements of heuristics, in the sense that the researcher herself needs to be involved in the experience studied (Clark Moustakas 1990:14), but, as Shaun McNiff notes, the focus of the artistic inquiry is more on the partnership between the researcher and the materials of expression (McNiff 1998:54). In fact, the practice itself can be seen as a methodology, because the method unfolds through practice, which is in itself productive of both knowledge and further practice, in an emergent process (Barrett 2010:9).

The term bricolage in this context originates with anthropologist Claude Lévi-Strauss (1966), who described two different modes of thought or autonomous ways of acquiring knowledge. One was the scientific method, which he exemplified with the engineer who follows strict scientific methods with specific tools for specific outcomes. The other mode of thought, Lévi-Strauss found in the way magic and myths are constructed by primitive societies and exemplified this with the bricoleur, a French term designating a handy-man who performs his tasks with materials and tools that are at hand. With this concept, Lévi-Strauss stresses the processual and improvisational aspects of thinking: how the bricoleur might use objects in ways that differ from their original purpose and how the outcome of the process might change as it develops. As a qualitative methodology and an approach to social inquiry, bricolage was further developed by Denzin & Lincoln 1999, Kincheloe 2001 and Berry 2004 (Rogers 2012:2). In this context, Kincheloe’s conceptualisation of bricolage also involves a ‘critically oriented, multiperspectival, and reflexive cognition’ (Markham 2017:n.p.) with an emphasis on a relational understanding of the world rather than an explanation of it.

A further use of bricolage is described by Andrew Raffo Dewar (2009), who used the term as a theoretical tool for understanding musicians’ relationship to technology in the 1960’s ‘tinkering technoculture’, in which musicians make music with objects or instruments that they themselves build. Following Lévi-Strauss, he describes these musicians as both scientists and bricoleurs because ‘art lies halfway between scientific knowledge and mythical or magical thought’ (Lévi-Strauss in Dewar 2009:116).
1. Introduction and methodology

Today, this musical practice is part of the DIY or Maker culture, exemplified by John Richards, who describes performing with DIY electronic devices as ‘live bricolage’ (Richards 2008:29). In such performances, he engages with objects strewn across ‘a table full of shit’ (Bowers in Richards 2008:28), similar to the sound tables of David Tudor and Keith Rowe. Tinkering, or engaging, with the objects or physically patching them together is a way of developing instruments and performing with them from an approach of play and exploration: a ‘rather informal process of experimentation and adjustment in pursuit of results that were sometimes not clearly defined until they were achieved’ (Waksman in Dewar 2009:113). The bricoleur therefore relates differently to technology than the engineer: where the bricoleur makes artistic choices, the engineer makes rational choices; where the bricoleur explores something unknown, the engineer follows a linear, set method for a set goal.

In the following I will describe the trajectory of the emergent research process and which methods, techniques and tools I have chosen to further the inquiry.

Research trajectory

The research inquiry started with the broad interest in conceptualising corporeality through the use of my own body in music creation and critical reflection. What initially delighted me with electroacoustic feedback was the sensation of being able to touch the sound, which is why the concept of touch became an opening into corporeality. This research current led to sensations of intimacy with the sound, which I experienced as having its own agency as a living individual. My focus moved to the relationality between this sounding individual and me as the sound-creator, which led to the last research current, in which corporeality includes issues of identity in a context of contemporary animism and Old Norse mythology.

Between the two streams of inquiry, three conceptual maelstroms have formed:

1. Corporeality as movement in electroacoustic feedback
2. Touch, intimacy and living individuals
3. Contemporary animism
1. Introduction and methodology

The relations between the streams of inquiry, the conceptual maelstroms and the pieces are visualised in Figure 1.

![Figure 1. Streams of inquiry, maelstroms and pieces](image)

1. Corporeality as movement in electroacoustic feedback

This maelstrom focuses on electroacoustic feedback and how it is meaningful in music creation. I approached this stream firstly through designing a gestural feedback instrument, which allowed me to explore the relation between my body and the sound. This process also served as training for bodily awareness and sensitivity. It was important to use my own body and its experiences, because in a bricolage methodology, the goal is to capture the complex dynamics of artistic practice from an insider’s perspective and the processes used within a contemporary practice context (Stewart 2010:128). To achieve this goal, I have explored how relationships and situations are meaningful, and how parts are connected to the whole (p.128). The body-sound relation has been further explored through performing and composing with the instrument in the pieces Duet, REACH, Zaragoza Ice and Seeress: the three first with dancers and the last a solo performance with live video scenography. Out of these performances grew an alternative smaller live-electronic laptop practice where I explore corporeality and feedback in improvised...
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performance with objects, ‘internal’ laptop feedback, and body movement. This practice was explored in the performance The Earth Will Absolve Me and in two improvised performances with dancers: Cheap Blue and There May Be Trouble Ahead – An Experiment. During a two-week residential workshop, I trained in physical performance and explored my corporeality. To find resonances with my feedback practice and to situate myself in a lineage, I have explored Eliane Radigue’s feedback period as well as Sheets-Johnstone’s conceptualisations of movement as corporeality. These studies form my contextual review, but also, together with the experience of performing with feedback, the basis of the reflections and conceptualisations in this cluster. Through rigorous aesthetic choices in relation to the context, I have identified key resonances between what Nelson terms know-how, know-what and know-that\(^5\) (Nelson 2013:41-47). These insights are expressed in my theory of corporeosonic states of relatedness between sound and musician, which, as an outcome of a bricolage methodology represents my ‘stories, representations, understandings and interpretations of the world and the phenomena under investigation’ (Stewart 2010:128).

2. Touch, intimacy and living individuals

Through triangulation of experiences from my musical practice with notions of ancillary gestures, control and intimacy, this maelstrom emerged. The writings of Deniz Peters, Jaana Parviainen, Denis Smalley and Tara Rodgers form the reflecting surfaces against which the explorations of touch and intimacy in the performance with the small live-electronic setup The Earth Will Absolve Me, the composition and performance in Cheap Blue, the performance REACH and the solo performance Seeress can bounce and diffract. The insight that sounds can be conceptualised as living individuals emerged from my relational work with the feedback instrument in oscillation with theories of movement and behaviour. Rodgers has elucidated on this idea and I explored it further, again through REACH and Cheap Blue, but also through the performance Zaragoza Ice. Based on these explorations in and through practice itself, I have nuanced the conceptualisations of touch and sounds as living individuals in music creation and suggested intimacy as an alternative relation to music technology alongside control.

\(^5\) Know-how is the practical knowing, skill: tacit knowledge; know-what is ‘what works’, ‘tacit knowledge made explicit through critical reflection’; and know-that is ‘outsider’ distant knowledge: facts, truths and concepts (Nelson 2013).
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3. Contemporary animism

From the idea of sounds as living individuals, the step is small to contemporary animism, which stresses relatedness and a relational personhood. I have focused on the character Völva, a Seeress in Old Norse mythology, in my piece Seeress, in which I explore notions of the self in the context of Old Norse mythology and contemporary animism, especially as conceptualised by Nurit Bird-David, Eduardo Viveiros de Castro and Marilyn Strathern. In this maelstrom, I have used a specific heuristic method, namely what Schulze terms sonic fiction (2013:n.p). He argues that methodology is not applicable to artistic research, because the very term method or ἔθος, meaning ‘a strictly finite way; […] a recipe to achieve certain results, guaranteed’ (n.p.), is at odds with the non-methodological, generative nature of artistic practice. I have, however, applied his concept of sonic fiction as a method in this maelstrom. This fiction does not constitute The Truth in a scientific sense, but is an imaginary and ‘artistic truth’, that seeks to articulate my specific and individual auditory experience. According to Schulze, such fictions are epistemologically insightful, and serve as ‘theory in progress’, i.e. not as highly polished philosophical arguments, but as highly tentative, ambiguous, contradictory and unresolved narratives. The insights from this maelstrom, and indeed from the whole research inquiry, are summarised through the concept of the corporeo sonic composer.

These maelstroms function as gravitational centres, but as in any feedback process, the concepts spill out into the other maelstroms as I move between them, carrying my thinking from one to the next.

This thesis

My portfolio is placed as the first section of this thesis to emphasise its primacy in the research inquiry. My works are primarily artistic works in their own right, not case studies in a theoretical discourse. They also serve as resonance chambers within this inquiry, which would be impossible to conduct without them. My preference is that, in reading the thesis, the reader first engages with the works before moving on to the written exegesis.

Although there is a clear development in my praxis, the thesis is written in feedback: concepts have appeared in relation to a piece, reappeared in another context and been
1. Introduction and methodology

reshaped and re-reshaped in endless spirals. As I have moved on through increasingly abstract conceptualisations, I have returned to earlier stages and rethinked and rewritten what I then thought. All chapters have therefore developed in parallel and an idea presented in one chapter also appears in other chapters, in different ways, as a circular flow that touches down at the same place, but always from a slightly different angle.

The thesis chapters in section B are structured as follows: this chapter describes my motivations for the research inquiry, my streams of inquiry, my view on knowledge as liquid and my methodology as a bricolage. The second chapter contextualises the inquiry in terms of body theory and electroacoustic feedback music practice which forms a wider view of my relation to movement and the meaning of music. Together with chapter 3, it clears the waters of the first maelstrom. Chapter 3 also explores the process of creating the feedback instrument, which is fundamental for my performed music. Chapter 4 revolves around the concepts of maelstrom 2: touch, intimacy and living individuals. Chapter 5 finally problematises maelstrom 3’s context of contemporary animism, before the concluding summary of the thesis in chapter 6.

It is my recommendation that the pieces that feature in these chapters are listened to before reading the thesis (videos 1-8). They are available on a USB flash drive and as an online Vimeo portfolio. Videos 1, 2, 4, 6, 8, and 9-17 are all straightforward documentations with no additions except sometimes the sound track is replaced with a higher quality recording. Video 3 and 5 are shorter edited excerpts of performances of long duration. Video 7 is compiled from three video recordings of one performance. Nothing is added that was not there in the performances. The shorter example videos and the technical walk-through videos listed in Appendix 3 (videos 9-19) can be watched in parallel with the reading. The appendices further contain technical documentation of the pieces and a list of residencies and workshops that have been important parts of the development of these pieces.

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4 Available at https://vimeopro.com/user9356955/phd-portfolio-annelie-nederberg Password: Straight.Ahead1. The videos are also available in the SRI open access e-thesis repository at University of Surrey.
2. Contextual review

Introduction

With the development of technology in music, the body became increasingly irrelevant. In the 1990’s, the rise of laptop performance explored the possibility of creating music with no, or very little, input from the body, with various forms of algorithmic music. This might be the pinnacle of what can be traced back to modernist ideas of perfect music, liberated from the musician’s imperfect body and instead using the machine as a ‘perfectly suited, untiring and infallible body’ (Peters 2012a:2). Removing the body from music paradoxically facilitated a study of its role in music creation, highlighting and nuancing its importance, while at the same time opening up for new possible conceptualisations of the body and new relations between music and the body, when it now increasingly returns to music.

Douglas Keislar (2009) describes how in the 21st century the focus of computer music shifted from the composer to the performer, who began ‘dancing the music’ (p.32) with her gestures and movements. This shift was enabled by the MIDI protocol and the development of sensors that extended not only performers’ bodies but also their instruments into ‘hyperinstruments’ (Tod Machover 1997). These developments also complicated the relationship between human and musical instrument: when, asks Keislar, does an instrument stop being a human performer’s tool and start becoming a performer itself? (p.33). In the same volume, Simon Emmerson explores how the instrumentalist responds to this disembodied ‘other’ and describes how the computer can function either as an extension of the human body or as another performer. This computer persona can be either a clone of the human performer or a separate entity: a partner, a mediator or an intruder (2009:168-170). These ideas were expounded in The Human Body in Electroacoustic Music: Sublimated or Celebrated? (2007) in which Emmerson argues that while electronica and IDM retain strong body references, electroacoustic ‘art’ music has become increasingly environmental: ‘Our art music has evolved to be profoundly one of contemplation and distance from the bodily. Through a glass we darkly glimpse other places and spaces, other times and epochs. To say we lose ourselves in the music is to lose our corporeal sense’ (2007:74). However, lately he has noticed a kind of ‘underground vernacular’ emerging, in
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which simulation of the behaviours of environmental systems as a musical model brings the environment back into music and in the process reanimates the human-world relations. A consequence of this is that the ‘live’ has moved from human agency into the ‘inanimate’ world with the composer as a shaman and the universe as a musical instrument. Through the relationship with us, the outside world holds the potential of becoming reanimated (2007:53).

The body has returned also as a focus of theoretical discourse, starting in humanities and science but more recently in musical discourse. We are experiencing what Sheets-Johnstone (2009) terms a corporeal turn and what Anna Lavis and Karin Eli (2016) terms a material turn. Instead of the view of the body as an inert lump of flesh controlled by a superior mind, it has been reconceptualised as a socio-cultural, political, psychological, physiological and virtual entity, ‘processual, emergent and always relational’ (Lavis and Eli 2016:n.p.).

The body has of course always played an important part in music. For example, as Mine Doğantan-Dack (2006) reminds us, the origin of the term music is the Greek term ‘mousike’ which included both melody and dance. This unity of music and dance is also described by John Blacking as inherent in indigenous cultures (in Doğantan-Dack 2006:449). The split between body and mind originated in Descartes’ radical division between the rational mind and the material body, with the mind seen as superior to the largely involuntary processes of the body (Blackman 2008:4). Through empiricism in the 19th century, the body became of interest again, as for physiologist Helmholtz, whose work became central for acoustics and electronic music composition in the USA. For example, as Rodgers argues, his development of waveform representations enabled an affinity between these and electronic sounds, which through this came to be understood as ‘differentiated individuals in motion’ (2011:511).

In the late 20th century, performance art and body art appeared alongside philosophical studies on the embodied mind (such as Lakoff and Johnson 1999), feminist reconceptualisations of the female body as a site of gender performativity (Butler 1993) and new theories of cognition and emotion in embodied cognition (Damasio 1995). Digital technologies shifted the focus to the technological body, as in Donna Haraway’s (1991)
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cyborgs, who are liminal beings, in between subject and object, nature and culture, organism and machine, thereby deconstructing such binary relations.

Healing the Cartesian split between body and mind has been the task of the theory of embodiment, which was developed by philosophers such as Heidegger, Husserl and Merleau-Ponty and cognitive scientists such as Varela. They emphasised the lived experience as foundational to knowledge, including body knowledge such as muscle memory, habit and instinct. The body and mind are unified in the process of perception in which the world – of which we are a part – is sensed and understood (Corness 2008:21). The term embodiment is now used in such a wide variety of contexts that it has become less precise and perhaps even, as Edwin Creely (2015) argues, ‘lost its core meaning as a word for describing the body in its “tangible and visible form”’ (2015:n.p.). He wants to relocate embodiment to the corporeal, the fleshy and ‘not solely in representations or in transcendent, non-corporeal conceptualisations’ (2015:n.p.).

For this reason, I have chosen to use the term corporeality instead of embodiment: to emphasise the materiality, inertia and fleshiness of the body. This term was coined by dancer and scholar Susan Leigh Foster (1996) as ‘the study of bodies through a consideration of bodily reality, not as natural or absolute given but as a tangible and substantial category of cultural experience’ (1996:x). In body theory, a field within sociology, corporeality is used as a way of referring to the body without reducing it to the biological. This term is used interchangeably with the terms materiality which recognizes the material basis of human subjectivity and somatic which also introduces the concept of feeling or vitality into the body (Blackman 2008:29). Corporeality in this context is characterized by multiplicity (Mol 2002) and movement, the latter the focus of Sheets-Johnstone’s research. I have chosen to focus on this particular understanding of corporeality as movement as a theoretical framework for the work with my own body in music. One reason for this is that I understand, sense, perceive and conceptualise music as movement, and movement can therefore serve as a ‘synapse’ between music and body. Another reason is that Sheets-Johnstone, much as artistic processes and artistic research do, takes a multidisciplinary approach to movement and explores it from a range of different perspectives, which is the way I want to approach my research.

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5 See also critique of the term embodiment from Sheets-Johnstone (2011).
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I have also chosen to explore corporeality in a musical context through Eliane Radigue’s music. Before she started composing her signature drone pieces with the ARP synthesizer, she composed pieces based on feedback and I am curious about why she was drawn to this way of ‘embodied’ composing and how feedback sounds are meaningful to her.

The body – corporeality as movement

Sheets-Johnstone

Maxine Sheets-Johnstone is a dancer, philosopher and phenomenologist who in her seminal *The Primacy of Movement* (2011, originally 1999), argues that movement is at the root of our subjectivity and agency and a way of knowing the world. She draws on phenomenology (mainly Husserl and Merleau-Ponty), evolutionary biology, palaeoanthropology, cognitive science and neuroscience as well as her dance practice in viewing movement as primary: ‘the originating ground of our sense-makings’ (Sheets-Johnstone 2011:139).

Movement is fundamental also for my musical praxis. I experience music principally as movement, which makes it the most meaningful element of my music. To think of music this way is to move away from parameterisation and reductionism toward music as malleable animate matter. Understanding movement as a whole, as a dynamic process and as separate from objects, allows us to understand the congruence of movement in body, music and affect.

Animation and the primacy of movement

What is fundamental for living things – humans and non-humans (who all have a body) – is animation, which is a kind of life force. This force includes not only what we regard as living beings, but in fact all matter. Sheets-Johnstone argues that we as humans come to the world moving and learn about our bodies through spontaneous self-movement. Our dynamically moving bodies and our kinaesthetic consciousness of movement constitute the ground for our subjectivity, a structuring device for knowledge, and the generative source of our sense of time and space. ‘Flux, flow, a streaming present, a stream of thought, consciousness, or subjective life, a style of change – all such descriptive terms are in both a temporal and spatial sense rooted in originary self-movement’ (2011:139).
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Movement is the foundational structure of animation. Sheets-Johnstone proposes the concept *animate form* as a replacement for both *embodiment* and *lived body*, terms she critiques for not taking movement into account: they do not describe ‘what is actually there, sensuously present in our experience’ (2011:342). Instead, animate form is a way to *language* the actual experience of movement, and Sheets-Johnstone employs many examples from dance to rigorously describe such experiences. She points out Daniel Stern’s *vitality affects* as a similar concept as it describes the purely dynamic aspects of a phenomenon: its dynamic form and its qualitative movement. It can be tied to a certain affect, such as a rush of anger or happiness, but also a rush of thoughts or a rush of narcotics – it is the ‘rush’ that is the vitality affect (Stern in Sheets-Johnstone 2011:73).

Any time one moves, a vitality affect is present. Each vitality affect has a certain intensity and dynamic form, what Stern terms an *activation contour* (2011:222).

**Umwelt, thinking in movement and affect**

Sheets-Johnstone critiques the use of terms like *behaviour, action and purpose* to describe movement, because they are third-person, objective translations of experience that fail to elucidate the ‘affective-kinetic-cognitional complexities and richness of experience’ (2012:32). This language creates a distance to the meaning that motivates the living dynamics, and to the meaning they generate and articulate. The term behaviour also creates a separation between closely inter-related phenomena such as cognition, perception, movement and the surrounding world.

Drawing on von Uexküll’s concept *umwelt*, Sheets-Johnstone delineates the indissoluble bond between body and world, with movement as the original ‘matchpoint’ between them (2003:90). Umwelt is the idea that there is an *existential fit* between animate forms of life and their worlds: every organism has a world of its own because it has an experience of its own, but the opposite is also true. As Cassirer explains, we find only ‘fly things’ in the world of a fly, but we also find only flies in niches suited to them (Cassirer in Sheets-Johnstone 2011:107). Neither animals – including humans – nor the world in which we live are static, but in perpetual animation; dynamic, qualitative and distinct; attracting,

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6 *By animate form is meant a species-specific body with all its various spatial conformations, and attendant everyday postures, modes of locomotion, movements, and gestures* (Sheets-Johnstone 1990:5).

7 *Vitality affects* are described by Stern as ‘those dynamic, kinetic qualities of feeling that distinguish animate from inanimate and that correspond to the momentary changes in feeling states involved in the organic processes of being alive’ (Stern in Johnson 2008:333).
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repulsing, accelerating, decelerating, bending, twisting, turning. We move through this environment shaping our movements in relation to it, both spatially and temporally, using all of our senses, but mainly our touch. This motion provides us with understanding both of Nature — impermanent and in constant flux — and of ourselves, because as animate beings we are part of Nature (2011:487).

Movement is the source of cognition and the basis of our fundamental knowledge of the world, because it is how we learn about the world and about ourselves as infants. We learn to move ourselves, not by looking at what we are moving, but by attending to our bodily feelings of movement: speed, range, direction etc. These feelings of movement have a certain qualitative character, a certain dynamic: for example swiftness, constrictedness or tensional tightness (2011:49). Our self-movement structures our knowledge of the world: movement is a way of knowing. Instead of the Cartesian assumption that minds think and bodies do, and the assumption that thinking is tied to language, rationality and a symbolic system, Sheets-Johnstone proposes that movement is an added dimension of thinking. For example, in improvised dance, the dancers are creating an ongoing present, ‘a form which lives and breathes only in the momentary flow of its creation’ (Sheets-Johnstone 1981:400). Here, movement is not a vehicle for thought, and thoughts are not being transcribed into movement, instead thinking and doing are inseparable and perception is interlaced with movement: one informs the other. Thinking in movement is a process in which sense becomes motion and motion sense: it is a mode of being where exploration does not precede actions, but exploration is done through actions:

Qualities or presences are enfolded into my ongoing moving quality and presence. They are absorbed by my movement. The world which I am perceiving is inseparable from the world in which I am moving, in the same way that the world I am exploring is inseparable from the world I am creating. (1981:405)

Movement is ‘not a medium by which thoughts emerge, but rather, the thoughts themselves, significations in the flesh, so to speak’ (1981:400). Not only is the flow of thoughts kinetic, but also thought itself is ‘motional through and through: at once spatial, temporal, dynamic’ (2011:421). Sheets-Johnstone uses the term kinetic bodily logos to describe how thinking and moving are aspects of movement attuned to an evolving dynamic situation (2011:xxxi). A kinetic bodily logos is a form of natural kinetic intelligence, more than mere instinct or an adaptive mechanism.
Sheets-Johnstone draws on both Stern’s *vitality affects* and on Susanne Langer in seeing affect as congruent and co-dynamic with movement: there is a resonance between affect and movement (2012:30). If I am tired, I might walk slowly down the street. Tiredness motivates my movement, and movement articulates this meaning, while it simultaneously creates it: emotion moves through the body at the same time as it moves us to move. Emotions are ‘dynamic, processual happenings’ that ‘run their course waxing and waning, exploding, attenuating, constricting, expanding, bubbling, reverberating, all in ways that can be intricately subtle and complex’ (2011:456). Langer describes these qualitative kinetic dynamics of movement as having vital import: they are dynamically congruent with ‘inner life’, ‘subjective experience’ and ‘the appearance of feeling’ (Langer in Sheets-Johnstone 2014:205). Langer’s thesis is that art (including music) is not expressing actual feelings but symbolic ideas or feelings. ‘There is an organic similarity in the dynamic structure of the artistic forms and the everyday forms of feeling: tension-release, suspension-fall, anticipation-climax, attenuation-abruptness, etc. The artwork is a symbol, for it reveals a logical congruence of form with that which it symbolizes’ (Sheets-Johnstone 1966:33).

**Movement in itself as separate from objects**

To conceptualise movement as an ‘object in motion’ or a ‘change of position’ is problematic, because these descriptions belie the phenomenological experience of movement (Sheets-Johnstone 1979:37) and mathematizes and objectifies movement (Sheets-Johnstone 2011:202).

This inertial notion of matter and motion actually puts to rest any sense of a living world. It reduces the kinetic to the positional and the happenstance. When matter in motion is arrested in this way, so also is life; when movement is viewed as no more than an arbitrary condition of matter, so also is life. (2011:400)

Sheets-Johnstone’s conception of movement carefully avoids such reductionism. Of course movement normally involves an object – in our daily lives, the object in motion is what attracts our attention – but there are three circumstances in which movement might break through the object barrier and draw attention to itself. The first is when the movement is unusual or unexpected, for example if a person is limping; the second is when the object in motion is difficult to grasp visually, such as the flame of a fire or waves crashing into the shore. The third is movement as sheer appearance: ‘neither a change of something nor
something accomplished by an object’ (1979:38). When a dancer is walking on stilts or eating chicken, she is an object in motion. But when the dancer instead is moving ‘flamboyantly [sic], lyrically, explosively, sententiously, eloquent’ (p. 40), she transcends the doingsness of the object in motion and creates a wholly qualitative presence, an object-in-motion, whose motion is inseparable from it. In this situation, the dancer and the dance – the object and the motion – fuse: the dancer is not doing the dance, but is being danced: ‘the dancer surrenders himself or herself to movement and fulfills a kinetic destiny’ (p. 43), which is the same as bringing a qualitative world to life.

Sheets-Johnstone draws on Aristotle’s view that we experience a world not of objects but of ‘varied and changing physiognomies, a qualitatively dynamic world’ (2011:xxii), in which form is ‘an inner forming activity, which is the cause of the growth of things, and of the development and differentiation of their various essential forms’ (Bohm 2005:15-16). She also draws on David Bohm, who, also referring to Aristotle, concludes that ‘flowing movement’ is prior to the reality of the things that ‘form and dissolve in this flow’ (p. 14), and that form is ‘an ordered and structured inner movement that is essential to what things are’ (p. 16). For Bohm, movement is fundamental for understanding both consciousness and cosmology ‘as a coherent whole, which is never static or complete, but which is in an unending process of movement and unfoldment’ (p. x). Bohm critiques the ‘mechanics’ of contemporary science, in which systems are reduced to separate and fixed entities, instead of focusing on ‘formative activity in undivided wholeness of flowing movement’ (p. 18) and the dynamics of nature. Instead he proposes a controversial model of reality, the Implicate Order, which is a holistic cosmic view in which everything is enfolded into everything. Space and time are derived from this deeper dimension of reality. The implicate order is carried in everything, but unfolds into the explicate order, which is what we perceive as reality. Bohm terms this enfolding and unfolding holomovement, which combines the holistic principle of undivided wholeness with the idea that everything is in a state of process or becoming. Wholeness is not static, but an ‘undivided flowing movement without borders’ (Bohm 2005:218). Just as reality is in flux, so are our thoughts: the sense of flow in the stream of consciousness is similar to the sense of flow of matter (Bohm 2005:xi). There is no division between thought, emotion and matter: thought and emotion flow into a

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8 As an example of the implicate order, Bohm uses a television broadcast. The visual image is divided into points that are carried by radio waves. Points that are near each other in the image are not necessarily ‘near’ each other in the radio signal. The radio wave thus carries the visual image in an implicate order and the receiver ‘unfolds’ the implicate order to an explicate order, i.e. the image. (2005:188).
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movement of matter in the body, and this movement of matter gives rise to emotion and thought (Bohm in *Mind over Matter* 11’28-12’57). Within this flowing awareness, we make sense of the world and ourselves in a forming, dynamic activity of the mind.

Movement in music

Sheets-Johnstone’s conceptualisation of movement as something purely dynamic and separate from objects, allows us to understand the congruence between the body and music. Sheets-Johnstone draws on Langer, Bohm and Victor Zuckerkandl whom I have studied further to understand movement in music.

Sheets-Johnstone likens music to dance, stating that movement is transparent in these art forms: form itself is in motion. Aesthetic form is created by movement, which leaves a ‘qualitative trail in its wake’, not only as the formal aspect of a technique, but as ‘immediately apparent in genuinely aesthetic experiences of the work’ (2011:102). This aesthetic form is animated in the same way that organic life is animated: movement – and its qualitative trail – flows through both (2011:105).

Langer connects this aesthetic form with affect, or ‘the dynamic forms of our direct sensuous, mental, and emotional life’ (Langer in Johnson 2008:239). She sees music as ‘the perception of feeling through a purely apparent flow of life existing only in time’ (Langer 1953:148). The meaning of music lies in it being ‘significant form’ which is felt as a quality: ‘the pattern of sentience – the pattern of life itself, as it is felt and directly known’ (1953:31). It is the dynamic structures of this ‘highly articulated sensuous object’ that express feeling, life, motion and emotion which language is unfit to convey (1953:32). In a musical composition, the parts fuse together to create a dynamic form, but they also retain their separate existence: ‘the sensuous character of each element is affected by its function in the complex whole’ (1953:51). The concept *metastability*, which is found in the scientific field of coordination dynamics, describes this ‘bothness’. Metastability is the notion of a transient state between two opposing states, or the notion of coexisting tendencies. The parts of a system can have a tendency to retain their autonomy or independence, while simultaneously tending towards coordination. This is a self-organizational phenomenon.

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9 This term was coined by Clive Bell, who described it as the one quality that all works of (visual) art share and without which they cannot exist. (See Langer 1953:32-33)
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and a foundational feature of living systems (Kelso & Engstrøm in Sheets-Johnstone 2011:484).¹⁰

Bohm sees similarities between music and movement as fundamental for consciousness and cosmology (in Sheets-Johnstone 2011:480). When we hear a set of notes close together, he claims, we are not using our memory to hold on to the notes, but we hear their ‘reverberations’, which are ‘active transformations’ of what came earlier. These include not only the sense of the original sounds, but also emotional responses, bodily sensations and a range of further meanings. A sequence of notes enfolds into many levels of consciousness and what we experience is an immediately felt sense of movement, flow and continuity, a ‘sense of a whole unbroken, living movement that gives meaning and force to what is heard’ (Bohm 2005:252). In listening to music, we therefore hear an implicate order, that is active and inseparable from the transformations of which it is constituted.

Musicologist Zuckerkandl studied movement in music extensively in his Sound and Symbol (1973, originally 1956). He saw musical movement as the purest form of motion. It takes place in between the notes and is generated by the dynamic qualities the tones derive from their position in the tonal system. This dynamic quality, or dynamic process, which is neither the physical nor the psychic, is heard as a direction or a pointing. Our hearing reaches through and beyond the tone ‘in the direction of its will’ (1973:137), so that we are always between the tones, on the way from tone to tone. The meaning of a tone then, lies not in what it points to, but in the pointing itself (p. 68).

Zuckerkandl draws on Wertheimer, who noted that an accurate idea of motion is largely divorced from things and places and instead appears as a progression not in or through but as a pure passing over places (p. 135). For Wertheimer motion is something purely dynamic: ‘change detached from a thing that changes’ (p. 136). When we hear motion in music, we are not using metaphors. Motion itself is heard in music ‘in absolute purity and immediacy’ (p. 138). Hearing is special because it is the only sense not relying on things. We do not see blue; we see blue things. We do not feel roughness; we feel rough things. Tone is the

¹⁰ J. A. Scott Kelso and David A. Engstrøm, further extends metastability to a philosophy of complementary pairs: opposites such as individual and collective, body and mind, nature and nurture are not mutually exclusive, but complementary. Through metastable coordination dynamics, they can be reconciled, which allows for ‘a far more fluid, complementary mode of operation in which it is possible for apparent contraries to coexist in the mind at the same time’ (Kelso 2008:180)
only sensation not of a thing, which makes hearing the sense that allows us to encounter and respond to the intangible and invisible part of the world (pp. 70-71).

Movement as separate from objects vs. as object-in-motion

Zuckerkandl’s conception of movement as separate from objects corresponds to Sheets-Johnstone’s second example of movement breaking through the object barrier, as a flame of a fire. Especially abstract electronic music might be perceived as pure movement, detached from any technology that produces it, rendering technology if not invisible then at least insignificant. This is different from Sheets-Johnstone’s third example, the object-in-motion. I understand this to be analogous to when music is inseparable from musicians, instruments, sounds or technology. Here, the focus is not on some musical object changing or accomplishing something. In analogy with the idea of the dancer being danced by the dance, the musician (or the instrument, sound or technology) here is being musicked\(^\text{11}\) by the music. Movement becomes sheer appearance, in a quality that is music. Musical objects, musicians, instruments, sounds and technology all fuse into a flow that transcends the doingsness of objects in motion (Sheets-Johnstone 1979:43).

There is a further movement – or perhaps holomovement – between these two ideas: music as separate from objects and music as object-in-motion, which is where my research resides. In this liminal field, I am exploring both ways of relating to music as a purely dynamic phenomenon outside my control and detached from my body, as well as, in contrast, music as an object-in-motion, where my body and my technology are being musicked; where the dynamic flow transcends the parts of music. In this quest, movement is fundamental: movement in itself, movement between movements, and movement as unifying concept for and distinguishing instrument for different forms of musical experience.

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\(^{11}\text{Musicking is defined by Christopher Small (1998) as: ‘To music is to take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (what is called composing), or by dancing’ (p. 9).}^\)
2. Contextual review

The music – aesthetic *bevekelsegrunder* in the feedback music of Eliane Radigue

... how, why, through what mysterious alchemy will all this turn into a chanted recitative for one of these beings, recently appeared… (Radigue 2009:48)

In this section I will contextualize feedback music mainly through the feedback works of Eliane Radigue. I want to find the aesthetic ‘driving forces’ or *bevekelsegrunder*\(^2\) in music made with feedback sounds, and my thesis is that the body is an important influence in Radigue’s music in particular, and feedback music in general, because it is the means through which an intimate relationship with feedback sounds emerges.

**Bevekelsegrunder** of feedback

Feedback is not only a tool for music made with technology but also its own genre. Though only briefly covered in standard literature about electronic music,\(^1\) practitioners such as Knut Aufermann, Agostino di Scipio and Cathy van Eck are increasingly exploring feedback in a musical context,\(^2\) so that the history of pioneers in feedback is now well covered. This writing often focuses on the technological aspects, such as for example the excellent papers from Dario Sanfilippo and Andrea Valle (2012, 2013), who distinguish between different types of feedback systems from a technological perspective. However, this purely technical approach represents a rather atomistic and reductive view of feedback as *music*. What it lacks is a sense of how and why feedback has meaning for musicians; which qualities or conceptualisations of feedback initially attracted them to it, and how the practice forms an aesthetic approach unique to the use of feedback. I want to explore experiential accounts of feedback music and examine the role of body and movement in this context. For many musicians feedback resonates deep inside the core of being human.

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\(^2\) The Swedish word *bevekelsegrund* (plural *bevekelsegrunder*) translates to ‘motive’ or ‘incitement’ – what arouses the action. The first part of the word, *bevekelse* is an obsolete word, related to the German word *bewegen*, which means ‘move’ as in ‘move around’ but also move as in affect. *Bevekelsegrunder* then is what makes things move, but also what creates emotion. The verb *beveka* can also imply to persuade someone through weakening their resistance, to seduce, which implies tenderness, passion or even lust, urge, drive.


\(^2\) Accounts of practitioners and their music include Issue no 9 of the journal *Resonance*, edited by Knut Aufermann; *Contemporary Music Review* Volume 33(1) dedicated to Agostino di Scipio and his aesthetics; doctoral theses from Keep (2008), Weisert (2010) and van Eck (2017).
2. Contextual review

and it is this latter fascination with the feedback phenomenon I want to understand: I want to find its bevekelsegrunder: the allure of feedback’s attraction, pleasures and movements.

Eliane Radigue – breath, pulsations, beating\textsuperscript{15}

I have chosen to focus on the early feedback works of Radigue, composed 1967-1970, for two reasons: they are not extensively studied and they exemplify a range of corporeo-sensuous relations that form a core in her works and are meaningful both to her and to other feedback musicians. Radigue studied and worked for both Pierre Schaeffer and Pierre Henry, but her music is so different from theirs that both of them, in different ways, have renounced her music.\textsuperscript{16} With the feedback pieces, she started to develop the aesthetic that since has remained consistent through major shifts from feedback to the ARP 2500 synthesizer, from electronic to acoustic music and through Buddhism.\textsuperscript{17} She has also consistently used the same type of sound material in her pieces.\textsuperscript{18}

Her works will serve as lighthouses, between which we will navigate in exploring the sea of feedback relations that dynamically appear, disappear, flow together and flow apart. Because the bevekelsegrunder of these relations are not sharply delimited, I have gathered them into four eddies, the first of which is streaming around behaviour and the idea of sounds as living individuals. The second plunges into beauty, while the third dips into the intimate through the lens of Joel B. Bennett’s (2000) *Time and Intimacy*. The fourth flows around nature and spirituality. These eddies will be explored musically through my own listening experience of feedback pieces, mainly by Radigue but also one by Nicolas Collins.

\footnotesize
\textsuperscript{15}Radigue 2009:48.
\textsuperscript{16}Schaeffer left a performance of *Adnos II* after a few minutes into the piece, and, Pierre Henry told her: ‘You were the most gifted assistant I ever had, and look what you ended up doing!’ (Radigue quoted in Warburton 2005:29).
\textsuperscript{17}‘I am faithful to the same type of sounds. Listening to the first piece I made almost thirty years ago and the most recent one […] there is not that much change. Just a little. None of these pieces are exactly the same, but none of them are very different, not exactly something else also.’ (Radigue quoted in Nagoski 2009:61).
\textsuperscript{18}‘All my music composed after that [Ohmmt] was made with this type of sound. […] When I worked on the Buchla at NYU for Chryptus there were those sounds that I got by feedback, which I tried to find again with the synthesizer. […] It is just that with the Buchla you could control things much more rigorously and it was I myself who made them move.’ (Radigue quoted in Holterbach 2015:n.p.).
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Eddy 1. Behaviour, sounds as living individuals and relatedness

Behaviour

Behaviour in general is observed through its movement. We only make sense of behaviour that occurs in the same temporal and spatial dimension as we are in. Too slow movement – as erosion of mountains – or too small movement – as that of atoms – is not perceived as behaviours by us, because we cannot co-behave with it. The behaviour of feedback however occurs in the same spatial and temporal dimension that we behave in, which tempts us to co-behave with it.

For Radigue, it was the behaviour of the feedback sounds that initially attracted her to them: ‘I was absolutely fascinated […] not only by the sounds but by their behavior. With the tape recorders of that period, a little defect could bring interesting results. I found this garbage of sounds very expressive.’ (Radigue quoted in Cowley 1999:13). The behaviours of the sounds consist of their intrinsic small gestures: pulsations, beats and long notes, but also the gestures of Radigue as she is controlling the sounds by moving microphones and potentiometers. These gestures are not in themselves what would normally constitute musical gestures, but rather serve the purpose of keeping the feedback alive and guiding it towards interesting timbres. Sounding traces of such gestures can be heard in for example Stress-Osaka.

Andy Keep (2008) has identified five ‘topological sonic behaviours’ of feedback that are used to interpret emerging sonic activity during performance. These behaviours are **nothing, resonance, iteration, saturation, and turbulence**. Nothing equates to silence. From this point, excitation of the system can cause the other four behaviours. When the feedback system enters a state of oscillation, i.e. the feedback can be heard, the oscillation occurs on a continuum between resonance and iteration. **Resonance** – or what Radigue terms **Laroen** – is a continuous, ‘active but stable’ state (Keep 2008:53). **Iteration** refers to a repeated sound

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19 Keep focuses on no-input systems where the feedback is inherent in the electronic circuits, but the argument is valid also for other types of feedback systems.

20 Another name for audio feedback is **Laroen effect**. (Sanfilippo and Valle 2015:12) One of Radigue’s favourite Pierre Henry pieces is *Fluide et Mobilité d’un Laroen*, which is a part of his work *Le Voyage* (1962). (Nagoski 2009:54)
2. Contextual review

at a speed low enough to perceive.\(^{21}\) This iteration can be more or less regular. Radigue
created these sounds mainly from feedback between two tape recorders and termed them *grabbed sounds*. *Saturation* occurs when a component in the system is clipping, thus producing odd harmonics, which are perceived as changes in timbre. A higher degree of 
saturation moves the timbre closer to noise. The final behaviour, *turbulence*, is used to
describe ‘degrees of unstable activity from interference and cross modulation’ (Keep
2008:56). These behaviours can combine in different and highly complex ways. Radigue’s
*Ural* is composed with Larsens, *Stree-Oakau* and *Vice-Versa, Etc…* with grabbed sounds.
*Ohmni* uses a combination of both (Holterbach 2013:n.p.).

**Living individuals**

Though Radigue uses technical terms such as Larsens, she also anthropomorphises
feedback, i.e. interprets it as having agency, or behaving as a living organism. This is a
common conceptualisation among feedback musicians: David Lee Myers describes a living
thing, a flow of electrons that sing their own songs (Myers, no date); Bebe Barron saw the
feedback sounds as actors (in Holmes 2008:86) and David Tudor talked about sounds
having a life of their own (in Hultberg 1988:n.p.). According to Douglas R. Hofstadter this
anthropomorphisation leads us to interpret the behaviour of a system, such as feedback, as
if it ‘wants’ something, because ‘[w]hen the system always moves towards a certain state,
we see that state as the system’s “goal”’ (2008:52-53). The system moves because it desires
(to reach the goal), as opposed to being moved by forces (as an object). This enables us to
relate to the feedback sound as a living individual with desires instead of controlling it as a
sounding object. The feedback sound is subjectified and thus becomes a somebody with
which we can co-behave.

Radigue describes her sounds as *living individuals*\(^{22}\) with ‘their own personality; after
listening to them, at a point it becomes a dialogue with the sounds’ (Radigue in Schütze
2011). Richard Glover describes how ‘Radigue hears the electronic source as having its
own kind of physical life’ (2013:15) and Radigue describes how her music is ‘a way to
express yourself with sounds which also respects what sounds are themselves’ (Radigue
quoted in Warburton 2010:27). If we conceptualise sounds as living individuals, Keep’s

\(^{21}\) There is a continuum between rhythm and pitch: when a pulse is sped up, it becomes what we perceive as a

\(^{22}\) See also chapter 4.
2. Contextual review

account of feedback’s behaviours in which he uses terms such as action and behaviour become problematic. As Sheets-Johnstone (2011) explains, these terms do not capture the central character of animate movement, namely the qualitative dynamics that are inherent in the experience of movement. Descriptions of action and behaviour lack a subject-world relationship, but instead objectify and separate object from subject. Keep does not view feedback sounds as living individuals, but as sounding objects to be controlled or shaped, whereas Radigue enters into a subject-world relationship with her sounds.

Relatedness

Through spending time with her sounds, Radigue develops a strong sense of relatedness with them, which has arguably been important for her ever since the day of singing to her teddy bear in the garden.\(^{23}\) Regardless of if the sounds are created by feedback or by her ARP synthesizer,\(^{24}\) she relates to the sounds as ‘a living phenomenon’ and living, breathing individuals: ‘The image, which comes to me, is that I put the tapes among themselves to “discuss” while saying: “There you are, you have said many things to me… Now I would like to hear what you say to each other, without me intervening”’ (Radigue and Holterbach 2013:n.p.). Radigue’s approach to music can be viewed as the opposite of that of the (male) genius, where the ego and its ideas are the focus of the music. In contrast, Radigue leaves the ego on the side to instead focus on relatedness\(^{25}\) with the sounds. Music is the result of this relatedness; music created as much by the sounds as by the composer. Listening closely and in an embodied manner, as well as responding to subtle variations is key to this compositional approach, along with allowing the sounds to be what they are, not forcing them into the ideas of the composer’s ego.

Summary

In this eddy, I have discussed how the topological sonic behaviours of feedback leads to anthropomorphising the sounds and conceptualising them as living individuals. This view problematises the term behaviour, and I have discussed how, in composing in relatedness, Radigue is instead leaving the ego of the composer to the side. This opiated adjacency (Elaine Scarry) is a function of beauty, which is the focus of eddy 2.

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\(^{23}\) Radigue recalls how she as a little girl was walking through the garden ‘under the long beans […] chanting some sort of song I was just inventing to my teddy bear’ (Radigue quoted in Nagoski 2009:48).

\(^{24}\) Radigue describes her relationship with the ARP as ‘a very emotional relationship. You probably need this relationship so as to make it work properly’ (Radigue quoted in Prism-Escape, no date, n.p.).

\(^{25}\) See chapter 5.
2. Contextual review

Eddy 2. Attraction, beauty and pleasure

One bevekelsegrund for Radigue’s interest in feedback revolves around attraction: Emmanuel Holterbach describes how she, as a ‘Lover of Sounds’ flirted with sounds, and she describes her first works as ‘innocent loves’ (Radigue and Holterbach 2013:n.p.). This sensuous attraction often appears in descriptions of feedback by practitioners such as Nicolas Collins: ‘My initial infatuation with the beauty of feedback’s skin and its risqué behaviour grew richer with my appreciation of its inner workings’ (2002:7). This kind of beauty is deeply inherent in the experience of feedback, which is why it is necessary to briefly explore the concept beauty, despite the impossible immensity of the task.

The concept beauty is complex, fluid, abstract and almost impossible to define, however, one definition is ‘that which is pleasant to sight or hearing’ (Władysław Tatarkiewicz 1980:122). Since WWI, beauty has been virtually absent from contemporary art theory (p. 151). It became irrelevant when art instead began to focus on social concerns and global issues. Beauty became a relic of a bourgeois past, tied to consumerism and superficiality, and seen as an opiate to lull people into acquiescence, when the purpose of art instead should be to shake people out of complacency, to shock the establishment and to force us to see the world with different eyes (Adrienne Dengerink Chaplin 2009). However, more recently beauty has resurfaced. Though some, such as Suzanne Perling Hudson (2003), argue that beauty is just a way to please the art market, others, such as Arthur C. Danto (2002) argue that beauty is of relevance for human existence and therefore should be present in art. I agree with the latter, and my hypothesis is that beauty has resurfaced because of the corporeal turn: when the body has regained its

26 This definition by the Sophists of early fifth century has been much contested during the centuries, for example by Adolf Loos (1910) who claimed that the purpose of art lies in unearthing what the ordinary man never finds, not the production of things that excite admiration, that give pleasure, that adorn the surroundings. Ornament and pleasure are a fit concern for the handicrafts’ (Tatarkiewicz 1980:42-45).

27 Tatarkiewicz argues that the attack on beauty started in the 18th century when beauty was seen as too vague, applicable to whatever happened to be pleasing (p.144-145). He also claims that when beauty started to be interpreted subjectively it lost much of its value (p. 151). Beauty has further been problematised for being neither natural nor neutral in terms of gender, race, class or power. (See for example Prettejohn 2005, Sonntag 2002 and Cross 2006)

28 ‘In short, beauty too often serves to placate an anxious public operating in the service of the maintenance of the status quo. This is not that beauty cannot be invested with other purposes, or even that it is insufficient as a productive aesthetic term in its own right, but rather that its ubiquity at present can be explained, at least in part, by its unparalleled ability to mollify and appease, in short, to reconcile.’ (Hudson 2003:118).

29 ‘Beauty is one mode among many through which thoughts are presented in art to human sensibility - disgust, horror, sublimity, and sexuality are still others. These modes explain the relevance of art to human existence, and room for them all must be found in an adequate definition of art.’ (Danto 2002:56).
2. Contextual review

significance compared to the mind, and pleasure is no longer seen as ‘inferiorly bodily’, we can embrace sensuous knowledge in itself, whether or not it is understood by the mind. Beauty as astonishment (Tim Ingold) or opiated adjacency (Elaine Scarry) are meaningful parts of human experience and therefore also relevant in art. Drawing on Ingold, Scarry and Chaplin, I will outline a possible relevant contemporary conceptualisation of beauty.

Beauty is an expression of pleasure; according to Scarry (2001) even an extreme or acute state of pleasure. This astonishment – marvelling at the beauty of the world as if encountering it for the first time – has, according to Ingold, been banned from official science, but is now returning to reanimate western thought (Ingold 2006a). In this quest, beauty is radical. Chaplin (2009) connects beauty with desire, but a desire that our Western consumerist conceptualisation of beauty has turned into a desire to possess, rather than a deep intimate connection with the object, person or world. However, the very idea of possession becomes obsolete if the world is seen as a set of relations instead of things, as Nora Bateson argues. Any kind of aesthetic response is a response to relationships captured by the artist, rather than to objects (Bateson 2010). The Ingoldian astonishment similarly arises from a world-in-formation through which inhabitants issue forth ‘along the lines of their relationship’ (Ingold 2006a:9). Beauty can thus be seen as relational and as a radical pleasure or desire, not as pleasing or lulling.

There is a clear bodily connection in this conceptualisation of beauty. Scarry draws on Simone Weil’s strongly somatic conceptualisation of beauty as ‘a relationship of the world to our sensibility, the sensibility that depends upon the structure of our body and our soul’ (Weil 1992:164). To open oneself up to this relationship with the world is to be astonished, which also implies being vulnerable (Ingold 2006a:18), and ‘awaken to what is real and eternal’ (Weil 1992:159). Beauty forces our focus to move away from our own self, and as we step aside we ‘give up our imaginary position as the center’ (Weil 1992:159), a process that Scarry terms a radical decentering or opiated adjacency and Iris Murdoch terms unselfing (Scarry 2001:113-114). This transformation ‘takes place at the very roots of our sensibility’ (Weil 1992:159). When Radigue leaves her ego on the side to indulge in the pleasure of relatedness with the sounds, it is in opiated adjacency.

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30 See Chaplin (2009) for a discussion of the perception of beauty as including both detached seeing and the ‘bodily’ senses.
2. Contextual review

Adrienne Dengerink Chaplin (2009:n.p.) argues that the concept of beauty needs to be relocated into a ‘relational, embodied, and multisensory lived experience’ instead of a ‘static, detached, and objectifying gaze’. Drawing on Juhani Pallasmaa, she urges us to reach deeper beneath ‘the surface of the seductive retinal eye candy of our consumer society’ to find new forms of beauty ‘...in the sensitive capturing of the fine-grained and complex subtle nuances of feelings and moods that would otherwise remain hidden from the radar of consciousness’. Such art has the capacity to ‘touch the heart, evoke compassion, and challenge complicity or complacency’. As Susan Sontag explains: ‘[w]hat is beautiful […] stimulates and deepens our sense of the sheer spread and fullness of reality, inanimate as well as pulsing, that surrounds us all’ (Sontag 2002:26).

Although Radigue described how she flirted with feedback sounds, she was more interested in their behaviour (see above) than their beauty: in fact she has described them as ‘garbage’ (Schütze 2011) and ‘savage electronic sounds’ (Prism-Escape, no date) and something that the ‘engineers avoided like the plague’ (Warburton 2005:29). However ugly, these sounds still attracted her. Ugliness has a more complex relation to beauty than merely its opposite. Mark Cousins argues that in analogy to how we need to embrace death in order to have life or vivacity, so the ugly must be embraced by beauty in order for beauty to be truly beautiful (1995:68). If beauty is defined as that which is finished and any addition or subtraction from the object would ruin it, then the ugly is what resists this completion. By overcoming the challenges of the ugly in the process of creating the beautiful object, it rises above the ‘merely’ beautiful or decorative (Cousins 1994:61). Maybe it is then consequential that after exploring the ugly sounds of feedback in the 1960’s, Radigue courageously went head to head with death in the 1980’s when she composed the Trilogie de la Mort while suffering the deaths of both her guru Pao Pan Rinpoche and her son Yves Arman (Johnson 2009:2).

31 ‘It is a general phenomenon of our nature, that that which is sad, terrible, and even horrendous holds an irresistible attraction for us; we feel ourselves repulsed and at the same time attracted by scenes of pain and terror’ (Schiller quoted in Eco 2007:220).
2. Contextual review

Beauty in *Pea Soup* – listening notes

Radigue’s music has a certain kind of raw beauty in my ears, but to understand beauty in feedback music I have chosen to instead listen to Nicolas Collins’ *Pea Soup*, which for me is the epitome of feedback’s beauty. This piece can be performed with any number of acoustic instruments or voices together with a feedback system of three microphones, three loudspeakers and software to control the system. The performers are instructed to influence the feedback system through movement and tones, but not at the same time (Collins 2014).

I hear this music as beautiful because there is a lightness, airiness and ethereality to the sounds: they move like mists over lakes. The sounds neither begin nor end: they appear from nothing and disappear without a trace, as if the air is full of droplets of sound that slowly dissolve into audible dancing mists, sensitive to the lightest of touches, impossible to hold on to or control. This behaviour leads to a gentle response from the musicians: the subtlety and evanescence of the sound cautions them to tread lightly, listening tightly. Especially in the double bass version, the musician is most responsive to the feedback, collaborating with it rather than controlling it. This version is recorded in a reverberant space, which creates a thick *Pea Soup*: mainly long notes, like foghorns, fit in the soup, because the space slows down the behaviour of feedback. The double bass version is for me the most successful because of its total engagement with and immersion in the sound of feedback, to the point where all sounds dissolve into each other. I can imagine the immersive experience of being in the space: feedback has the ability of making us aware of the space we are in and connect to it.

Feedback is what connects – it is making audible the air around us, or perhaps the vibrations of the air around us, and is palpably physical: the beats between the frequencies are felt as much as heard. It is tactile music, sensed by the skin. Feedback resonates with certain frequencies and emphasises different partials of the acoustic instruments, as well as of the human body. In the piano version, the feedback fills the gaps between the notes, and is heard as shadows and smoke emanating from the instrument: there is a halo around the

32 I have listened to these versions of *Pea Soup*:
Piano version: https://www.youtube.com/watch?v=W7f5Iha7JyQ
Short version: youtu.be/AtSZEg8AsOw
33 See the instructions for the piece in Collins (2014).
piano sounds, but a halo with its own life and its own behaviour. The sound becomes a companion: an invisible comforting companion that I can relate to because I recognise its movement.

Summary
In this eddy, I have described how Radigue is attracted to the beauty of the feedback sounds. This beauty is discussed as a radical form of beauty: a relational, corporeal, experiential form of pleasure, instead of pleasing or lulling. I have listened to Collins’ Pea Soup to understand beauty in feedback music and discussed how Radigue’s music, in embracing the ugly, creates new forms of beauty. The palpable physicality of feedback creates an intimate relation, which is the focus of eddy 3.

Eddy 3. Intimacy and control
The feedback sounds brought pleasure into Radigue’s work, and especially the pleasure of work that was made ‘with the tip of the toes or rather the fingers’ (Guitton 2010). This delicacy that she often speaks about originates from the discovery of the sensitivity of feedback: often a slight touch of a potentiometer would completely change the sound. Such sensitivity affords gentleness, and quite possibly is what draws the composer into an intimate dialogue and a close relationship with the sounds. Radigue talks about ‘tickling’ or ‘caressing’ the potentiometers, which reveals a close, or even intimate relationship not only with the sounds, but also with the technology she is using. She describes how this relationship is built with passion and patience because ‘the sounds do not come by themselves’ (Holterbach 2013:n.p.).

Bennett: time and intimacy
Radigue’s thinking resonates with the way Joel B. Bennett (2000) conceptualises time in relation to intimacy from a transpersonal psychology perspective. He thinks of intimacy as ‘a process of interacting with another in ways that are sensitive to change and nuance’ (2000:4). When two individuals share a relation, their two subjective experiences of time are juxtaposed, and they partake in what Bennett terms a time shaping activity, which is

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34 Transpersonal psychology is a branch of humanistic psychology that seeks to coordinate traditional religious mysticism with contemporary psychotherapy. (Merkur 2015).
35 Bennett quotes Sexton & Sexton’s definition of intimacy: ‘The word intimacy is derived from the Latin intimus, meaning inner or inmost. To be intimate with another is to have access to, and to comprehend, his/her inmost character’ (in Bennett 2000:5).
2. Contextual review

what allows intimacy to emerge. Music can be seen as a similar time shaping activity, where the subjective time of music is shared with the subjective time of the composer or the audience. During this activity, an intimacy might emerge. Radigue’s time shaping with sounds aims to develop an awareness of the time of every sound: ‘I try to respect the time of the sounds’ (Radigue quoted in Dal Soler 2008:n.p.). Radigue’s feedback compositions can be seen as structured phases in an ongoing intimacy with sounds. In this context, vulnerability is a key quality: vulnerability of the sounds – as they are constantly on the verge of breaking down – but also of the composer: ‘[r]enewing and continuing intimacy requires a clear awareness of one’s inner vulnerabilities and a comfortable perceptiveness about any qualities of uneasy responsiveness in the other’ (Shor & Sanville in Bennett p. 100). Working intimately with feedback sounds therefore affords an opportunity to compose music through exploring one’s own vulnerabilities, as they are reflected in the relation with the sounds.

The classical Western concept of time is objective, successive, unidirectional and divisible into units, and therefore not well suited to understand the complexity of intimacy. We need alternative conceptions of time that take into account three core capacities for deepening intimacy: flow, presence and synchronicity.

Flow is when a relationship is experienced as ‘an emotional sense of continuity and connectedness, a sense of wholeness through time’ (Bennett p. 94). This might be similar to what Radigue describes as developing sense with sound: through paying attention to what the sound is telling her, she creates connectedness between herself and the sounds. (Prism-Escape, no date) She then weaves these threads of connectedness together into the continuity of subtle and gradual transformations in the music, working ‘toward Aion, the instant or the timeless present, away from Chronos, the past and future of identity and ego’ (Mowson 2007:4).

The key to the experience of flow is presence: paying attention and staying in touch with our feelings and emotions. For most people, ‘presence is felt in the aesthetic experience of beauty, awe, grandeur’ (Bennett 2000:95-96). For Radigue it consists of attention and a

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36 Original Italian text: ‘cerco di rispettare il tempo dei suoni…’ My translation.
37 Csikszentmihalyi defined ‘flow’ as ‘the timeless and total involvement of individuals in the activity with which they are engaged’ (Kerr 2016:n.p.).
2. Contextual review

listening attitude to what the sounds are saying: ‘You need a lot of patience, to be attentive while listening, ready to receive…’ (Holterbach 2013:n.p.). Bennett argues that there is also a spiritual aspect to intimacy: the magic and meaning of intimacy lie in acknowledging the **synchronicity**, the ‘marvelous correspondence’ of shared lives (Bennett 2000:96). ‘The deep sense of continuity through flow, the fullness and vulnerability of presence, and the mystery and wonder of synchronicity bring intimates to the deeper time or deeper process of their relationship’ (p. 97). Radigue’s music has a strong element of spirituality, to which I will return below.

Relationships evolve in overlapping contexts of time, which are shaped by four temporal forces: **nurturing conditions (context)**, **time shaping**, **chaos** and **structure-form**. The two latter, chaos and structure-form are forces that pull intimacy in opposing directions. Everything that happens between two people happens because of a tendency of things to fall apart: the entropy or disequilibrium of chaos, which is manifest as lack of control, play, vulnerability or conflict (Bennett 2000:112). Through time shaping we respond to the force of chaos with structure-form in an attempt to sustain the relationship over time (p. 99). Too much chaos or too much structure-form damages the intimacy, but both are necessary for deepening the relationship.

These forces are reflected in Radigue’s compositional process. When working with feedback sounds, she sets up a situation where feedback occurs, allowing for an intimate relation with these sounds. This relation is susceptible to chaos in the form of play: the potentiometers are caressed to control the feedback sound. Disintegration is threatening: ‘... when you go too near to the speaker with the microphone everything collapses and when you go too far it disappears. If you find the right place, which is very narrow, then you can move it very slowly and it changes but that requires a lot of patience’ (Radigue quoted in Dax 2012:n.p.). Radigue balances chaos with structure, which makes musical form emerge rather than being constructed. Music is composed within a relatedness between sound and composer, wherein too much structure-form, i.e. control can cause a

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38 **Nurturing conditions** are those that allow intimacy to emerge: if one sows a seed, it will only grow in the right conditions, such as soil, light and water. (Bennett 2000:23)
39 **Time shaping** is ‘the way the couple acts to structure time together and apart’ in order to build intimacy. (Bennett 2000:23)
40 ‘Briefly, chaos theory describes how systems necessarily undergo conditions of turbulence and are continually transformed into new orderings or structures. Human relationships are complex systems that are influenced by chaotic laws. […] Those forces operating to destabilize relationships, to diminish and to also reestablish intimacy can be understood with the help of chaos and complexity theory.’ (Bennett 2000:113)
loss of flow (Bennett 2000:95), or analogously in Radigue’s music: destroy the liveness of feedback.

When Radigue balances between chaos and control in an intimate relation with the sounds, she moves away from controlling their behaviour. Her task as a composer is instead to listen to the sounds, talk to them, harness them (as in guiding them where to go instead of forcing them) and stop them from breaking down\(^{41}\) (hurting themselves). This is cooperation rather than control. In early cybernetics,\(^{42}\) the science of control, Norbert Wiener used the metaphor of steersmanship\(^{43}\) to describe control of complex systems; how ‘[a]t sea, the long ships battled with rain, wind and tides – matters in no way predictable’ (Beer 2004:857). But the steersman could, while keeping his eye on the lighthouse ‘manipulate the tiller, adjusting continuously in real-time towards the light’ (p. 857). This kind of control is impossible without cooperating with the rain, wind and tides, and it furthermore relies not on control over specific parameters, but rather on a sustained relationship with these forces, balancing between chaos and structure. Radigue also abstains from controlling the experience of the listener, who is free to come and go as she pleases and to find in the music whatever is relevant for herself. Beneath the imperfections and wrinkles of the music, there is a spiritual beauty, but it is up to each and every listener whether or not to find it.

**Summary**

In this eddy, I have discussed how we – in seeing feedback sounds as living individuals – can relate intimately to them, and how this relation can be described through the lens of transpersonal psychology. Radigue’s composing can thus be described as a *time shaping activity within forces of time*: balancing between chaos and intimacy instead of controlling sounds. With the metaphor of the steersman – the *kubernētē* in cybernetics – I emphasised the relationship with nature, which is the focus of the last eddy.

\(^{41}\) ‘[T]he sounds I was working with were so fragile that I was worried they might break up at any moment.’ (Radigue quoted in Warburton 2005:29).

\(^{42}\) Cybernetics is ‘the science of communication and control theory that is concerned especially with the comparative study of automatic control systems (such as the nervous system and brain and mechanical-electrical communication systems)’ (*Cybernetics*. *Merriam-Webster*).

\(^{43}\) As Beer explains, the word *cybernetics* stems from *kubernētē*, the Greek word for steersman. (2004:857).
2. Contextual review

**Eddy 4: Nature, embodied listening and the spiritual**

**Nature**

Radigue’s spirituality is closely connected to nature: Radigue recalls that one of her first musical memories was as a little girl walking through the garden ‘under the long beans […] chanting some sort of song I was just inventing to my teddy bear. […] This and watching the clouds in the sky – that was the beginning’ (Radigue quoted in Nagoski 2009:48). Radigue started composing with feedback while working as an assistant for Pierre Henry in his Studio Apsome between 1967 and 1968, mainly for editing *L’Apocalypse de Jean*. As a form of recreation she composed music during her spare time: pieces such as *Jouet Electronique* for feedback and magnetic tape and *Elemental I* for feedback of natural sounds on magnetic tape. *Jouet Electronique* was a way of having fun, but with *Elemental I*, Radigue set out to work on something that had deep meaning for her, recording the sounds of the elements and combining them with feedback. The elements are discernible in the piece, but abstracted into electronic pulsating sounds, responsive to the dynamics and timbres of the natural sounds. More than thirty years later, in 2004, she returned to the elements in the piece *Elemental II* which explores ‘notion of the elements, of the solidity that sets our skeleton, the fluidity of water that brings life and that is in our blood and the air in the wind and heat…’ (Radigue quoted in McVicar 2015:n.p.).

**Embodied listening**

Radigue shared her interest in the sounds of nature with Pierre Schaeffer. From him she also learnt ways to listen to sounds and the music they speak if you listen to them carefully enough (Schütze 2011:207). For Radigue, meaning in music emerges from the way we listen to it (McVicar 2015:n.p.), and she employs a number of listening strategies, such as ‘a primitive and naïve way of listening’ (Radigue 2009:49). However, I would argue that she also employs a particularly embodied kind of listening, which connects nature and the

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44 ‘Sound is the vocabulary of nature. When we hear the wind, the wind says “I’m blowing”. When we hear water, the water says “I’m running”… and so forth.’ (Schaeffer quoted in Hodgkinson 1987:n.p.)

45 ‘I had several ways of listening […] from listening freely to technical listening, that is to say listening to the technical problems. You can listen to something ten ways at least. Everything I’ve ever done has been submitted to the different ways of listening, including distracted listening.’ (Radigue quoted in Dax 2012:n.p.)
2. Contextual review

For Radigue, the body is inseparable from nature: to listen to nature is to listen to one's own body, of which music is a mirror.\(^{47}\)

In *Elemental I*, Radigue works with recorded nature sounds and feedback. Her movements to control the feedback become also a way of ‘playing’ or interacting with nature, through feedback as a mediator. Movement is a way to listen, to explore the sounds: ‘I was interested in the versatility of the sound material, its elasticity, its suppleness, its richness. You just had to move a potentiometer a tiny fraction and everything changed.’ (Warburton 2010:28). This is a type of embodied listening that is connected to physical movement: responding with movement to the spectromorphology of nature, its dynamics and timbre while creating and controlling feedback sounds.

Gascia Ouzounian argues that embodied listening (in a sound art context) can connect material/physical spaces with immaterial/metaphysical ones. Embodied listening can augment ones awareness of self, spirit and surrounding, at the same time as it reveals the limits of the body as an instrument of control that ultimately fails the user (2008:182). The body is both revealed in its imperfection and transcended at the same time; simultaneously separated and inseparable from nature or other material spaces; simultaneously immaterial and material. Listening allows an encounter and connection with the intangible and invisible parts of the world because tone is not a sensation of a thing, but a sensation of movement\(^ {48}\) (Zuckerkandl 1973:70-71). Greg Downey describes how among capoeira practitioners, movement is the key to hearing the berimbau music: it conditions how music is experienced in their bodies. The berimbau ‘moves them’, ‘gets in their blood’, or gives their bodies ‘energy’. These qualities are apprehended through a bodily kinaesthetic sense: not ‘some innate kinesthetic quality of particular music’ or a ‘uniform response to musical stimuli’ (2002:499).

Embodied listening might also be experienced through stillness, as Pauline Oliveros describes: ‘Stillness the tool | Through stillness I move | hearing the most subtle vibrating pulsing patterns’ (1993:37). Her *deep listening* practice connects body and sound by quieting

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\(^{46}\) See for example Andra McCartney 2004, who connects full-bodied hearing with nature in a sound walk context.

\(^{47}\) ‘The music is a mirror of the mind but also, somehow, of the body. I’ve always imagined these sounds to have their own personality; after listening to them, at a point it becomes a dialogue with the sounds.’ (Radigue quoted in Schütze 2011:207).

\(^{48}\) See Chapter 3 on Sheets-Johnstone.
the body in order to hear the tiniest vibration and ‘[m]aking space for the yet unborn’ (p. 38).

My body is sound
Listening guides my body
Sound is the fiber of my being and of all sentient beings without exception
( Oliveros 1993:55)

**Spiritual immersion**

I have discussed beauty as a form of relatedness, formed by an intimacy with the sound and characterized by pleasure or desire. However, another form of pleasure has significance in Radigue’s feedback music: one more akin to spiritual pleasure or immersion. Radigue describes this pleasure as ‘[t]he freedom to let yourself be overwhelmed, submerged in a continuous sound flow where perceptual acuity is heightened through the discovery of a certain slight beating, there in the background, pulsations, breath’ (2009:49). This is a place where time and space collapse, where the instant is limitless and the present is lacking dimension in a space restrained by nothing: ‘simply there, where the absolute beginning is found’ (p. 49). Composing and listening to sound functions as a meditation\(^49\) that creates a spiritual place, a form of deep spiritual connection with life, and the continuity of life. Especially in her mature works, Radigue explores this continuity: the very processes of life in sounding metaphors. The long durations serve to preserve and evolve life, a practice that originated in the feedback works and their fragile sounds. Mowson (2007) describes her exploration of continuum as manifesting ‘a particular state of immanence’\(^50\) (p. 4), what Radigue describes as allowing the sounds to evolve from the inside. She wants to be immersed in sound, as if the listening space was filled up with the sounds, like a shell. Like if you were in the body of a piano or any instrument. I mean, the room being like the body of the instrument, and the people being inside the body. All the air should be moving, and we should take a bath in it. (Radigue quoted in Nagoski 2009:53-54)

\(^{49}\)‘[M]usic is a kind of meditation whether we know it or not’ (Radigue quoted in McVicar 2015:n.p.).

\(^{50}\) In theology and philosophy the divine can be interpreted through the concepts *immanence* and *transcendence*. In the extreme form of transcendence, the divine is interpreted as an individual or self, distinct from humanity and the world and transcending these. In the extreme form of immanence, the divine is interpreted as an impersonal sacred order entirely within the world and not imposing itself from without. (Smith 2015:n.p.).
2. Contextual review

Radigue conceptualises of the space as a body and the body as a space, and does not make distinctions between human and non-human bodies.

**Spirituality in Number 17 – listening notes**

When I listen to the piece through headphones, it starts in the distance with what sounds like a glass organ slowly moving forward towards the listener. Further sounds are imperceptibly added, giving the impression of one sound growing organically out of another. The sounds have their own distinct personalities through individual pulsations (a low throbbing or a swirling, granular metal sound) and textural qualities that are always slightly changing, alive. These sounding creatures are also rough and impure: vulnerable and imperfect. The overall impression however, is of a sound mass, or a river of sound to which the sounds contribute their individual qualities. The infinitely deep perspective and the surprisingly narrow stereo field emphasise this impression of a river. I experience the music as if travelling inside a tube of sound, maybe a flute – a sensation emphasised by what sounds like wind rushing through a pipe. This is a form of meditative journey: there is a sense of breathing that can be followed, and the music leaves headspace. Sounds appear gently, without surprises, and I have time to explore timbres and imagine their sources.

Listening to the piece in loudspeakers is a surprisingly different experience. While in headphones the stereo field is narrow, it is anything but when listening in a room. The sound still approaches from a distance, far behind the speakers, but it continues out in front of them, as if the river of sound flows out of the speakers like water in a cave, filling up the room. Radigue has described how ‘[t]he best condition may be when the listener can feel the sound coming from the ceiling, from the walls, from the ground, from everywhere and being just bathing in sounds’ (Other Minds Audio Archive 1980, Pt2 @46’56). This describes my experience exactly: the sounds seem to float around the walls rather than radiating from the speakers. There is however still a persistent forward movement through the weight of throbbing bass sounds and the inertia of what sounds like metal grinding against metal. Paradoxically, these sounds evoke both a heavy body and a freely flowing weightlessness at the same time. Sometimes individual notes release themselves from the sound mass and soar in the room before dissolving. The sound mass has a strong sense of ongoing-ness, or of – quite simply – living. It is as if Radigue has
2. Contextual review

managed to extend the moment of modulation\(^{51}\) or the tipping point of feedback music into an infinite balance-point, an extended now, an in-between, liminal space where body is soul and soul is body, where binary oppositions are melted around each other in a both-state or metastability.\(^{52}\)

I experience this music as a spiritual place or a meditation; it is a place where the divine is close, as also noted by Rhys Chatham.\(^{53}\) Meditation is used in many forms of spiritual practices as a way of ‘listening inwards’ and ‘quieting the mind’. It can be a way to dissolve consciousness about the body, but in Radigue’s piece, the body is also present in its imperfection, weight and inertia. This music goes deep: it melts body and mind into each other, reshaping and reimagining the body as simultaneously present in earthly grounded materiality and flowing lightly along a tube of sound. This musical meditation quiets down the movements of the body into a stillness that allows for what Chatham describes as a ‘floating awareness’ (2002:n.p.), and refocuses on another kind of movement: ‘…this imperceptibly slow transformation occurring during every instant and that only an extremely attentive and alert eye can sometimes perceive, the movement of a leaf, a stalk, a flower propelled by the life that makes it grow’ (Radigue 2009:49). It is the movement of life, of nature; the streams of data and water; the imperceptible growth of flowers. The movement of people and man-made machines; the movement of music and clouds. The simultaneous awareness of all these movements, together forming the sounding, vibrating movement of life.

Towards the end of the music, the sounds withdraw back to where they came from, and the warm embrace of the music subsides. This fills me with sorrow: I feel as if I am being abandoned by something incomprehensible, beyond reason, and now have to say goodbye to it. After having been touched by it and floated, dissolved, in this spiritual bath, I am sad to return to the gravity of ordinary life.

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\(^{51}\) ‘What I always loved in classical music were those moments when a modulation takes place, when the ear is no longer in the preceding tonality but hasn’t yet arrived in the new one. That moment of in between-ness.’ (Radigue quoted in Warburton 2005:30).

\(^{52}\) See earlier section about Sheets-Johnstone.

\(^{53}\) Chatham (2002) remarks: ‘The raw material was feedback […] The results, which were awe-inspiring, gave one the impression of being in a large cathedral, both in its feeling of vastness as well as producing an effect of somehow being close to the Divine.’ (n.p.).
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Summary

In this eddy, I have described the link between Radigue’s relation to nature, embodied listening and spirituality: how nature is inseparable from the body, whose movements are a form of relational listening. In listening to *Number 17*, I have described how her music has a dimension that is both corporeal and spiritual: melting the body into a floating awareness.

Radigue’s *bevekelsegrunder*: a summary

Radigue’s compositional process evolves through a relationship with the feedback sounds: with their behaviour, richness and imperfections or even ugliness. This relationship brings pleasure and desire: she starts flirting with them. By sustaining this relationship for a long time, and actively listening to what the sounds have to say, she develops relatedness, connectedness and intimacy with the sounds. Radigue describes the quality of these sounds, through yet another body metaphor, the skin:

> No skin is absolutely perfect, but when you touch the skin is [sic] has some of the quality of life-ness. When you touch a balloon or glass, this is another feeling. To me, digital sounds have this perfect – too perfect – quality. There are not enough defects. [...] Not enough life, because life is also made from little defects. (Radigue quoted in Nagoski 2009:60)

For me, Radigue’s music simply is life: metaphors of and meditations on the flow of life. The small gestures involved in feedback – ‘pulsations, breaths, beatings’ – constitute the behaviour of the feedback sounds, but the music also consists of Radigue engaging with the feedback sounds in a playful dance that helps them stay alive. Her nurturing gestures of moving microphones and potentiometers shapes the sounds while she engages in the music, in the flow of life, taking part, exploring, submerging herself into it. With open ears and heart and without fear of dying, she embraces the spiritual core of music, the ‘infinite source of all beginning’ (Oliveros 1993:36).

Vast heart opens
This is where love is
All time is present
(Oliveros 1993:38)
3. The Gestural feedback instrument

We social scientists would do well to hold back our eagerness to control that world which we so imperfectly understand. The fact of our imperfect understanding should not be allowed to feed our anxiety and so increase the need to control. Rather, our studies could be inspired by a more ancient, but today less honored motive: a curiosity about the world of which we are part. The rewards of such work are not power but beauty.  

(Bateson 1987: 273)

Introduction

The idea of a gestural feedback instrument emerged from experimenting with laptop feedback. I discovered that the microphone and the loudspeaker of my laptop were situated close enough to create a feedback loop when cupping my hand above them. Through inserting my hand into the feedback loop, I was able to shape the sound: it had suddenly become a tangible medium, like clay or water. Furthermore, when I touched the loudspeaker, I could feel the vibrations of sound, feel how it had a form of life. I improvised with this sound, routing it through different plug-ins in the computer to explore its timbres. However, the limited bandwidth of the computer speaker (for example a lack of bass) led me to explore a range of different speakers and microphones in various configurations. This experimentation led to a prototype of the instrument, where lavalier microphones\textsuperscript{54} attached to the palms of my hands were routed to two speakers on stands, which enabled me to play the instrument standing up.

In this chapter, I will describe the development of the prototype into a finished instrument. The purpose of this development was to explore the body as a tool for expression in electronic music and build a musical instrument that could be used for performance and composition. This particular instrument was important because it allows me to work directly with the sound, bypassing most mapping strategies. It also allows me to stand up to use gesture and movement as sound-shaping and expressive devices. The process of developing the instrument passed through several conceptual streams, which led into each other, but also developed in parallel and in feedback loops, as I constantly returned to and refined my ideas. In the first conceptual stream, I worked from a technical perspective, exploring different possibilities of programming and hardware: microphones, loudspeakers

\textsuperscript{54} A lavalier microphone is a miniature microphone used in for example television and theatre together with a wireless radio system. It allows for hands-free operation and is visually unobtrusive.
3. The Gestural feedback instrument

and controllers. I developed the instrument to become controllable like an acoustic instrument and worked on expanding its expressive range in terms of timbre and rhythm through developing synth patches and tweaking them as well as exploring objects in the feedback loop. During this work, I discovered the importance of gestures for playing the instrument but also ancillary gestures, which, together with tipping points, are the focus of the second conceptual stream. My body became increasingly important and conceptual stream 3 describes how I ‘designed’ also my own body: its movements, gestures and possibilities of controlling and being controlled, in relation to others or by itself. In the fourth conceptual stream, I moved beyond control to instead explore the kind of relatedness I strongly feel with this instrument.

The starting point: the prototype

In the first version of the feedback instrument, the sound of two lavalier microphones taped inside my hands was processed by plugins in the computer software Plogue Bidule, which was controlled by a MIDI foot pedal and the software Max/MSP.

![Diagram of the gestural feedback instrument – prototype](image-url)
3. The Gestural feedback instrument

**Duet – from bubbles to reduced latency**

The prototype version of the instrument featured in the performance *Duet*, which was the first collaboration with the dancer Joop Oonk. She is interested in narrative, which is why we worked out a narrative structure for the piece, within which we improvised. The narration grew out of emotions, situations and sensations we found through improvising freely. One such sensation was that we experienced ourselves as performing alone in separate 'bubbles' without being able to reach each other. Playing the feedback instrument has a tendency to create this sphere of sound: I experience myself inside a sonic world, influenced by my movements and gestures. Joop felt left out of this world, and so the piece came to be about the push and pull of uniting our bubbles and the impossibility of this task.

The prototype of the instrument was fairly ‘slow’, partly due to the plugins I had chosen, but also because the latency through the computer was fairly high. However, the instrument was sensitive for changes in body position and hand gestures, which gave the sound the corporeal quality of being experienced as air or energy affected by bodies moving through it. The sound was not gestural in the sense of accurately following tiny expressive changes in for example fingers, but it had a sense of body movement, or a behaviour.⁵⁵ This kind of corporeality can be described as bodily traces, or bodily shadows: a sense that the body leaves a trace in the sound as a swimmer moving through water does. Performing with the feedback instrument can integrate the body with the sound, leaving traces in it, just as the sound leaves traces in the performer: traces that are sensed and can evoke emotions, memories and associations.

The performance made me question how I relate corporeally to sounds, which led to the conclusion that my own body is crucial in this exploration. My corporeal relation to sound can only be explored from an ‘inside perspective’, not by a description from outside. My body is shaped by its experience of being in the music, as much as the music is shaped by my body. The performance furthermore led to a desire to develop the instrument: first of all I wanted to expand the timbral and expressive possibilities and the dynamics of the instrument. I wanted to reduce the latency to achieve a quicker response, which would enable me to work more with rhythms. I wanted another MIDI controller, because the foot pedal was visually intrusive and clumsy to play, and finally I wanted to explore the

⁵⁵ See for example in video 1. Duet at 3'25-3'45.
possibility of adding multiple speakers. These technical improvements would enable a deeper, more varied and more meaningful relation with the instrument.

Conceptual stream 1. Technology and control

The new feedback instrument

The development of the new instrument took place in 2013 and 2014 at the University of Surrey, but also through a two-week residency in June 2013 at IDKA (The Institute for Digital Arts) in Gävle, Sweden. The original instrument used plugins in Plogue Bidule, which was taxing for the computer processor, so I wanted a more efficient system. I decided to instead use a modular hardware synth, the Nord Modular G2 (NMG2). The synth was chosen because it has lower latency than the computer based system, and I am more familiar with programming it than software such as Super Collider, which was an alternative I considered. I set as a goal to make a setup without computer, but because I needed a way to control the synth wirelessly via MIDI, the system ended up being configured like this:

![Diagram of the gestural feedback instrument](image)

Figure 3. Gestural feedback instrument – new
3. The Gestural feedback instrument

In this setup, I am using the TouchOSC app in an iPhone strapped to my arm to wirelessly control Max/MSP in the computer, which in turn controls the NMG2 via MIDI. I did consider other ways of controlling the system in a conversation with NOTAM in Oslo, however, for budget reasons, I chose the cheaper TouchOSC method. It is unfortunately both clumsy and unstable and I am looking to substitute it with a controller that is gesture controlled and invisible. In the live electronics setup developed later, I have experimented with the Apple Remote (which uses IR that is obsolete on newer MacBooks) and the Source Audio HotHand continuous wireless MIDI controller (which has three continuous controllers, but no trigger buttons), but the solution is most likely a custom-made controller.

Control

Central to the use of feedback in live performance is control. The continuum between control and chaos is put at work, with the musician having a variable degree of influence on the sounding result. Absolute control of feedback is not possible, but giving up control opens up the possibility of another relation between the musician and the feedback system. Toshimaru Nakamura describes how the relationship is ‘equal’ (2002:4-5) and Myers how ‘the devices speak their own hidden voices’ (Myers 2002:13). David Tudor describes the system as ‘…my friends. They have personalities, that only I see...’ (Tudor quoted in Austin 1990:n.p.). These quotes imply that the antipode of control here is not chaos, but a form of intimacy. This is neither control intimacy as defined by F. Richard Moore in discussing MIDI control of instruments: ‘[c]ontrol intimacy determines the match between the variety of musically desirable sounds produced and the psychophysiological capabilities of a practised performer’ (1988:21), nor is it the control intimacy that Michael W. Young (2009) describes as ‘identified with the extension of the self; the musical device becomes a prosthetic’ (p. 3). Both these kinds of intimacy describe a relation to a dead object, but music is all but a dead object. Another form of intimacy is possible by having a direct relation to the music. Young suggests a system with which it is possible to engage ‘as if there is another, thinking, participant’ (2009:6). If the human and machine performers can adapt to each other and learn from each other, it is possible to reach intimacy, described as an:

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56 See also Bennett in chapter 2, section about Radigue.
3. The Gestural feedback instrument

interactional process in which, for instance, revelatory-disclosure finds validation through the other partner’s response; this is interpreted as evidence of an emergent and binding understanding. Intimacy is learned over time, through a series of transactions and negotiations; it cannot be designed or pre-arranged. Real intimacies are synonymous with trust, cohesiveness and psychological proximity. (Reis and Shaver (1988) and Prager (1995) in Young 2009:4)

Young further suggests that such a relation between two feedback systems – the human and the acoustic feedback – is possible only when control is relinquished in favour of a trusting, close, and adaptive behaviour.

My instrument has two systems of control: the main system consists of direct control of the sound by bodily gestures. The second is an iPhone with TouchOSC, used to choose between 9 different patches in the NMG2 synth and to regulate volume and mute. The patches can be conceptualised as different instruments, or corporeosonic states of relatedness (see below). A future development might involve a continuous controller that allows for changing multiple parameters inside these patches.

Rhythm and timbre

Through speeding up the instrument by lowering the latency and then programming the synthesizer to respond with percussive sounds, I could expand the rhythmic possibilities of the instrument. The increased speed also helps me avoid the restrictions of thought, as improvising musician Cornelius Cardew explains: ‘We are searching for sounds and for the responses that attach to them, rather than thinking them up, preparing them and producing them’ (1971:xviii). By circumventing thought, the responses to the behaviour of the sounds arise more directly from the body, and hence leads to a more bodily informed or corporeal music. The rhythmical and timbral possibilities were expanded in an iterative process of programming and playing, programming and playing etc. At 4’04-5’25 in video example 9. Ancillary gestures and rhythms in REACH rehearsal, I am playing a short, percussive sound and exploring how to extend the rhythmical gestures into the body, not just the hands. I have positioned the speakers so that I have to stretch out between them if I want to play both of them simultaneously. This restricts where and how I can move, a restriction I find interesting and creative. Because the drum and the bell sounds are triggered by high amplitudes, I can also play them by hitting my own body (as at 5’04), or any kind of object I add to the setup, for example loudspeakers.
3. The Gestural feedback instrument

Multiple loudspeakers

Two flat panel loudspeakers inspired an exploration of them as physical objects and as part of a setup of multiple loudspeakers. These loudspeakers are thin, rectangular and very light. They were pleasurable to work with because they afford touching, scraping, tapping etc. but also lifting and moving around. They can be played from both sides, with slightly different sound characteristics. These speakers have a definite timbral personality: they rattle and distort and are very sensitive to my movements. The video clip 10. Physicality with panel speakers illustrates how I am exploring this physicality. I can touch them in different ways, and this touch has a sound, as in the last 5 seconds of the clip. A large part of the development of the feedback instrument consisted in exploring timbral affordances such as these. Another example of timbral affordances can be seen in video 11. Timbral affordances at IDKA.

As can be seen from the above clip, I also explored the instrument’s gestural affordances and other ways of moving. By adding loudspeakers and experimenting with placement of these and of the microphones, I can create new performance spaces in which to move, as in video 12. Foot microphone and 4 speakers in REACH rehearsal, where I experimented with a microphone on my foot. In the work with the flat panel speakers I was sitting on the floor, a position that allows a more intimate relation with the speakers, as if they are children or pets. Sitting is a less powerful position than standing up and switching between these body positions enables a dynamic in expression. My exploration with these speakers expanded into an exploration of four small Genelec speakers on the floor, which again provided other movement qualities and other physical sensations arising from the way my body moved and was positioned. Sometimes I felt like a gardener in relation to my ‘speaker plants’: rather than drawing sound out of them, I tried to nurture them to ‘grow’ sounds.

Conceptual stream 2. Tipping points and ancillary gestures

As with all speakers, the timbre of the flat panel loudspeakers is difficult to control. This presents creative challenges, as when exploring ‘singing points’, or ‘tipping points’. At 0′46 in video 13. Tipping point REACH dress rehearsal I am exploring this point, i.e. the point of phase transition as when water becomes steam at the boiling point. This is the point where
silence becomes feedback, the ‘point of unstable balance’ (Di Scipio quoted in Schröder 2014:39) in which the sound can suddenly fracture into a completely unexpected timbre. This is the point of what in systems theory is termed emergence: ‘a new quality or gestalt that evolves from the system interactions and that cannot be explained based on a knowledge of the separate interactions’ (Schröder 2014:38). In the video clip I am searching for the unstable balance of a feedback timbre, but it could also be the unstable silence. This point allows an exploration into the minute details of the sound, which I experience as an intensely deep and intimate conversation with the system, where it reveals in confidence its inner secrets to me.

When improvising with dancers, I have noticed another tipping point where the dancer’s gestures deviate from the music to instead follow a trajectory of expression of emotion or movement that go beyond or is different from that of music. Though maintaining a relation with the music, a musical or corporeal impulse sets off a stream of movement that has a corporeal rather than musical logic. The gestures cease to follow the music, to instead divert to another simultaneous, perhaps contrapuntal path. In the same way, the gestures needed to play the feedback instrument sometimes deviate from this task to instead follow their corporeal logic. Such gestures are termed ancillary gestures by Marcelo Wanderley (2002), to distinguish them from effective gestures that are necessary to produce sounds. According to Michael Schutz and Fiona Manning (2012), ancillary gestures in an acoustic music context have been shown to influence the listeners perception of the sounding music, its emotional content, phrasing, tension etc. and they are also used as a compositional element. In fact, as the authors point out: ‘performers frequently add gestures for reasons as much theatric as acoustic’ (2012:3) while they also note how this moves the performance towards dance.

When I perform with the feedback instrument, the ancillary gestures can facilitate an embodied interpretation of otherwise quite abstract electronic sounds. Furthermore, ancillary gestures hold the potential of expanding the idea of musical performance into something that goes beyond that of creating sounding music, perhaps into a kinaesonic art form that involves as much body in movement as sound in movement. The tipping points are therefore not only where new timbres emerge, but also where effective gestures turn into ancillary gestures: the point where musical performance becomes a kinaesonic performance. In video 14. Ancillary gestures in Dietro, my gestures oscillate around such
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tipping points between effective and ancillary in relation to dancer Angelica Portioli. Julie Wilson-Bokowiec and Mark Alexander Bokowiec (2006) have described a ‘kinaesonic system’ in which the body becomes ‘the expressive medium for the generation and manipulation of sound’ (p. 47). They make a convincing argument for the importance of ‘the sensual, selective and relational tensions that form the basis of what we call “art”’ (p. 48), but their system is based on control through mapping gestures to sound. I want to expand the idea to also include ancillary gestures and reciprocity: the idea that sound also shapes the body. In this sense my conception of kinaesonic performance moves away from control towards relatedness.

An example of a kinaesonic performance is the Darkness scene in Seeress (at 18’41-21’20 in video 6. Seeress Gävle). The seed for this scene was an awareness exercise during a rehearsal with Joop Oonk. I was asked to walk around the room and listen to its environmental sounds. I then focused on one of the sounds – in this case a ventilation hum – which I sought to find a corporeal expression for. I describe this exercise in my rehearsal notes:

I tried to find shapes, colours, emotions emanating from these sounds. She then asked me to move like the sounds. It was very interesting because the movements create such strong feelings in me, that they take on a life of their own, detach themselves from the sound and develop in their own way. I found something that was like sweeping my hands and arms around my head, and another thing that was an extreme weight, a heavy movement. Both of these could be explored with the feedback instrument (if I can find that feeling again!) to see what sound comes out of the movement. This is a really interesting process for me, because I have never worked with movement without my instrument. (Seeress rehearsal note 18 February 2013)

In later rehearsals, I explored the sweeping of arms around my head together with sound, while being aware of the emotions that stirred in me: something dark, heavy, perhaps despair. Inspired by this emotion, I built a synth patch consisting almost entirely of a bass feedback that I could only control (i.e. temporarily stop the feedback) by slamming my hand on the floor. I therefore ended up performing this scene – which became the Darkness scene in the performance – lying on the floor. The effective gestures consisted only of hand slamming, while all other movements – such as sweeping my arms, lying on the floor and sitting up from it – were ancillary gestures, functional not in controlling the sound but in expressing the emotional content of the scene.

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57 Also see chapter 5.
3. The Gestural feedback instrument

**REACH – embodied relatedness**

The fully developed gestural feedback instrument was premiered in the performance *REACH* on 4 September 2013. This piece was conceived as a reach into a third character in the relatedness between the dancer Angélina Jandolo and me, while Chris Kilding abstracted her movements onto a screen between us. The process was a frustrating path of malfunctioning technology and disorganisation, however, in a performance based on improvisation, we could use these confusions, disorientations and insecurities as materials or points of departures.

One challenge in the project was that my role changed from composer to a musician tasked with realizing the vision of Nicolas Salazar Sutil, who, together with Matthew Sansom directed us. They set us tasks such as ‘create a rhythm together’, which raised questions of what exactly is a rhythm. According to Ingold, rhythm can be seen as a resonance: ‘not a movement, but a relation between movements. Every such relation is a specific resonance’ (Ingold 2006b:77). Such a resonance is in *REACH* found between the movements of our bodies, of the sounds and of the visualiser’s images. In the music, I am searching for this resonance between effective and ancillary gestures and sound. Part of the rhythm consists of finding a rhythmic flow, what Graybill, drawing on Dalcroze Eurhythmics, terms *gestural rhythm* (in Maus 2010), and part of it consists of finding *kairos*, ‘the moment that must be seized’ (Ingold 1995:23). The gestural rhythm is a dynamic intensity shape, with points of accents that helps to define the continuity of the gesture. It consists not only of rhythm as patterns of attacks and durations but of ‘all musical dimensions, including pitch, dynamics, articulation, etc.’ (Maus 2010:20). This approach emphasises the gestural qualities of rhythm over meter. Ingold speaks of *kairos* in the work of the skilled artisan when ‘human action meets a natural process developing according to its own rhythm’ (Vernant in Ingold 1995:23). This resonates with me because feedback is such a natural process, together with which I shape a rhythm, a resonance. In this context, the ancillary gestures become important rhythm creators with which kairos can be performed. A focus on kairos means that the flow of rhythm also continues in silence, if the right moment is seized.

Another main element of *REACH* consisted of exploring tipping points, a sort of reach into the eye of the storm, which I do at 4’06-4’16 in video 3. *REACH performance (excerpt)* and in
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video 15. Tipping point REACH dress rehearsal. When the feedback is in a relatively stable state, it is possible to excite it into instability by shaking the hand. Because the microphone is positioned inside the hand, the hand acts like a filter. By closing it, I am forcing a particular frequency to dominate, and shaking the hand destabilises the sound into a tipping point where it might break up. It is also possible to explore a tipping point through ‘balancing’, i.e. keeping the hand still to balance between stability and instability until another state emerges.

A main insight from this piece was that my body needs as much ‘design’ as the hardware does. I need body training, both to develop my movement vocabulary and to perform better. The complex relationality between performers is both physical and mental – it involves the bodymind, as John Britton (2013) terms it – and is further complicated by the audience: a relationality that needs practice. I was encouraged to perform more by one audience member who interpreted my performance as an ‘embodied Stockhausen’ which I took as a compliment! These insights led to the decision to create a solo performance to explore relationality within performance. This grew into Seeress, which is discussed in chapter 5.

Conceptual stream 3. Body training

What started with programming to develop timbral possibilities in my feedback instrument increasingly turned to a focus on gesture and the possibilities of the body. The perspective changed from tweaking synth patches to accommodate my movements, to instead teach my body to find movements within a field of gestural possibilities. Some of this work was done by exploring affordances of flat panel speakers, placing microphones on different body parts, working with small speakers etc. However, the main work of what became body training was done when developing performances with the instruments, particularly in the work with Seeress when I had the help of my collaborators Brian and Robyn. They both have a background as dancers and actors and taught me a range of exercises to develop body awareness and relatedness to the feedback instrument. These exercises can be grouped into three methods.

58 The term bodymind originates with Phillip Zarrilli (2008), who describes it as ‘a deeply felt, resonant inhabitation of the subtle psychophysical dimensions of the body and mind working together as one in the moment’ (p.4).
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The first involved working with movement while playing the instrument, for example through observing the effective gesture I was using for playing the instrument and then contradicting, enlarging or developing it while listening to the effect on the sound. Another example is to embody the live video images, for example in the Chaos and Destruction scene (at 16'10-18'41 in video 6. Seeress Gävle).\(^{59}\) The video images consist of explosions that approach from a distance, which I sought to express with my body, while simultaneously observing the response in the sound. These expressions were remembered by the body and could subsequently be incorporated into the scene in the performance, where they could transform from ancillary gestures to effective gestures.

The exercise in the Chaos and Destruction scene was also carried out in the second method: working with movement without the instrument. By focusing on movement alone, I was able to expand my movement vocabulary. Exercises included improvising movement and then changing it: extending it, making it smaller or larger, quicker or slower, doing the opposite. An example of working without the instrument is the awareness exercise that became the Darkness scene (described above). This exercise also exemplifies the third method of working with movement: what I term found movement. This entails bringing movement that I have encountered and found interesting into playing with the instrument and explore both how it sounds and how any emotion connected to the movement influences performing with the instrument. Another example of found movement is the sensation of the waves swaying my legs while I was sitting on a rock in the sea by the Greek island Lesbos.\(^{60}\) By memorising this sensation and the movement of my legs, I was able to incorporate this found movement into the Floaty section of Seeress (see video 6. Seeress Gävle at 8'04-11’19). It thus reinforced the floating sensation I was aiming to convey and strengthened the physical and emotional expression of this section.

Lesbos – Duende training

To further develop my performance skills and body awareness, I attended a performance workshop held by DUENDE\(^{61}\) in Lesbos, Greece during two weeks in July 2014 together

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\(^{59}\) See chapter 5 for a detailed structure of Seeress.

\(^{60}\) This was part of the DUENDE workshop, see below.

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with 15 other participants. The workshop was led by John Britton, whose book *Encountering Ensemble* (2013) describes his method of psychophysical training, *Self-With-Others*, which was used during the workshop. The method is based on improvisation and focuses on the relationships between strong individuals in an ensemble. The most important part of the training was the ball game, in which we simply threw juggling balls between us. This deceptively simple method serves as a powerful metaphor of communication and ‘as a mirror in which the participant can observe the self and, through observation, come to know then change that self’ (Britton, no date). The ball game training in the mornings was immediately converted to performance – solo or in ensemble – in the afternoons. In my short performance *Cement Mixer*, I performed with, inside and around a cement mixer, exploring different physical relations to it: treating it as a sculptural object or musical instrument as well as a fellow performer.

![Figure 4. Cement Mixer in Lesbos](image)

The DUENDE training formed a foundation for the work with my solo performance *Seeress*. It was valuable because it provided an opportunity to perform with other people, which not only improved my stage presence and performance skills, but also introduced a way to improvise in relatedness. Particularly useful for me was that I had to face my blockages: particularly that my thinking makes it difficult to respond to movement and

62 ‘The ball, through flight, is the direct, physical manifestation of one performer’s passing of energy to another. If both the thrower and catcher learn how to pay precise attention to the details of the ball’s flight, both can learn about the reality of how energy is passed, received and transformed, without that reality being concealed or misrepresented by intention or expectation.’ (Britton, no date, no page *The Ball Game*).
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action in the moment. I had to learn to let go of blocking thoughts, to instead trust the responses of the body. I could directly draw on this experience when performing in *Seeress*, in which I conceptualise sounds and objects as subjects and therefore as much persons as my fellow performers in the Lesbos workshop.

Conceptual stream 4. Corporeosonic states of relatedness

While working with the instrument, the conceptual importance of feedback grew. I began to understand that the relationship I had with the instrument is based on the relinquishing of control, which enables an intimate relatedness in which I can be directly in touch with the sound itself. Conceptually, this makes it impossible to use a mapping strategy with sensors because it would change this relationship to one based on control. Sound artist Cathy van Eck explains:

> Microphone and loudspeaker have a feedback relationship; all the changes in the sound diffused by the loudspeaker cause changes to the audio signal picked up by the microphone that again causes changes in the loudspeaker sound. This is exactly what makes working with loudspeakers and microphones interesting for me: using them in performance instead of sensors causes an interaction with the sound of the performance itself. (van Eck, no date)

Like van Eck, I am attracted to this directness. It is probably quite possible to create a similar kind of experience with sensors, but the awareness that I am working with feedback directly without controlling it, evokes another kind of experience for me. I shape the sound after my movement patterns and gestures, but each synth patch also affords a range of gestures that emanates from the timbre of the sound and how the feedback ‘wants’ to be played and which ancillary gestures it affords. When I explore this field of gestural possibilities, the instrument is teaching my body how to move with it. I collect found movements and place them in the field, which creates further gestural possibilities and sometimes new sounds, which in turn brings forth new movements. This circular process creates a space of relatedness, with each synth patch affording a different way of relating to the instrument. By teaching the instrument and learning from it, repeatedly, a bond and intimacy grows between us: a democratic, non-controlling and deeply felt relatedness in which the instrument is playing me as much as I am playing it. In the resonance between my movement and that of the sound, the space of relatedness opens up.
Corporeosonic states of relatedness

Both in the design stage and through performing with the instrument in a range of different contexts, I gradually came to discern what I initially thought of as different gestural qualities, but later came to see as different states of corporeal relatedness between the sound and me. The focus moved away from exploring effective and ancillary gestures to instead explore relatedness as corporeal states. This relatedness, though fluid and dynamically changing throughout the performance, can be distilled into five distinct states, which I term **corporeosonic states of relatedness**. I have arranged them in relation to degree of intimacy, where I see *control* as little or no intimacy, and the last state, *dissolution*, as a state beyond intimacy. In between these are the states of *agency, melting and immersion*. I am using the term immersion in a different way than when acousmatic music is described as immersive, and I will explain the difference.

**Figure 5. Corporeosonic states of relatedness**

**1. Control**

The control state is the state normally associated with the relation between a musician and her instrument. As I have touched on, this relationship is more complex than a purely ‘I-control-you’ relation, but in essence, the goal is to treat the instrument as an object whose
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behaviour should be controllable and predictable. The instrument in some conceptualisations becomes an extension of the body, ‘identified with the extension of the self; the musical device becomes a prosthetic’ (Young 2009:3). This seems to me to be the ultimate form of control. The instrument-object becomes incorporated into the body – devoured by the musician – and disintegrates until there is no instrument-object, only a musician.

In this control state, there is a strict hierarchy between subject and object, with the subject (musician) controlling the object (instrument), which is completely submitted to the will of the subject. The instrument is conquered and any sign of agency – or independent life – in the instrument is treated as a disturbance and ironed out. I do not see the relationship between musician and instrument in this state as intimate, because they are completely separate entities, one a subject and one an object. Neither do I see it as relatedness because it is one-directional from the subject to the object. In this state, sound is a quality of the instrument and is coerced from it by the musician when and how she pleases. I experience this state in synth patches that are directly responsive to my gestures without lingering and with sounds that are predictable and controllable, such as the more percussive sounds. Video 15. Corporeosonic control state at IDKA serves as an example of such a corporeosonic control state with the feedback instrument.

2. Agency

When the instrument is recognised to have an independent agency or desire that one can relate to, I enter into another state where relatedness begins. The instrument becomes anthropomorphised to some extent and changes from object to subject. The relatedness can consist of a form of conversation or dance: when I am working with the tipping point of the feedback instrument, I feel engaged in an intensely deep conversation with the system. Because this communication is wordless, I also think of it as a form of dance, where our behaviours follow each other in a continuous flow, rather than the back-and-forth flow of a conversation. I further experience agency when ancillary gestures are used, for example in video 9. Ancillary gestures and rhythms in REACH rehearsal between 0’00-4’04 where both dance and dialogue qualities are present. Not only the instrument, but also the sound itself – or indeed any other component of the performance space – can be experienced as having agency, and thereby opening itself up for relatedness. There can be different degrees of
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intimacy in this conversation or dance, but this state is fairly non-intimate: more of a polite state or a friendly state, or as if the sound is a fellow musician.

3. Melting/attraction

Immersion, melting and dissolution

The diffusion of sound is a sort of melting. Matter, the material source, the physical, undergoes metamorphosis through vibration into image, then echo, and finally silence, and after-image. In one sense sound is exactly that, the transformation of motion into image. But through art, sound can be made to heighten our experience of the later stages of this transformation. The physical is vividly re-experienced in its transformed, melted, state. The melted state, in contrast to the material state, is not confined to one location; it is all around, and, as image and after-image, in some sense permanent. It is the condition of the physical which is not separate, but continuous with us, and which remains within us. There is the notion of melting in love.

(Charles Curtis, no date)

In the above quote, Charles Curtis describes Radigue’s music as a process of transformation or metamorphosis: the physical enters a melted state; motion transforms into image. The last state, the melted state is where we are continuous with the physical without separation. This description resonates with my experience of playing the feedback instrument, but for me, the transformation process has three states. Melting/attraction is the first, which then transforms into immersion and finally reaches what Curtis terms melted state, but I have chosen to term dissolution.

Melting/attraction

With the phrase ‘melting in love’, Curtis connects melting with attraction and intimacy. For me, melting is a metaphor for a state where two subjects are attracted to each other, and their intimacy leads them to not only touch each other, but also form themselves around each other in a form of melting. They are still separate subjects, but their borders have melted and are now viscous or porous, not as rigid as in the agency state. This state is one that approaches continuity between the subjects. Fraser (in Bennett 2000) uses the term ‘ecstasy of the dance’, in which individuals in intimacy, as Bennett describes: ‘lose themselves through continuous, rhythmic change; where there is an emphasis on continual becoming and a de-emphasis on permanence’ (2000:126). I experience this state of melting/attraction when I sing to the small speakers. The sensation of the small speakers as

63 For more about Bennett’s types of timelessness, see chapter 3.
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subjects with agency is strong, and I feel a close relatedness with them. They are played close to me – in my intimate space – and I touch them with my hands. When I sing to them, my face and mouth are very close to them. Not only is it an intimate act to place your mouth close to somebody, but the mouth is also an opening between the inside and outside of the body, that induces a sense of continuity between the sound and me. The sound of the voice grows from inside into blending with the outside sound; the outside sound reaches in and resonates in the mouth cavity. The sense of cavity is enhanced by the necessity of cupping my hands while playing, because the microphones are positioned inside them. Also the space between the standing speakers is experienced as a spherical space, bubble or cavity of sound. While sitting down with the small speaker, these multiple cavities and insides – the outside space and the inside space – create a private sphere, a den or a lair, in which the sound and I shape each other. In this mutual relatedness and attraction, the sound melts around my borders and in my cavities, but I also melt into the sound: it shapes my voice and my hands, thereby permeabilising my bodily borders. I gradually abandon the rigid physicality of my body and move in a direction of transformation. This mutual melting and the shared intimacy of hollow spaces constitute the corporeosonic state of melting/attraction, an example of which can be seen in video 6. Seeress Gävle at 28’20-30’00.

4. Immersion

Immersion is the next corporeosonic state, in which the closeness in the melting/attraction state has increased until there is a sense of not only the musician being immersed in sound, but the sound is immersed in the musician. Sound and musician are both subjects that immerse each other, one within the other. The word immersion has strong connotations of liquid, as it originates in the Latin word mergere, which means dip, plunge, immerse; overwhelm; sink, drown, bury (latin-dictionary.net, no date). I see this state as one in which my body and the body of the sound are gradually liquefying so that they closely envelop each other. This is a form of touch that is closer than that of melting, as it is ‘wetter’: the viscous state of melting has transformed into a fluid state of immersion.

The term immersion is often used in acousmatic diffusion, but in such concerts, my sense of immersion is different: I certainly feel surrounded by the sound, but my body is separate from it, not in intimate relatedness with it. To be intimate, the relatedness needs two

64 In proxemics, intimate space is defined as either close intimate space: less than 6 inches (15 cm) or far intimate space: 6-18 inches (15-46 cm). (Hall 1990:117).
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subjects with agency, two bodies with inertia, imperfections and desires. The acousmatic experience on the other hand, is often one-directional: I can respond to the sound, but it does not respond back. Acousmatic diffusion seems to be more about creating an image of a controlled surrounding space that is spatially realistic, even if the sounds are abstract. In this world, my body is inactive. Acousmatic immersion can be tainted by a form of contact phobia: as audience we are impressed with huge, beautiful spaces that surround us, but they do not touch us. We are properly and chastely separated from this sound so as to not exchange any fluids with it. In the continuum between control and intimacy, acousmatic immersion is more concerned with control than the corporeosonic immersion state. The relatedness between music and audience is one where the music (and in extension the composer) asserts control and power over the listener. We are made to feel in awe over the display of virtuosic control: mentally overwhelmed rather than corporeally immersed, and not in touch, not in relatedness. In contrast, Radigue’s music immerses us in a bath, placing us in touch with, and in relation with, the sound. Our bodies touch and this touch liquefies. This strong, fluid, enveloping touch is a prerequisite for the corporeosonic immersion state.

In video 16. Corporeosonic immersion state, I am experiencing this state.

5. Dissolution

The last state of corporeosonic relatedness is dissolution. This is where resistance disappears, my boundaries completely dissolve and I become completely liquid. I then find myself in a state similar to what neuroscientist Jill Bolte Taylor experienced while suffering a stroke that gradually destroyed her ability to walk, talk, read, write, or recall any of her life:

> I was aware that I could no longer clearly discern the physical boundaries of where I began and where I ended. I sensed the composition of my being as that of a fluid rather than that of a solid. I no longer perceived myself as a whole object separate from everything. Instead, I now blended in with the space and flow around me. (2006:42)

> The energy of my spirit seemed to flow like a great whale gliding through a sea of silent euphoria. Finer than the finest of pleasures we can experience as physical beings, this absence of physical boundary was one of glorious bliss. (2006:67)

In this state, we lose our separateness and our borders. Curtis describes a melted stage, but I term it dissolution to emphasise its complete fluidity. In this state, the parts of the individual
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personal\textsuperscript{65} are completely dissolved into fluid, not melted into a malleable gel or paste. I dissolve into sound and it dissolves into me. I don’t know if I am controlling the sound or if it is controlling me: in fact nobody is controlling anything. Control ceases completely and pleasure replaces it; we flow, float, stream through each other, bodies in a state of sound.\textsuperscript{66} I don’t experience myself as (having) a body, but as being sound.

This state is not the same as that described earlier as the non-intimate state of control, in which the instrument becomes incorporated into the musician through control. This is the opposite: a state \textit{without} control, but with mutual dissolution. The idea of intimacy in this state loses its meaning: intimacy requires a certain amount of separation, but in dissolution there is no separation so intimacy is impossible. Dissolution is in a sense therefore the opposite of intimacy: no body, no inertia, no desire. It is a state of pleasure, freedom and relinquishing control.

This might be a spiritual state, similar to what Arnold Steinhardt describes as \textit{a zone of magic} when performing with the Guarneri String Quartet: ‘almost like sleepwalkers, we allow ourselves to slip into the music’s spiritual realm. It is an experience too personal to talk about and yet it colors every aspect of our relationship.’ (2000:10).\textsuperscript{67} I experience this dissolution when listening to music that is spiritual such as Radigue’s or my own piece \textit{Ayvalık And-act}.\textsuperscript{68} This piece is composed from an experience of hearing Turkish prayer calls from a perspective close to lapping water. Feedback sound also has a spiritual quality, yet corporeosonic dissolution is a state that I rarely enter when performing with the feedback instrument. I describe a dissolution state when performing \textit{REACH} in chapter 4. Another of these rare occasions can be seen when I am performing with butoh dancer Gonzalo Catalinas in 2016 in video 8. \textit{Zaragoza Ice} at 20’26-22’17. A third occasion is described in a reflection on performing with the small loudspeaker:

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\textsuperscript{65} See chapter 5.

\textsuperscript{66} I am paraphrasing Wayne Bowman and Kimberly Powell’s (2007) ‘body in a state of music’: the state of shared musical actions, what Christopher Small terms ‘musicking’, which is ‘as close as anyone can ever get to resonating with another person’ (Blacking quoted on p.15). However, in the dissolution state there are no bodies that can resonate: they are instead dissolved into a state of sound.

\textsuperscript{67} Steinhardt sees this state as ‘moments of true intimacy’ (2000:10), while I see it as beyond intimacy.

\textsuperscript{68} This is an acousmatic composition that is not part of the portfolio of this thesis.
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In some moments, especially if I use my voice, there is a dissolution between me and the sound, we become part of each other, strömmar genom varandra.⁶⁹ This is a form of alive because I feel as part of something bigger than me, perhaps something spiritual or the sensation that there is a connection with something or a resonance or a certain type of recognition. Perhaps. There is a communication. (Rehearsal notes, 6 March 2014)

Summary

In this chapter, I have described how I have developed a gestural feedback instrument inspired by the discovery of shaping sound and interacting with an instrument that I perceived as having agency, a form of life. This development encompassed four conceptual streams. The first focused on the technology and how I could control the instrument to have as wide a range of timbres and expressive possibilities as possible. The second focused on ancillary and effective gestures in kinaesonic performance. In the next phase, I ‘designed’ and trained my own body; and in the last phase, I moved beyond control to instead explore the kind of relatedness I strongly feel with this instrument. This led to a system of five corporeosonic states: fields of gestural possibilities or spaces of relatedness. I described these in relation to increasing degree of intimacy and made a comparison between the corporeosonic state of immersion and the immersion that is experienced in acousmatic diffusion.

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⁶⁹ This is a quote from the Ingmar Bergman film Fanny och Alexander, (1982) which translates to ‘streaming through each other’. The full quote translates to ‘Perhaps we are the same person? Perhaps we have no borders? Perhaps we are flowing through each other, streaming through each other, boundlessly and splendidly.’ (My translation).
Touch and intimacy

Tactility has always been an important quality of my composed music. I enjoy sounds with a textural quality that I can feel in my fingers while composing, and I frequently spatialise these sounds close to the listener, within reach of their touch. The tactile sensation of shaping sound with my hands was what initially attracted me to feedback: for the first time I was able to work in direct touch with sound itself, without it being mediated through an instrument or computer that needed to be controlled. I could relate to this feedback sound because I could touch it and it reacted to my touch.

So how can we think about touch?

Deniz Peters describes how, in acoustic music, the touch of the musician is a subtle but crucial part of the music, and how this tactility is shaping the quality of the sound produced. But he also describes another aspect of touch, namely ‘invisible meetings of bodily presences, with bodies being those of listeners, of the music, and of the sound vibrations and instruments’ sonic identities’ (2012b:19). This touch is situated between two materialities: the physicality of performance and the tactile experience of the sounds, situated in our own bodies, as if the music has an invisible but tangible body (2012b:19-20). Here Peters attributes corporeality also to immaterial objects, or immaterial entities like music itself, or the vibrations of the sounds. In these propinquities, felt through touch, we experience the music and the sounds intimately, beyond the literal sound-producing tactility. Peters lists four such aspects of what he terms apparent touch:

• We hear musical gestures other than the performer’s playing gestures
• We can be ‘touched’ by music
• Music can be described in terms of tactility, textures etc., in terms of visceral experience – as felt in the body – or as if it has a body.
• The blending of sounds from various sources (as in harmony) can be seen as a form of touch other than what is literally done by the musicians.

Both literal and apparent touch are also present in electronic music, where literal touch refers to touching the interface, while apparent touch is either composed into the sound or
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imagined through our listening. In this chapter, I will describe how literal touch and apparent touch have been explored in my music.

**Literal touch**

Playing the feedback instrument, I experience a combination of literal and apparent touch: I can feel the actual vibrations of the lower frequencies in my hands and my body, while the higher frequencies feel ‘as-if-touch’ because they are influenced by my hand movements and shapes. Working with the feedback instrument stirred a longing for bringing objects into my feedback world: I was curious about how reflective objects would influence the feedback sound, and how increasing this literal touch would influence the music. For this purpose, I designed a live electronics setup that was more portable than the feedback instrument and that included both a MIDI controller and internal, electronic feedback in addition to the microphones and Nord Modular system. In this system I placed the two speakers on the floor facing upwards, which enabled me to play sitting down. I used the system in the performance *The Earth Will Absolve Me* in which I explored touch as intimacy in a performance art context. In the performance *Cheap Blue* I used a scaled-down version, using only a MIDI-controller and internal computer feedback.

**Intimacy and control**

Jeffrey M. Yau et al. (2010) note that 'objects we palpate must be in close proximity to our bodies’ (p. 1). This is why touch is strongly connected to intimacy: what I touch becomes intimate because it is close to me. The opposite is also true: whatever touches me is perceived as in close proximity and therefore intimate. If I feel the vibrations of music in my hands, in my skin and in my bones, the perception is that music is close enough to touch me and therefore intimate. The touch must not necessarily be gentle, but the gentle touch, the kind touch, stands in opposition to the control that is commonly associated with the relation between musician/composer and music technology. In this technological relationality, sounds are wrenched, wrought and wrung out of technology and described by aggressive and brutal terminology: the Behringer MIDI Foot Controller FCB1010 gives you ‘killer flexibility’ (www.sweetwater.com), Microsoft’s Kinect can be turned into a ‘killer controller’ (Chen 2011) that allows you to hit the air for drum sounds, and the MIDI

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*70* See for example the YouTube subculture ASMR, in which videos are produced where intimate sounds in close proximity to the listener are used to induce a state of pleasure: ‘tingling sensations’, similar to meditation or flow states, separating intimacy from sexuality. (Etchells 2016).
4. Touch, intimacy and living individuals

Fighter is ‘[b]uilt like a tank to survive a beating on stage and in the studio’ (www.midifighter.com). In this narrative, music can only be created through violent control of sounds. With the gentle touch, on the other hand, this relation changes from the control-touch to the intimate touch. True intimacy is never about control. 

The gentle touch

In the performance *The Earth Will Absolve Me*, five performers and a musician explore concepts such as intimacy, body image and femininity in an installation space where the floor is covered with compost, and there are some props in the form of beetroots, tomatoes, old pieces of carpet, tea lights, a ladder and some urns containing liquids, henna powder, incense. Outside the performance space, two of the performers, blindfolded, wash the feet of the audience before they enter the space. This act serves to emphasise the vulnerability of the performers as well as creating an actual tactile relationship between performers and audience. The slow and gentle movements also create an intimate space where time seems to run slower. The performance is 90 minutes long, but feels shorter. The slow tempo provides time to experience the intimacy, time to feel. The concept of the gentle touch became my way into the performance: I am thinking about intimate sounds as quiet ‘small’ sounds, material sounds, brushes, breaths and wet sounds in hollow spaces. The sounds of the hands: caressing, itching, nails scraping, hands washing feet, skin against skin. Intimacy comes close to sexuality and sensuality, but we tried to find the sensuousness that is not about sexuality. We discussed how to include the voice in the soundscape of the performance. I was hesitant, because words for me lead to the logical brain, the analytical and critical side of consciousness. However, the sounds of the voices can be experienced as intimate, especially if quiet or whispering, so we decided to combine this intimacy with the words that were ‘already in the room’.

During the rehearsals we did different exercises to explore intimacy. One of these, the patting exercise, was significant for me. It is a simple exercise: one person gently pats the

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71 A deeper exploration into issues around sexism in music technology is beyond the scope of this thesis. However, Margaret Lowe Benston believes that the question of control is a central one in understanding why present technology is inaccessible to women: ‘Domination over nature, i.e. control over the physical world, is a central feature of much present day technology. Part of the technical world view (which is the male norm, remember) is the belief in one’s right to control the material world. [...] Women generally do not think they have the right to control the material world and have little confidence in their ability to; as long as they doubt either, it is very difficult for them to use a technology created by those who accept domination/control as a given’ (2005:16), and ‘if one should want to live in some kind of cooperation with nature, rather than in a relationship of exploitation and domination, then very little technology exists to help’ (Dickson and Merchant in Benston 2005:15).
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body of another person, starting with the head and following the body contours all the way
down to the feet. In my rehearsal notes, I remarked: '[i]t was reassuring to be patted as it
felt like my borders were defined; this is where I end and other people begin. As if they
patted my skin thicker. To pat was also relation creating. I felt as if moulding their bodies
and understanding their bodies through touch'.72 Contradictorily, the exercise defined my
body as separate, while it at the same time created new relations to the bodies of the others.
Through this touching exercise, I realized that intimacy could be seen as Peters’ apparent
touch, the abstract touch that resides in between. There has to be some form of relation for
intimacy to happen, and in this exercise the literal touch created this relation, this invisible
meeting, this energy between us. The literal touch creates the apparent touch.

**Touch as individuation**

Another insight was the difference between being on stage as a musician and as a
performer. In the first performance ‘I found myself rather shy in the group, taking a
withdrawn role, a bit wounded and protective I felt’.73 This was because ‘[t]his kind of
work is so exposed, all your hang-ups and weaknesses are exposed which isn’t always
pleasant’.74 In the next performance, however, ‘[t]ouching things became important. I also
tried to sustain things for longer than I usually do, which I don’t think I really succeeded
with, except the last feedback section’.75 This change in attitude was the result of a process
in which I had started to develop a stage presence.

Philip Auslander (2006) points out, referring to Graver, that although an actor on stage
might be portraying a character, in watching this actor perform ‘we have the sense of being
in the presence of a liminal phenomenon that mediates between the real person and the
character’ (p. 102). We not only see the character, but also the real person, or rather, the
version of the real person that consists of the actor person performing on stage. Graver
calls this the ‘personage’ while Auslander uses the term ‘persona’, defined as ‘a performed
presence that is neither an overtly fictional character nor simply equivalent to the
performer’s “real” identity’ (p. 102). In a musical context, Auslander argues that

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72 From rehearsal notes 8 November 2013
73 Reflections on the performance the 12 November 2013
74 Reflections on the performance the 12 November 2013
75 Reflections on the performance the 12 November 2013
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there is an entity that mediates between musicians and the act of performance. When we hear a
musician play, the source of the sound is a version of that person constructed for the specific
purpose of playing music under particular circumstances. Musical performance may be defined,
using Graver’s terms, as a person’s representation of self within a discursive domain of music. I
posit that in musical performance, this representation of self is the direct object of the verb to
perform. What musicians perform first and foremost is not music, but their own identities as
musicians, their musical personae. (p. 102)

These personae are defined through social interaction and not a direct representation of the
individual musician’s personality. Unlike Godlovitch, Auslander sees the performance not
as self-expression, but as a form of self-presentation.

We performed The Earth Will Absolve Me for two days in November 2013, but also on 31
October 2014, a year after the first performances. This later performance differed from the
first in terms of stage persona. In the time in between the two occasions, I had developed
the Seeress performance in which I played two characters, beside my persona as a
performing musician. Whereas in the first performances of The Earth Will Absolve Me, I
sought to distance myself from the persona of the quiet background musician and explored
alternative ways of being physically present on stage, the context of relationality with the
other performers became much more defining in the later performance. In the first case,
my persona was an electronic musician, while in the second case, I was searching for a
character. Which presence was I performing in the relationscape of the other performers?
The electronic musician was still there, but another presence emerged through our
interactions on stage. In the first case, I was moving between performing the music (while
sitting at my music station) and performing a persona (while on stage), whereas in the
second case, these two seemed to have merged. The on stage character was also the one
who sometimes operated the music station. Creating music became one of the actions that
the performers performed in the ‘journey’ that explored each individual’s personal relation
to intimacy, body image, beauty, femininity etc.

Touch as movement

From Erin Manning’s (2007) perspective, the very act of reaching out to touch is what
creates who I become on stage:

When I touch you, I re-place both you and myself within the governing system of the body-
poltic, drawing to our attention the limit-space between your skin, my skin, and the world.
This act of engendering recasts the matter of bodies as well as their form. This happens through
a “force field” which is released in the act of reaching-toward that qualitatively alters the space
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and time in the relation between bodies. This field of forces is as concrete as it is virtual. As a practice of relation, touch reaches toward an exposition of matter and form as processual states. When I reach to touch you, I touch not the you who is fixed in space as pre-orchestrated matter/form. I touch the you that you will become in response to my reaching toward. (Manning 2007:87)

Manning sees touch as a movement that enables the relational creation of worlds, and that enables the process of individuation, understood as the capacity to become beyond identity: in reaching out to touch, I ‘invent a relation that will, in turn, invent me’ (Manning 2007:xv). Or as sculptor Rosalyn Driscoll explains, the movements of touch ‘generate a nuanced sense of self for the person who is doing the touching. Movement conveys the location, speed and quality of one’s motions; I know who and how I am through my motions’ (Driscoll, no date:n.p).

Touch-as-movement then functions in two ways: it creates worlds of time and space, worlds as processual states, dynamically altered through the moving touch. In these processual states, also the bodies are created and becoming, both the forms and the matter of the bodies, as in the patting exercise described above. In this shaping, the self becomes engaged in a process of individuation, in which the sense of self is refined and nuanced. In this way, touch-as-movement is both a literal touch and an apparent touch.

Apparent touch

Jaana Parviainen (2012) uses the Husserlian term ‘as-if-touch’ when describing apparent touch in which dancers differentiate between materials and textures of the sound, and how sounds can enter their bodies and become their voice or breath.  

This touch is not actually a touch, but experienced as one, which stimulates the dancers’ kinaesthetic body memories: emotions and experiences that are stored in our bodies. Through movement, the tactility of touch can bring strong sensations from the past into the present moment. However, not only can the sounds enter our bodies, our bodies can also extend into sound, as Peters describes by drawing on Merleau-Ponty’s concept ‘the lived body’, the idea that our bodies are not static, but in constant change as we actively ‘live them’, i.e. modify them and inscribe them with our experiences, our memories, and our emotions.

76 “The dancers reported experiences, such as they felt as if they “touched” the sound, as if a certain spot in space was “thicker” or “magnetic”, or as if sound “entered” them, becoming their very own “voice” or “breathing” […] Dancers tend to behave and move as if sounds were located in surrounding space, close to their skin or even inside their bodies, despite knowing that they come from the loudspeakers’ (Parviainen 2012:74).
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When we hear sounds, we are using our experience of how sounds are made. We have previously connected a haptic quality with a sonic quality, and when this connection is activated through something we hear, we imagine actions, as well as the feelings connected to them. Through this touch-sound relation that we carry in our lived bodies, we are able to extend into sounds: as Peters puts it ‘feel into the heard, in a sort of haptic completion’ (2012b:22). This experience is not necessarily, as Godøy claims, an internal representation of a musician performing the music, but we are imagining what has gone into the making of a specific sound. As an example, Peters uses a sustained piano tone, which we might perceive as if it is constantly being made or constantly making itself, i.e. behaving in a ‘piano-tone-γ’ manner. I will return to this idea of behaviour later.

Creating worlds of time and space – *The Earth Will Absolve Me*

In the performance of *The Earth Will Absolve Me*, I moved around the stage with lavalier microphones inside my hands to ‘collect’ intimate sounds, but in doing so, also made myself present in the situations that created these sounds. By stretching out my hands towards the sound creating actions, I became part of them, but in a sense also a presence where my role was one of blessing or enabling the ongoing relationality that was afloat in the performance. Perhaps I guided the relational streams in another direction; perhaps I submitted to them and carried the sensation through sampled sound home to my ‘sound station’, adding another layer of materiality to the soundscape already present in the room. By furthermore feeding the sounds back through the loudspeakers, a soundscape emerged which was responsive both to the sounds in the moment, and the sounds that were there a moment ago. My goal was to make the sounds organically grow out of the compost on the floor, so as to not lose touch with the energies in the room, and to gently protect the relations in the performance. After one of the rehearsals, I reflected on my experience of this approach: ‘there is an amazing fragility, vulnerability, intimacy and warmth in this performance, I’ve never quite experienced anything like it. Is it live art? Or what is it? Physical bodies in a space. Extraordinarily moving.’ The experience of being able to create music while moving around on stage was profound. I was able to be physically close to the performers, instead of being fixed behind my electronic gadgets. To explore intimacy without the intimacy would have been meaningless; instead this allowed me to explore musical intimacy through physical closeness to the performers.

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27 From rehearsal notes 9 November 2013.
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**Creating worlds of time and space – Cheap Blue**

In *Cheap Blue*, dancer Joop Oonk and I created other worlds, other soundscapes through exploring the idea of resonances. I explored resonances in filters, i.e. internal feedback in a live electronics setup, and Joop explored the resonances of sounds within her body and in her hearing. This led to a focus on the way these sounds create spaces through how they resonate. Another important concept in this performance was the Ugly, which I explored through limiting myself to using sounds that I find ugly. These sounds served as an alternative to the aestheticized music that often accompany contemporary dance. In such performances, the body is conceived of as fragile, soft and beautiful, and the accompanying music takes a detached, unobtrusive role to the point that it becomes insignificant and the dance performance might actually improve without it. Music is trying to be too ‘nice’ or too ‘beautiful’. I would argue that a body could also be strong, ugly and hard, shaped in relation to the context in which it lives, as expressed by the music.

The sine tone in the beginning (which is actually a feedback in a filter) serves to ‘nullify’ the room. It is shrinking the space into an absolute zero point: a point rather than a space. When Joop starts moving her head, she listens to the way the tone resonates in the room: the sound changes depending on how she moves her head. These head movements become the start of the expansion of the space from a point into a room. A square is marked on the floor, the inside of which Joop explores through moving around and listening to the quality of the sounds. For me, these sounds are suffocating and restrained. They are stirred up by the equally restrained movements of Joop, who seems to be confronted by the apparent walls of the square: walls created by the music. The spatiality here is not an immersive soundscape, which, in acousmatic music, refers to a composed multi-channel space, in which the music is carefully constructed to convey a realistic sense of space, even if the sound material is abstract. Such spatiality can be experienced as both immersive and strangely impassive at the same time: as if the sounds are not within touch because of their distant placement in an immense space and because their beauty and polished surface deprives them of character and personality and therefore intimacy. Though impressive and beautiful, such spatiality does not move me, ‘touch me’ the way tactile, close sounds do.

The sounds of *Cheap Blue*, on the other hand, are pressing against the skin in an unpleasant way, restricting movement and freedom. They are more intimate than those usually found
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in an immersive, clearly defined space: there is no space here, only a dense stream of abstract ugliness, a stream that pushes against and through the skin. The body does not melt, immerse or dissolve into this spatiality: it resists the pressure of the unpleasant sounds, instead creating a close and intimate, but ultimately restraining space. And in this resistance lies another form of control: the repulsion of too much intimacy, of too much unpleasantness, the impulse to push away and protect the body and the self. In the tension between this impulse and reaching out for intimacy, touch is dissolved and materialised; oscillating between abstract and literal; creating worlds through this vibration and in the process dissolving time and space.

Paul Carter (2014) describes this touch from a performance perspective: ‘… to trust the evidence of touch is to inhabit a world where the body is continuous with the skin of the world. The essential drama of turbulent performance, then, is the breakdown of self-other divisions; with this the old coordinates of time and space also dissolve’ (p. 4). The concept ‘turbulence’ in this context originates with Eugenio Barba and his notion of a ‘dramaturgy of changing states’, which is inspired by feedback, as Carter describes:

It is the phenomenon of feedback: or, more exactly, it is the self-conscious awareness of the power of feedback mechanisms to inaugurate new behaviours. It is associated with changes of state that appear spontaneous (or unscripted) because they respond to or interact with surface phenomena in real time. As the response involves recognition or coding, the emerging states are not meaningless but incorporate, consolidate and complexify. (p. 1)

**Touching the invisible – REACH**

The performance REACH is a reach for the abstract. Performing with a video screen between us, the dancer, Angélina, is reaching for the sound and I am reaching for the virtual body: the abstracted visualisation of her body and its movements on the screen. In the performance, a third entity appears through touch: the reaching forms a liminal space where multimodal shape appearances form. The sense of this entity, neither visual nor aural but both, is the focus of the performance. I had a strong sense of being in touch with it in the performance, an example of Peters’ apparent touch in that I experience it without it being materially present. I touch the invisible through my movements and sounds, Angélina through her movements.

In the performance, I am also literally reaching out towards the loudspeakers, two of which are placed on stands slightly above head height and just out of reach for my hands, and two
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on the floor in front of and behind me. In this reaching, I search for the tipping point of feedback: the liminal space from which the entity we are reaching towards might emerge. The tipping point is a point of balance, where the volume of the feedback stays stable, but from which something else grows, sometimes suddenly, sometimes in the form of a small change in timbre that can be excited with the movements of the hands and that sometimes leads to surprising new sounds. According to Carter, this feedback behaviour is also present in the scale of the physical performance: 'similar feedback loops between bodies and machines, between animate behaviours and interactive environments, not only produce new patterns: they may access fundamental cognitive processes of continuous selforganization (or autopoiesis) that traditional performances have had to induce corybantically' (Carter 2014:2).

I sometimes experience these emerging states as a form of dissolution, but one in which the parts do not necessarily become completely transformed into something else, but only halfway absorbed, still retaining traces of what they were before, contributing to the complexity and intricacy of the new state. To enter into the feedback loop with your hands and your skin means becoming part of the feedback loop, becoming vibration. The skin serves as a membrane between inner and outer, but in this extreme form of touch, the dissolving touch, the skin dissolves, so the organs can vibrate freely without being constricted by the skin. The dissolution is therefore also an expansion of space, a limitless flow of sound, where there is no difference between the sound and anything else. Everything is sound. Everything is vibration.

The tipping point before dissolution is the point of no return. It is profound and universal, because it is the last grasp before yielding. It is the point where all fears are condensed into a last grip, before crumbling or dissolving or giving in. It is the sweetness of defeat, it is the fear of success, it is the ‘I will drink your cup of poison […] take me Now, before I change my mind’. It is the breathless point of stillness – maybe death? – before the orgasm. In this sense, it is the most intimate point possible. The most silent tension, the tension before release. In drama, this is the point of peripeteia, but feedback has the ability to extend this point into a state, a sensation of infinite intimate touch.

78 This is a quote from the lyrics by Tim Rice of the song Gethsemane in the musical Jesus Christ Superstar. Jesus sings this song at the tipping point of the musical when he accepts that his fate is to die on the cross. Available in Rice 1999.
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In *REACH*, in the tipping point, in this point of stillness, I am reaching for, searching for the reasons for vibration, the cause of circular causality, and the circle of life itself. Maybe I am reaching out to touch the invisibility of life?

**Living individuals**

**Behaviour, indicative fields and morphologies**

The term behaviour is used in electronic music to describe sound ‘masses’ that cannot be controlled in detail, but only in overall behaviour. Smalley (1996, 1997) writes about behaviour in an electroacoustic music context in relation to *source bonding* and *indicative fields*. Source bonding describes a way of interpreting the sources or causes of sounds and their intentions, through how closely the sound is bonded to its source. In abstract music, source bondings are revealed through ‘gesture and other activity involved in sound-making’ (1997:110). Whether these gestures are the result of actual gestures or imagined by the performer, they are helpful in determining the behaviour of a feedback system, as Keep (2008) has noted. Musicians act and respond to what they hear as an action in the music and are therefore relating to an agency perceived as alive and inherent in the sound itself, either stemming from an imagined other musician, or from the sound as an agency in itself.

With the term *indicative fields*, Smalley wants to ‘explain the links between human experience and the listener’s apprehension of sounding materials in musical contexts’ (1996:83). Behaviour is one of the ‘archetypal’ indicative fields together with gesture and utterance that are seen as original universals, and is described as ‘certain modes of human relationships, observed relationships among things or objects, or human-object relations’ (1996:83). Smalley frames three major areas of behaviour: dominance/subordination, conflict/coexistence and causality. These areas may be relevant for the specific type of electroacoustic music that Smalley represents, but offer a very limited view of possible human behaviours, and in fact are leaving out many of the human behaviours relevant for my music. I am not as focused on conquering, controlling or dominating my sounds, as I am in creating loving, friendly or collaborating relations with them. I am furthermore composing my sounds to relate to each other in similarly living or friendly ways. There is
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room also for behaviours such as attraction, nurturing and care in electroacoustic music, if we consider these to be meaningful relations between humans (and objects), which I do. Video 17. Behaviour in REACH dress rehearsal is an example of how such relations in music can be dynamic and complex in more ways than those suggested by Smalley. This clip starts with a gentle approach to the small loudspeaker on the floor, but when it responds with a loud sound, my movements change into something similar to baking bread, shaping a sphere, warming hands over the fire. I explore how the baking bread movement can grow in size and end up slamming the loudspeaker in increasing frustration. There is an interplay here with movements that evoke feelings in me, and feelings that evoke movements. I am opening up for reactions: to the sound, to the movements and to the emotions, and allowing all of them to influence each other.

The role of the musician during feedback performance is, according to Keep, to shape behaviours. Drawing on Trevor Wishart’s intrinsic and imposed morphologies and Stan Templaars’ micro-modulation, Keep suggests three performance strategies that are responsive to the intrinsic sonic behaviours of feedback (p. 59-62). With the ultimate goal to balance between, or explore the continuum between, instability and control, the musician may facilitate feedback through for example a gain control, influence the sound from inside the feedback loop or impose processing to the sound’s morphology outside of the feedback loop. These performance strategies can be deployed during the configuration stage (the instrument design), the excitation stage (activation of the feedback) and the interaction stage (the performance). Though technologically correct, I do not recognize Keep’s description of what performance is about. He has a strong focus on control, while I am also exploring movement – my own and that of the sound – in a context of sound. These movements may or may not be affective; they may or may not be ancillary or effective. I am interested in the continuity of behaviour and how it develops. I am interested in how emotions are expressed through my movements and how they influence my movements to influence the sound. I am interested in relating to a music that is alive.

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79 See chapter 2 for a description of Keep’s behaviours.
80 Wishart suggests that sounds have both an intrinsic and an imposed morphology, where an intrinsic sonic shape is predetermined by the object making the sound. The imposed morphology is the external gestural shaping imposed by the performer. (Wishart 1996:177).
81 Templaar suggest that the intrinsic morphology of feedback can either result from the properties of the instrument itself or be shaped by the performer. Additionally, the performer can shape an outer morphology, i.e. the entire sound. (in Keep 2008:59).
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Living behaviour

As mentioned, feedback seems to inspire a special relationship with sound. In *Resonance* (2002) the idea of feedback as a living organism appears in the writings of Collins, Nichols, Myers and Lucier, and Michael Prime writes: ‘I have always preferred to work with sounds that have some independent life of their own, and which I cannot completely determine’ (2002:17). Most of these musicians comment on this special relationship in ways that point to the system, the instrument or the sound/music itself as something living, independent, with an agency and a behaviour of its own and in some ways equal to the musician. This perception is for me tied to a few specific qualities of feedback.

Firstly, feedback is seen as alive because it is independent and not quite predictable. When somebody or something behaves in ways we do not expect, it draws our attention. Feedback immediately becomes interesting when it *not quite* responds to our attempts to control it. We then explore it further to understand how it does respond: to what and when does it respond, i.e. what does it ‘want’. When the feedback sound does not follow what we want, we anthropomorphise it to want something of its own, to have its own goals, and in so doing we attribute it with a form of life with agency. The relinquishing of control is crucial: if the feedback sound followed our controlling gestures exactly, we would not think of it as having its own agency and it would cease to be alive.

Secondly, the way feedback sound appears from nowhere ‘as if there was energy waiting to be released’ (Rogalsky (2002:10) is a quality that, although perceived as ‘magic’, also points to a form of independent behaviour. The musician does not start the sound at a specific point in time, but it appears when it is time to appear: when feedback itself ‘decides’ to appear. Of course this behaviour can be more or less controlled, but it is one of the allures of feedback that I might have to wait for it: wait for the circles of feedback to grow strong enough to reach the singing point.

The circular causality of feedback is the third quality that renders it with a sense of life. Physicist Fritjof Capra (1996) has proposed that all forms of life have a common organizational pattern, in which circular causality and feedback loops are key characteristics. He describes how Norbert Wiener, one of the founding fathers of cybernetics, together with Julian Bigelow and Arturo Rosenblueth in 1943 introduced the
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idea that circular causality is ‘the logical pattern underlying the engineering concept of feedback’ (p. 58), and also for the first time applied it to the behaviour of living organisms. Capra concludes that ‘[t]oday we understand that feedback loops are ubiquitous in the living world, because they are […] characteristic of living systems’ (Capra 1996:59). In less scientific terms, Myers draws on Ouroboros – the snake that is eating its own tail – as ‘the symbol of a major driving force which animates the energies in these worlds, and the self-reflexive feedback principle is an inexhaustible source of new movement and fresh animations of these energies’ (2002:13).

Both when composing and improvising, I am searching for gestures, movements and behaviours that are expressive and meaningful to me. In the pieces Zaragoza Ice and REACH – both of which are improvised – I am listening for living behaviours: movements and gestures that evoke bodily responses in me. They can for example be stirring, crepitating, caressing, delightful, abrasive, sweet, light, soothing or strident. Smalley’s rootedness and earthbound also come to mind (1997:116-117). These bodily responses are what make the behaviour of a specific sound meaningful, make it special. The whole purpose of art, as Ellen Dissanayake argues, can be expressed in the phrase ‘making special’: art is ‘more real and less real than everyday reality’ (2003:21). So these are the sounds I am searching for in my music: the ones that are more real than the real life sounds; the ones that are special; the ones that invoke specific bodily responses in me; the ones that resonate in a special way.

Sounds as living individuals

Creating music based on the idea that sound is alive, has an agency of its own, and is defined by qualities and behaviours that imbues it with a feeling of life has a long history. Edgar Varèse saw sounds as active and intelligent with an ability to attract and repel each other: a ‘corporealization of the intelligence that is in sound’ (Wronsky quoted in Varèse and Wen-Chung 1966:17). Louis and Bebe Barron stated about their sound circuits: ‘we would consider them as actors’ (quoted in Holmes 2008:86). This view is further expressed by Casey O’Callaghan who explains that sounds are ‘particular individuals that possess the audible qualities of pitch, timbre and loudness. […] They enjoy lifetimes and bear similarity and difference relations to each other based on the complexes of audible qualities they instantiate’ (2007:17). He sees sounds as events rather than objects and as ‘creatures of time’ (2007:10), which stresses their nature as behavioural processes rather than static
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qualities. Rodgers further narrows the definition down to specific dynamic qualities, namely those ‘associated in some way with properties of organic matter, living organisms, or social life’ (2011:509). She has traced the metaphor of sounds as individual entities back to the 19th century in a context of scientific modernism where the organism became a fundamental unity in biology and the atom foundational to physics. When acoustics revealed the interior structure of sounds, they came to be understood as complex wholes with individual variations. These variations could be viewed as waveforms, which allowed comparisons with bodies in motion and organic processes like respiration and circulation. A final influential development was the identification of electricity as an animating presence in phenomena such as muscle movement and the growth of plants in the 1930’s. The sine tone in particular came to represent an almost spiritual quality through its association with aesthetic purity and neutrality, as it seemed to lack timbre, which was interpreted as lacking body. As electricity it had the power of eternal life, the potential to go on forever.

Sounds are living individuals to me, because they behave in ways that I physically relate to. This type of embodied listening⁸² is an important tool in the process of creating music: through observing how my body reacts to the behaviour of the sounds, I can deduce which actions or intentions I perceive from them, and how these are meaningful to me. As Zuckerkandl remarked, in listening we hear the sensation of movement (1973:71), which is what constitutes behaviour.

Living resonance

When I compose, I juxtapose special sounds – sounds with different movement qualities and different bodily responses – to explore the relatedness and resonance between them. Single feedback tones may appear as materialised relatedness: volatile, ephemeral, etheric; growing and shrinking; evaporating. A denser flow of feedback can serve as a dynamic background into which the single feedback sounds can subside. When the natural world is filtered out, the feedback is what remains: the relatedness itself abstracted into feedback – a resonance between living behaviours, living movements. The term resonance itself questions the idea that things have an essence or essential qualities, as Veit Erllmann

⁸² Also see pp. 52-54 on embodied listening for Eliane Radigue.
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argues, because resonance appears between things and is thus a relation that needs things in order to exist (2011:13).

Langer argues that all motion in art is growth, is bringing something to life (in Sheets-Johnstone 2013:27). This motion is felt as a bodily resonance, and our kinaesthesia is crucial in perceiving the resonances of living creation, both in the very creation of art (and music) and in appreciating the finished work (and music). The quest of music creation is therefore not only to explore different forms of life, different movements, but also to bring them to life and to keep them alive: staying in touch with their resonance.

In the performance Zaragoza Ice, a living resonance is present mainly between Gonzalo’s body movement and the movement of the sound, with my body movements and the way these movements shape the sounds functioning as a kind of mediator or sensor that stays in touch with and keeps the resonance alive. For example between 4’10 and 4’40 in video 8. Zaragoza Ice, my right hand floats on this resonant connection, the relatedness between Gonzalo’s movement and the feedback sound from the small speaker, my right hand as a sensitive float that senses the waves and streams of the resonant flow, the living behaviour and the complex yet organic movements of this relatedness. The hand in living motion is both a receiver of this flow and a transmitter of energy that shapes the movements of both Gonzalo and the sound: an object of feedback within the feedback of living resonance.

Between 11’55 and 12’30 in the same video, this living resonance has taken a form of its own: the flow of music has become its own entity that neither Gonzalo nor I am controlling, but instead following. This resonance includes all movements and materials present in the room: bodies, sounds, loudspeakers, audience. Gonzalo and I are improvising together, both of us relating to this relatedness which is created through the act of focusing on it and opening up a space of possibility for its becoming, but the resonance also takes on a living shape of its own that in return shapes our improvisation further.

Resonant stillness in REACH

In REACH, the living resonance is manifest in a particular form, what I term resonant stillness. This state is especially clear in video 13. Tipping point in REACH dress rehearsal in which the sound is allowed to breathe and develop according to its own flow. Instead of
4. Touch, intimacy and living individuals

actively shaping the sound, I am doing the opposite: calming it down into stillness, gently exploring this space of resonance, this place of delicate subtleness. This stillness is alive because it moves: breathes like the lapping wash of waters, changes colours like autumn leaves, slowly transforms into new timbres. These small gestures resonate in our bodies: a resonance between the movements of the musician (or the composer), the music and the listener. As Blacking expresses it: ‘[T]o feel with the body is probably as close as anyone can ever get to resonating with another person. [...] [I]f music begins, as I have suggested, as a stirring of the body, we can recall the state in which it was conceived by getting into the body movement of the music and so feeling it very nearly as the composer felt it’ (Blacking 2000:111). When we listen in stillness, our bodies resonate. According to Sheets-Johnstone, listening to music in stillness does not mean that the listener is disinterested. Our bodies resonate with the music with slight movements that are initiated but not carried out fully, what is termed ‘tentative movements’ and ‘incipient movement responses’ (Sheets-Johnstone 2013:33-34). These kinetic resonances are congruent with specific emotions such that ‘the dynamics of the work resonate kinetically and affectively, and we resonate in our rapt stillness before it’ (p. 34).

Summary

In this chapter I have discussed touch as literal and, exemplified through the piece The Earth Will Absolve Me, how this touch can be conceptualised as gentle, as a form of individuation and as movement. I have discussed apparent or as-if-touch and how it can be conceptualised as creating worlds of time and space, as in the piece The Earth Will Absolve Me, and as invisible as in the piece REACH. I have critiqued the focus on control in music technology to instead advocate a focus on intimacy and I have critiqued Smalley’s limited account of human behaviours active in electroacoustic music. Through the pieces REACH and Zaragoza Ice, I have also explored sounds conceptualised as living individuals, as suggested by Rodgers, which is supported by Smalley’s concepts behaviour and indicative fields and Wishart’s morphologies as well as feedback musicians’ experience of feedback as living behaviour. I concluded with a conceptualisation of sounds as living resonance.
5. Identity: Seeress and the six selves

Vituð ér enn eða hvat?

Völuspá – Prophecy of the Seeress (in the Poetic Edda, anon. around 900 AD)

The quote from Völuspá translates to ‘Do you still seek to know – or what?’ (Ingham 2008). It is an invitation to look into the future, and at the same time a caution against it, spoken by Völva, the Seeress in Old Norse mythology, which is the central character in my concert-performance Seeress, a solo for gestural feedback instrument and live visuals by alKamie. In this chapter I will discuss my conceptualisation of Seeress within contemporary animism with a focus on the notion of dividual and fluid persons and Bird-David’s concept relatedness. The piece explores the idea of multiple selves in Old Norse cosmology and shows how this way of conceptualising music suggests a way of meaning-making in electronic music through focusing on relatedness rather than control and sounds as subjects rather than objects. I propose the term corporeosonic composer for a music creator who explores music with this attitude.

Völva

Seeress began as a collaboration with dancer Joop Oonk. We were both interested in exploring the sense of ritual we had found in previous performances with the feedback instrument which is why I suggested Völva as a focal character for such an exploration. I was also interested in Völva’s role as predictor of the future. Those who predict the future have the power over it, and I had noticed that we have given this power to engineers and economists instead of artists, visionaries, politicians, or religious leaders. This can lead to techno-optimism that fails to acknowledge the dangers of ‘worshipping’ technology – we risk being deprived of intimacy because we focus on control; we favour separation and scientific atomism instead of relatedness and connectedness; we are forgetting about our values, purposes and meanings as human beings and about our ethical and moral obligations towards each other. The speed of technology has blinded us. In this context, the Völva seemed to epitomise an alternative way to relate to the world.

85 Völva, or Vǫlva, was a mythological – and a real life – character with a long tradition in Scandinavia, see below.
Völva\textsuperscript{84} was not only a fictional character, but did exist in real life: descriptions of Völur\textsuperscript{85} are found not only in the Icelandic sagas, but also in ‘travel reports’ by Roman historian Tacitus (c. AD 56 – after 117) and the Arab traveller Ahmad ibn Fadlan in the 10th century (Brink 2008). According to these accounts, Völur were older women of wisdom, highly respected and possibly feared for their ability to influence the future. They travelled around as a form of independent freelancers to sell their services to anybody who needed them, and were invited to the homes of influential people, who were keen to hear Völva’s sung or spoken predictions.

### Contemporary animism

While researching Völva, my focus shifted from her character and the idea of predicting the future into an exploration of an alternative cosmology that might remedy many of the shortcomings of current scientific and economic rationalizations. This cosmology was found in the pre-Christian animist Old Norse society in which the Völva operated. The notion of sounds as living individuals (as described in chapter 4) would make sense in such a society of animism, the ‘attribution of a living soul to plants, inanimate objects, and natural phenomena’ (\textit{Oxford Dictionaries Online} 2017). Bird-David (1999) recounts how anthropologist Edward Burnett Tylor, who originally described animism in 1871, saw it as an erroneous form of proto-religion among ‘primitive people’. However, starting with Alfred Irving Hallowell in 1960, Tylor’s original ethnographic research has been reconceptualised. His imperialist, modernist\textsuperscript{86} and Christian interpretations have been removed and what remains are descriptions of a direct and personal engagement with a material world in which some or all aspects are sentient and can be communicated with in a cultural system of respect and reciprocity (Sillar 2009:371). As such, this new or contemporary animism – as discussed by for example Nurit Bird-David, Eduardo Viveiros de Castro, Graham Harvey, David Abram and Tim Ingold – challenges Western notions such as personhood consisting of body and soul and the division between nature and culture. In contemporary animism, the essence of the self is not a soul, but rather the sum

\textsuperscript{84} Interestingly, the Icelandic word for computer, \textit{tölva}, is a combination of \textit{tala} ‘number’ and Völva. (Zhang 2015).

\textsuperscript{85} Plural of Völva.

\textsuperscript{86} In Bird-David’s sense of the word: “These dualistic conceptions are historical constructs of a specific culture which, for want of a better term, will henceforth be referred to by the circumlocution “modernist.” (“Modernist” signals neither the dichotomous opposite of “primitive” nor the equivalent of “scientific” but ideas and practices that dominated the EuroAmerican cultural landscape from the 17th to the 20th century. […]”) (Bird-David 1999:68).
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of its relationship with other beings in a community of persons ‘only some of whom are human’ (Harvey 2005:81). Consciousness or spirit is a quality of the entire world, not only of human persons (Harvey 2013). In my music, other-than-human persons are not only the sounds and the music, but also the technological objects. My human person and the non-human sounding persons communicate and in so doing form relationships, which is what constitutes a person in contemporary animist thought: a person is defined by her relationships, not by some inherent quality.

From the 1990’s there has been a renewed interest in contemporary animism, which might be explained with the idea of techno-animism: as our world is increasingly populated by smart objects connected by technology that becomes increasingly pervasive and invisible, we respond with animism: we form cognitively, emotionally and somatically complicated bonds with things such as our smartphones (Marenko 2014:221). The ideas of contemporary animism form a context and a cosmology within which Seeress takes place. I will therefore make a rather extensive exposition of the main concepts relatedness, indivduals and fluid or partible persons. I will also present six of the Old Norse selves that are active in the performance, before we return to the performance to examine how these concepts play out within it.

Relatedness

Contemporary animism is conceptualised as a relational epistemology by Bird-David, who juxtaposes it with a modernist epistemology, and exemplifies the two with the knowledge of a tree. In a modernist epistemology, the botanist cuts off pieces of the tree, organises them in boxes and takes them home to the lab for botanical classification. Learning is based on separation: the knower acquires knowledge of things by separating herself from them and often by breaking the known down into parts. Relational epistemology, on the other hand, involves ‘talking to the tree’, which stands for paying attention to what the tree does as one acts towards it, being aware of variances and invariances over time within both oneself and the tree. In this state of relatedness, the engagement can grow into mutual responsiveness and possibly mutual responsibility (Bird-David 1999:77). Relatedness is a fundamental concept that is preferred by Bird-David over the term relationship, because the latter implies the relation as an object in itself, whereas relatedness stresses relatedness as

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87 The term other-than-human persons was described by Hallowell in 1960.
an ongoing process over time, a getting-to-know process: ‘two beings/things mutually responsive to each other’ (1999:88).

Modernist knowledge consists of separated essences approached from a separated viewpoint. It is about having things and representations of things-in-the-world (1999:77). Animistic knowledge on the other hand consists of ‘understanding relatedness from a related point of view within the shifting horizons of the related viewer’ (1999:77). It is focused on situational and emergent behaviour rather than constitutive matter: ‘developing the skills of being in-the-world with other things’, while deepening and nuancing one’s awareness of one’s environment (1999:77-78). Both of these forms of knowledge are valid and useful, but although animistic knowledge is deeply embedded in the experience of our everyday lives, it has lost much of its authority (Ingold cited by Bird-David1999:87).

In the process of developing the gestural feedback instrument used in Seeress, a deeply felt relatedness emerged. In Seeress, I could explore this concept musically in a contemporary animistic context. The piece was developed over a long time, in which I gradually developed relatedness with for example the small speakers by handling them in a multitude of ways and paying attention to their response: I placed them on the floor, on the subwoofer, in my lap and upside down; I carried them around, lifted them over my head and swung them around. These actions not only influenced the feedback and the sound in different ways, but they also gave me a bodily experience of them: they shaped my body. Through relationally framing the speakers, I learnt more about them than I would have by simply listening to them, which in turn led to interesting musical results: both in terms of unexpected timbres and structures, but also in visible processes that an audience can relate to. In my experience, it is always interesting to follow a person’s process of struggling with something, learning something or searching for something on stage.

The dividual

Persons that in contemporary animism are ‘constitutive of relationships’ (Bird-David 1999:72) are what Marilyn Strathern terms dividuals. This is in contrast to the Western conception of the individual viewed as a single entity integrated and bounded by its skin

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88 See chapter 3.
89 In the Middle ages, individual meant ‘indivisible from the world’, which in present day has changed to ‘an indivisible part of a divisible world. (Bird-David 1999:88).
5. Identity: Seeress and the six selves

and contrasted against a natural and social background (Geertz in in Strathern 1988:57). Bird-David uses the verb to *dividuate* to mean being conscious of the relatedness with the other person *as I engage with her*, attentive to what she does in relation to what I do, to how she talks and listens to me as I talk and listen to her, to what happens simultaneously and mutually to me, to her, to us’ (Bird-David 1999:72).

Strathern developed her dividuals concept based on that described in McKim Marriott and Ronald Inden’s (1977) anthropological study comparing Indian and Western ideas of identity, where the concept has a slightly different meaning. Here dividuals stands for persons that are divisible into separate particles that may be shared or exchanged with other persons (p. 232). They are fluid composites of ‘heterogeneous, ever-flowing, changing substances’ (p. 233). These substances are both material – what the body contains – and non-material: that which ‘passes between bodies, the contents or media of transactions’ (p. 235). Such transactions, or gifts, are part of the community, extracted from one person and absorbed by another, and as such inseparable from social relations. They may even have agency and be persons themselves (Strathern 1988:178). The gifts form a continuity between people and things, between us and the environment, in contrast to the discontinuity between these in Western societies.

Through applying the dividual concept to my music, i.e. seeing both the music and myself as dividuals in a continuum, it is possible to create music from an attitude of intimacy – an intimacy that is not present within a scientific mindset or a control-based relation to technology. According to Bennett,90 intimacy is found when moving away from structure (i.e. control) towards chaos (i.e. play, which I interpret as exploration of the instrument and its sounds). Intimacy is possible through ‘unselfing’ and opening up to relatedness and connectedness.

**Fluid persons, fluid selves**91

A conception of fluid persons similar to the Marriottian dividual was common in the Scandinavian Viking age.92 Anthropologist Rane Willerslev (2007), who studied the animist self within Siberian Yukaghirs and archaeologist Lotte Hedeager (2010), who

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90 See chapter 3.
91 I am using *person* and *self* as interchangeable, in line with Smith’s argument (2012:52).
92 The Viking Age lasted between the 9th and 11th century. (*Encyclopaedia Britannica*).
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studied burial rites in Viking age Scandinavia both describe an animist self that is fluid, fragmented and ‘not of one shape’ (Hedeager 2010:116). Hedeager noticed how in both graves and artistic representations parts of human and animal bodies were separated and interchanged between species, transgressing boundaries between them. These parts formed a larger reality than the body as an objective physical and personal entity: ‘a holistic view of bodily fluidity and relational identity’ (Hedeager 2010:117). The body was in a constant and potential process of changing shape, transforming and fragmenting into parts that could exist outside the body in the form of soul\(^93\) or as ‘alternative ways of being’ (Hedeager p. 116). Rane Willerslev describes how the animist self identifies with the world ‘feeling at once within and apart from it so that the two glide ceaselessly in and out of each other in a sealed circuit’ (Willerslev 2007:24).

In my music, sound is not only a fluid person, but also such a Marriottian substance that can be shared and exchanged with other persons, sounding or not. Sound is the vibration that forms animistic social bonds, connecting bodies through resonance. Sound is the part of persons that may leave them and reach another person and in so doing can have agency and be a person itself. The fluid person serves as a metaphor for the idea that everything is in flux, is liquid, is movement, in line with Bohm’s holomovement and Sheets-Johnstone’s primacy of movement.\(^94\) This conceptualisation, the holistic idea of movement as a fundamental building block of all things, underlies all of my musical practice and especially Seeress.

Six parts of the self

In Old Norse mythology, the dividual person could split into parts. I have chosen to use six of these parts of the self as a framework for such transformations within Seeress. These six are Hugr, Munr, Hamr, Likamr, Fylgja and Hamingja. These selves do not follow strict categories; they are fluid and partly interchangeable with and overlapping each other. Some of them have the ability to change shape and even leave the body. These conceptions are fundamental in sagas and myths (Raudvere 2008:241) but for the Norse people, they were also taken literally: ‘Although spiritual, they were most real – the animals (or the women) were at the same time spiritual and embodied, as they were alternative ways of

\(^{93}\) I will use the term soul even if the concept soul was not introduced until the arrival of Christianity. (Raudvere 2002).

\(^{94}\) See chapter 2.
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being that endowed their “owner” with transcendental reality’ (Hedeager p. 116). Shape-shifting was a natural part of a cosmology that, compared to ours, was closer to chaos and further from control. The six selves provide one way of understanding the shifting selves within the individual person, and serve as ‘anchors’ for expressing this idea within Seeress.

_Hugr and Munr_ are both described as similar to ‘mind’, even if this concept, as we know it, did not exist at this time. They are related to – can perhaps take the shape of – the god Odin’s ravens, _Huginn_ and _Muninn_, which are most often described as thought (Huginn) and memory (Muninn) (Bourns 2012:65). Hugr\(^{95}\) can be further conceptualised as ‘inner self’, ‘essential nature’ (Price 2002) or ‘direct personality’ (Hedeager 2010:116) but is also connected with desire, fierce passion, greed, hunger and bad temper (Snorri Sturluson 1987) and is therefore often visualised as a wolf, over which the owner can lose control (Else Mundal 1974:42). I associate it with the character Jordan Belfort in the film _The Wolf of Wall Street_, as he harbours a similar connection between the rational mind and aggression and harm.\(^{96}\)

It is not easy to distinguish between these two concepts, but Munr contains a time component that Hugr seem to lack. The description ‘memory’ points backwards, while the description ‘will’ – also sometimes used to describe it – points forwards: it expresses intent as in ‘I will do this’. Carolyne Larrington further describes Munr as ‘that which serves to make a thing or a circumstance better’ (1992:7). Munr seems therefore to be more positive than Hugr and more connected with time, while Munr is connected to the (bad) mood of the present.

_Hamr_ and _Likamr_ are both terms that describe the body, but while Likamr more describes inner vital processes such as breath, circulation, digestion, Hamr is one’s form or appearance: what we perceive as the body, or the interim body that serves as a harbour for the ‘free soul’, for example Hugr. The word itself means ‘skin’ or ‘animal clothing’ (Hedeager 2010:116). A person with the ability to change shape was described as _bamrammr_ ‘shapesstrong’ or _eigi einhamr_ ‘not of one shape’ (Hedeager 2010:116). Through the process of _bambleypa_, shape changing, the spirit or soul takes on another shape, for

\(^{95}\) _Hugr_ translates to Swedish ‘håg’, which in English translates to ‘inclination’ or ‘mind’ (tydab.se).

\(^{96}\) As late as 1975, the idea of Hugr was still in use in Swedish in form of the verb _hugsa_: ‘by strong thoughts to [sic] cause somebody to feel ill’ (Dag Strömbäck 1975:n.p.). If one’s thoughts are strong or heavy enough, they can take physical shape and cause harm.
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instance that of another person or an animal. During such a process, the human becomes this animal, and crosses over to the world of the animal, the Other World. The body of the human can be left behind as if asleep, or it can swap places with the animal and serve as its Hamr: the animal becomes human while the human becomes animal.

Hedeager connects the concept Hamr with *Hamingja* and *Fylgja*, two selves that are detachable from the physical body. Scholars are in disagreement over the difference between these two concepts, as they are fluid and cross over into each other. Generally *Fylgja* (Old Norse: ‘follower’ (Lecouteux 2016:149)) is seen as a parallel person, a *doppelganger* or an *alter ego*, who attaches itself to a person, often at birth, and transfers to another person in the family at death. It appears outside the body in the form of a woman or an animal. According to Mundal (1974) the woman and animal Fylgja are completely different: the animal Fylgja might be a remnant of shamanistic beliefs, and is seen as an alter ego or double without its own identity, while the woman Fylgja is a more independent helping spirit (p. 4). Folke Ström has the opposite conceptualisation in which the animal Fylgja is the protective spirit (in Mundal 1974:39-40). For Mundal, the animal Fylgja is an extrasomatic soul, supplementary to the ‘body soul’, i.e. an alter ego in animal disguise and belonging solely to the immaterial world (pp. 40-43).

The idea of a protective spirit is also close to the conceptualisation of *Hamingja* (Old Norse: *Ham* ‘shape’ and *Genga* ‘walker’ (Mundal 1974:8)) as the embodiment of good fortune of the family (Hedeager 2010:116). Hamingja represents the shape of a person’s fate and future prosperity and is closely connected to notions of *gipta* ‘luck’ and *gæfa* ‘personal qualities’ (Raudvere 2008:239). The concept of luck was important and seen as a quality inherent in both the person and the lineage, ‘at once both the cause and the expression of the success, wealth, and power of a family’ (Bettina Sejbjerg Sommer 2007:275). Just like Fylgja, Hamingja could take shape outside the physical body, but unlike Fylgja, Hamingja could transfer to somebody outside the family. Sommer suggests that the concepts Hamingja and Fylgja have been confused, intermingled and dynamically changed both because of the oral culture and because of the extensive period in which they have been in use. However, their importance lies exactly in these fluid qualities and their ability to move in and out of bodies, take *Hamr*, and in different ways relate to the human.
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Six selves in *Seeress*

In the conceptualisation of these different selves within *Seeress*, it would be tempting to translate each of the six parts of the self to a certain part of the music, a form of conceptual mapping. However, that would mean that there was some kind of essence or essential quality associated with them. I instead chose to focus on the relatedness between these parts and how this relatedness can be enacted in performance. Because the selves are fluid and dynamically changeable, the shape they take on and what they become will depend on the relatedness between me, the sounds, the speakers, the visuals: ‘It is the relational connections that are enacted that produce what the entities are taken to be and *become*’ (Haraway cited in Blackman 2008:120).

The framework of the six selves can be used in several ways. I am going to start by showing how we can think of the performance as a staging of the relatedness between my own selves who are externalised or shapeshifted into the constituent parts of the music. I will then turn this around and look at the performance as a relatedness between the selves of the music conceptualised as a living individual. The self of this dividual person can consist of several parts, of which I am one. Finally I will show how it is possible to embrace both of these approaches at the same time by applying the concept *perspectivism*.

**Form**

First a few words about the performance. It consists of nine different scenes or states, with timings from video 6. *Seeress Gävle*:

- 00’00-3’47  Introduction: awakening
- 3’47-8’04  The Eyes: creation
- 8’04-11’19  Floaty
- 11’19-14’06  Annelie
- 14’06-16’10  Rhythms in the square world
- 16’10-18’41  Chaos and destruction
- 18’41-21’20  Darkness
- 21’20-28’20  Rebuilding the world
- 28’20-32’25  Song of Hope
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These scenes relate loosely to the corporeosonic states of relatedness described in chapter 3 – in fact, Seeress was instrumental in distinguishing between them. For example, Floaty is a scene that became conceptualised as a corporeosonic Immersion state. In developing this scene, I used the found movement of my legs swaying in Lesbos sea waves to bring the bodily memory of this sensation into the music.97 Some of the corporeosonic states are an attitude to the sounds, loudspeakers and visuals; others emerge from performing with this attitude in relation to the qualities of sounds, movements and visuals. They are not exclusively tied to a specific scene, but rather grow out of each other or emerge in special moments. Sometimes a scene contains only one corporeosonic state, sometimes several following each other.

The scenes of the performance were developed through improvisation during rehearsals from a variety of vantage points and in a long winding process. For example, the Rhythms in the square scene started as an exploration of a specific synth patch. First I explored the sounds to find as many ways of expressing myself as possible. Next followed a phase where Robyn and Brian from alKamie made movement exercises that helped me explore the movement possibilities of the synth patch. At one point, we experimented with ‘robotic’ and ‘square’ movements, which led to the idea of the whole scene taking place in a form of square world, which Brian then developed into a cube world in the visuals. In the final stage, we found a loose narrative, or form for all the scenes that made sense within the logic of the performance.98

**Comprovisation**

I see Seeress as a comprovisation, a term used by Joshua B. Mailman to describe ‘a kind of musical creativity that relates composition and improvisation in an unprecedented fashion, one which was impossible to achieve with older technologies’ (Mailman 2012:2). Seeress is not a composition in a traditional sense, because it would be impossible to control the feedback system in the level of detail required, even if that was desirable. However, approaching improvisation ‘enables the flexibility to spontaneously create sudden attention-getting changes as well as nuanced atmospheric changes to the audible properties of the stream of musical sound’ (Mailman 2012:1). An improvisatory relatedness – instead of a controlling attitude – opens up for emergent musical properties.

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97 See chapter 3.
98 For a description of the process of creating the Darkness scene, see chapter 3.
Comprovisation resides somewhere on the continuum between composition and improvisation, where composition might be understood – in its purest form – as sounds organised according to a context-independent score, rule-system (Sandeep Bhagwati 2013:100) or other representation, and improvisation might be understood as for example ‘the art of the moment’ (Komninos Zervos 1998:n.p.), ‘the simultaneous conception and performance of a work of art’ (Hazel Smith and Roger T. Dean 1997:26) or something that ‘engages with process and change rather than permanence’ (Roger T. Dean 2003:xiv). However, no composition completely controls all aspects of a performance and no improvisation is completely free – these pure forms do not exist. Even free improvisation is confined by some form of creative limitation, but in comprovisation these boundaries are more context-independent, making the piece recognisable from performance to performance.

Mailman describes comprovised music as compositional in that it involves composing music-generated algorithms and planned choreography of physical movement, and improvisational in that it may involve spontaneous physical movements and ornamentations of planned movements and that certain details of the algorithm may not be predicted in advance. This resonates with my music because Mailman’s concept encompasses both physical movement and computer algorithms. In my music, synth patches rather than algorithms are composed, as well as movements (or actions) with specific qualities. Just like in Mailman’s concept, improvisation lies in the spontaneous physical movement and the ornamentation of planned movement (see ancillary gestures p. 65) and the unpredictability of the feedback sounds.

Another approach to live electronic music is taken by Frederic Rzewski of Music Elettronica Viva, who describes it as composition that is less about construction than about defining ‘fields of action whose final course is decided in momentary encounter with unpredictable life-situations’ (2011:107). He describes this kind of composition as ‘a preparatory ritual to music’ (p.107) and includes in this ritual ‘all actions which create the conditions for the possibility of music’ (p.107) such as soldering of transistors etc. Mailman’s comprovisation and Rzewski’s composition appear to both be describing similar musical activities in a context of live electronic music, and I am embracing both viewpoints in viewing Seeress as comprovised, with the composed parts consisting of Rzewski’s fields of
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action, as they form a script of context-independent parameters of the performance and
make up the form of the piece within which music emerges as a consequence of
improvisations and relatednesses.

In *Seeress*, I have defined/composed four such fields of action: 1. a narrative framework, 2. sound qualities composed in the gestural feedback instrument, 3. movement actions or tasks and movement qualities (including the use and refinement of ancillary gestures) and 4. the visuals. Appendix 2 provides an overview of these compositional fields of action in form of a script for *Seeress*. It also contains a juxtaposition of the corporeosonic states of relatedness that are present in the performance, and how they move from control towards intimacy in three ‘waves’.

The **narrative framework**
The scenes form a skeleton and loosely narrative structure that is my personal journey through the performance. It serves as a guide to find the right attitude or state of mind, and it is therefore not necessary that the audience understand what the piece ‘is about’.

The qualities of the **sounds** are composed in a range of patches in the Nord Modular G2 synth, some pre-made and some programmed specifically for *Seeress*. They are adapted to the particular narrative, movement quality and expression in each scene. As an example, the sounds in *Rebuilding the world* are fragmented through granulation, but also slowly moving and spacious to match the visuals and the reluctant, resigned movements to rebuild the world.

The **movements** are of two kinds: narrative actions and sound-controlling or expressive movements. By narrative actions, I mean movements that advance or reinforce the narrative, such as the actions in the *Chaos and Destruction* scene when Annelie is ducking for the explosions. The movements are scripted in their qualities and narrative actions, but not in a strict sense choreographed. An expressive movement is for example the clawlike hand movements in *The Eyes* that are not only controlling the sound, but also expressing the old age of Völva and the effort required to draw sounds out of speakers.

The **visuals** provide landscapes in which the performance takes place (the seascape, the battle field, the universe) and conceptual processes (growth, increasing tension or tempo).
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**Seeress as staged relatedness between the selves of me**

In this first conceptualisation, the music is an exploration of the relatedness between the individual parts of my personal self. These relations are set in motion through the use of movement and touch in the performance. In responding to and communicating with the behaviours of the sounds, the music, the technology and the visuals, I activate this relatedness and allow my body and self and those of the music to be co-created in *mutuality* instead of through control. This means allowing processes to emerge, listening to the agency of the sounds and responding to them as a person among other persons.

In *Seeress*, I see ‘the performance’ and ‘the music’ as synonyms, as the music derives its meaning as much from the sounds as from their production and their relations to my body, the visuals, the technology, the stage etc. A recording of the sounds without the visual parts would be without meaning, deprived of the relations that are central to the piece. What I am exploring is the relatedness within the whole performance and all of its parts, which then becomes the music.

For example in the scene *Song of Hope* (at 28'20-32'35 in *Seeress Gävle*), I create a relatedness to the small speaker in different ways: I pick it up and hold it, I carry it to ‘present’ it to the big speakers, I put a mask on it, I sing to it and finally place it on a form of altar: the subwoofer draped in Völva’s cloak. Through these actions, and through the engagement with the feedback sound of the small speaker, I create intimacy, but I also engage in animistic relatedness to create personhood within me and within the small speaker. The speaker becomes a character, and can act as a Hamr to parts of my self, as if they are temporarily separated from me. I can therefore engage in a dialogue – or corporeosonic agency state – with different parts of my self. When I sing to the small speaker, this relatedness is felt strongly. My song starts as a response to what I hear as singing from the speaker, as if it wants to tell me something. It then continues in a form of feedback ‘bubble’ – a kind of highly intimate sound space, where the borders of my body, my skin, is expanded to the edge of the sound, so that within this bubble, parts of my self can move freely. Depending on the performance, the small speaker can then ‘harbour’ both my Hugr and Munr, whichever is ‘on the move’. In the end of the performance, this feedback space is broken and the speaker becomes Völva, which I see as my Fylgja: my parallel person in a parallel universe. The music can be seen as a presence and interaction
5. Identity: Seeress and the six selves

of both of these universes at the same time: my universe and that of Völva, and though we never meet, we are both present in each other’s worlds, where she acts as my Fylgja.

**Seeress as staged relatedness between the selves of the music**

The second way of conceptualising the performance is to see the music as a dividual person, who also consists of parts of her self. *The Rhythms in the square world* scene can serve as an example of this conceptualisation. In this scene, I have switched from being the Völva character to being myself. In the narrative of the performance, the Annelie character lacks knowledge of how to play the feedback instrument, so the scene becomes an exploration, or getting-to-know the instrument and its different sounds. I explore it with my hands, actually touching the loudspeakers and responding physically to its different timbres. The scratchy continuous sounds evoke continuous gestures and evolve into a dialogue between the speakers, because I interpret the sounds as the language of the characters of the two speakers. The music then becomes a three-way conversation between the two speakers and me. In response to the percussive bell sound in the right speaker, my body ‘resonates’ with its decay in a form of swaying movement. This is a way of internalising this sound, empathising with its behaviour: I am temporarily becoming the Hamr for the Munr of the sound. Here, Munr stands for a kind of purity of emotions such as love, sorrow and desire. Bodily resonances are connected to emotions: something that moves on the inside. Desire here is synonymous with pleasure: the pleasure of the bell sounds, the pleasure of exploring and playing the instrument, the pleasure of sharing this experience with the speakers, who in this scene are experienced as active participants in the conversation.

The bass drum sound in the other speaker, I relate to more as a Hugr, because it has a logic. I associate it to the structure of beat-based music that is strictly controlled in relation to a rhythm grid. It also has a form of destructive power, so that playing both these sounds, the bell and the bass drum, becomes a tension between pleasure, control and destruction. In this scene, there is a gradual build-up where the sounds find their own Hamr, and from being three separate entities, the speakers with their sound and I unite in a flow of music. My body becomes, both conceptually and concretely the ‘middle man’ – I am channelling the energies of the sounds into the musical flow that encompasses the energies and characteristics of these three selves: the Hugr, Munr and Likamr. In this situation, the
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musical flow resides within my physical body, the Likamr. It limits the speed, precision and flexibility of the music, just as bodies do also in acoustic music. The difference here is that the Likamr is part of the self of the music, as a kind of visualisation – or corporealisation – of the rhythms. The dividual parts shift and change, they merge and split off to take on their own shapes in a fluid continuum. My body acts as a Hamr for these different parts, who affect what my body becomes. Emotions and settings, visual or auroral, transform into movement in my body, seep in and take Hamr there. The body and the self are, in Charles Taylor’s term, porous, a porosity that according to Karl Smith (2012) questions boundaries and distinctions between inner and outer, between ‘self and other, individual and society, subject and world’ (p. 59). The porous self is distinct from the buffered self: the disengaged, scientific mind; the control-self; the one that believes that all thought, feeling and purpose originates in the mind of the (male) genius (p. 60). In Seeress, I explore the porous self, this being that is permeated by ‘social others’ and is open to nature, the world and the ‘mysteries of existence’ (p. 60). The porous self moves in and out of my music, becomes music, separates from it, is constantly affected by and constantly affects music: its sound, sensation, physicality, visuality, motion. For Taylor, the buffered self is a way of being in a disenchanted world, 99 i.e. a secularized world in which entities such as spirits can no longer inhabit or possess us. The porous self, on the other hand, belongs in an enchanted world, where meaning is already inherent in the object or agent – such as the music – independently of us (Taylor in Smith 2012:58).

Both – Seeress through perspectivism

John Cage said about David Tudor ‘…when Bussotti wrote a piece for him, he didn’t say “for piano;” he said “for David Tudor,” meaning him as an instrument’ (Cage quoted in Otte 2000:2). A similar intermingling of composer, performer and instrument is active in the transformation of the selves in Seeress. When we recognise both music and human performer as persons with dividual selves, and furthermore view these as porous, we begin to see how the six selves can be conceptualised as parts of both the music and the human (i.e. me) at the same time: the third conceptualisation of Seeress.

To clarify how this is possible, I will use the concept perspectivism, coined by Viveiros de Castro to describe the cosmology of Amerindian people in Amazonia. For them, the

99 The theory of disenchantment originates with sociologist Max Weber (Koshul 2005).
understanding of the distinction between body and soul is not synonymous with the traditional appearance/essence, but rather these two dimensions should be seen as figure and ground to each other (Viveiros de Castro in Morten Axel Pedersen and Rane Willerslev 2012:470). The Amerindian cosmos is inhabited by beings, human and non-human, each with their own distinct perspective on reality. The human sees itself as a person in the human world, while the animal sees itself as a person in its world, where the humans are the others. The concept of the soul is relational, not a substance that is material or immaterial, but rather a capacity to see: ‘whatever possesses a soul is a subject, and whatever has a soul is capable of having a point of view’ (Viveiros de Castro quoted in Pedersen and Willerslev 2012:470).

There is a parallel world to ours – a spiritual dimension – where spirits go when they are detached from the body. The spiritual dimension of reality from the perspective of this spiritual dimension is then our dimension: the invisible dimension of the invisible dimension is the visible dimension; the soul of the soul is the body. The concept of the soul then allows for multiple physical worlds, each with their own ‘bodily assemblage’ (p. 470). As Vilaca explains about the perspectivism of the Wari people: the soul and body are not conceived of as binary oppositions between spirit and matter, but instead serve as each others’ ‘flip side’ or ‘reversibles’. The body might as well be that which is on the inside, while the soul is what is on the outside: the body and the soul are opposites that contain each other. Furthermore, the soul of the soul, or the reversed body is not necessarily the same body as it is a reversion of, but instead all other potential bodies it can be (Vilaca in Pedersen and Willerslev 2012:471).

In Seeress, these perspectives are at play. At the same time as my six selves are dynamically distributed throughout the performance, those of the music are as well. The music can be conceptualised as one of my selves, or my soul, while at the same time, my body can be the soul of the music, i.e. the soul of my soul is my body, or the body of any of the other parts of the performance: the speakers, the visuals. When the eyes float down to attach themselves to the speakers, (at 5’20 in video 6. Seeress Gävle) this can be seen as Huginn and

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100 [W]hat I call “body” is not a synonym for distinctive substance or fixed shape; it is an assemblage of affects or ways of being that constitute a habitus. Between the formal subjectivity of souls and the substantial materiality of organisms there is an intermediate plane which is occupied by the body as a bundle of affects and capacities and which is the origin of perspectives.’ (Viveiros de Castro 1998:478)
5. Identity: Seeress and the six selves

Muninn (or Hugr and Munr) taking Hamr in these speakers. Perhaps these are my Hugr and Munr, or perhaps it is those of the music.

Depending on which world we are in, the perspectives are mirrored. In the parallel world, Fylgja is a real person, not one of my selves, a parallel person or a soul. But it also then follows that in this parallel world, the selves of the real Fylgja can reciprocally shapeshift into my world, where ‘the soul of the soul’ becomes a body: the body of the soul that is the Fylgja. This body does not necessarily have to be a human body, but perhaps a loudspeaker, or an agency such as that of the sound. Music itself can be seen as such a soul-of-the-soul body. Music is real and tangible – I can actually touch the music both in the form of vibrating sound and of other parts of the music: the loudspeakers, the visuals, the floor, myself – but in this conceptualisation music is also the soul of the parallel self that is my self. So, in this way, music becomes a physical ‘exploded view’ of my selves in this real world, right now, but at the same time, music is also an entity in itself, a part of the self of a parallel person, a parallel self in a parallel world. In this ‘mirrored reflectivism’ both is possible. It is also possible that in a fractal way, parts of the self also have parts of their selves, which are fluid and exchangeable, malleable and becoming, constantly shifting with the flow of the stream of life, and furthermore, with the possibility to shift ‘fractal levels’, so a small particle might perform a dance with the wholeness of the music.

Rzewski describes how in live electronic music composition, the characteristics of objects are not defined and fixed, but instead,

> the materials are no longer known and limited but consist of new and in part irrational phenomena directly connected with electronics: the performer’s entire body and his sense of identity are affected by such things as intermodulation and feedback. It strives toward a new concept of harmony which goes beyond mere formal relations and deals with new ones such as that existing between many different individuals considered not as mere ‘performers’ but as living bodies, and the relation created between the individual and his own ‘double’ – the electronically transformed signal issuing from the loudspeaker membrane. (2011:107)

As noted before, Rzewski shifts the focus away from sounding objects into ‘fields of action’ in the live composition process, a focus on actions that create relatedness because they are movement and movement is relational. I create these ever-shifting relations with music in the form of my double, or my Fylgja: relations that form an intimate relatedness, which is the core of the performance.
5. Identity: Seeress and the six selves

The corporeosonic composer

The relatedness that I explored in Seeress is the foundation for what I term the corporeosonic composer. Rzewski from MEV represents an example of the corporeosonic composer, with two more being Eliane Radigue and Neal Spowage, a.k.a Neal Unreal. The former is presented in chapter 2 and the latter is a musician working with sculptural electronic instruments for live performance. In the One Knob To Rule Them All project, Spowage created a ‘sculptural apparatus’ of several objects controlling an AM/FM radio and a no-input feedback mixer. In contrast to the ideal of the small, slick controller knob, Spowage constructed a large physical object dominating the space and requiring ‘a whole bodied engagement with it as part of a complex and prone-to-failure assemblage’ (Bowers et al. 2016:436). In summary, Spowage and the other artists in the project promoted a model for interaction with musical interfaces where ‘agency shifts in the mid-ways between person and thing’ (p. 438): the ‘knobs’ that created the most resistance or challenge to the performers’ will, were found to be the most ‘performable’ and they were seen as having a life of their own. In the ‘half-way zones’ where this interaction occurs, ‘the knob’s masculinity of control can be disrupted’ and ‘we can design prioritising tactility and textility over power’ (p. 438).

In summary, the corporeosonic composer is a composer – or music creator – who explores corporeosonic relatednesses. It is an attitude in which movement is primary, and the sounds and other materials of the music are seen as living, perhaps spiritual, agencies: sounds leave the ontological status of object to instead become subjects, dividual persons. It is a recognition of our fragmented world, in which a relational epistemology – and ontology – is of paramount importance to fully understand the complexity and relational character of this world: an area where a modernist scientific mindset and binary oppositions fail. The corporeosonic composer comprovises music with a focus on exploring relatedness in certain states or situations, a relatedness that determines what the body and the self become, as opposed to a more detached way of composing from some point of ‘objectivity’ or ‘neutrality’ which is neither possible nor desirable. This view of music stresses the importance not only of the body, but also of the composer: not at the expense of music, but from a humble position of relatedness, where the composer is shaped by the music as much as she shapes it. The corporeosonic composer is open to the possibility of shifting identities.
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during performance, and has the courage to move into unknown states such as trance-states or corporeosonic dissolution.

Concluding remarks

During the work with *Seeress*, I became increasingly fascinated with Old Norse cosmology and the way it seemed to embrace life as infinitely complex and fragmented, something we struggle to understand and navigate today. My interpretation is that the Old Norse people were more skilled at accepting and living with these complexities than at controlling or categorising them. It also seems to me that their idea of parallel persons in parallel worlds comes uncannily close to contemporary ideas of the multiverse, and the idea of the fluid nature of the world resonates with Bohm’s holomovement concept: ‘the nature of reality in general and of consciousness in particular [is] a coherent whole, which is never static or complete, but which is in an unending process of movement and unfoldment’ (Bohm quoted in Sheets-Johnstone 2011:479).

*Seeress* became a way of expressing how we can deal with this increasingly complex world: perhaps we must accept that we cannot control everything, but instead must find ways of navigating the complexities of life. In the predictions of Völva, the world will be destroyed, but from this destruction a new world grows, over and over again, in an eternal cycle. The form of *Seeress* mirrors such a destructive circle where the world is destroyed by our ignorance, but – with the help of Völva – is rebuilt again. In this way I hope to provide hope: we know that the world as we know it will be destroyed – it is inevitable. We cannot control or change this fact, but something else will grow from the destruction. If we can endure our fear, this knowledge might give us faith in the future. Völva’s question: ‘Do you still seek to know – or what?’ is in *Seeress* answered with ‘Yes, we do’.
Chapter 6. Conclusion

Through artistic research I have explored two streams of inquiry: the first focuses on conceptualising corporeality in the field of electronic music and the second focuses on exploring such conceptualisations through my musical practice: composition and performance of electronic music in a performing arts context, especially contemporary dance performance. Between these two streams flow three maelstroms of conceptual clusters.\(^1\)

In the first, corporeality is studied as movement in electroacoustic feedback. I approached this maelstrom by creating a gestural feedback instrument that allowed me to explore the relations between body and sound. The body itself was explored through a workshop of performance training, through movement training during development of performances and through performing with or without sound. The music was explored through composition and performance in contexts ranging from acousmatic concerts to live art performance. To problematise and nuance the idea of controlling electronic instruments, I have outlined a theory of five corporesonic states of relatedness that goes beyond this idea. The explorations of body and music were contextualised with corporeal bevækelsegrunder of electroacoustic feedback in Eliane Radigue’s feedback works and with Sheets-Johnstone’s conceptualisations of movement.

The second maelstrom revolves around touch, intimacy and living individuals. When sounds are conceptualised as living individuals, they become sounding subjects instead of sounding objects and thus possible to relate to in intimate ways. Touch is especially important in this context, and I have outlined a number of different relations based on literal and apparent touch that are present in the relatedness between musician and electronic (feedback) instrument.

In the third maelstrom, contemporary animism forms a conceptual field in which relational personhood and shifting identities play out in my solo performance Seeress. Through ideas of shape shifting from Old Norse mythology, the character Völva and the concept perspectivism, I have shown how the performance can be seen as an arena for shifting

\(^1\) See Figure 1.
identities and how the selves of the music person and the human person are mirrored in each other and can be shifted into each other. I have proposed the concept *corporeosonic composer* to describe the attitude in which music based on intimacy is created in relatedness between music and musician both conceptualised as *dividuals*.

My methodology can be described as a *bricolage* in which meaningful relationships are studied and parts are connected to the whole. This iterative process takes place in the resonance between practice and theory – in the *praxis* – where new methodologies develop as the line of inquiry flows in new directions. Every piece of music or body training has been analysed and the insights have been decanted into the stream of my praxis. New conceptualisations and new themes for artistic exploration have thus surfaced.

My contribution to the field of performed and acousmatic electronic music consists of nuancing the relationship – or the *relatedness* – between musician and instrument as going beyond control into intimacy, dissolution and shifting identities. I have pointed out the momentousness of movement and touch in this context, and through ideas in contemporary animism developed an ontology in which sounds are conceptualised as subjects and as *dividuals* consisting of their relationships with other sounds, with the musician and with all other parts of the music.

Through this research, my practice has developed into movement, intimacy and relatedness by moving from composing acousmatic music to performing on stage. I have had the opportunity to explore in relatedness the bodies of myself and others as well as the movements of these bodies and of music. In the future, I am looking forward to extending this focus outwards, to the spaces these bodies inhabit and how they can be thought of as subjectivities with their own agency and movement. I have for example initiated R&D for an installation performance in which the audience is invited to perform with me in a multi-channel feedback space, to explore the materiality and subjectivity of feedback sound. Conceptually, this work is inspired especially by Tim Ingold’s notions of relations between the human and her surroundings, which resonate with contemporary animism.

There are many other conceptual streams in this thesis that I would like to delve deeper into, for example the corporeosonic states of relatedness. How and when do they emerge? Which influence do the sound and movement qualities have on them? It would be
Chapter 6. Conclusion

especially exciting to understand how to reach the dissolution state more often. Similar experiences of other musicians would be helpful in understanding this more fully.

It seems to me that electronic music research today is dividing into two main directions: one that explores currently emerging technologies such as AI, biotechnology, VR etc. as for example Marco Donnarumma\(^{102}\) and Franziska Schroeder\(^{105}\) do, and one that – sometimes as a contraposition against the former – increasingly focuses on low-tech, ‘closing the laptop’ approaches, as for example Neal Spowage does. Both of these directions are exciting, but both also carry the risk of losing oneself in technical solutions and forgetting to take into account the corporeosonic composer and her relatedness with technology. This approach risks impoverishing the resulting music instead of exploring new relatednesses, new movement qualities and new musical expressivities. Donnarumma, Schroeder and Spowage are examples of researchers that explore music technology in relatedness with it, and with an awareness of the role of the body. My hope is that my research can contribute to such a counterbalancing of purely scientific approaches in favour of a more body-centred and animistic discourse.

Artistic research in music gains strength through compiling and juxtaposing many subjective experiential processes in order to paint as nuanced a picture as possible of what it is to create music. This is my contribution to this enigma, and I hope that it can inspire other musicians to research their art from their perspective so we may compare and deepen our understandings of music.

\(^{102}\) See for example Donnarumma’s performance *Corpus Nil*: https://marcodonnarumma.com/works/corpus-nil/

\(^{105}\) See for example Schroeder’s project *Performance without Barriers*: http://performancewithoutbarriers.com/it/
Appendix 1. Technical documentation

I have used three types of setups for my pieces: the prototype gestural feedback instrument, the finished gestural feedback instrument and the small live electronics setup. All of these setups have featured in a range of variations. I will here present the basic setup for these and then specify per piece which equipment was used in each case.

1. The prototype feedback instrument

This instrument consists of two wireless microphones taped inside the hands. These are connected either by cable or by various wireless systems to the computer. The sound is processed by plugins in Plogue Bidule and the change of patches and volume are controlled by a Behringer FCB-1010 MIDI foot pedal through a Max/MSP patch. The processed sound is then sent out to two loudspeakers, usually some form of Genelec speakers on stands.
The Plogue Bidule patch consists of two separate streams of audio from the audio interface (Scarlett 2i4), a left and a right stream. Each stream is passing through a compressor and a gain control before being routed to various combinations of plugins that can be individually turned on and off. The different plug-in paths are mixed in a 16-channel mixer together with a ‘clean’ path without any processing, a reverb return and an optional pre-recorded sound. The mix is run through a compressor or limiter (or both) with the possibility to EQ the final mix through a parametric equalizer. The patch further includes a possibility to record the performance and MIDI control and monitoring.

The Max/MSP patch is a control interface where I can set the level, mute or bypass the individual plugins in Plogue Bidule. In this version I have added two plugins that reside in Max/MSP (PV Tuner and Delay). The patch further consists of a master volume control and on/off as well as three presets of different configurations of plugins (Normal, Voice and Grain). In Max/MSP I can map incoming OSC messages (from for example TouchOSC) to relevant MIDI messages that are sent to Plogue Bidule.

2. The finished gestural feedback instrument

![Diagram of the gestural feedback instrument](image)

**Figure 7. The finished gestural feedback instrument**
APPENDICES

In this version of the gestural feedback instrument, I am using a Line 6 digital wireless system for the DPA 4061 lavalier microphones. Instead of Plogue Bidule I am using a Nord Modular G2 synthesizer (NMG2) for processing the feedback sound. The patch changes and volume are controlled by an iPhone running TouchOSC, which transmits wirelessly via an AdHoc network into Max/MSP in the computer. Max/MSP sends MIDI to the NMG2 to control patch changes, volume and activation of different slots, see video 18. *Technical walk-through of the gestural feedback instrument software.*

The gestural feedback instrument consists of a range of presets, different for each performance/concert. These presets are combinations of patches in Nord Modular G2 that I have programmed, or that are adaptations of openly shared patches from the electro-music NMG2 patch archive (available at [http://electro-music.com/g2patches.php](http://electro-music.com/g2patches.php)) as is common practice among electronic musicians. The structure of the Nord Modular G2 synthesizer is seen below.

![Diagram of Nord Modular G2 structure](image)

**Figure 8. Nord Modular G2 structure**

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104 The Max/MSP control patch is available at the e-thesis repository at University of Surrey.

105 I have used the following patches from the electro-music archive: *Ana PercDrum* by Jasper Brooks; *spacyshifters_tk* by Tim Kleinert; *pitchdetector_tk* by Tim Kleinert; *GranularEFX* by Rob Hordijk and an unknown patch by Fozzie.
In *Seeress*, nine presets were used. The patches used in these presets were developed both before and during the development of the performance, and combined and adapted to accommodate the narrative, the movements and the conceptual content of *Seeress*. Through the work with the performance, the theory of corporeosonic states of relatedness was developed. These states sometimes consist of an attitude towards the sounds and the technology (as in treating the small speaker as an Agency. Other times the corporeosonic states are emergent experiences from within the performance, as when the attitude of Agency towards the small speaker leads to Melting and Immersion in the *Song of Hope* scene. In general, there is in the *Seeress* performance a process that moves from control towards intimacy, in three ‘waves’. This was not planned, but emerged during the creative process, as a result of the experience of performing with the instrument with these particular patches in this particular form. In Appendix 2. Script for *Seeress* I have described the narrative structure, the composed qualities of movements and sounds and the visuals and juxtaposed these with the corporeosonic states of relatedness I typically experience during a performance.

3. The live electronics setup

![LIVE ELECTRONICS SETUP](image)

Figure 9. The live electronics setup
The work with the feedback instrument led to a smaller live electronics setup that started as a basic setup consisting of a MIDI controller, an audio interface and a MacBook Pro. The main sound source in this setup was internal feedback in plugins and software. This, however, developed into a setup in which I combine the internal feedback with the gestural feedback instrument. These sounds are layered with live looping in which I record long phrases (30-60 seconds) of objects that I explore, either sitting down by my ‘sound station’ or by walking around in the immediate environment. The loops are kept out of sync to create a texture of sound and are processed with various granulation and spectral plugins, compressor, EQ and reverb.

The live looping and processing of electroacoustic feedback are done in either AudioMulch or Plogue Bidule and I use Max/MSP for MIDI and OSC control. As a controller, I have used both a Novation ZERO SL MIDI controller and an Apple Remote. Sometimes I have also used a HotHand continuous wireless MIDI controller, which is programmed either in its own software, Source Audio Hot Hand USB or in Max/MSP. An overview of the live electronics setup can be seen in the figure below, and a walk-through of the software can be seen in video 19. Technical walk-through of the live electronics setup. Example patches for Max/MSP, AudioMulch and Plogue Bidule are available at the e-thesis repository at University of Surrey.
Equipment used in specific pieces

Duet

Prototype feedback instrument:
Behringer FCB1010 MIDI foot controller
2 DPA 4061 lavalier microphones
2 Trantec wireless systems
2 Genelec 8050 on stands
Focusrite Scarlett 2i4 audio interface

Cheap Blue

Basic live electronics setup:
MacBook Pro
Audio Mulch
Novation Remote Zero SL MIDI controller
Focusrite Scarlett 2i4 audio interface

REACH

Gestural feedback instrument:
2 DPA 4061 lavalier microphones
2 Line 6 digital wireless systems
2 Genelec 8050 on stands
2 Genelec 8020
Focusrite Scarlett 2i4 audio interface
TouchOSC on iPhone 4

There May Be Trouble Ahead – An Experiment

Live electronics setup:
Audio Mulch
Novation Remote Zero SL MIDI controller
Focusrite Scarlett 2i4 audio interface
2 DPA 4061 lavalier microphones
2 Genelec 8020
Mackie 1202 mixer
The Earth Will Absolve Me

Live electronics setup
Nord Modular G2
Audio Mulch
Novation Remote Zero SL MIDI controller
Focusrite Scarlett 2i4 audio interface
2 DPA 4061 lavalier microphones
2 Line 6 digital wireless systems
2 Genelec 8020
Apple remote

Seeress

Gestural feedback instrument:
2 DPA 4061 lavalier microphones
2 Line 6 digital wireless systems
2 Genelec 8050 on stands (varied between performances)
1 Genelec 8020
Nord Modular G2 synthesizer
Focusrite Saffire Pro 24 DSP audio interface
TouchOSC on iPhone 4

Zaragoza Ice

Gestural feedback instrument:
2 DPA 4061 lavalier microphones
2 Line 6 digital wireless systems
2 PA speakers on stands (unknown model)
2 Genelec 8020
Nord Modular G2 synthesizer
Focusrite Saffire Pro 24 DSP audio interface
<table>
<thead>
<tr>
<th>SCENES</th>
<th>NARRATIVE</th>
<th>SOUND QUALITIES [COMPOSED IN THE INSTRUMENT]</th>
<th>MOVEMENT ACTIONS/TASKS AND QUALITIES</th>
<th>VISUALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction and Awakening</td>
<td>Stillness, then awakening, thawing, stirring of Mother Earth from which Völva is formed.</td>
<td>Crude, unrefined feedback sounds. Sense of effort as if the sounds are reluctant to start. Vocal sounds: grunts and groans from Völuspá.</td>
<td>Actions/tasks: to rise up from the mud and become Völva, an old woman. Qualities: visible breathing, subtle hand movement, slow and stiff rising and movement across the floor.</td>
<td>A blue light as if before dawn fades in.</td>
</tr>
<tr>
<td>2. The Eyes: creation</td>
<td>Through drawing sounds from the speakers and giving them life (through the eyes), Völva connects and the world. First a bass resonance that gives Völva strength, then a more sustained and atmospheric feedback that allows for discrete pitches and glissandi when &quot;pulled out&quot; of the speakers.</td>
<td>Actions/tasks: without showing her face, Völva draws sounds out of the speakers to pull down the eyes. Qualities: Hands are stiff and clawlike while &quot;luring&quot; the sounds out of the speakers, but also pushing, pulling, tempting, controlling and as if kneading dough.</td>
<td>The moon rises and the eyes float down to attach themselves to the speakers.</td>
<td></td>
</tr>
<tr>
<td>3. Floaty</td>
<td>Völva is enjoying the world she created: a world in which logic is silenced; a world which is in tune; a world of pure flow, vibration and water. Slow, drone-like with clear delays. Quite complex and full-range, sometimes one distinct resonance dominates. A metaphor for the pleasant Floaty world.</td>
<td>Actions/tasks: reveal her face and the world she has created and explore its pleasure and bliss. Qualities: flowing, watery as if immersed in water. Found movement of legs floating in the Lesbos sea.</td>
<td>The moon starts to multiply and grow like cells (are we in an inner or outer universe?) Change to a seascape (the Floaty world) in which marble balls grow in a similar way to the moon.</td>
<td></td>
</tr>
<tr>
<td>4. Annelie</td>
<td>The ideal world does not last: it is brutally juxtaposed with the Square world of Annelie, the contemporary person: rational, embarrassed about her body and without relation to nature. Brutal cut to silence in harsh light contrasts to the Floaty world.</td>
<td>Actions/tasks: Annelie finds herself confused on stage and starts to play with the speakers. Qualities: natural movement as Annelie No video, harsh fluorescent light. The square world fades in when Annelie starts playing with the speakers.</td>
<td>Spheres move vigorously in groups, then grow into cubes of corrugated steel that grow increasingly aggressive. Switch to a war scene between the two worlds.</td>
<td></td>
</tr>
<tr>
<td>5. Rhythms in the Square World</td>
<td>Annelie explores the sounds in the Square world, a game/play that gets out of control. Starts with a layer of a &quot;growling&quot; and a &quot;hissing&quot; sound, giving the speakers each an identity that Annelie can communicate with. Later a velocity triggered bassdrum and a bell sound with random pitches, which enables rhythmic playing.</td>
<td>Actions/tasks: explore the sounds of the square world and lose control. Qualities: movements reflect the stiffness and constraint of the square world. When rhythms take over, Annelie starts hitting her own body which then becomes caught up in the rhythmical flow.</td>
<td>No video, harsh fluorescent light. The square world fades in when Annelie starts playing with the speakers.</td>
<td></td>
</tr>
<tr>
<td>SCENES</td>
<td>NARRATIVE</td>
<td>SOUND QUALITIES (COMPOSED IN THE INSTRUMENT)</td>
<td>MOVEMENT ACTIONS/TASKS AND QUALITIES</td>
<td>VISUALS</td>
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<tr>
<td>6. Chaos and Destruction</td>
<td>Chaos and destruction follows when the Square world collapses. Annelie tries to evoke Völva to stop the destruction, but she is not there.</td>
<td>Uncontrolled noise with random variation changes at irregular intervals. Annelie can influence the sound (making it &quot;scream&quot;) but not stop it.</td>
<td><strong>Actions/tasks:</strong> avoid explosions and try to stop the destruction.  <strong>Qualities:</strong> fear and sudden jerks, but also courage; violent, large and dramatic movement filling the whole room with chaos.</td>
<td>A landscape of explosions that Annelie navigates, hiding from the explosions.</td>
</tr>
<tr>
<td>7. Darkness</td>
<td>The world (and Annelie) descends into despair.</td>
<td>Total darkness and silence, in which Annelie’s body sounds can be heard: exhausted breathing, sometimes crying, movements on the floor. Bass feedback as waves of despair, that Annelie fends off by slamming her hand to the floor.</td>
<td><strong>Actions/tasks:</strong> from a position of despair, find a way to go on. Use the small speaker as a teddy bear  <strong>Qualities:</strong> exhaustion, heaviness, despair, anger, resentment. Slow turning point into &quot;life goes on.&quot;</td>
<td>Darkness</td>
</tr>
<tr>
<td>8. Rebuilding the world</td>
<td>Annelie laboriously starts to rebuild the world. Her touch creates sound and as continuity. She performs a ritual with the small speaker and the mask.</td>
<td>Slow, heavy, drone sound with streams of granulation to reflect the broken pieces of the world that Annelie is trying to mend and rebuild.</td>
<td><strong>Actions/tasks:</strong> clean up the space, organise things, pick up the pieces. Start over again. Ritual.  <strong>Qualities:</strong> Resignation, slow and gentle movement, post-catharsis. Ritual performed with gravitas.</td>
<td>The inner/outer universe appears with stars and fragments of the destroyed world floating around, together with strange shapes and DNA spirals.</td>
</tr>
<tr>
<td>9. Song of Hope</td>
<td>Völva is present in the sound, which gives Annelie hope about which she sings.</td>
<td>Two notes in the sound serve as an impetus for an improvised melody. Slow waves of sound become an accompaniment to the voice.</td>
<td><strong>Actions/tasks:</strong> sing to small speaker in lap, place her on the subwoofer (= an altar), sing to the audience.  <strong>Qualities:</strong> gentle, intimate, hopeful. This is a sacred scene: the core of the whole performance.</td>
<td>Blue and purple spirals/flowers slowly float in space. The moon comes back and shrinks to become a spotlight on Völva in the final image.</td>
</tr>
</tbody>
</table>
Appendix 3. List of video examples

9. Ancillary gestures and rhythms in REACH rehearsal
10. Physicality with panel speakers
11. Timbral affordances at IDKA
12. Foot microphone and 4 speakers in REACH rehearsal
13. Tipping point REACH dress rehearsal
14. Ancillary gestures in Dietro
15. Corporeosonic control state at IDKA
16. Corporeosonic immersion state
17. Behaviour in REACH dress rehearsal
18. Technical walk-through of the gestural feedback instrument software
19. Technical walk-through of the live electronics setup

The videos are available at the University of Surrey e-thesis repository.
APPENDICES

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Appendix 5. Residencies and workshops

University of Surrey Guildford

Workshop with improvisers John Butcher and Rhodri Davies 8 December 2012.

IDKA Gävle Sweden

15-27 June 2013 for development of gestural feedback instrument.

FST Cortona Italy

9-23 August 2013 for field recording and composing.

FST Berlin Germany

11-18 September 2013 for writing and reflection.

DUENDE Leeds


DUENDE Lesbos Greece


EMS Stockholm Sweden

29 September-19 October 2014 for composition of Ayvalik And-act.

B3 Media Ljubljana Slovenia

Workshop #HackTheArtist at Music Tech Fest 18-21 September 2015.
NIDA Art Colony Nida Lithuania

Doctoral course *Smoke and Mirrors* 19-23 October 2015.

Music Tech Fest Berlin Germany

Music Tech Fest R&D for *Roundness* feedback installation at Funkhaus Berlin 26-29 May 2016.
APPENDICES

Appendix 6. List of software patches

For the gestural feedback instrument:

• Gestural feedback instrument control, patch for Max/MSP

For the live electronics setup:

• AudioMulch live looper, patch for AudioMulch
• Live electronics control, patch for Max/MSP
• Live electronics feedback, patch for Plogue Bidule

The patches are available at the University of Surrey e-thesis repository.
Literature


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