LOOKING at SOUND LISTENING to IMAGE

HALLVEIG G K ÁGÚSTSDÓTTIR

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PRACTICE-BASED RESEARCH TOWARDS A SOUND-DRAWING LANGUAGE FOR AUDIOVISUAL PERFORMANCE

by

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ABSTRACT

This thesis discusses my new sound drawing practice and its development throughout the course of my practice-based PhD research at Brunel School of Arts. "Sound drawing" is a general term that I have chosen to use to describe a body of visual artworks that instigated the composition of soundscapes as well as the design of an audiovisual performance instrument.

I will start by giving a clear picture of the musical and visual arts background that led up to my current sound drawing practice. Then I will go through the individual works created between 2008 and 2012 that have contributed the most to the development of sound drawing. I will discuss how *performance sketches...* (2009) instigated the shift from composing graphic scores to sound drawing when I was confronted with drawing my graphic scores in real time. In *31 (sound)studies on paper* (2010-2011), the sound drawing process began to mature through a closer examination of the visual imagery, drawing materials, physical gestures and the overall sound production.

As I started to develop solo performance projects based on my sound drawing practice, I looked back to the compositions *projection-reaction* (2008-2009) and *de(re)construction* (2009) which suggested how I might return to using the medium of video.

My most recent work, drawaline and listen to it and R=15 (2012), seems to constitute a point where all the different strands in my works of the preceding four years come together to produce an intricate collaboration between sound, image and performer. Working with the sound drawings within a performance context, a registration of the sonic event occurs, a form of score is created – and at the same time sound is mixing and moving into the space through the audio software Plogue Bidule, while a visual projection is constructed in real-time through the VPT software.

TABLE OF CONTENTS

ABSTRACT	3
TABLE OF CONTENTS	4
TABLE OF FIGURES	6
ACKNOWLEDGMENT	7
I. INTRODUCTION / Background and theoretical research	8
1. Visual arts & Western art music / Kandinsky and Schoenberg	9
1.1 Author's background in visual arts & Western art music	9
1.1.1 Feldman's <i>Projections</i>	12
1.1.2 <i>Performance nr.1</i> (2007)	15
1.2 Wassily Kandinsky	18
1.2.1 Emphasis on colour (synaesthesia)	19
1.2.2 Der Gelbe Klang	19
1.3 Arnold Schoenberg	22
1.3.1 Klangenfarbenmelodie 1.3.2 Die Glückliche Hand	23
1.3.2 Die Glückliche Hand 1.4 Conclusion	24 <i>27</i>
1.4 Coliciusion	
2. Visual Music / Paul Klee - visual rhythms and polyphony in painting	29
2.1 Painting music	29
2.2 Visual analysis of a sonata by J. S. Bach	32
2.3 Visualizing musical rhythm patterns	34
2.3.1 Klee's chessboard pattern / New Harmony	35
2.4 Canon of Tonality – a colour theory	37
2.5 Painted polyphony	38
2.6 Conclusion	40
3. Synaesthesia / Looking at synaesthetic and non-synaesthetic associations between colour, for	
and music/sound	43
3.1 Introduction	43
3.2 About synaesthesia	45
3.2.1 what is synaesthesia?	46
3.2.2 various synaesthetic experiences	47
3.2.3 synaesthetic perception3.2.4 inherent and involuntary	48 48
3.3 Cross-activation	49
3.3.1 neural pruning, or additional neuronal connections?	49
3.4 How common is synaesthesia?	50
3.5 On colour associations	50
3.6 Commonalities between synaesthetes and non-synaesthetes	54
3.6.1 the bouba/kiki effect	56
3.7 'Synaesthesia-like' correspondence in relation to graphic notation	58
3.8 Conclusion	60
3.8.1 Messiaen: "When I hear music I see colours"	60
3.8.2 Couleurs de la Cité céleste	61
3.8.3 going from idiosyncratic colour to music correspondences to in-built digital	
cross-activation	62
3.8.4 sight vs. sound	64
II. COMPOSITIONS & SOUND DRAWINGS 2008-2012	66
4. Video compositions / Influences from the history of Abstract film	67

	4.1 Insight into Abstract film	67
	4.1.1 The Rainbow	67
	4.2 Audible Handwriting: the Miracle of Drawing Sound	69
	4.3 Oskar Fischinger	70
	4.3.1 Ornamented Sound4.4 Interview with the British filmmaker Malcolm Le Grice	71 <i>73</i>
	4.4 Interview with the British filmmaker Malcolm Le Grice4.5 Origin of my video compositions	73 77
	4.5.1 Jayne Parker's short films from 2000	78
	4.6 projection-reaction (2008-2009)	80
	4.7 de(re)construction	83
5.	performance sketches (2009)	86
	5.1 Sound drawings (2005-2006)	86
	5.2 "When we listen to it, we find it fascinating"	90
	5.2.1 the act of listening	91
	5.2.2 "in music and in the visual arts the medium declares itself as medium"	92
	5.2.3 amplification – $0'00''$	93
	5.3 The instructions for <i>performance sketches</i>5.3.1 lines, circles, squares & triangles	95 97
	5.4 Graphic notation in real-time	98
	5.5 Clusters of horizontal and/or vertical lines	99
	5.6 piano keys, pencils and aluminum foil	101
	5.7 Conclusion	103
6.	31 (sound)studies on paper (2010-2011)	105
	6.1 sound drawing - (graphic notation)	105
	6.1.1 white is loud and silence is black	107
	6.1.2 a Line	110
	6.1.3 a musical line, and a dot - <i>Variations I</i> (1958)	113
	6.1.4 the sound, as it actually is	114
	6.2 A series of 31 sound drawings	117
	6.3 Soundscapes – an immersive environment	119 121
	6.3.1 <i>crox</i> 352 - soundscape (2011) / micro and macrostructure 6.4 <i>crox</i> 352 - <i>improvisation on a drawing</i>	121
7		
/٠	Drawing compositions / Cardew's <i>Treatise - composedDRAWING -</i> 15 rocks and a Line 7.1 <i>TREATISE</i>	124 <i>125</i>
	7.1.1 Dividing <i>Treatise</i> into 7 sections	129
	7.2 composedDRAWING #1	133
	7.2.1 video projection tool - VPT	135
	7.3 VPT + Plogue Bidule = audiovisual sound drawing instrument	136
	7.4 drawalineandlistentoit	140
	7.4.1 "Draw a straight line and follow it"	141
	7.5 R=15 (2012) 7.5.1 Cage the artist "A seher and quiet mind"	<i>142</i> 142
	7.5.1 Cage, the artist - "A sober and quiet mind" 7.5.2 the <i>RYOANJI</i> works	143
	7.5 Conclusion - keep the 'flow' going	149
L	ist of recordings on CD 1-3	152
	ist of recordings on DVD 1-4	153
	IBLIOGRAPHY / References	154
A	PPENDIX interviewing MALCOLM LE GRICE	160 161
	On improvisation, AMM & Cardew's <i>Treatise</i> - a conversation with Keith Rowe	101 178
D.	ORTFOLIO	188
1 '	UNITULIU	100

TABLE OF FIGURES

Figure 1 - page 1 of 3 from So Many Ways (2004) - a graphic score by the author	9
Figure 2 - excerpt from <i>Imprevisto</i> (2002) by O. Cram; and graphic transcription by the author	11
Figure 3 - Performance nr.1 (2007) - a acrylic painting by the author	17
Figure 4 - Bars 126-129 from Schoenberg's Die Glückliche Hand	26
Figure 5 - colour crescendo for the third scene of <i>Die Glückliche Hand</i>	26
Figure 6 - colour-to-tone scale by the author	30
Figure 7 - an example of a musical motif and visual music painting from 2004, by the author	31
Figure 8 - graphic analyze by P. Klee of J.S.Bach's Sonata No.6 in G major	33
Figure 9 - Highways and Byways (1929) - oil painting by P. Klee	35
Figure 10 - New Harmony (1936) - oil painting by P. Klee	36
Figure 11 - Polyphonic Setting for White (1930) - watercolour painting by P. Klee	39
Figure 12 - VISION (1996) - oil painting by C. Steen	47
Figure 13 - an overview of the associations made to the colour yellow	52
Figure 14 - an overview of the associations made to the colour red	53
Figure 15 - an overview of word list connections made in the author's graphic notation study	55
Figure 16 - "takete" and "baluba"	56
Figure 17 - example of three dots (circles) in different sizes used in the author's graphic notation study	
Figure 18 - twelve cards out of sixty-four used in the author's graphic notation study	59
Figure 19 - a display card showing some of O. Fischinger's ornament sound designs	72
Figure 20 - excerpt from the author's composition Collage for bass clarinet (2007-2008)	78
Figure 21 - stills from Foxfire Eins natrimpentothal (2000) - by J. Parker	79
Figure 22 - 'active line' sketch from P. Klee's <i>Pedagogical Sketchbook</i> (1925)	87
Figure 23 - examples of sound drawing rhythms, by the author	87
Figure 24 - Sound drawing (2005-2006) - drawing series by the author	89
Figure 25 - excerpt from the author's score performance sketches (2009)	96
Figure 26 - excerpt from the author's score performance sketches (2009)	97
Figure 27 - a selection of 8 sound drawings/graphic scores - performance sketches (2009)	101
Figure 28 - 31(sound)studies on paper / nr.2 (2010) - a sound drawing by the author	105
Figure 29 - example from B. Schäffer's instructions for his composition Azione a due	107
Figure 30 - a page from the author's notebook showing lines of different pencil grades	108
Figure 31 - three line cards used in the author's graphic notation study	113
Figure 32 - Soundtracks / nr.5 (2010) - a large scale sound drawing by the author	116
Figure 33 - detail from 31 (sound)studies on paper / nr.6 - a sound drawing by the author	118
Figure 34 - a photograph of violinist Marieke Berendsen - Croxhapox, Ghent, in 2011	123
Figure 35 - a page from the author's sound drawing notebook	124
Figure 36 - page 4 from Cardew's graphic score <i>Treatise</i> (1963-67)	126
Figure 37 - pages 191-193 from Cardew's graphic score <i>Treatise</i> (1963-67)	132
Figure 38 - a view from the <i>composedDRAWING #2</i> performance by the author at iMAL in 2011	136
Figure 39 - an example of a Plogue Bidule "timegate" design by P. Craenen	137
Figure 40 - a snapshot of a router setting in VPT	139
Figure 41 - Where $R = Ryoanji: R^3$ (1983) - drypoint print by J. Cage	144
Figure 42 - $3R/17$ (Where $R = Ryoanji$) (1992) - drawing by J. Cage	145
Figure 43 - excerpt from Ryoanji (1983) - a graphic score by J. Cage	146
Figure 44 - $R=15$ - a sound performance drawing by the author	149

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Hallveig

INTRODUCTION

Background and theoretical research

"I prefer to think of my work as: between categories. Between Time and Space. Between painting and music. Between the music's construction, and its surface."

(M. Feldman)¹

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¹ M Feldman 'Between Categories' in *Give My Regards to Eight Street; Collected writings of Morton Feldman*, B. H. Friedman (ed.), Exact Change – Cambridge, 2000, p 88.

Chapter 1

Visual arts & Western art music

Kandinsky and Schoenberg

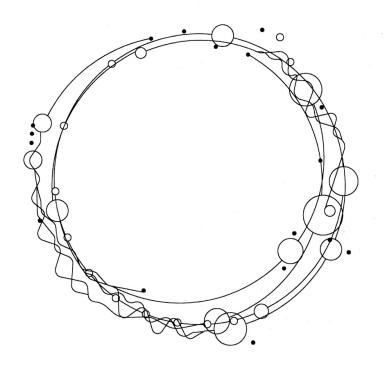


Figure 1 page 1 of 3 from the graphic composition *So Many Ways* (2004), by Hallveig Agustsdottir

1.1 Author's background in visual arts & Western art music

From an early age I was interested in both the visual arts and music, but I always approached them as two separate experiences. After finishing my secondary studies in Iceland in 1996 with visual arts as my main subject, I spent the next four years focusing on my music studies at the Sigursvein D. Kristinsson Music School in Reykjavik with the clarinet as my main instrument - and in the fall of 2000 I moved to Belgium to study at the Royal Conservatory of Ghent. It was soon after I began my clarinet studies in Ghent that I began to question whether I should continue with my music education or look instead to further my studies in the field of visual arts. By the fall of 2002 I had made my decision and I enrolled at the Sint-Lucas Art Institute in Ghent with painting as my main discipline.

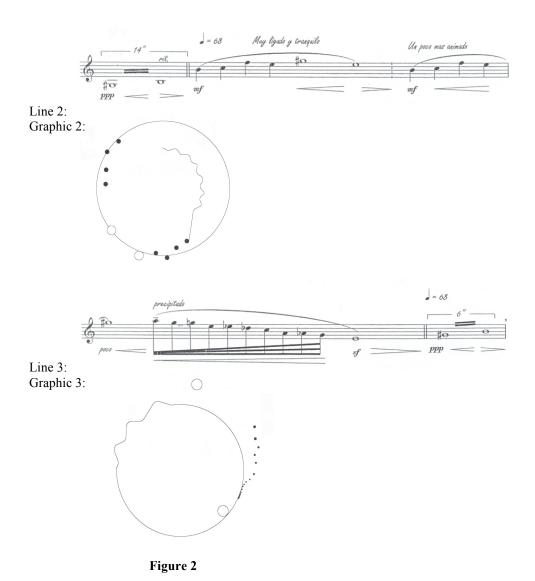
Then, in 2003, I had to choose in which direction I wanted to take my art practice. Still with strong feelings towards the music that I had given up two years earlier, I was reminded of a question a teacher of mine in Iceland had asked me once: "Why do you feel you need to chose between these two disciplines? Why do you not just practice both?" And so I did. From that moment on, I began connecting music and other sound-related materials with my visual art practice, and vice versa.

As I began researching topics that could relate Western art music to the visual arts, I soon came across the graphic scores of John Cage (e.g., *Cartridge Music*), Morton Feldman (e.g., *Projections* and *Intersections*), Roman Haubenstock-Ramati (e.g., *Konstellationen*) and Cornelius Cardew (*Treatise*), to name but a few. The world of graphic notations began to influence and inspire my creative work, as through it I found a way to link my twin disciplines of visual arts and music. I felt that the graphic score was the tool that would enable me to combine my musical ideas with my visual arts training.

My first attempt to present a musical thought graphically was by transcribing the composition *Imprevisto* for solo clarinet (2002) by the Latin American composer Oscar Cram. I divided the whole piece into twelve graphical parts, corresponding to the twelve staves the score was divided into on the printed sheet of paper. Each staff was then visualized in the form of a circle - or more precisely, a somewhat distorted circular shape - with black dots, small circles and (wavy) lines drawn onto, within, or around it. The main circle was constructed from the five lines of a staff, that is, instead of drawing them horizontally as in a normal score, I rolled the staff lines up into a circle. However, in creating each graphic element I would use only one of the five staff lines (e.g., in fig.2 the top graphic uses the top staff line (F), but the lower graphic uses the lowest staff line (E)), which gave more variety to the visual presentation.

I made fairly simple associations between the notation and the graphics; a wavy line represents a tremolo, all the crotchets are represented by even-sized black dots, and the longer the time value of a note, the larger its circular shape. I also decided to keep a basic visual correspondence between the notes in the score and the notes in the graphics, i.e., a filled (black) note – such as crotchets and quavers – became black dots, while the unfilled (white) notes – such as minims and semibreves – would be represented by a white, 'empty' circle. The location of the elements in, on, and around the main circle corresponds to pitch – a high-pitched note lies outside the circle shape, a middle-register note is placed touching or intersecting the circle, while the low-pitched notes are drawn inside it (see fig.2). I

made no attempt to translate any indication of expression, texture or mood into the graphic imagery.



Excerpts from the clarinet solo composition *Imprevisto* (unpublished), by Oscar Cram, with a graphic transcription made in 2003 by the author.

Having made this transcription of another composer's work, I then set about creating my own graphic score by following the same rules that I had set myself for the *Imprevisto* graphics. This resulted in a series of three works, *Space to Space* (2004), *So Many Ways* (2004), and *Movement* (2005). For all these works the intention is that the musician, or musicians, read the visual material in a circular, clockwise direction, starting and stopping wherever they choose, although making at least one complete circuit around the main circular form when performing each piece.

Keeping consistency in the interpretation of the graphics is important. For example, the interpretation – in relation to time – of the distance between circles and/or dots should remain constant; the relative size, and therefore the dynamics, or duration, of dots and circles should be fixed for each performance; and the notion of where the lines or circular forms are (whether they are 'outside' or 'inside' the main circular structure) should be kept the same throughout the performance of the pieces, as it is (or could be) related to pitch.

These simple compositional elements that I was applying in my first graphic scores corresponded to those deployed by Morton Feldman's early "graph" notations, in a series of pieces entitled *Projections* that were composed between 1950 and 1951.

1.1.1 Feldman's *Projections*

Unlike my circular form, these compositions by Feldman use a grid structure where each square of the grid represents a unit of time that is filled either with some sort of sound, or with silence. Feldman explained that his aim was 'to project sounds into time, free from a compositional rhetoric that had no place here. In order not to involve the performer (i.e. myself) in memory (relationship), and because the sounds no longer had an inherent symbolic shape, I allowed for indeterminacies in regard to pitch.'²

To go against the tradition of pitch relations in Western art music, Feldman 'opened up' his compositions to indeterminacy by dividing each instrument into high, middle, and low register areas, within each of which the performer could then choose for him/herself which specific pitch to play. In these graph scores, each performer has a horizontal line to follow, which consists of three vertical boxes that represent the high, middle and low register. This same division into high, middle and low register could also be found in my own graphic scores, where the high register was assigned to all sounds that lay outside the main circle, the middle register was represented by all shapes that touched or intersected with the main circle, and the low register was identified with anything inside the main circle structure.

Apart from designating the register in this way (high, middle, or low), Feldman indicated only time values (each box representing a specific unit of time), and dynamics, which in the *Projections* series were to be kept soft throughout each piece.

² M Feldman 'Liner Notes' in *Give My Regards to Eight Street; Collected writings of Morton Feldman*, B.H. Friedman (ed.), Exact Change – Cambridge, 2000, p 5-6.

Again, in my first graphic scores, we also see time values indicated by the size and distance between elements – the larger a circle or a dot, the longer time value it has, and the longer a line, the longer its duration. However, in my pieces, dynamics were not to be kept soft as in Feldman's work – instead, the time value indicators, i.e., the size of a form, could also indicate dynamic changes.

Despite opting for indeterminacy of pitch selection by the performers in his *Projections* series, Feldman did eventually begin to question the chance factor that was/is an inherent factor in all graphic scores:

After several years of writing graph music I began to discover its most important flaw. I was not only allowing the sounds to be free – I was also liberating the performer. I had never thought of the graph as an art of improvisation, but more as a totally abstract sonic adventure.³

Indeed, although the graphic score does not represent a fixed sound world, it is a fixed notation. It is open to individual interpretation, but, just like the traditional Western art music score, it should be studied and practiced – it is not intended as a mere take-off point for an otherwise freely improvised performance.

Even though Feldman was not satisfied with the performance results of his graph notation, and indeed abandoned it in the years between 1953 and 1958, nevertheless he did not find the answer he was looking for within the traditional system of notation either, saying that: "precision did not work for me either. It was like painting a picture where at some place there is always a horizon. Working precisely, one always had to generate the movement – there was still not enough plasticity for me." But, whether the music was notated with graphs or traditionally, the purpose, the aim, remained the same for Feldman: "My obsession with surface is the subject of my music. In that sense, my compositions are not "compositions" at all. One might call them time canvases in which I more or less prime the canvas with an overall hue of music. I have learned that the more one composes or

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³ M Feldman 'Liner Notes' in *Give My Regards to Eight Street; Collected writings of Morton Feldman*, B.H. Friedman (ed.), Exact Change – Cambridge, 2000, p 6.

⁴ M Feldman 'Liner Notes' in *Give My Regards to Eight Street*, B.H. Friedman (ed.), 2000, p 6-7.

constructs the more one prevents Time Undisturbed from becoming the controlling metaphor of the music."⁵

The same questions and concerns which Feldman had remarked on began to surface in my own work. Through the mixed experience of working, on the one hand, with traditional notated scores (e.g., Ice Poems (2004) for clarinet, baritone saxophone, piano and synthesizer), and on the other hand, with graphic scores, the question arose of how much information I intended to give to the performer. Was I looking for a way to give exact musical information to the potential performer of my work? Or was I willing to delegate creative responsibility to the performer, and thereby allow indeterminacy to become a part of my compositional process? At this point, I was not ready to choose between these two options, but the flexible characteristics of graphic notation continued to intrigue me. The graphic score created the opportunity for collaboration between the composer (me) and the performer, which could then be varied in its degree according to the amount of information and instructions I would include with each score. This should by no means be misunderstood as an attempt to transfer the creative responsibility over onto the performer's shoulders. Rather, it was my intention to invite the performer to take part in the process of the work, and not be just a 'reader' of a score, as s/he would be in the context of traditional notation.

Indeed Feldman questioned: "to what degree does one give up control, and still keep that last vestige where one can call the work one's own?" And his answer was that "everyone must find his own answer here" – explaining further, Feldman wrote: "there is a story about Mondrian that may clarify what I mean.

Someone suggested that since Mondrian used areas of all one color, why not use a spray instead of painting these areas? Mondrian was very interested, and immediately tried it. Not only did the picture not have the feel of Mondrian, it didn't even have the look of Mondrian. No one who has not experienced something of this will understand it.

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⁵ M Feldman 'Between Categories' in *Give My Regards to Eight Street*, B.H. Friedman (ed.), 2000, p 88.

The word that comes closes is perhaps touch. For me, at least, this seems to be the answer, even if it is nothing more than the ephemeral feel of the pencil in my hand when I work. I'm sure if I dictated my music, even if I dictated it exactly, it would never be the same."

1.1.2 *Performance nr.1* (2007)

With the years my approach to the graphic score evolved and became more and more interlocked with my visual art practice, i.e., instead of having two distinct visual vocabularies, one for the graphics and another for my drawings, they began to merge. This convergence first became noticeable in the graphic score that was made for the violin piece *projection-reaction* in 2008-2009, where my way of composing the score was not only based on musical ideas, but was also influenced by a visual artist's way of thinking. In my previous works there had been a clearly defined graphic image (e.g., fig.1) on a white sheet of paper; however, in *projection-reaction* I sought a way for *the entire surface of the paper* to contribute to the structure of the piece by adding slight variations in colouration to the background, which thus connected the graphic elements together. My intention with this new compositional feature was to create more density in the musical interpretation; there would be no 'empty/silent' space in the composition any more - now there was sound emanating from the whole surface of the paper.

The reason why my graphic scores were moving closer to the way I would make a visual artwork, and were not conceived solely with a logic of musical notation, can be related to the fact that I had become interested in taking part in the performance of my own scores. Indeed, back in 2006 I began to look for ways to take part in the performances of my compositions, not as a musician per se, but as an audiovisual artist. This longing of mine to participate in the performance of my own work was prompted by a comment made by Cornelius Cardew on the many performances of his (infamous) graphic score *Treatise*: "My most rewarding experiences with Treatise have come through people who by some fluke have (a) acquired a visual education, (b) escaped a musical education and (c) have nevertheless become musicians, i.e. play music to the full capacity of their beings." I had acquired this mix of musical and visual education, and when studying Cardew's *Treatise* I

⁶ M Feldman in *Experimental Music; Cage and Beyond,* M. Nyman, Cambridge University Press, UK, 1984, p 30-31.

⁷ C Cardew, TREATISE Handbook, Edition Peters, London – Frankfurt – New York, 1971, p xix.

found that it had been performed not only by musicians, but also visual artists – the score did not imply merely musical sounds, but also activities that produced sounds that were performable by anyone, not just a musician (I will be discussing this further in chapter 7).

Performance nr.1 was commissioned by the Belgium-based contemporary art platform WARP for the exhibition UNDERGROUND/Sound & Vision, which took place in September and October of 2007. I composed a graphic score that both the Peruvian clarinettist Marco Mazzini and myself as visual artist could perform. The score was divided into four sections/movements, each having a dominant colour and corresponding tonality - yellow for D major tonality, dark red for F major tonality, light blue for E major tonality, and dark blue for F-sharp major tonality. Each movement had a different duration, which was shown on the score by varying the size of the squares representing it; however, no strict time indications were given. The order of the movements is not fixed in the score, so it is up to the discretion of the performers to choose the order for themselves. With each movement came a selection of short musical motifs – and each movement brought with it a change in tempo; two movements had an adagio tempo, one was allegro moderato, and one was presto. And while the musician focuses on his sound material around a given tonality, the visual artist focuses on the colour indicated for each movement, as well as the general tempo and dynamic changes in the music.

Even though both performers would follow the structure of the score, I also felt it important that there would be dialogue 'in the moment' during the performance itself. Therefore, signs given by the musician guide the way the artist applies the paint on the canvas; e.g., large heavy painting strokes follow loud dynamics and/or density in the music, while delicate, detailed, or transparent use of the paint follows soft and tranquil moments in the musical performance. The musician would also take cues from the visual artist in a similar manner – a sudden change in the character of the painting would inform the musician that he/she should make corresponding changes in his/her performance. It should be noted that in this first audiovisual performance that I created, I was working as a purely visual artist, focusing only on the image, and the colour – I had not started using amplification at this point to introduce the sound of image-making itself into my work.

Unfortunately the digital version of this graphic score got lost when my computer and external hard-drive were stolen at the beginning of January 2010 and I have not been able to locate a printed version of it either; however the painting that resulted from the performance can be seen in fig.3.



Figure 3

Performance nr. I = 2007, by Hallveig Agustsdottir acrylics on canvas / 100×150 cm

I was not entirely convinced by this project, since I was already beginning to doubt the validity of using colour to visualize the music I was composing, and now also performing. But this was the first time that the idea came to me that the score for a collaborative performance could result in a visual recording, a registration, which could then perhaps go on to become a score itself. My interest in this aspect increased after I came to know John Cage's 1962 composition 0'00''. The first performance of this piece had been the act of Cage writing out the score itself and meanwhile amplifying the sound of his action; the score goes as follows: "In a situation with maximum amplification (no feedback), perform a disciplined action." Here the writing of the score became the performance, and the performance became the score. Other works which made an impression on me during this period, and strengthened my attraction towards this way of working/composing, were Alvin Lucier's 1969 composition *I am sitting in a room*, and Robert Morris's *Box with the Sound of Its Own Making* from 1961. Indeed, Kim-Cohen suggests that Morris's *Box*: "[is] simultaneously the product of a process, the documentation of that process, and a set of instructions for the replication of that process. [It] might be seen as an example of what

⁸ J Cage, 0'00'' in *In the Blink of an Ear; Towards a non-cochlear sonic art*, S. Kim-Cohen, The Continuum International Publishing Group Inc., New York – London, 2009, p 55.

could be called "retrospective composition," in which the act of composition follows the act of performance (which itself is an act of protoreception)." This questioning and shifting of the 'purpose' of the score would develop into an important feature in my more recent audiovisual sound drawing performance projects (see chapter 7).

Now, before I move on to discuss my individual works, I would like to outline some of the theoretical research I conducted during the course of my PhD – and at the start of this research are the Russian painter Wassily Kandinsky and the Austrian composer Arnold Schoenberg.

1.2 Wassily Kandinsky

For Kandinsky, colours were like living forces that had their own intrinsic 'sounds,' whose immediate affect on the psyche should be released and represented in the purest manner possible. Kandinsky argued that colours and forms on their own are capable of affecting us in the same way tones of music do. However, Kandinsky did not go about equating individual colours with specific musical pitches, as so many had done before (or as I had done in my early colour-coded visual music paintings (see chapter 2)). Instead, he likened colours of the spectrum to specific instruments; and he associated the three primary colours red, yellow, and blue with the three main geometric forms, circle, triangle and square. In the chapter 'The Language of Forms and Colours' in his book *Über das Geistige in der Kunst (Concerning the Spiritual in Art,* also known as *On the Spiritual in Art*), written in 1910 and published in 1912, he repeatedly gives musical associations that he feels appropriate to specific colours:

Red, however, which plays a considerable part in [the constitution of] orange, also preserves in this colour an undertone of seriousness ... [It] is like a medium-toned church bell ringing the Angelus or a powerful contralto voice, or a viola playing a largo ...

Violet ... is a cooled-down red in both a physical and psychological sense. It therefore has something sad, an air of something sickly, something extinguished

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⁹ S Kim-Cohen, In the Blink of an Ear; Towards a non-cochlear sonic art, 2009, p 49.

about it ... It is like the sound of the cor anglais or the shawm, whereas its deeper tones resemble those of the lower woodwind (e.g. the bassoon). 10

1.2.1 Emphasis on colour (synaesthesia)

Kandinsky is believed by some to have had some form of colour-music perceptual experiences, and in his book Über das Geistige in der Kunst, he refers to the phenomenon of synaesthesia as he seeks to explain that there are various "paths leading to the soul". A perception that is communicated to the soul via one of the senses, e.g., smell or touch, immediately "sets up vibrations along the corresponding paths leading away from the soul to the other sensory organs". This perception, according to Kandinsky, would "seem to be a sort of echo or resonance, as in the case of musical instruments which without needing to be touched, vibrate in sympathy with another instrument being played."11 This idea of sympathetic vibration provided Kandinsky with an ideal metaphor for how his nonrepresentational art might succeed in projecting thoughts and feelings to its viewers, without the need for recognizable objects, signs and/or symbols.

1.2.2 Der Gelbe Klang

175.

Although Richard Wagner's music and theory had greatly inspired Kandinsky in his early years when he was developing his new non-representative paintings, the influence and example of composer Arnold Schoenberg, who was Kandinsky's contemporary, was also of crucial importance to him.

On the 2nd of January 1911 Kandinsky attended a concert in Munich where Schoenberg's Second String Quartet op.10 from 1910 and Three Pieces for piano op.11 from 1909 were performed. For Kandinsky, here was a demonstration of music achieving the

¹¹ W Kandinsky in *The Music of Painting*, Peter Vergo, Phaidon Press Inc., London – New York, 2010, p

¹⁰ W Kandinsky, On the Spiritual in Art, trans. H. Rebay, Solomon R. Guggenheim Foundation, for the Museum of Non-objective Painting, New York City, 1946, p 71.

'revolutionary' changes he so eagerly envisioned for the visual arts.¹² Indeed, Schoenberg's music made it clear to him that the concept of tonal harmony was undergoing a radical change, allowing dissonances to exist on the same level as consonance as a means of expression. Soon after the concert, Kandinsky began corresponding with Schoenberg. On 28th of January 1911, Kandinsky wrote the following lines to the composer:

In your works you have put into practice something I have greatly longed for in music, if only in a vague form. The independent passage through individual adventures, the intrinsic life of the individual parts in your compositions is precisely what I too am attempting to find in the field of painting ... I do believe that the harmony of today is not to be found by the 'geometric' approach (Cubism), but by a decidedly anti-geometric, anti-logical one. And this approach is that of 'dissonances in art', that is, in painting to the same extent as in music. And the painterly and musical dissonances of 'today' is nothing else than the consonance of 'tomorrow'.¹³

The notion of the *Gesamtkunswerk* was also something that influenced Kandinsky's "visual music" art practice. He considered that for the *Gesamtkunstwerk*, or total-work-of-art, to be successful, a form of collaboration had to exist between the different art disciplines, and that one could not simply add one art form on top of the other in the hope that 'two would prove greater than one'. Nor should one art form be invoked just to



12

Kandinsky created a visual memory of the concert in which he first encountered Schoenberg's music with this painting, *Impression III (Concert)*, 1911. The painting transposes the concert scene of piano, musicians, and audiences into a mixture of highly simplified forms and colours. We can see the imagery moving towards Kandinsky's goal of abstraction, but still it contains just enough reference to the original setting that we can recognize the scene.

¹³ W Kandinsky in *The Sound of Painting*, K. v. Maur, Prestel Verlag, Munich – London – New York, 1999, p 33-35.

reinforce another, as could be seen, for example, in traditional opera when specific emotions would be emphasized by the dynamic in the music (e.g. *ff* for anger or power, or *pp* for sadness or sorrow). Kandinsky believed that more profound effects could be achieved by calculated use of contrasts than by any mere mirroring, or 'repetition' as he called it – as an example, Kandinsky writes:

Music, for example, may be entirely pushed into the background or played offstage when the effect of the [physical/dance] movement is expressed enough, and powerful musical collaboration would only weaken it. An increase of musical movement may correspond to a decrease of dance movement; in this way both movements (the positive and the negative) enhance their inner value. There are numerous combinations between two poles: collaboration and contrast.¹⁴

Kandinsky's own version of the *Gestamkunstwerk* was the stage play from 1912, *Der Gelbe Klang (The Yellow Sound)*¹⁵, which consisted of a collaboration between music, singing, speech, dance, movement, painted stage sets, coloured lighting and designed costumes. *Der Gelbe Klang*'s dramatis personae included five yellow giants, indistinct beings, a tenor, a child, a man, people in flowing robes, people in many-coloured tights, and a chorus (behind the stage); the play's six scenes depend mostly on the movement of abstract colours and shapes on the stage, with a minimal amount of dramatised action taking place, and very little dialogue. It was as though Kandinsky had transformed his two-dimensional abstract paintings into a three-dimensional scenery, thus allowing him to invite the spectators to literally walk within his picture plane – Kandinsky writes:

The music is shrill and tempestuous, with oft-repeated a and b and a-flat ... the brilliant white light becomes progressively grayer. On the left side of the hill a big yellow flower suddenly becomes visible. It bears a distant resemblance to a large, bent cucumber, and its color becomes more and more intense ... Later, in complete silence, the flower begins to sway very slowly from right to left. ¹⁶

¹⁴ W Kandinsky 'On Stage Composition' in *The Blaue Reiter Almanac*, W. Kandinsky and Franz Marc (eds.), The Viking Press, New York, 1974, p 206.

¹⁵ It seems that *Der Gelbe Klang* belonged to a series of five stage plays that were intended to explore the inner value of colour and sound; thus there was *Den Grünen Klang (The Green Sound)* from 1909, *Schwarz und Weiss (Black and White)*, and *Schwarze Figur (Black Figure)* also from 1909 and the last one in the series, *Violett (Violet)* created in 1914. Out of all of these *Der Gelbe Klang* is best known.

¹⁶ W Kandinsky stage direction for 'Der Gelbe Klang' in *Modernism and Music: An Anthology of Sources*, D. Albright (ed.), University of Chicago Press, 2004, p 171.

Indeed it becomes clear when looking over the stage directions how *Der Gelbe Klang* was more closely related to painting than to any conventional idea of a play – e.g., there are only fifteen lines of text in the entire work, sung or spoken, but there is page after page after page of description of the shifting lighting effects and of the movements of the characters on stage, as well as of the set and costumes. Some scenes depend solely upon the music and lighting effects together with the movements and gestures made on stage, and scene 4 consists entirely of the single word, 'silence'. In fact, Kandinsky considered the use of words, either sung or spoken, as a potential obstacle because of their immediate relationship with rational thought processes - only when words were used as mere sound could this connection be broken. Thus, *Der Gelbe Klang* must be seen as a radical stage production when compared with what others were doing at the same time. And even when compared with Schoenberg's *Die Glückliche Hand*, which I will discuss shortly, Kandinsky clearly took the relationship between music, action and word far beyond anything Schoenberg ever attempted.

1.3 Arnold Schoenberg

Arnold Schoenberg belonged to that group of painters, writers and composers who no longer wanted to restrict themselves to one art form. The artist's urge to create was considered of paramount importance, and the need to be formally educated in a particular artistic medium was secondary. Thus, as an amateur painter, Schoenberg produced a large number of self-portraits¹⁷ just at the time that the theory of atonality was changing his musical language. Indeed, he was an avid believer that both music and the visual arts should be freed from the constraints of mimesis. To achieve this goal it was necessary to leave behind traditional methods - the old way of composing music - and the invention of atonality offered him the perfect way out (and forward).

Just as his paintings are firmly set within the aesthetic of Expressionistic painting of the time, so Schoenberg claimed that musical Expressionism was the only possible medium to express his inner emotions. To achieve this, he needed to develop a musical style of a very

¹⁷ Schoenberg's paintings earned the respect of Kandinsky and his fellow painters in the group *Der Blaue Reiter* (The Blue Rider). Even though his paintings did not explore the same extremes of abstraction as those of the artists of the *Blaue Reiter* group, he was still invited to take part in several exhibitions with them.

personal nature. As a result, atonality became for Schoenberg the only possible medium in which he could realize his longing to express his inner emotions.

However, the question was, how could Schoenberg introduce atonal dissonances into the musical language of his time without resolving them into consonance, as tradition would normally have dictated? He found the answer in the invention of his so called twelve-tone system, which consisted of creating a row of twelve tones, in which all the notes must be different (thus, the row contained within its structure all the twelve notes of Western art music's chromatic scale). With the twelve-tone row as a basis, the composer could then make certain variations of it within the composition; e.g., it could be played backwards (retrograde), upside down (inversion), upside down and backwards (inversion-retrograde); however, when applying these variations, the original interval properties of the basic row were to be maintained. This systematic way of working which Schoenberg pursued did not seem to have any parallel in the work of Kandinsky. However, we will see in the following chapter that the painter Paul Klee showed similar systematic tendencies in his approach to painting, although his inspiration came from quite another source.

Reflecting his interest in the visual arts, Schoenberg also began looking into the notion of how he could use tone-colour within his twelve-tone compositions:

... our attention to tone colors is becoming more and more active, is moving closer and closer to the possibility of describing and organizing them. ... Tone-color melodies! How acute the senses that would be able to perceive them! How high the development of spirit that could find pleasure in such subtle things!¹⁸

1.3.1 Klangenfarbenmelodie

In the book on his newly developed theory of music, *Harmonielehre* (1908-1910, later updated in 1922) Schoenberg wrote in the final chapter about the *Klangenfarbenmelodie*, a tone- or sound-colour melody. This musical technique involves splitting up the horizontal musical line of the melody between the different instruments playing, instead of assigning it to just one instrument at a time, as would normally have been the case. By doing this it became possible to add timbre, colour and texture as variable parameters within the same melodic line.

¹⁸ A Schoenberg, *Theory of Harmony*, trans. R. E. Carter, University of California Press, Berkeley – Los Angeles, First paperback edition, 1983, p 421-422.

Schoenberg put his theory into practice in his 1909 composition *Farben (Colours)*, which was the third movement of his *Five Pieces for Orchestra*, *op.16*. This is recognized as being on of the first examples of a real 'pointillistic' score in the history of Western music – going far beyond any pointillist features that, for example, Debussy's compositions might have had demonstrated. For his composition Schoenberg used as the main articulation changes in the colour and texture of the chords - giving the performers the following instructions: "The changing of chords must be executed as gently as possible to avoid any accentuation of entering instruments, thus making noticeable only the difference in the colour". ²⁰

With the emphasis on the tone colour, instead of traditional harmony, Schoenberg created a kind of stasis in the composition, an effect that would intrigue younger generations of composers such as La Monte Young and Morton Feldman. Indeed, Feldman's music would later reflect these early ideas of Schoenberg, both with its focus on the *colour* of the sound - avoiding any accentuation at the start of a note - as well as creating a moment-to-moment listening experience, rather than the kind of climax driven work that was so common in the Western art music tradition.

1.3.2 Die Glückliche Hand

Just as Kandinsky's fascination with music and the notion of a *gesamtkunstwerk* led him to create his stage production *Der Gelbe Klang*, so did Schoenberg's interest in the visual arts and the total-art-work come together in his short opera of 1913 entitled *Die Glückliche Hand (The Lucky Hand)*. Four years earlier, in his *Farben*, Schoenberg's focus had been on pure musical colouring – but this time, with *Die Glückliche Hand* he created a work that combined his music not only with words but also with coloured lighting effects, costumes and overall stage design.

In a similar fashion to Kandinsky, Schoenberg was also the sole creator of this work, writing the music, the libretto, and the words, designing the stage sets and costumes, as well as making a detailed layout for the lighting, which was to be closely synchronised with the music. Organised in four scenes, Schoenberg's opera was not as 'adventurous' as

¹⁹ A term referring to the painting technique developed by such artists as Georges Seurat and Paul Signac at the end of the 19th century called **Pointillism.** Patterns of small dots and points of pure colour are applied to the painted surface in order to form an image.

²⁰ A Schoenberg, Fünf Orchesterstücke, Opus 16, trans. H. Agustsdottir, Edition Eulenburg Ltd., Germany, 1950, p 31.

Der Gelbe Klang in its use of characters, since its three main characters were clearly identified as the Man, the Woman, and the Gentleman, with an additional chorus of six women and six men.²¹ However, unlike Kandinsky - and in this way going against the painter's principles concerning the total-art-work - Schoenberg used the visual colours, and the lighting, to simulate the mood in the music. A good example of this can be seen in bars 124 to 153 where Schoenberg has sketched out in detail how the colours should change in time to the music:

"It begins with dull red light (from above) that turns to brown and then a dirty green. Next it changes to a dark blue-gray, followed by violet. This grows, in turn, into an intense dark red which becomes ever brighter and more glaring until, after reaching a blood-red, it is mixed more and more with orange and then bright yellow; finally a glaring yellow light alone remains and inundates the second grotto from all sides."²²

21 A excerpt from a summary of Schoenberg's stage action: "The first scene opens with: An almost dark stage. The Man is spread out downstage with his face to the ground. Over him, a fabulous animal seems to have gnawed away his back. The stage space is very limited and slightly curved (in the form of a flat arch). The back is hung with purple silk: in it can be seen small holes through which green-lighted faces gaze: six men and six women. The lights are very dim: the eyes are almost the only thing that can be distinctly seen: all the rest of the stage is hung in pale red veils, somewhat coloured, however by the green light."



Red Gaze
1910, by A. Schoenberg
Oil on cardboard - 32,2 x 24,6 cm
Arnold Schoenberg Centre, Vienna.

²² A Schoenberg 'Die Glückliche Hand' in *Modernism and Music: An Anthology of Sources*, D. Albright (ed.), University of Chicago Press, 2004, p 271.



Figure 4

Bars 126-129 showing a start of a colour crescendo in the orchestral score Die Glükliche Hand.

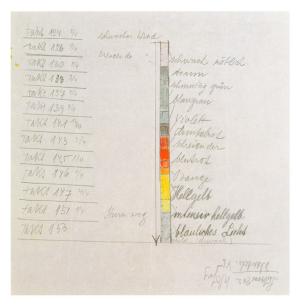


Figure 5

Colour crescendo for the third scene of Die Glückliche Hand. 1910-'13, by A. Schoenberg Pencil on paper - ca. 23 x 21 cm. Arnold Schoenberg Centre, Vienna.

Each colour had a symbolic significance; e.g., 'blood red' gives a strong visual impression, and then there was the use of green to symbolize envy, while purple was used to signify the power of the Woman over the Man, and yellow was used 'as a symbol for artistic excellence' when expressing the Man's victory.²³

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²³ E D Latham, 'Physical Motif and Aural Salience: Sounds and Symbols in Die Glückliche Hand, Op.18' in *Schoenberg and Words: The Modernist Years*, C. M. Cross & R. A. Berman (eds.), Garland Publishing, Inc., New York and London, 2000.

It is my opinion that the *Gesamtkunstwerk* created by Kandinsky was the more successful. He took the notion of the total-work-of-art closest to its fulfilment, creating a collaboration between the various mediums used without falling back on the reinforcement or mimicking of one medium by another. In Schoenberg's attempt, the tendency was to have the visuals merely emphasize what was already being expressed in his music, rather than giving them a role of their own within the overall work.

1.4 Conclusion

What is noticeable in the works of Kandinsky and Schoenberg is that both men looked for ways to merge an intuitive way of working with a solid intellectual framework. After arriving at abstraction and atonality, both artists began to set out the theories behind their work – Kandinsky's ideology can be found in his two books *Concerning the Spiritual in Art,* and *Point and Line to Plane* from 1926; while Schoenberg discusses his twelve-tone compositional system and the *Klangenfarbenmelodie* in his book *Theory of Harmony*. This mixed approach which combines the emotional/subjective with the intellectual was intriguing to me at first; however, as my own work began to move away from any form of subjectivity, I would find myself looking elsewhere for inspiration and guidance.

Indeed, by my second year of research at Brunel School of Arts I had begun to look for more concrete ways of combining my music and my visual art. This resulted in an important transformation within my practice where I switched from focusing on colour in my visual artwork to concentrate increasingly on sound – to be exact, on the sounds of my own drawing materials.

As regards the concept of the total-work-of-art, my own work evolved towards a complex conversation between sound, physical gestures and the black-and-white image. In this respect, I consciously try to follow what Kandinsky demonstrated in his stage work *Der Gelbe Klang*, i.e., the notion of a genuine collaboration between all three elements – and thus not shying away from the use of contrasting elements, so as to allow the individuality of each medium to be clearly present within the work as a whole. If, on the other hand, I had chosen to follow in the footsteps of Schoenberg, then the visual output, for example, would most likely have fallen into the form of an illustration of the audible experience – it would have become simply a mirroring of the activity of the sound production. This is not

what I am looking for when working with the two disciplines of visual art and music in the same work. By following the example given by Kandinsky, I seek instead to give each medium its own individual role within my audiovisual sound drawing performances (see chapter 7).

Even though I did not find Schoenberg's *Die Glückliche Hand* a successful total-work-of-art, I was intrigued by certain aspects of his notion of the *Klangenfarbenmelodie*, which came to be of importance for my own work. His ideas about the 'colour' quality of a particular instrument, or a particular sound, got me thinking about the quality of sound in general. I began to listen more attentively to the musical sounds I heard, and I also started to listen to the sounds of my environment with greater focus. Indeed, as Schoenberg writes: "Tone-color melodies! How acute the senses that would be able to perceive them! How high the development of spirit that could find pleasure in such subtle things!" – the 'subtle things' of sounds to which I would normally pay little or no attention suddenly became of great interest to me. There was a shift in how I perceived sound – now the focus came to be on each individual sound, and not on the overall harmonic progression of the 'musical' piece – and I began to develop a 'moment to moment' sense of listening, which would also prove influential in the development of my sound drawing practice.

Having encountered this sense of 'stasis' in the *Klangenfarbenmelodie* of Schoenberg, the next step would be for me to find a way to free up the notion of time even further. In this, I was greatly helped by the work of the painter Paul Klee and his rhythmical approach to composing the pictorial plane, and it is this I will be discussing in the following chapter, which focuses on a selection of his works and the theory behind them.

Chapter 2

Visual Music

Paul Klee – visual rhythms and polyphony in painting.

"All becoming is based on movement ... When a point turns into movement and line – that takes time." (P. Klee)²⁴

2.1 Painting music

The history of visual music has been very influential to my own personal music compositions and visual artworks. In my early works, starting from 2004 till about 2008 my focus was mostly directed towards the visual music and compositional theories of abstract painting by Wassily Kandinsky; however, since starting my PhD research I began to look deeper into the writings and artworks by Kandinsky's friend and Bauhaus colleague Paul Klee.

Since I was more interested in using the form and compositional structures found in music as underlying motives for my paintings, rather than translating the emotional impact of music over to visual imagery, I felt that Klee's ideas were more compatible to my work than Kandinsky's; which I found rely more on subjective and emotional observations.

"The violins, the deep tones of the basses, and especially the wind instruments at that time embodied for me all the power of that pre-nocturnal hour. I saw all my colours in my mind; they stood before my eyes. Wild, almost crazy lines were sketched in front of me." (W.Kandinsky)²⁵

Indeed, in his 2012 article 'Musique Concréte: Thinking in Visual Music Practice' Joseph Hyde points out that there have been two main differences in the way artists have approached their work in relation to visual music. On one hand there is what Hyde

²⁵ W Kandinsky in 'Neuroscience, History and the Arts – Synesthesia: Is F-Sharp Colored Violet?', Amy Ione & Christopher Tyler, *Journal of the History of the Neurosciences*, Vol.13, No. 1, 2004, p 55.

²⁴ P Klee in *Visible Deeds of Music; Art and Music from Wagner to Cage*, S. Shaw-Miller, Yale University Press, New Haven & London, 2002, p 145.

describes as 'material transference': "This area of practice involves a process of material transference from music (or sound) to the ocular domain. Within this can be sited a very particular approach often linked to the phenomenon of synaesthesia". To this group belong such artists as Kandinsky and Oskar Fischinger, as well as composers Alexander Scriabin and Olivier Messiaen. Then, on the other hand we have what Hyde classifies as 'compositional thinking': "the application of more abstract ideas and principles derived from music to ocular media. The most prevalent of these is perhaps 'form'. Form in music is not just the management of time on the macro level within a compositional framework, but rather an overall controlling principle which affects most or all musical parameters". Viking Eggeling, Mikalojus K. Čiurlionis and Paul Klee, are found within this group; just to name a few.

From the start, my work has belonged to what Hyde classifies as 'compositional thinking'. This means I would transfer my musical compositions (and, in very a few cases, music by other composers) over to a drawing or a painting. However, during the course of my PhD research this process began to evolve. As my research progressed, a reversed flow began to appear, i.e., my drawings gradually began to be the source of my music compositions as well (see chapter 6 on 31(sound) studies on paper).

Since 2004 (when I was still working with colour), I used composer Alexander Scriabin's colour associations to the circle of fifths as a reference point for creating my own colour-to-tone scale (see fig.6) and began working on minimalistic visual music paintings, which followed the mathematical structure of Western art music. Not having any form of colour-hearing synaesthesia myself, any association between the musical tones and the colours of the spectrum were based on arbitrary selections.



Figure 6

The colour-to-tone scale I used to transfer my music over to visual imagery.

Juda "Musiqua Congrèta: Thinking in Visual Music P

²⁶ J Hyde, 'Musique Concrète: Thinking in Visual Music Practice' *Organised Sound* 17(2), Cambridge University Press, 2012, p 170-171.

Although I was composing longer works next to my visual music paintings, they would rarely be the source behind my visual music paintings. Instead I began to compose a series of short musical motifs that I would transfer over to the painting medium (this was due to the difference in the notion of time and space in the visual perception of a musical structure – to visualize a full composition I would either have to create very large and very detailed canvases, or shorten my compositions to fit to my minimalistic visual aesthetics (see also 2.2). A corresponding colour would be used for each note in the motifs, and the duration of the note would indicate the amount of space it would take on the surface of the canvas (see example in fig.7).



An example of a musical motifs correlating to one of my visual music paintings from the 2004 *questions & answers* series (acrylic paint on canvas / 24x120 cm).

The musical motifs that I composed between 2004 and 2006 would become the source material for when I began to work and compose with the video medium in 2006 (see chapter 4 on Video compositions).

Even though I was interested in following the structural transformation of music into visual imagery instead of taking a more subjective, emotional approach to my work, I nonetheless wanted to find my own voice within the field of visual music. I felt that my early works were following too much of a general method when dealing with the two mediums. It was this longing to find a more personal touch that finally lead me to look deeper into the works of Paul Klee, which seemed to set themselves apart from any other visual music imagery with its focus on simple linear structures and combinations of coloured squares. As well as inspiration to my music compositions in the past four years, the research into Klee's work would prove to be very influential to the direction I took within my art practice. Throughout this chapter I will be discussing several of Klee's works, the theories behind them and what influence they had on my own music and art practice.

2.2 Visual analysis of a sonata by J. S. Bach

Coming from a musical family and being quite an accomplished violinist, Klee was not one of those artists looking at music from the 'outside', rather he had the advantage of looking at its workings from the 'inside'. It was in the music of Mozart and Bach that Klee found his inspiration. Although he was acquainted with one of the major advocates of the new music (composer Paul Hindemith), and indeed followed its development with interest, his attention firmly pointed towards the old masters; in contrast with Kandinsky, Klee's opinion of modern contemporary music was not a very high one

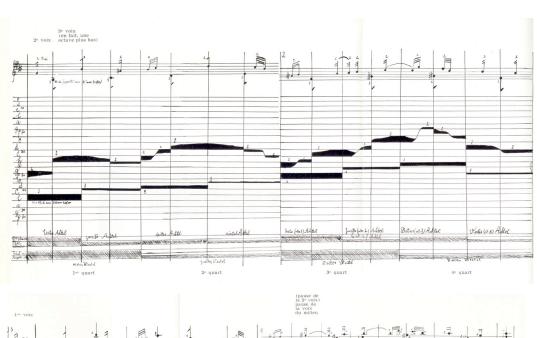
Klee's intention was to develop a scientific basis for the study of form and colour. For him these fundamental properties of visual art were subject to the same mathematical and physical laws as music; he writes: 'what music had achieved by the end of the eighteenth century is, as far as the domain of visual art is concerned, still in its infancy. Mathematics and physics afford the possibility of obtaining a degree of purchase on this problem in the form of rules that can be either observed or adapted.'²⁸ And so Klee started work on applying the mathematical structures found within music to his visual imagery.

It was during the first lecture course Klee gave at Bauhaus in Weimar in 1921-1922 that he produced an example of how to translate over to painting, the elements of time/rhythm and dynamics from music. Klee's example is a graphical analysis of the two first bars from the *adagio* movement of Bach's *Sonata No.6 in G major* for violin and cembalo (see fig.8). Why Klee only drew up two bars and not the whole movement may best be explained by the simple fact that if he were to visualize in graphic form the shape of a given melody or particular harmonic progression in as much detail as possible, it would take up an unfathomable visual surface space. This is indeed one of the reasons why between the years 2004 and 2006, I restricted my compositions to only short motifs for my visual music paintings.

32

²⁷ P Klee in *On Line; Drawing Through the Twentieth Century*, C. Zegher & C. H. Butler, The Museum of Modern Art, New York, 2010, p 38.

²⁸ P Klee in *The Music of Painting*, Peter Vergo, 2010, p 242.



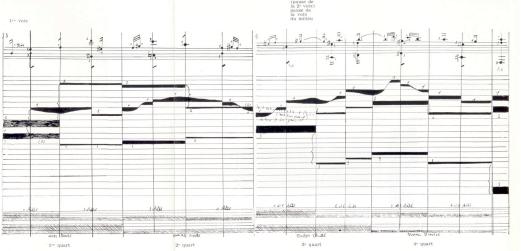


Figure 8

Pages from Klee's lecture notes at the Bauhaus in 1921-'22 showing a graphical analyze of J. S. Bach's *Sonata No.6 in G major*.

By putting his analysis into graph form, Klee could assign the vertical axis to pitch and dynamic indications, and the horizontal axis to duration. The sonata is written in 4/4 time, and Klee used the quaver as a basic unit for the duration. To graphically analyse the music's rhythm structure in more detail, he divided each quaver in two parts, and included sixteen sections in each bar instead of just four. When we look at Klee's analysis it becomes evident that this is mainly a visualization of time, of the quantitative characteristics of the music – there are no visual indications of progression in harmony, and no attempt are made to visualize tone quality or tone colour between specific intervals. This resulted in a simplified drawing that indicated with lines of various lengths and thicknesses the temporal qualities of the musical notation as shown above it.

It is interesting to point out that this, in its original form, is a purely black and white visualization. There was no attempt made by Klee to indicate tonality using colouring. This seems surprising, given the strong tradition at that time to associate musical pitches with certain colours. However, it demonstrates Klee's non-subjective translation of music into visual imagery, and it mirrors his strong interest in the temporal qualities belonging to both mediums – i.e., his interest in the movement that makes a point become a line, and how the line becomes a plane.

2.3 Visualizing musical rhythm patterns

Klee looked to rhythm as the basis for his music analysis. In his opinion, this did not only mark the duration of time in music but also the movement in visual art. Indeed, in his early works, Klee demonstrated how several parallel lines, when combined to form patterns, could represent rhythmical studies – i.e., if vertical lines divide a horizontal field into four, eight, or sixteen parts, they could very well be representing four crotchets, eight quavers, or sixteen semiquavers. A beautiful example of this type of 'musical' articulation in Klee's work can be seen in his painting *Highways and Byways* from 1929 (fig.9). In this painting, Klee composed a surface structured purely out of horizontal and vertical lines that allows for a sensation of rhythmical motif. By using colours to fill the spaces created by the crossing of lines, we also get the notion of musical chords arranged one on top of the other that creates a sense of overall visual harmony. We can also see in Klee's visual composition, varieties of thin and thick spaces, as well as variations of lengths. This is very similar to the graphic analysis of Bach's sonata that we saw before; only this time Klee has in fact added colours.



Figure 9 Highways and Byways,1929/90, by Paul Klee
Oil with a plaster ground on canvas – 83,7 x 67,5 cm
Museum Ludwig, Keulen.

By combining his thoughts/theory of music and visual art, Klee has created a pictorial version of a musical landscape. By using the effect of the vertical lines only in the lower and middle plane of the painting, but not in the upper, he gives us a sense of a horizon. In the center of the painting we find two visually dominating vertical lines that lead our eyes along the horizontal lines and up towards the blue hued sky.

2.3.1 Klee's chessboard pattern / New Harmony

Although the graphic forms, (the use of line and point) had been Klee's main focus to begin with, he eventually became curious regarding the possibilities colour could bring to his visual music practice. A theory began emerging in which the emphasis on colour became stronger and the linear arrangements simplified. By having the vertical and horizontal lines stretch across the entire surface, as well as crossing over each other, a would grid appear, a 'chessboard pattern' as Klee called it in his *Pedagogical Sketchbook* (published by Bauhaus in 1925). According to Klee, this new, and more neutral, grid structure could produce movement in four different directions - from left to right and right to left, and from top to bottom and bottom to top.

By creating this relatively even structure, giving each colour the same amount of space on the canvas, Klee was looking into the connection between one colour and another. Colour arrangements in rows of rectangles, which became lighter and darker, or warmer and cooler showed how the different shades of colours combined like musical chords into a harmonic whole. The mood communicated by the colours would compare to the various major and minor keys in music.

Klee was not the only artist during the period of the 1920s and 1930s to base his pictorial compositions on such simple patterns – the works of Theo Van Doesburg and Piet Mondrian come to mind; however, giving a closer look, Klee's chessboard paintings prove themselves to be of a different category. Both Mondrian and Van Doesburg drew up their squared structures very carefully with straight lines, where the horizontal and vertical consistently create a right angle to each other. This is something Klee never did; he placed little emphasis on the creation of a 'perfect' rectangular shape within his picture plane – in fact, his squares are very rarely 'perfectly' squared and his lines seldom straight. By keeping the lines more organic, drawing them free hand (without a ruler), added a sense of pictorial flow, a movement, to the spectator, e.g., something that could be associated with a musical *rubato*. And, by altering slightly the size of a particular square within the composition Klee was able to produce within the overall structure different kinds of visual beats and rhythmic patterns. Unlike the more complex rhythm patterns in the painting *Highways and Byways*, which I looked at earlier, Klee's *New Harmony* of 1936 is an interesting example of the more simplified chessboard pattern paintings (see fig. 10).



Figure 10

New Harmony, 1936/24, by Paul Klee Oil on canvas – 93 x 66 cm. The Solomon R. Guggenheim Museum, New York There was also an additional element that these grid structured paintings offered; a compositional technique belonging as much to music as to painting. If we look at the *New Harmony* painting, we see that it can be divided into four parts, a group of 3x3 squares each with a dividing horizontal line of six squares in the paintings centre. We can see Klee developed the bottom right group as a retrograded inversion of the top left group, and the bottom left group as a retrograded inversion of the top right. This is clearly analogous to technical procedures used in the dodecaphonic compositions created by the second Viennese school of Schoenberg and its pupils, Alban Berg and Anton Webern. However, these techniques of using mirroring, inversion, retrograde and retrograded inversions of musical motives can also be found in earlier music, e.g., in the polyphonic works of J. S. Bach, where Klee in fact realised his original inspiration.

2.4 Canon of Tonality – a colour theory

It was during Klee's years at Bauhaus that he developed his own colour theory, taking as an inspirational source the rainbow. This, in combination with his belief, that as with musical tones, colours could also take on unlimited numbers of possible shades.

Klee based his colour theory on a concept he called 'canon of tonality,' which was an original model of the relationship between the primary and secondary colours. Rather than looking at the visual spectrum as an immobile domain, Klee believed that there was a continuous evolving movement between the colours of the spectrum. The three primary colours (red, yellow, blue) stand in dynamic relationship to one another, so that where they are in their purest state they are at their 'loudest' – just as when the primaries blend into the secondary colours (orange, green, violet) the primaries also become equally pitched. In musical terms this can be explained as such: when the primary red moves towards the primary yellow, then red is experiencing a *decrescendo* but yellow is experiencing a *crescendo* until they achieve balance in the centre as orange – and all other possible colour nuances exist as dynamic variations between two points of immersion.

Now that Klee had established for himself both a solid linear rhythmic structure and a colour theory, he could begin to work on a more integrated conception of visual polyphonic compositions. Again, inspired by the complex architectural structure of 18th century music, Klee longed to visualise musical polyphony, with its multiplicity of independent themes and melodies.

2.5 Painted polyphony

"Polyphonic painting is superior to music in that here, the time element becomes a spatial element. The notion of simultaneity stands out even more richly."²⁹

In music, polyphony makes it possible to present simultaneously two or more independent melodies accompanied by their harmonic elements - thus, individual themes get mixed together into what will become the overall structure of the work. What Klee realized was that while the music is required to follow a temporal movement, always unfolding in 'times forward' motion, the painting could be experienced in a much freer way – the viewer could look over the surface of the painting both in the *forward* motion of time (as exists within the music), but also in a *backwards* motion (e.g., imitating the compositional technique of retrograde), or even a vertical, top to bottom motion for that matter. This aspect of visual synchronism convinced Klee that the 'polyphonic painting is superior to music'.

Klee's watercolour work *Polyphonic Setting for White* from 1930 is a beautiful example of colour gradation and multi layered polyphonic painting (see fig.11). Over a linear construction consisting of overlapping, vertical and horizontal lines, colours in blue, red and yellow are grouped around a white, unpainted area. The overlapping of the light coloured values results in a rich scale of subtle tones ending in a fine shade of mixed brown. By having the colours surround the white central area (clearly making it the centre of the composition) the eye of the viewer can travel over the image without having any other fixed focal points. You are therefore able to better speculate over the linear structure while enjoying the transparent coloured layers; an experience the 18th century polyphonic musical composition that inspired the work, denies you (with the possible exception of actually being able to view the musical score that is).

²⁹ P Klee in *Painting Music*, H. Düchting, Prestel Verlag, Munich – London – New York, 1999, p 65.



Figure 11

Polyphonic Setting for White, 1930/140 (x10), by Paul Klee
Watercolour with pen and ink on paper mounted on cardboard / 33,3 x 24,5 cm.
Kunstmuseum, Berne, Paul-Klee-Stiftung

The art critic Michael Fried wrote in his 1967 essay *Art and Objecthood* that: "It is above all to the condition of painting and sculpture ... the condition, that is, of existing in, indeed of secreting or constituting, a continuous and perpetual *present* ... that the other contemporary modernist arts, most notably poetry and music, aspire". Here, I find an interesting notion within Fried's claim; that the link that can be found in the ideology behind Klee's polyphonic paintings. The reason for Fried, claiming that painting and sculpture are of a superior art form, lies in the ability to be in the present, to capture a moment and hold it while at the same time seemingly continuing to extend towards an infinite movement of time. And this could plausibly be the main reason why Klee considered his polyphonic paintings 'superior' to polyphonic music. Within them there potentially consists an infinite forward, backward, and inwards motion, whereas in music there was/is only the possibility of experiencing time as a forward motion.

³⁰ M Fried in *In the Blink of an Ear; Towards a non-cochlear sonic art*, S. Kim-Cohen, 2009, p 41.

2.6 Conclusion

Since my beginning with visual music paintings in 2004 and continuing up until 2008, my methodology was always more or less the same, i.e., to translate musical motifs into visual imagery (see fig.7). Despite composing numerous compositions and graphic scores during the course of these years, my approach had always involved the directional process of visualizing music. I never yet attempted to reverse it. I had not explored the possibility of my visual art being transferred over and into music; except perhaps in the graphic score compositions. Interestingly, the main idea behind them was always musical to begin with.

As I studied the works of Klee, my interest in using colour in my work was diminishing and I began to seek additional elements I could employ instead. It was at this time (at the beginning of my PhD research) that my interest in the 'sounds' of the artist's material was developing. This was the direction in which I would eventually be able to transfer colour for sound. This exchange in elements opened up the opportunity to reverse the single directional flow that had dominated my visual music practice. When I began working with sound, the potential of translating my visual art practice over and into my music became possible. I even began to treat sound in the same manner Klee had via the colour in his paintings; e.g. I would categorized my sound sources determined on their intensity and create little sound studies, similar to how Klee would compose his chessboard paintings with pure strong colours (maximum intensity) floating amongst more dull, static brownish or blackish tones of colour (minimum intensity).

However, what most intrigued me about Klee's work was his strong focus on linear rhythm, which is so clearly demonstrated in the painting *Highways and Byways* from 1929. This work seemed to me to have a perfect balance between visual artwork and the portrayal of an elaborate rhythmical musical structure. The way Klee worked with the line prompted me to follow in his footsteps. My work from 2008 became more and more linear, and with the experience of *performance sketches*... in 2009 (see chapter 5), my work had become almost entirely linear, and therefore highly rhythmical.³¹ Klee's work demonstrated how it is possible to achieve effect and structure, both visually and musically using the simplicity of combined horizontal and vertical lines.

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³¹ Even though my sound drawings and musical compositions are mostly based on rhythms structures of various lengths, I do not seek to create a feel of even or clearly organized rhythm. Just as the visual image in my sound drawings is asymmetrical in structure, I seek to create the same arhythmical structure in my soundscapes and sound drawing performances.

In 1936's *New Harmony*, Klee had begun working with a more simplistic chessboard structure, one where five vertical lines and six horizontal lines stretch across the canvas, allowing a total of forty-two squares. Each square is filled with a different colour that varies in luminous intensity, and which corresponds to the visualization of musical harmony (hence the title). What caught my interest in this work (as well as in *Highways and Byways*), was the way Klee's lines are drawn in an organic, free hand manner, which gives a new sense of floating rhythm to the picture plane. After understanding, through Klee's piece, just how much power a simple line could have on the overall experiential perception, I put down the ruler and stopped using drawing software (such as Photoshop or AutoCAD) and took the initiative of free hand drawing my own graphic scores.

It was also within Klee's chessboard paintings that he began using the compositional elements of retrograde and inversion; one section of the painting would be an inversion, or a retrograde, or a retrograded inversion of another part of the painting. This notion of forwards, backwards, upwards and downwards motion that Klee was creating in his chessboard paintings evolved into a body of work, which he termed 'painted polyphony'. And after seeing how Klee applied this compositional technique he found in the architectural structure of 18th century music to the painted medium, I immediately felt that here was something that I wished to explore within my own work. It evoked a change in my viewpoint regarding how I would now approach my sound drawings; and later it also influenced how I would compose my video compositions, soundscapes and eventually the organization of the sound and video in my 'sound drawing' performances (see chapter 7).

Thus, inspired by Klee's overall approach to his visual composition I began to draw using all sides of the paper laying in front of me. I would draw a rhythmic linear motive on one side of the paper and then turn the paper 180° and draw the same motive on the opposite side. I may draw a rhythm structure from the centre of the paper towards the left side, then draw the same structure from the centre to the right side of the paper. In this manner I gradually build up a complicated layering of linear structures, which would then simultaneously be played out in my 'soundscape' compositions.

Klee's notion of 'painted polyphony' has left a deep impression on my work and it was through the study of his work that I went from a linear approach to a more layered composition in my attempt to portray a musical simultaneity in my sound drawings. Indeed, I have become quite preoccupied with how to transfer the state of 'perpetual *present*', which is already inherent to my visual work (sound drawings) over to my music

compositions (soundscapes and sound drawing performances). The closest way I could think to transfer this 'in the moment' notion my artworks have, is by looking to Morton Feldman's compositions that seek to find 'Time Undisturbed' (see 1.1.1, chapter 1).

Until I started my PhD research in 2008, my music compositions were always following 'the forward motion of time', i.e., they were being read from left to right, or from one specific point to another as was the case with my circular graphic scores (they followed a circular linear direction). However, Klee's chessboard and polyphonic paintings introduced to me the notion of overall, random experience of the composed image. Now that I have achieved a satisfying portrayal of synchronism in the visual part of my sound drawings, I intent to continue my explorations into how to successfully achieve the same similar affects in the auditory experience within my sound drawing practice.

Chapter 3

Synaesthesia

Looking at synaesthetic and non-synaesthetic associations between colour, form and music/sound

"Synaesthetic perception is the rule, and we are unaware of it only because scientific knowledge shifts the centre of gravity of experience, so that we unlearn how to see, hear, and generally speaking, feel." (M. Merleau-Ponty)³²

3.1 Introduction

It was my research into visual music that introduced me to the synaesthesia phenomena, in particular how it influenced the works of artist Kandinsky, and composers Scriabin and Olivier Messiaen. Indeed, Kandinsky is one of the artists some believe to have been a genuine synaesthete for he demonstrated a very clear understanding of sensory fusion. Believing in the pure expressional power of music, i.e., that it is capable of expression without any reference to outward representation, together with the notion of synaesthesia, inspired Kandinsky to develop a similar 'pure' experience within the painted medium as his work moved more and more into the realms of pictorial abstraction:

"With few exceptions music has been for some centuries the art which has devoted itself not to the reproduction of natural phenomena, but rather to the expression of the artist's soul, in musical sound." (W. Kandinsky)³³

When working with my visual music paintings, the transfer of the form of music over to visual imagery followed basic mathematical rules; e.g., by measuring out the duration of a note and giving it a corresponding space on the pictorial plane was a straightforward, non-subjective translation (see 2.1, chapter 2). However, when it came to the association of colour to the tones of the musical scale all relations became based on arbitrary rules. Not

³² M Merleau-Ponty in 'Synaesthesia: An Account of Coloured Hearing', J. Harrison and S. Baron-Cohen, *Leonardo*, Vol. 27, No. 4, MIT Press, 1994, p 345.

³³ W Kandinsky, *Concerning the Spiritual in Art*, Dover Publication Inc., New York, 1977, p 19.

experiencing any synaeasthetic perceptions myself between the colours of the spectrum and musical tones, I became curious if it would be in fact possible to find a universal rule that connected the two. After studying the colour theories of Newton, Goethe and Kandinsky and delving into their highly idiosyncratic and subjective nature, I finally based my own arbitrary colour-to-tone scale on Scriabin's combination of the colours of the spectrum to the circle of fifths (see 2.1, chapter 2). However, not yet fully satisfied with this subjective nature of the correlation between colour and tone I am continuing the search for a more concrete relationship between the two elements.

The research that I conducted into synaesthesia during the course of my PhD soon clarified that I would not find any definite relationship between colour and music. Indeed, in Western art music the physical character of musical sound has a mathematical regularity of the harmonic series, a system of overtones from which both the diatonic scale and the major and minor keys are derived from. The physical nature of colour has no such underlying order; the only compatibility is that of the division of the colour spectrum into seven colours, which has proven to be based on individual arbitrary systems. And the characteristics of the visible and audible spectrum differ even further, since the visible spectrum is in fact much narrower than that of the frequencies of audible sound. Therefore, the chance of finding a concrete relationship between the two elements is seemingly impossible.

However, the research into synaesthesia reveals that there is an underlying general disposition within Western cultures. One where both synaesthetes and non-synaesthetes make the same association between colour, form and music/sound; e.g., small elements are associated with short duration and/or low volume, and large elements are generally associated with longer duration and/or increased volume. Bright colours are also related to higher sounding pitch and dark colours to low pitch. Thus, what started out as an investigation into the use of colour turned out to be beneficial in the overall development of my graphic notation compositions. Indeed, my findings within the field of synaesthetic research were also confirmed within the findings during my own graphic notation study, which I will be demonstrating within this chapter.

Even though I did not find the relationship I was looking for between colour and music, I did discover how the inner workings of a synaesthetic brain functions, i.e., how uncommon connections are made between neighbouring sensory areas caused by cross-activation. This physical mechanism behind synaesthetic perceptions intrigued me and inspired my most recent audiovisual performance work. Indeed, with the use of today's digital technology it has become possible to make a direct connection between the music and the visual materials I am currently working with (see chapter 7).

In this chapter I will be giving an introduction into the synaesthesia phenomena, and will be discussing several of the main synaesthetic features that have influenced my art practice and graphic notation compositions.

3.2 About synaesthesia

What seems to be the earliest medical description of synaesthesia was made in 1812 by Georg T. L. Sachs when describing his own synaesthestic perceptions: "The tones in the musical scale depend on the letter with which they are designated, and these relate also to the half-tones, which derive from them. Although the letters g and b actually do not carry a color trace, nevertheless the *fifth tone* (g) is recognized as green (uncertain) and the *first quarter tone* (b) is seen quite clearly by the ash gray color". ³⁴ Indeed it was around the same time Sachs made his medical descriptions that synaesthesia was beginning to be of interest to various fields of researchers - from psychologists to philosophers, novelists and artists - that were experimenting with and exploring the possibility of mixed sensory fusions. Because of the many different fields of interest and approach to the synaesthesia phenomenon, a confusion of the term was (and sometimes still is) not uncommon. For some it seems to be referring to the artist's imagination; others link it with metaphoric speech, and then some also accurately described it as a fusion, a cross-activation in our otherwise separated senses.

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³⁴ J Jewanski, S A Day & J Ward, 'A Colorful Albino: The First Documented Case of Synaesthesia, by Georg Tobias Ludwig Sachs in 1812', *Journal of the History of the Neurosciences: Basic and Clinical Perspectives*, Psychology Press, 2009, p 298.

"One of the most glaring problems in trying to fathom a mechanism for synesthesia was the lack of obvious agreement about the parallel sensations that synesthetes perceived. That is, two individuals with colored hearing were not likely to agree on the color of a given sound." ³⁵

3.2.1 what is synaesthesia?

So, what is synaesthesia? Synaesthesia is the neurologic condition where a stimulus of one sense, such as hearing, gives rise to an experiences in a second sense, for example sight – i.e., a musical tone or a sharp noise triggers a visual experience of a particular colour or some sort of geometrical patterns and forms. The actual term synaesthesia comes from the combination of the Greek words *syn* (together), and *aesthesia* (sensation).

Synaesthesia can be experienced by normal and otherwise healthy individuals on a regular basis, which is referred to as developmental synaesthesia; as opposed to adventitious synaesthesia experienced by patients with brain damage of some sort, individuals under the influence of mescaline or LSD, or by other outside means of possible triggering the experience of synaesthesia. For my research in relation to my own artistic practice, the visual arts and western art music, I am focusing only on the previously mentioned developmental synaesthesia.

The visions of synaesthetes are not pictorial in nature, or elaborate, but rather simple and elementary. For example, when a coloured hearing perception is induced by a musical stimulus, a synaesthete would experience coloured moving shapes that fade in and fade out of view, or coloured lines and moving geometrical shapes. However, a non-synaesthete would probably imagine a beautiful country landscape while listening to Beethoven, or imagine being at the coast while listening to Debussy's *La Mer* and imagining having the rain on their face when hearing Gene Kelly's version of *Singing in the rain* on the radio.

Synaesthesia is by no means just a vivid imagination or metaphoric speech. If that were the case, the associations individuals make would change over the course of time according to context, rather than remaining stable as they do. Also, possible common expressions among different synaesthetes would be more likely, rather than the highly idiosyncratic associations they are shown to experience. Synaesthesia is therefore not the individual vivid imagination at work.

³⁵ R E Cytowic, *The Man Who Tasted Shapes*, Abacus, Great Britain, 1994, p 59.



Figure 12

VISION (1996), an oil painting by the synaesthetic artist Carol Steen

If we were ever in any doubt about the nature of synaesthesia (and we were), then modern technology has been able to give us clear evidence with brain scanning that synaesthesia is not just an overly active imagination. The scans have shown that brain activation patterns during synaesthetic experiences are not similar to those seen when subjects visualize in their mind's eye, i.e., imagine something. The scans have indeed shown that the brain activation is more closely matched to patterns observed during actual perception. It turns out that synaesthetes simply have a different experience on/in reality.

3.2.2 various synaesthetic experiences

The majority of people who experience synaesthesia in one way or another experience a colour sensation of sorts; but other experiences can also be generated through smell, tactile sensations, sound and taste. Below is a short list of some recognized forms of synaesthesia.

- **Grapheme-Colour Synaesthesia**: a form of synaesthesia in which an individual's perception of numbers and letters is associated with the experience of colours.
- **Sound–Colour Synaesthesia:** a condition in which individuals experience colour visions in their mind's eye or as a projected 'light-show' just in front of them when they hear sounds and/or music.
- **Spatial Sequence Synaesthesia:** a form of synaesthesia in which individuals experience all numerical sequences they come across as points in space.
- **Number Form Synaesthesia:** a mental map of numbers appears for individuals with this type of synaesthesia whenever they think of numbers.

- **Personification:** a form of synaesthesia in which ordinal numbers, days, months, letters, and other possible sequences get associated with personal qualities they can be 'honest', 'responsible', 'not trustworthy', etc.
- Lexical-Gustatory Synaesthesia: a condition when specific words and the phonemes of spoken language evoke taste sensations in an individual's mouth.

3.2.3 synaesthetic perception

A synaesthetic visual perception can be two-fold; on one hand there are the projector synaesthetes and on the other hand there are the associator synaesthetes. For the associator synaesthetes, their visual experience is described as spots of colours and forms/shapes, which they see within their mind's eye – not unlike normal mental imagery. But for the projector synaesthetes the experience is quite different because they talk about visual imagery that is projected externally onto a 'screen area' in front of their eyes, or directly onto the stimulus evoking the experience. Deni Simon gives an example of a colour-hearing projector synaesthetic experience in Richard E. Cytowic's book *Synesthesia: A Union of the Sense*; she writes:

"When I listen to music, I see the shapes on an externalized area about 12 inches in front of my face and about one foot high onto which the music is visually projected. Sounds are most easily likened to oscilloscope configurations – lines moving in color, often metallic with height, width and, most importantly, depth. My favorite music has lines that extend horizontally beyond the "screen" area." 36

3.2.4 inherent and involuntary

Since synaesthesia is an inherent, involuntary reaction to an outside stimulus, the synaesthete has no control, or choice over which colours he/she perceives. Therefore, despite having a normal colour vision, they in fact can, and often do experience "weird" or "ugly" colours in their visions; i.e., they see colours that they would not have chosen themselves if given the choice. Indeed, they have no say in the matter which letter of the alphabet gets which colour of the spectrum, or which type of music, which tonality generates which particular colour association.

³⁶ D Simon in Synesthesia: A Union of the Senses, R E Cytowic, MIT Press, 2002, p 15.

This finding should perhaps have encouraged me in the use of my own arbitrary colour-to-tone schema, as it was giving a sense of permission to have my own idiosyncratic system; however, the opposite occurred. The more I was reading on synaesthesia and possible colour association with the musical scale it became more and more obvious that there is no absolute relation to be found between the two medium. All associations remain an individual subjective experience, and these findings could possibly result in me diminishing, and/or eventually stopping to use colour in my art practice and graphic scores.

3.3 Cross-activation

Experiments have shown that synaesthesia is a result of cross-activation between different areas of the brain. Indeed this idea was first proposed about 100 years ago, but now with modern science brain scanning, it has been possible to identify where and how this cross-activation might occur. For example, the perception of colours and numbers are both processed initially in the area of the brain called fusiform gyrus as well as near the angular gyrus, so grapheme-colour synaesthesia might be caused by the cross-activation between V4 (colour area) and the number-appearance area (both within the fusiform). Other forms of cross-activation, such as sound-colour synaesthesia might be due to the fact that the hearing centre in the temporal lobes is also close to the higher brain area that receives colour signals from V4.³⁷

3.3.1 neural pruning, or additional neuronal connections?

If the neural cross-activation is the reason for synaesthesia, what triggers it? We might all be born as synaesthestes, but then most of us subsequently lose the experience due to neural pruning, or inhibitory interactions in the brain. Indeed, in their 2009 article 'Synesthesia: A New Approach to Understanding the Development of Perception', Ferrinne Spector and Daphne Maurer mention that 'In young infants, spoken language elicits activity over the auditory cortex, as expected, but unlike adults, it evokes just as much activity over the visual cortex; with age, the activity over the visual cortex diminishes, but does not disappear [become inhibited] until about age 3'. And in a more

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³⁷ V S Ramachandran & E M Hubbard, 'Psychophysical investigations into the neural basis of synaesthesia', *Proceedings: Biological Sciences*, Vol.268, No.1470, 2001, pp 979-983.

³⁸ D Maurer & F Spector, 'Synesthesia: A New Approach to Understanding the Development of Perception' *Developmental Psychology*, Vol. 45, No. 1, American Psychological Association, 2009, p 177.

recent study of 3-4 month old infants, where auditory pitch in correspondence to viseospatial height and visual sharpness was tested, 'results confirm young infants' sensitivity', and 'provide the strongest indication to date that synaesthesic cross-modality correspondences are an unlearned aspect of perception'.³⁹

3.4 How common is synaesthesia?

Attempts to find out how common the synaesthestic experiences really are have shown vastly different outcomes. In 1993, Simon Baron-Cohen and colleagues in London came up with estimates of 1 in 2,000 and 1 in 2,500 experiences synaesthesia of some sort. In Germany, Hinderk Emrich and colleagues calculated the numbers to be between 1 in 300 and 1 in 700, and in the United States, Vilaymanur Ramachandran and Edward Hubbard concluded it to be 1 in 200 that had synaesthesia. The most resent survey I have come across in relation to how common synaesthesia is, was conducted by Julia Simner and colleagues in Edinburgh in 2006, and it has shown that in fact synaesthesia is even more common than previous studies had assumed. Simner showed that up to 1 in 23 could have any one of the synaesthesia types, and 1 in 90 have grapheme-colour synaesthesia. The survey also showed that the most common type of synaesthesia experience was to match colour for days of the week, then came grapheme-colour type, which had previously been thought most common.

Demonstrating how common synaesthetic experiences can be, by share chance, out of the 23 participants in my graphic notation study, four claimed that they have some sort of synaesthetic experiences (e.g., grapheme-colour synaesthesia or colour-hearing synaesthesia). It would also not be an uncommon reaction from spectators present at my audiovisual performances to come up to me afterwards and discuss my choice of colour; either they would agree, or disagree with my use of colour at a particular moment in the performance in relation to what music was sounding at that time.

3.5 On colour associations

Colour association is a very common phenomenon, not only for synaesthetes. In one way or another we all seem to be able to find in the hues of the spectrum emotional analogies

³⁹ P Walker, J G Bremner, et al., 'Preverbal Infants' Sensitivity to Synaesthetic Cross-Modality Correspondences', *Psychological Science*, 21(1), 2010, p 23.

with sounds, forms, smells and even tastes. These associations have found their way into our language, symbolism, and tradition, or as colour theorist Faber Birran describes it:

"... [colour] is a part and parcel with the psychic make-up of human beings." 40

A good example of this can be shown by our association with, for example, the colour blue – to be 'blue' and a 'blue note' that we connect with sadness, which corresponds with minor musical scales, i.e. in the Western world. On the other hand the colours yellow, red and orange are usually related with warm, passionate and/or happy moods, and corresponding to the major musical scales of the Western art music. These common associations we have, have also shown themselves in the findings of my graphic notation study; e.g., fig.13 and 14 show the associations the participant made with the primary colours yellow and red. Each word or each line of words represents an individual response, e.g. *bright*, *optimism*, *joyful* at the top of fig.1 is a response from one participant to the colour yellow, and the word *high* at the bottom of the same image is a response from another of the participants in the study to the same colour.

⁴⁰ F Birran, Color Psychology and Color Therapy, University Books, New Hyde Park, NY, 1978, p 162.

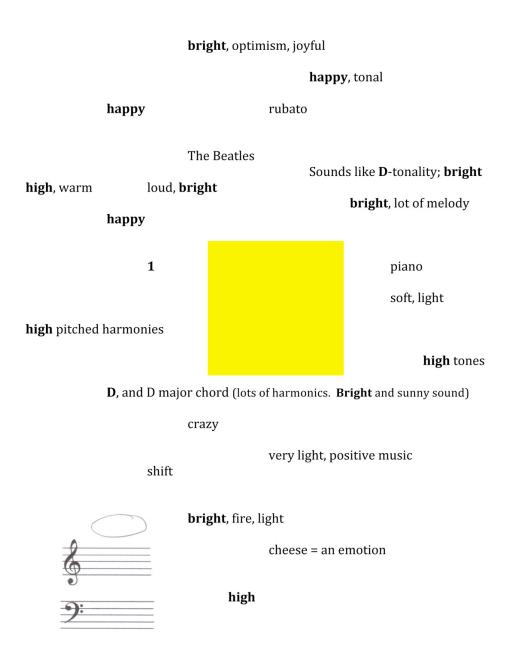


Figure 13An overview of the associations to the colour yellow made by all participants in my graphic notation study.

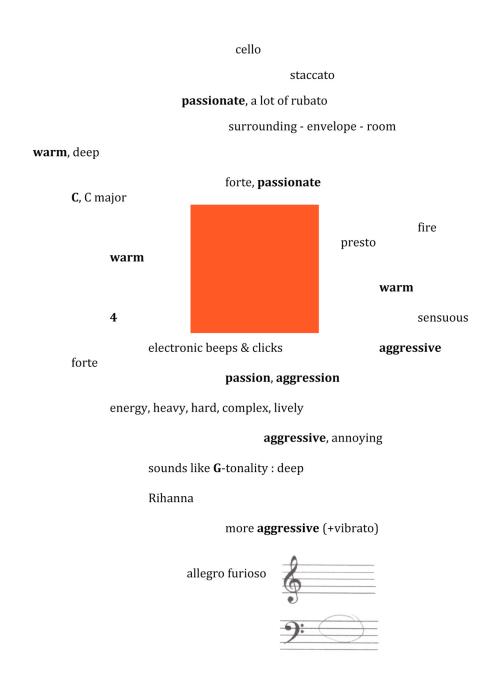


Figure 14An overview of the associations to the colour red made by all participants in my graphic notation study.

3.6 Commonalities between synaesthetes and non-synaesthetes

An early study from 1938 made by Theodore F. Karwoski and Henry S. Odbert of 148 college students showed that about 60% of them experienced some kind of colour response when listening to music. Karwoski and Odbert research showed that slow music was generally associated with blue, fast music with red, high notes with light colour, deep notes with dark colours; and: 'the horizontal dimension might be related to the development of music in time; the vertical dimension to changes in pitch. A third dimension of depth may eventually be available to denote volume or intensity'. For most part these descriptions are much in correlation to a common way of connecting music with form and colour.

Synaesthetes and non-synaesthetes do indeed both make similar matches as I have myself experienced during my research, and even more specifically through the findings in my graphic notation study, which I mentioned earlier on. Indeed, there is a strong inclination towards perceiving louder tones as brighter than soft ones, higher tones as smaller and brighter than low ones, and low tones as both larger and darker than high tones. Reference to these associations can be seen in some of the statistics relating to the findings in my graphic notation study that I have drawn out in fig.15.

⁴¹ T F Karwoski & H S Odbert in *Color Psychology and Color Therapy*, F. Birran, University Books, New Hyde Park, NY, 1978, p 164.

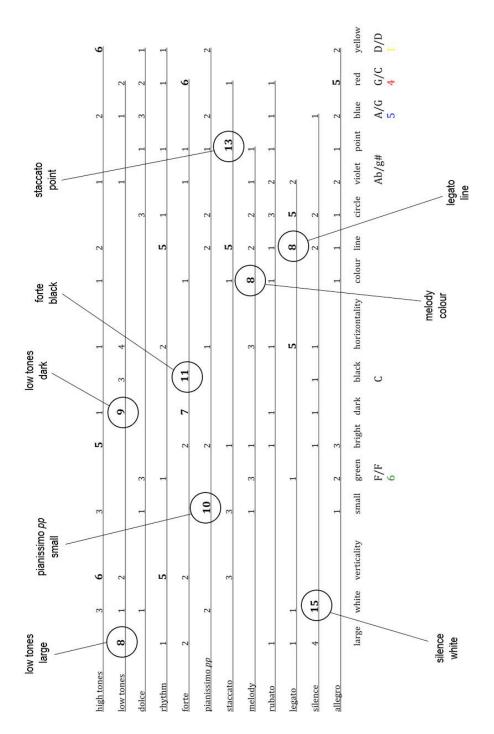


Figure 15

Participants of my graphic notation study were also asked to make connections between two lists of words, one is shown here written out horizontally, the other vertically on the far left. The numbers indicate how many times a connection was made between two particular words, e.g. 8 participants made a connection between **low tones** in the vertical list and **large** from the horizontal list, and so on and so forth. The two lowest lines, below the horizontal word list, show on one-hand connections that were made between the colour-words in the list to a specific tonality by two of the synaesthetic participants, and the coloured numbers shown underneath were connections made by a participating grapheme-colour synaesthete.

3.6.1 the bouba/kiki effect

Yet another interesting find on how general our sound-image metaphor can be was first shown in an experiment from 1929 designed by Wolfgan Köhler, which was conducted among different culture groups, where two images - an angular shaped figure and a rounded shape figure - were shown to participants and told that one of them was called "baluba" and the other "takete" (see fig.16). Overwhelming majority of participants picked out the angular figure as "takete" because its visual jags mimic the "takete" sound, and similarly associated the softness of the word "baluba" to the rounded figure.

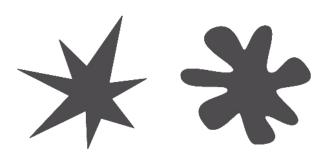


Figure 16

Examples of the forms "takete" on the right, and "baluba" on the left.

Although Ferdinand de Saussure, one of the leading figure in late 19th century linguistics, claimed that the signs in our language are arbitrary, and words are arbitrary, and that they only get meaning when in relation to other words, more and more studies show that phonemes seem to carry meaning in and of themselves. For example, in her book *Gods of the Word: Archetypes in the Consonants*, published in 2012, Margaret Magnus talks about how the letter M can give a feeling of more force, e.g. comparing when it is used before the letter P in the word 'stamp' in relation to the word 'step' – we are inclined to give the word 'stamp' a more forceful meaning. And Magnus also suggests that the letter R can give a word a feeling of motion, e.g. comparing the word 'tamp' (motionless) to 'tramp' (with motion). The motion of the tongue when pronouncing the letter R is not in the least passive, which indicates motion to us, just as the 'shape' of the word *baluba* 'feels' as a curved form. Furthermore, in a study by Daphne Maurer, Thanujeni Pathman, and Catherine J. Mondloch from 2006, results showed that 'there is consistent sound-shape mapping present by 2.5 years of age. The results lend support to the hypothesis that naturally biased sound-shape correspondences influence the development of language in

the individual child and may have influenced its evolution across time'. They continue explaining that:

"there are consistencies across language in using words containing the vowel [i] for objects that are smaller, brighter, closer and/or associated with higher pitch and words containing the vowels [a] and [o] for objects that are larger, darker, farther away and/or associated with lower pitch. In English, for example, many adjectives denoting large objects contain rounded vowels and involve widening the vocal tract and lips (e.g. LARGE, HUGE) whereas many adjectives describing small objects often contain non-rounded vowels and involve narrowing the vocal tract and lips (e.g. TINY, TEENY) ... These patterns support Ramachandran and Hubbard's claim that naturally biased sound–shape correspondences influenced the evolution of language ... In other words, the evolution of language may have been influenced by the types of sound–shape correspondences that are easily learned by young children."

As I discussed earlier (see 3.3), the areas of the brain which appear to be involved in the cross-activation of synaesthetic experiences are normally located next to one each other. Ramachandran points out that these tendencies to locate together are also found in the areas that control the muscles around the mouth and the visual centres; could this be the reason why certain words seem to make our mouth imitate the things we are describing? When Ramachandran and Hubbard repeated Köhler's experiment in 2001 - this time using the words "kiki" and "bouba" - the result showed again overwhelming results our tendencies to relate a sound of a word with a visually corresponding image. Up to 98% of the participants matched "kiki" with the angular shaped image and "bouba" to the curved one. This kind of 'synaesthesia-like' correspondence across cultures suggest that this effect might be the neurological basis for sound symbolism, in which sounds are non-arbitrarily linked to objects and actions in the world.

⁴² D Maurer, T Pathman and J C Mondloch, 'The shape of boubas: sound-shape correspondences in toddlers and adults', *Developmental Science* 9:3, 2006, p 320.

⁴³ V S Ramachandran & E M Hubbard, 'Psychophysical investigations into the neural basis of synaesthesia' *Proceedings: Biological Sciences*, Vol.268, No.1470, 2001, pp. 979-983.

3.7 'Synaesthesia-like' correspondence in relation to graphic notation

Köhler's experiment, as well as Ramachandran's and Hubbard's show that there is a strong possibility of a general reaction to certain symbols, signs, and colours that a composer would use in his/her graphic notation language. This knowledge would allow the composer to lower the arbitrary interpretation factor in the performances of his/her composition(s) even without giving clear instructions with the score.

I had the opportunity to experience first hand this general reaction to graphic symbols when conducting my graphic notation study, as well as doing a simple test with a group of music students over the course of two months at the Music Academy in Gentbrugge, Belgium. I visited on a weekly basis an improvisation class consisting of a group of mixed aged music students who played a variety of instruments (such as the piano, clarinet, accordion and cello) to try out various different exercises. For the one test I created a selection of 64 graphic cards that I had previously made for a graphic notation study. This time I did not have individual meetings with the students, as I had done in the graphic notation study, but met with them as a group. Under these circumstances I could observe how they reacted to seeing the signs on the cards, as well as noticing how they reacted to each other during the showing, and playing of the cards.

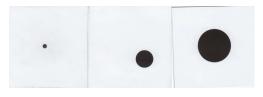


Figure 17

Example of three dots in different sizes that I showed in the graphic notation study.

Just as had happened in the individual graphic notation study the students created a relationship between the cards; e.g. if they first saw a small black dot and then a bigger black dot, they would use the same sound source (e.g. same note), but simply make the latter image sound louder or more condensed (see fig.17). The same thing happened when the form they saw was a square, a triangle, or a line – the larger the square or ticker the line, the louder they became. This way of making connections can be explained by psychology, in the *principles of grouping* – and was first described by Gestalt psychologists when attempting to explain how we humans seem to have an innate disposition to perceive patterns and make connections and association between things that

we see. For example, one of the six categories under the grouping principles is the *similarity principle*. Under the principle of *similarity*, we have the tendency to group elements together that physically resemble each other – proximity, colour, size, and shape, all plays a part in how we connect the elements.

Another general reaction the students had to the signs on the cards shown to them was their interpretation of the images into movement. In their attempt to interpret a given form, they would 'draw' the form either on, or with their instrument; e.g., a student playing the clarinet would move the instrument in the air to form a circle while playing a particular note, and a piano student would touch the strings inside the piano frame to visualize the form of a square. In this sense they were mimicking the movement and physical gestures that I had made when drawing up the forms.

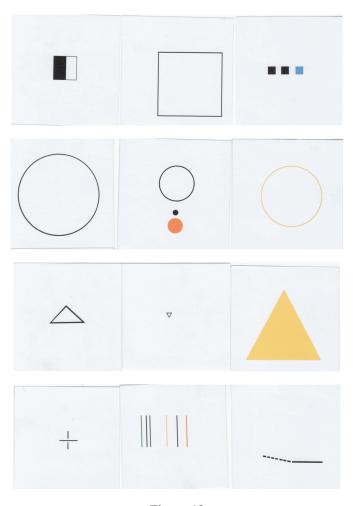


Figure 18

Twelve cards from my graphic notation study showing variations on the square, circle (dot), triangle and line.

3.8 Conclusion

As Hyde wrote in his article (see 2.1 on Visual Music) there are two distinct ways in which artists, and composers were relating their work to the field of visual music. There were differences in both the intent and experiences of the artists and composers who worked with the idea of 'colour to music' correspondences. For example, the British composer Arthur Bliss wrote his Colour Symphony in 1922 based on the idea of colour to music correspondences, and the same goes for the Austrian composer Arnold Schoenberg and his 3rd movement Farben in the Five Pieces for Orchestra written in 1909. However, neither composer claimed to be a synaesthete; it was just an intellectual exercise on their behalf and the so the colour choices for that matter were arbitrary. The same goes for the works of the visual artists Georgia O'Keeffe and Robert Delaunay – O'Keeffe's paintings Music - Pink and Blue II (1919) and Blue and Green Music (1921), and Delaunay's Rhythm, Joie de Vivre (1930) are based on deliberate and intellectual speculations of pairing music/pitches to colour. In all these cases the idea behind synaesthesia, the correspondences between otherwise unrelated perceptions was used in a systematic way to create either musical compositions or visual art works. Then there were artists and composers that are indeed believed to have experienced genuine synaesthetic perceptions and used it as inspiration and guidance for their creative work – one of those was the French composer Olivier Messiaen.

Messiaen: "When I hear music ... I see colours"

"When I hear music – and it was already like that when I was a child – I see Chords are expressed in terms of colours for me – for example, a yellowish orange with a reddish tinge. I'm convinced that one can convey this to the listening public."44

Indeed, Messiaen had a fascination with colour and coloured light and its relation to music ever since his early childhood because of his intrinsic synaesthetic perceptions. These were not simple visions of relating one particular hue to one particular musical note; rather, for Messiaen it was a multiple colours sensation that he associated with scales, modes and chords.

Hudson, 2005, p 121.

⁴⁴ O Messiaen in *Visual Music; Synaesthesia in Art and Music Since 1900*, K. Brougher et al., Thames &

For Messiaen the modes (a group of notes which he called *modes of limited transposition*) possessed a particular combination of colour sensations. When putting into words his experience, for example of his own Mode 2 there were 'blue-violet rocks speckled with little gray cubes, cobalt blue, deep Prussian blue, high lighted by a bit of violet-purple, gold, red, ruby, and stars of mauve, black and white. Blue-violet is dominant.'⁴⁵ Thus, when composing, the combination of colours played a more important role for him than following traditional musical harmony theories of consonant and dissonant.

"... I am all the same affected by a sort of synaesthesia, more in my mind than in my body, that allows me, when I hear music and also when I read it, to see inwardly with my mind's eye, colours that move with the music; and I vividly sense these colors and sometimes I've precisely indicated their correspondence in my scores. Obviously one should be able to prove their relationship scientifically, but I cannot."

And it was not only the harmonies and modes that would give rise to Messiaen's colour associations, it was everywhere within the totality of the music; 'with its melodies, chords, rhythms and complexes of sounds and complexes of durations'.⁴⁷

3.8.2 Couleurs de la Cité céleste

Couleurs de la Cité céleste, from 1963, is a composition that summarizes Messiaen's various musical interests, from plainchant, birdsongs, religion and rhythm/time to the colour associations to specific sounds. The religious symbolism of this work came from the Apocalypse (the Book of Revelation), which gave particular colour associations that inspired Messiaen. These colour association he use to structure the work: "the form of the work depends entirely on colours. The melodic or rhythmic themes, the combinations of sounds and of timbres, change in the manner of colours."

In fact, because of the importance of the colours, Messiaen made indications of the colours into the score – he explains: "I have noted the names of these colours on the score in order

⁴⁵ C Samuel, *Olivier Messiaen: Music and Color: Conversations with Claude Samuel*, trans. E. Thomas Glasgow, Hal Leonard Corporation, 2003, p 64.

⁴⁶ C Samuel, *Olivier Messiaen: Music and Color: Conversations with Claude Samuel*, 2003, p 40.

⁴⁷ C Samuel, *Olivier Messiaen: Music and Color: Conversations with Claude Samuel*, 2003, p 38.

⁴⁸ C Samuel, *Olivier Messiaen: Music and Color: Conversations with Claude Samuel*, 2003, p 166.

to communicate the vision to the conductor, who will, in turn, transmit this vision to the players he is conducting; it is essential, I would go so far as to say, that the brass "play red", that the woodwind "play blue", etc. ..." Of course these colour associations of Messiaen are highly personal, but since it was such an intricate part of his composition process it is important to have a feel of the colours to get an overall view, an overall 'picture' of the form of the work.

"For me certain sonorities are linked to certain complexes of colors, and I use them like colors, juxtaposing them and putting them in relief one against the other, as a painter enhances one color with its complement." ⁵⁰

3.8.3 going from idiosyncratic colour to music correspondences to in-built digital cross-activation

Even though it has been fascinating to learn about the synaesthesia phenomena and all its variations and inherent functions, it did not bring me what I thought or indeed wanted to find. The more information I came across in reference to the relationship between colour and music the clearer it became that there is no universal and physical link to be found between the two (unless you are a colour-hearing synaesthete like Messiaen). Therefore, if I would choose to continue working with the idea of associating colour with music I would have to keep relying on my own made up arbitrary colour-to-tone scale.

Although the synaesthetic involuntary and individualistic quality of perceiving colour to music stimulus should have given me the confidence to continue working with my own colour-to-tone system; it ended up discouraging me, and the idea of continuing with the colour-coded visual music paintings and composing coloured graphic scores did not interest me anymore. I wanted to find a way to be able to link the two disciplines of visual art and music closer together without relaying on subjective, arbitrary systems; or at least I wanted to eliminate as much of the subjectivity as possible. I would certainly still have to relay on individualistic interpretations of my graphic notation language within a collaborative performance context; however, by eliminating colour from my work I could diminish part of the otherwise unavoidable subjectivity. Indeed, as my PhD research

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⁴⁹ O Messiaen in *Messiaen*, R. S. Johnson, Omnibus Press, 2008, p 167.

⁵⁰ C Samuel, Olivier Messiaen: Music and Color: Conversations with Claude Samuel, 2003, p 41.

progressed I reached a stage where there was nothing in reference to colour that I would like to express in my work. Since there is no escaping its subjective and emotional associative character (see 3.5), it does not serve any purpose in using it in my sound drawing practice where the focus is primarily on sound and form, at this point.

However, though my research had discouraged any further use of colour in my work, I gradually came to realize that there were other elements within the synaesthetic phenomena that could be interesting to incorporate into my art practice and music compositions. Leaving colour aside, the physical condition of synaesthetic cross-activation seemed to be an intriguing element to explore within my art practice and music compositions – in relation to the sound drawing performance projects in particular (this will be discussed further in chapter 7).

Indeed, it was also interesting to find out how common synaesthetic experiences are, and that there are commonalities between colours, form and sound association with both synaesthetes and non-synaesthetes. When composing graphic scores, the various studies discussed in this chapter clearly indicate that a potential performer of a given graphic score would indeed interpret the overall structure in a similar manner without receiving detailed instructions. This was also confirmed with the findings from my own graphic notation study. Therefore, when presenting a small sign next to a larger one within a graphic score composition the general response would be to play the smaller sign softer and the larger sign loud. This could also refer to the duration of a given sign, the larger the sign the longer duration it would have. It would also be likely that the smaller sign would be played with a higher sounding pitch than the large one. And if there would be any colouring used in the compositions, a brighter colour would indicate a higher pitch and a darker colour a low pitch. These were all features I could, and would be using in my graphic notation compositions. I could even use the general association with bright and dark colours, with slight moderation, since my new graphic notation language was only using the two non-colours black and white, and all the possible shades of grey there in between.

3.8.4 sight vs. sound

"If your culture nurtures you to favour the eye, your brain has difficulty giving equal weight to any other sense bias. You are trapped by visual only assumptions."

(M. McLuhan)⁵¹

There is an additionally interesting notion that refers to the grapheme-colour type of synaesthesia that caught my attention recently. It seems that grapheme-colour synaesthesia has the capability to migrate from one type of alphabetic system over to another. The 2002 article 'The color of two alphabets for a multilingual synesthete' shows how a bilingual synaesthete with native English but fluent in Russian gives letters with the same or similar shapes the same colour. The article points out that the synaesthete first recognizes similar visual forms and assign them the same colour, even though the forms/letters would represent a different phoneme; e.g., B is /b/ in the English language but /v/ in Russian. Then, when it came to Russian Cyrillic letters that have no visual connection to the English Roman alphabet, but would represents a phoneme (a sound) that exists in English, then the letter would get a corresponding colour to that of the Roman alphabet, e.g., P and Π are both pronounced as /p/, and there for would get the same, or similar colour response.⁵² This example seems to indicate that there is a hierarchy between the visual and audible stimulus – perhaps not surprisingly given the highly visual-stimulated social- and cultural environment we are living in. And in the 2001 article 'The metamodal organization of the brain' Pascual-Leone and Hamilton describe a study where typically sighted adults were blindfolded over a period of 5 days and taught to recognize tactile patterns. The study revealed that already on the second day tests showed that the visual cortex was active during tactile stimulation, and the somatosensory cortex (the main area for sense of touch) became less active.⁵³ According to Maurer and Spector this seems to suggest 'that the visual cortex of the typical adult favors visual input because it is stronger, faster, and/or more coherent and because neural responses to other inputs are normally inhibited'.⁵⁴

⁵¹ M McLuhan, 'Visual and Acoustic Space' in *Audio Culture; Readings in Modern Music*, C. Cox & D. Warner (ed.), Continuum New York – London, 2006, p 70.

⁵² C B Mills et al., 'The color of two alphabets for a multilingual synesthete', *Perception*, Vol.31, 2002, pp 1371-1394.

⁵³ A Pascual-Leone & R Hamilton, 'The metamodal organization of the brain', *Progress in Brain Research*, Vol.134, 2001, pp 1-19.

⁵⁴ D Maurer & F Spector, 'Synesthesia: A New Approach to Understanding the Development of Perception' *Developmental Psychology*, Vol. 45, No. 1, American Psychological Association, 2009, p 178.

In the current development of my sound drawing practice this is indeed a question that I have been asking myself - can there be equality between the visual and audible senses, or is there always one sense that is dominating over the others?

During the course of my sound drawing practice within my PhD research I became conscious of my attention shifting between either my visual or audible perception. I felt that if I was looking at what I was doing the sounds went to the background and became almost unnoticeable; therefore, if I wanted to concentrate on listening to the sounds of my drawing materials I would consciously have to stop myself from focusing on the visual aspect of the drawing. This became even more evident within the context of my sound drawing performance projects. Therefore, I had to choose which sense I would follow – if I looked, I then had difficulties following what was going on around me audibly, and if I set out to listen, I needed to stop myself looking because that would only distract me from the act of listening.

"The painting emerges over time in my ears." (S. Voegelin)⁵⁵

⁵⁵ S Voegelin, *Listening to Noise and Silence – Towards a Philosophy of Sound Art,* Continuum, New York – London, 2010, p 8.

COMPOSITIONS & SOUND DRAWINGS 2008-2012

"A composer who hears sounds will try to find a notation for sounds. One who has ideas will find one that expresses his ideas, leaving their interpretation free, in confidence that his ideas have been accurately and concisely notated."

(C. Cardew)⁵⁶

⁵⁶ C Cardew, *TREATISE Handbook*. Edition Peters, London – Frankfurt – New York, 1971, p iii.

Video compositions

Influences from the history of Abstract film

A musical composition unfolds through time; even the character of a single note is defined by duration. In some respects, the complex visual structure of a painting is closer, in its temporal properties, to a single musical chord than it is to even the simplest composition. Even though a viewer might take considerable time to apprehend fully a complex painting, the painter still has little or no control over the sequence in which the viewer observers the image. Abstract film may thus be seen to have developed as if in direct response to this 'shortcoming' of painting and its inability to realise the potential trapped in the "visual music" genre.

4.1 Insight into Abstract film

Abstract film belongs to the broader field of experimental film, and its ideology and history do indeed often coincide with those of visual music. Abstract films are non-narrative, visual and (more often than not) audio experiences with no storyline. They focus on the unique qualities of motion, rhythm, light and composition inherent in the technical medium of cinema in order to create (emotional) experiences for the viewer.

Working in black and white, the pioneers of abstract film, such as Hans Richter and Viking Eggeling, created sequences of geometric forms that moved across the screen and through time just as a musical sequence would. As the technologies of colour film and synch soundtracks developed, artists like Oskar Fischinger and the brothers John and James Whitney brought colour, form, and sound together to create extended compositions that bore occasional resemblance to the works of an earlier generation of abstract painters, while taking full advantage of the crucial element of time and incorporating sound and/or music so as to create a fully synaesthetic experience for the spectator.

4.1.1 The Rainbow

The brothers and artists Bruno Corra and Arnaldo Ginna were among the few Italian Futurists to explore the relationship between visual art and Western art music through the

film medium. These early abstract film works captured my interest both for their pioneering effort, and for the artist's choice and treatment of the relation between colour and the accompanying music.

As early as 1912 Bruno Corra had published a manifesto entitled 'Abstract Cinema - Chromatic Music', which included a description of experiments which the brothers had conducted in the field of visual music. By constructing a colour keyboard, which seems to have been similar to that which Scriabin had imagined for the part of tastiera per luce (light keyboard) in Prometheus: The Poem of Fire in 1910, the brothers set out to create colourful synaesthetic experiences for the audiences - however, after disappointing results, Corra wrote:

We had at our disposal only twenty-eight [colour] tones, the fusions did not work well, the sources of light were not strong enough ... We felt very clearly that, in order to obtain the large orchestral effects which alone can convince the masses, we needed to have a truly stupefying intensity of light at our disposition.⁵⁷

Subsequently, in order to improve their 'colour symphonies', the brothers looked to film, which promised to be a more suitable medium. And further on in his manifesto, Corre gives a description of one of their films:

The first entitled *The Rainbow*. The colours of the rainbow constitute the dominant theme, which appears occasionally in different forms and with ever-increasing intensity until it finally explodes with dazzling violence. The screen is initially grey, then in this grey background there gradually appears a very slight agitation of radiant tremors which seem to rise out of the grey depths, like bubbles from a spring, and when they reach the surface they explode and disappear. The entire symphony is based on this effect of contrast between the cloudy grey of the background and the rainbow, and the struggle between them. The struggle increases, the spectrum, suffocated beneath the ever blacker vortices which roll from background to foreground, manages to free itself, flashes, then disappears again to reappear more intensely close to the frame. Finally, in an unexpected dusty disintegration, the grey crumbles and the spectrum triumphs in a whirling of

⁵⁷ B Corra, 'Abstract Cinema - Chromatic Music' in *Futurist Manifestos*, U. Appollonio (ed.), Tate Publishing, UK. 2009, p 67.

catherine-wheels which disappear in their turn, buried under an avalanche of colours ⁵⁸

These written documentations seem to be the only thing left of the work made by Corra and Ginna, however, as the British filmmaker and theorist Malcolm Le Grice writes: "the tone and detail of the 1912 article rings true, in which case they currently represent the first recorded, genuinely abstract film."⁵⁹

Reading of these early works of the brothers Corra and Ginna guided my own work towards the medium of film, or the video medium to be more exact – here I felt was the tool I needed to give my visual work the same temporal dimension as my musical compositions had. And to start with, I followed in the footsteps of the Italian Futurist brothers and took a systematic approach to correlating colour and form with music. However, as my research into the history of abstract film continued, I noticed how advances in the technological means of film had led to the emergence of new features that ultimately proved much more intriguing to me than the simple colour-to-music associations I had been reading about and creating up to this point.

4.2 Audible Handwriting: the Miracle of Drawing Sound

In an article from 1922 entitled 'Optophonetik', the Austrian Dadaist Raoul Hausmann described his interest in the technology behind the "sound-on-film", i.e., the talking film, and in particular optical recording, because they made the synchronization of sound to image possible. Hausmann was fascinated by the notion that the graphic images that were photographically imprinted on the strip that ran continuously along the film's edge could eventually be translated into sound by means of electromechanical technology. In fact, this technology made it possible to transform both image into sound, and sound (back) into image. Hausmann's writings in the early 1920's anticipated the work that Swiss engineer Rudolf Pfenninger would carry out almost a decade later. Working at the 'EMELKA' studios in Munich, in 1931 Pfenninger produced a film entitled *Audible Handwriting: the Miracle of Drawn Sound*, which amongst other things demonstrated to the spectators the process of creating a hand-painted soundtrack. By painting or drawing graphic forms of

⁵⁸ B Corra, 'Abstract Cinema - Chromatic Music' in *Futurist Manifestos*, U. Appollonio (ed.), 2009, p 69-70.

⁵⁹ M Le Grice, *Abstract Film and Beyond*, The MIT Press, Cambridge, Massachusetts & London, England, First paperback edition, 1981, p 13.

various shapes and sizes on to the actual surface of the film, Pfenninger was able to create 'unheard-of sounds, of a kind never previously encountered in nature'. ⁶⁰

When I came across these writings and works from the early 1920s and 1930s, my interest was already beginning to shift from the notion of colour to the potential of sound. In fact, the title of Pfenninger's film *Audible Handwriting* had a double meaning for me. It could of course suggest, as was the original intent, how a drawn image might subsequently be translated into sound. However, I also was intrigued by the notion of literally making the act of my 'handwriting', or drawing, audible with the aid of amplification. And so it was that my research into the use of the optical soundtrack inevitably brought me to the work of the German-American filmmaker Oskar Fischinger.

4.3 Oskar Fischinger

One of the most influential filmmakers and creators of visual music of the 20th century, Fischinger had initially studied architecture and engineering, but from 1921 onwards he began producing his innovative animation films.

Having followed violin lessons from an early age, and being an apprentice to an organ-builder in his youth, Fischinger was interested in and knowledgeable about both the practical and the theoretical dimensions of music. As optical soundtrack technology for film developed during the 1930s, Fischinger became more and more intrigued by sound. He started to focus on the synchronization of music and image, which would lead him to make experimental drawings on the soundtrack section of the filmstrips, thus producing his very own synthetic sounds. Indeed, just like Pfenninger, Fischinger was also interested in the possibility of creating previously non-existing sounds at the simple stroke of his pen, which he could then *produce*, rather than re-produce, by means of the optical soundtrack – Fischinger explains:

Between ornament and music persist direct connections, which means that Ornaments are Music. If you look at a strip of film from my experiments with synthetic sound, you will see along one edge a thin stripe of jagged ornamental patterns. These ornaments are drawn music -- they are sound: when run through a projector, these graphic sounds broadcast tones of a hitherto unheard of purity, and

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⁶⁰ R Pfenninger in *The Music of Painting*, Peter Vergo, 2010, p 283.

thus, quite obviously, fantastic possibilities open up for the composition of music in the future. Undoubtedly, the composer of tomorrow will no longer write mere notes, which the composer himself can never realize definitively, but which rather must languish, abandoned to various capricious reproducers. Now control of every fine gradation and nuance is granted to the music-painting artist, who bases everything exclusively on the primary fundamental of music, namely the wave --vibration or oscillation in and of itself.⁶¹

For Fischinger, it was the image that was to be the source of this new music – 'the composer of tomorrow' would merely have to master a (new) visual vocabulary in order to produce compositions that would be free of interference from 'capricious reproducers'. The closest I came to Fischenger's ideal in my own work was through the visual vocabulary of my graphic scores – but what continued to intrigue me in the experiments of both Fischinger and Pfenninger was the notion of giving, or finding, the sound *in* my drawings.

4.3.1 Ornamented Sound

Fischinger's *Ornamented Sound* experiments of 1932 explored the dual identity of the optical film soundtrack, printing regular visual patterns onto the 3mm-wide sound strip at the edge of the frame, thus enabling them to be automatically rendered as sound.

"The basis of designing a graphic art that can be actuated by a beam of brightest light will be the definitive, direct building blocks of music. Now it is the task of Industry to produce practical equipment that will enable every competent person to work in this manner. Besides a camera with the appropriate apertures for such soundtracks, the new equipment must include, certainly, the ability to play back the recorded sound on some speaker at any time, as often as the composer may want. These music artists must also be concerned with combining their musical compositions created in this new manner together with appropriate optical imagery. This should result in the potential for combination of sounding ornaments with

⁶¹ O Fischinger 'Klingende Ornamente' published in Deutsche Allgemeine Zeitung, *Kraft Und Stoff;* No.30, 28 July 1932 – http://www.centerforvisualmusic.org/Fischinger/SoundOrnaments.htm

visible filmic, spatial forms and movements. With that union, the unity of all the arts is definitively, finally achieved, and has become unquestionable fact."⁶²

Thus, Fischinger's ornaments are constructed/composed with the deliberate purpose of producing musical sound; i.e., the ornaments have an inherent sound quality within them that just needs to be amplified with the right technological means.

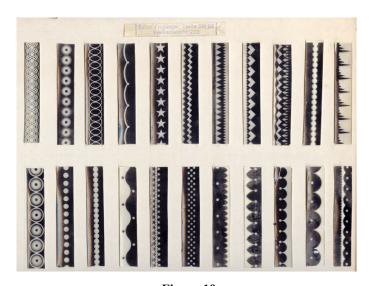


Figure 19
A display card showing some of Fischinger's ornament designs.

The invention of sound on film in the late 1920s and early 1930s allowed filmmakers like Fischinger to add music to their visual compositions. And before too long, experiments in synthetic sound went far beyond just synchronizing music to moving animated compositions, thus beginning to blur the boundaries even further between the two media, and bringing us another step closer to the digital age of today.

From studying the works of Pfenninger and Fischinger, and the general history of abstract film, I eventually became fascinated by the experimental films of British filmmaker Malcolm Le Grice. As time passed and technology continued to advance, the video recorder emerged, making it possible for us to record both the visual imagery and the sound directly onto the same medium – and this was one of the possibilities Le Grice used as a means to explore how close the 'relationship' had become between sound and image now that both belonged to the same analogue signal.

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⁶² O Fischinger 'Klingende Ornamente', published in Deutsche Allgemeine Zeitung, *Kraft Und Stoff*; No.30, 28 July 1932 – http://www.centerforvisualmusic.org/Fischinger/SoundOrnaments.htm

4.4 Interview with the British filmmaker Malcolm Le Grice

The text that follows is a selection of two excerpts from an interview I conducted with Malcolm Le Grice in September 2011.⁶³ With his experiments and endless curiosity into the medium of film and video, Le Grice is one of the pioneers of British abstract filmmaking. His body of work since the 1960s onwards consist of single-screen films, expanded cinematic performances and more recently digital works for up to three screens. A constant interest in the relationship between abstract film and music/sound runs through Le Grice's oeuvre, which has led to collaborations with a number of musicians including Brian Eno and the AMM improvisation group.

I.

Creating most of the audio material for your films yourself, do you consider yourself a composer as well as a filmmaker?

The truth is that my films are structured more like music than they are structured by film, because I abandoned the idea of narrative a long time ago. They are not narrative. Sometimes there are, as I said, symbolic developments, so in a way the structures are closer to music. But also then, looking at a lot of the work recently, as much of the experience of the film is contained in the music as it is in the visual. The visual and the music are running really together.

But it is extremely difficult to work the sound at the same time as you are working the visual. You know that yourself through the editing. So, for example, in the work that I am working on now, I shall come back when I've effectively finished the visual track and re-work the sound.

I am attracted to the fact that in your work, the visual and the audio work together, so to speak, unlike Len Lye's Free Radicals (1958), where the abstract animated image is mixed together with an audio-track of African tribal music. In your Threshold (1972), for example, both images and sound become completely integrated with one another. It becomes a whole, as opposed to Lye's film that has two separate elements that don't mesh together so closely.

Yes, well I hope so, because like you, I never liked the idea of just taking a piece of music and sticking it on the film. I have often used bits of music, but I use it in a

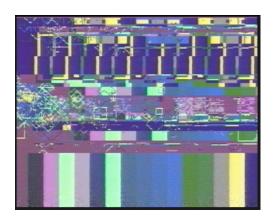
⁶³ The full interview with Malcolm Le Grice can be seen in the Appendix, pp 161-177.

way that AMM might use it. They would 'steal' a song from the radio but then integrate it into the new musical piece.

Exactly, like in Little Dog for Roger, that is a completely different experience from Yantra (1957) or Lapis (1966) by James Whitney, or Len Lye's Free Radicals.

Yes, although there is work of John Whitney Sr., early original 8mm pieces, called *Five Abstract Film Exercises* (1940-45), where he made the soundtrack with a set of pendulums. And the soundtrack there is not like taking a piece of music from somewhere else and sticking it on.

II.



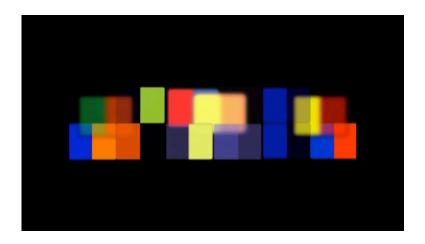
Still frame from *Arbitrary Logic*, 1987-1989 (courtesy of the artist).

On your use of colour, does it have some relationship to synaesthesia in a similar way to, say, Kandinsky, who wanted to provoke a reaction in senses other than the eyes? Is there a relationship between Visual Music and the way you work with colours in your films?

I am not a synaesthetic. If you remember, there is a work of mine called *Arbitrary Logic* [1987-1989] which actually is saying that there *isn't* any direct relationship between a colour and a sound. And if you look at the science of the wavelengths, there is nothing in the visual spectrum that is the equivalent of the doubling of wavelength in an octave.

Indeed.

If you double the wavelength in any part of the visual spectrum, you are way off the visual spectrum altogether. So there isn't an intrinsic equivalence. There are correspondences. If you ask people whether dark blue represented a low tone, and yellow represented a high frequency, I think you would probably get a fairly consistent answer on that. But I don't think it's a synaesthetic thing. I think it is, to a large extent, a learned response, or a looking for equivalences to connect things together. You can use colour in much the same way as a musician uses sound. You can use colour, but it isn't the synaesthetic relation. You use it structurally and emotionally, but I think there is less emotional response to specific colours than there is emotional response to tonalities. Certainly for me, I was always very suspicious of any intrinsic relationships. But you can use colour in a similar way, and I do use colour in a similar way.



Still frame from Matrix (courtesy of the artist).

And are there differences in your approach in different works? For example, in Berlin Horse (1970) where you used colour filters, or Joseph's Newer Coat (1998-2001), or Matrix (1973), where we get the experience of pure colour-fields?

I think they come from the same thing, in the sense that I see colour as a separable component. It can be abstracted from the form. For me, abstraction is the separation of a single entity into recognizably separate components. And if I am looking at you now and if you were in black and white, it wouldn't make a great deal of difference to recognizing your face, because the colours are separable. And then with the Fauves. The Fauves began this. They separated the colour relationship from the tonality relationship and from the identity relationship. So, colour then becomes a separable component in the language as does tone, as does movement. They become separable components in the language, abstractable from the form, and they can be recombined. And so for me, the spectrum has always been one of those separable components. Even in *Berlin Horse*, when I am making

the colour shifts, the colours on the strip that I am using are in spectrum order: Blue, green, yellow, orange, red, purple, blue, green, yellow, orange, red, purple. They are in a sort of spectrum rotation because it is one of the components of the language, and it is effective—affective. Effective and affective.

What would you say is the relationship or non-relationship between the visual material and the audio/soundtrack? Do you mix together pre-composed music, environmental sounds, silence, noises? What is the connection between them, the image on film, and on screen?

Mostly, I don't use pre-composed music. There are a couple of occasions when I have, but mostly it is not pre-composed. If it is pre-composed, then it is re-mixed. So in that sense, one part of the music or the sound in my films is used in the same way as a conventional piece of music in the narrative cinema: as part of the emotional relationship. In one way, some of it is that. At a final stage of an edit, I try to make the sound and image work together so they are almost, in that sense, inseparable from each other. You don't know whether the experience is coming from the visual or from the sound. Do you see what I mean?

Yes.

It's one experience. And one of the things that interested me about early John Cage-type experiences—which comes from AMM and Keith Rowe—is you don't know what is inside the composed work, the intentional work, and what is outside of it. Actually, in the film construction, it is more that I include sounds that are in a way not chosen but are already there. I was also interested in whether something had started or not started, or whether it is finished or not finished. That interested me. And boundaries. Works that question the boundaries of what is the work and what isn't the work.

4.5 Origin of my video compositions

"Here the musical composition and the visual exploration are a direct result of exploring the opportunities offered by the digital video medium. The creation of music and the capacities of the medium are directly linked. These are not simply recordings – documentaries – of musical performance, but creative works of video music. As with all her [Agustsdottir's] work, the process and act of making sound and visual experience are an evident and integral part of the work." (M. Le Grice)⁶⁴

At this point there were two aspects that were influencing my work through my research into sound in film. One was the fact that sound and image could belong to the same medium, while the other was less related to the actual film medium, and that was the idea I had gotten from Pfenninger's *Audible Handwriting* — of how it might be possible to explore not only the sound coming from the visual image, but also the sound produced when creating a visual image. This latter aspect I will be discussing in chapters 5 to 7 in reference to my sound drawing practice; in the text that follows, I will focus on the background to the video compositions I created while exploring how sound and image functioned within the digital video medium, and the issues which this practice raised.

While Fischinger had created his 'ornamented sounds' by painting them onto the filmstrip to accompany his visual imagery, I could record any sounds that I wanted and they would become directly interlocked with the visual image that I captured with my video camera at the same time. This meant that any editing or manipulations I made to the visual image would/could also get transferred to the sound recording – and this I found very intriguing.

I decided to start exploring this close relationship between sound and image by recording musicians as they performed my compositions. For this project I composed in traditional notation, but since I was not going to be making the final compositional decisions until the video editing process, my scores were based on short musical motifs. In the compositions a few lines for cello I and II (2007) and Collage for bass clarinet (2007-2008) I wrote a collection of musical fragments - a sort of database of short motifs – some of which consisted of only a single note or an individual chord (see fig.20), which the musicians played while they were being recorded on videotape.

⁶⁴ M Le Grice, 'The experience remains magical' in *Hallveig Agustsdottir web portfolio*, August 2010, viewed August 2010, http://www.hallveiggkagustsdottir.com/2010/08/experience-remains-magical.html>.

Through the videotape recording, both the image (the physical movements of the musician) and the music became interlocked within the same medium. Then, through the use of the video editing process, I could chose whether my focus would be on the composition of the image, and therefore accept whatever the outcome would be in the audio, or I could make a musical composition and accept whatever visual result would come from it (or, indeed, make some sort of compromise, with the two elements meeting halfway). Consequently, a visual and audible composition was achieved by editing – cutting and pasting – as I superimposed layer upon layer of pre-composed, and pre-recorded, footage of a musician performing the motifs I had created for each piece.



Figure 20

Excerpts from the composition *Collage for bass clarinet* (2007-2008) (the blue marks on the score are notes I made for myself during the video editing/composing process).

4.5.1 Jayne Parker's short films from 2000

My interest in the combination of music and film/video brought to my attention the 2000 series of short films with cellist Anton Lukoszevieze by the British filmmaker Jayne Parker in which she focused on the relationship between music and film. Amongst the works are *Foxfire Eins natriumpentothal* (music by Helmut Oehring), *Blues in B-Flat* (music by

Volker Heyn), *Projection 1* (music by Morton Feldman), and 59 ½ seconds (music by John Cage).

In Parker's work the sense of space and image composition plays an essential role. She is not working only with imagery of the musician playing, but in some of her work intercuts this material with footage of landscapes and nature in order to emphasise the mood of the music being played, while at the same time giving it a feel of abstraction and illustration. Parker explores the movements of the musician with his instrument, framing them in close detail so as to analyse, or to fully enjoy, the interaction between the two. The camera follows the music. Parker creates some beautiful imagery in *Projection 1*, where the camera fixes on the tip of the bow, showing clearly its movement. She uses the instrument itself, the strings and the bow, to 'mirror the graphic score from which this piece is played'. And by using black and white film with a slight exaggeration of the contrast, the images become more accentuated, more sculpted.

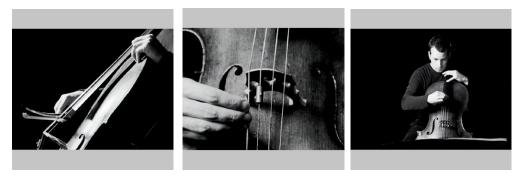


Figure 21
Stills from *Foxfire Eins natrimpentothal*, by Jayne Parker 16mm film, black and white, sound / 10 min / 2000

There was a lot in Parker's films which I could take into account when developing my own video compositions, including her editing process (creating the right balance between image and sound), the close focus on details in the image, the use of multiple viewpoints, and intercutting 'external' elements such as landscape or other footage, abstract or figurative, to underline the form or mood of the musical composition. However, there was a fundamental difference between the short film series by Parker and my own video compositions. Her works were created *after* the music had been composed; the films were made to 'show' and enhance the experience of an already existing musical composition.

http://lux.org.uk/collection/works/projection-1.

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⁶⁵ J Parker, 'Projection 1', in *Lux*, 2000, viewed May 2008,

The main purpose of my video compositions, on the other hand, was not to make a 'music video', i.e., to create a video that would illustrate the music that had been composed beforehand. Instead, the music was itself *created* through the editing process within the digital video medium. Just as I explained previously, the image and the music took turns in controlling the final resulting composition – in some cases, the music steered the outcome of the visual image, while in others, the visual image controlled what the music would sound like. If I wanted specific musical motifs to fit together in a certain way, then I would not pay any attention to the visual consequences, the images would just have to follow the structure of the music; and in return, if I wanted a specific visual result, such as a smooth sequence of superimposed movements of the cellist's bowing, then the sound would have to follow the choices I made with respect to the image.

4.6 *projection-reaction* (2008-2009)

In the piece *projection-reaction*⁶⁶ that was composed for a concert I was to give, I sought to combine a couple of the compositional elements I had been working with up until that point. Here I worked with a graphic score in combination with traditionally-notated musical elements - so as to help guide the performer towards the sound world of the piece. I also tested for the first time how I could include a video composition as part of a live performance framework. This piece is written for a violinist, who is playing both live, and through a pre-composed video composition of him/herself, with which he/she will interact. Initially it was my intention to use a "live" video projection of the musician, which would be both recorded and played back in real-time during the performance. In doing so, I wanted to confront the performer with his/her own physical gestures and sound production, which he/she would have to interact with in real time. However, due to technological difficulties – the synchronization of the video and audio, as well as only being able to record very short files of max 2-3 seconds - it was impossible for me to get the result I wanted for this set-up at that time. For that reason I decided to use a projection of a video composition I had completed in advance instead.

By adding the video composition into the mix, the musician was obliged to study the score prior to the video recording session, and already make up his/her mind as to what musical material to use. After recording the selected musical material of the musician, I would

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⁶⁶ The full score of *projection-reaction* can be seen in the portfolio accompanying this thesis.

then re-work it in the video editing process and compose it into a fixed time structure. Under normal circumstances, my graphic scores are flexible as to the time it could take to perform them, e.g., the difference could range from a 3-minute interpretation up to a 20-minute version of the same piece; however, now, in *projection-reaction* the duration of the piece would be determined more or less precisely in advance, by the duration I chose for the video element.

The score for the work consists of two pages, one with traditionally-notated musical motifs/fragments, and the other with a graphic score. An additional page is made for each performance in which the 'timeline' of the video composition is laid out. Each performer should have his/her own version of the video composition; however, if the same musician performs the piece more than once, there is the option of either using the same video projection on all occasions, or remaking it each time. For the two performances that have been given to date of *projection-reaction*, both by the Dutch violinist Marieke Berendsen, I used the opportunity to make a new video version for her second performance, because I felt that the previous one had been too short. Indeed, I wanted to give her more time to develop the musical motifs she had chosen to work with; and at the same time I could also use this opportunity to explore aspects of the video editing in more depth. For example, in the first version my focus had been on the compositional structure of the musical material, using simple variations on the basic idea of superimposition. But now, in the new video, I decided to play with the speed of the video – by slowing it down, I could lower the pitch of a given fragment – and also to reverse some of the footage, so as to produce yet more variations of colour and texture in the sound material. These choices were thought out not only from the point of view of the audio, but also in terms of the alterations they would induce in the visual image, and which would give the performer a new 'challenge' in the live performance. When having to interact with the video composition, I asked Marieke not only to listen to the audio, but also to pay attention to her own physical gestures as displayed on the screen, which at one point had been slowed down so much that they became very difficult for her to follow. And by reversing the playback, especially of the slowed down fragments, the physical gestures became detached from the sounds, to the point where a sound could even precede the movement that had created it (this was most noticeable when she played pizzicato).

The piece is divided into four movements, each of which is to be played directly after the other with no pause in between. Also, each movement should/could be characterised with

a dominant pitch/tonality (1st movement: A; 2nd and 3rd movement: B; and 4th movement: E); however, the musician is free to choose whether he/she wants to use one or all of the movements as source material for a particular performance. For each movement, there are three sections of different musical motifs and moods that can be used, A1-3, B1-2, and C1-2. A1-3 has the slowest tempo and contains mostly long notes; B1-2 has a slightly faster tempo and the musical motif has changed from mostly semibreves (in A1-3) to a greater rhythmical variety of quavers, crotchets and minims; C1-2 has the fastest tempo of the three sections, and is also the most fragmented. It is up to the performer to choose whether to use one section, two, or all three of them, and how or whether to mix them together. In fact, the traditionally notated score is there to set the 'mood' for the work, and should be used in close collaboration with the graphic score; however, 'nothing is fixed in the score, anything and everything is open for change from the side of the performer. What is written down is more to give an atmosphere and a colouring to what the music should/could be about'. For the graphic part of the score, it is up to the musician to choose his/her approach – it is possible to use the score in its totality, or make a selection out of the visual imagery for the final interpretation.

As I mentioned already at the start of chapter 1 (see 1.1), my approach to graphic score compositions had evolved from simple black-and-white graphic forms to a more elaborate language including not only forms, but also symbols and colour fields. Knowing that Marieke worked with live electronics in combination with her violin playing, I deliberately added extra layers of colour to the graphics so as to indicate to her a series of different voices she could choose to work with, as well as filling up the surface of the paper with a soft monochrome colouring so as to suggest a feeling of connectedness and constant continuity of sound during the performance of the piece. The strength of the colour should indicate to Marieke its placement in the musical structure, i.e., the stronger red and blue colours should represent clear voices that are interacting, while the soft beige and yellowish colour of the background should indicate a continuity of something more subtle, an ambient noise that would fill up the space between her other, more clearly defined actions.

At that time I did not know it, but this would turn out to be the last occasion to date on which I used colours in my graphic compositions.

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⁶⁷ Part of the instruction I give with the score.

4.7 de(re)construction

In de(re)construction (2009)⁶⁸, I went back to the process of making a 'simple' video composition, i.e., it is a work that was intended to be screened by itself, and not as part of a live performance setup, as had been the case with the video composition that was part of *projection-reaction*. As I explained above in section 4.6, what I normally do when preparing this kind of piece is to compose a series of musical fragments, and then ask a musician to perform each fragment in front of a video camera. I would then make the final composition out of the recorded material using video editing software such as Final Cut Pro or Adobe Premier Pro. But in this work, I was under the influence of Jayne Parker's short film series from 2000 (see 4.6.1). Indeed, de(re)construction is the first video composition in which I worked with more than one viewpoint (camera position). Knowing that the final composition would be constructed out of material from several recording sessions, I chose to use a new viewpoint for each recording, so as to end up with a superimposition of multiple divergent viewpoints in the finished work.

In October 2008, while I was contemplating what source material to use in this piece, I got the news of the devastating financial crisis back home in Iceland. Out of the emotional turbulence and economic uncertainty of the following weeks (and months, even), I felt it only fitting to use for my new composition the Icelandic folksong *İsland Farsældar Frón* (*Iceland, fortunate isle*), of which I had made an arrangement for piano a year earlier. My concept for the work was to have the chosen material deconstructed, and then reconstructed, twice: first in the performance process during the video recording session, and then again in the video editing/composing process.

With this notion of deconstruction-reconstruction in mind, I decided to take a different approach to this composition, and see if I could open up the already open-form structure of the work even further by including sections of improvisation. Therefore it would not only be me deconstructing and reconstructing a single recording of the arrangement of *Ísland Farsældar Frón*, but I could also have the performer use his/her improvisational skills to de- and re-construct the arrangement as well.

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⁶⁸ The full score of de(re) construction can be seen in the portfolio accompanying this thesis.

It was for this reason that I asked the Belgian pianist Frederik Croene to perform my work, knowing his capacity for inventive improvisations, as well as being intrigued and eager to use his collection of old and/or dismantled pianos for the piece.

After having studied the arrangement, I asked Frederik to leave the score behind and perform by heart what he remembered. This resulted in a first recording that would be at the centre of the piece, since it was the most 'reconstructed' recording of the arrangement, and was therefore relatively true to the original. In the second recording session, I asked Frederik to distance himself a bit more from the performance he had just given. In the third and fourth recording sessions, he would each time distance himself a bit more, that is, deconstruct his material even further, although keeping the general mood of the piece. And in the final recording session, there was little or no obvious connection to the original arrangement, as Frederik only used it as underlying inspiration for a free improvisation. Now that he had gone from reconstructing to deconstructing the arrangement of the folksong *İsland Farsældar Frón*, it was my turn to do the same within the video editing process.

I placed the most abstract parts of the recorded material at either end of the composition, thus both starting and ending with a 'deconstructed' version of the folksong, while the most original first recording lay roughly in the centre of the piece. That is to say, I was using only parts of the material – I would make cuts in each of the five recordings and select those fragments that I wanted to use in the final composition. Slowly, piece by piece, fragment by fragment, I began to build up a bridge between the two extremes from the collection of recording I had at hand. My idea was to not just cut and paste the material together in a single horizontal line, but also to extend it vertically, and so get a superimposition of both the visual and musical material. And by following Parker's example of using multiple viewpoints, this layering of the footage created a more complex (and more pleasing) visual result. I kept my focus on composing the audio material, therefore leaving the image to take its own course, as it became busy with the piano mechanism and with all the strings visible inside the old and sometimes dismantled pianos.

For the notation of this work, to accompany the score of the arrangement, I had planned to draw out the structure of the layers in the video editing. I wanted to give exact information as to which section of which video recording I was using and at what time. Before I could note this information down, I had the misfortune of having my computer stolen and so the underlying structure of the piece is forever lost. However, I have constructed a new

graphic score, which can be seen in the portfolio accompanying this thesis. The score is intended to provide guidance for any future performances of the piece. It demonstrates the fragmentation of the arrangement, its 'deconstruction' and 'reconstruction', as well as underlining the importance of the layering process. It also indicates the overall structure of the piece, so that when making a new video composition, even though the recorded material will be vastly different, there should be a similar sense of build-up, with a climax where the reconstruction occurs, and then moving back into its deconstructed form, and eventually fading out.

Chapter 5

performance sketches... (2009)

"... WITHOUT THINKING what you are playing / close your eyes / just listen." 69

5.1 *Sound drawings* (2005-2006)

Back in 2005 and 2006 I created a series of large-scale drawings that are titled *Sound drawings*. Looking back, I regard this series to be the origin of the direction my current art practice has taken during the past four years. For this reason I have decided to use the title of this drawing series - sound drawings - as the general term for the visual and musical work I now create.

For the 2005-2006 drawing series, I set myself the objective of making sound instead of focusing solely on visual imagery. These drawings were to become both the registration - a score - and the sound source for a musical composition. For this sound-producing task I chose to use permanent markers because of the distinctive sound they make while moving across the surface of a sheet of paper - it is a rather loud sound compared to that of other drawing materials, such as pencil, graphite, or a pen, and can be quite harsh and very direct (or 'aggressive' even).

When working with such a simple sound source (just the one on this occasion) I came to focus mainly on creating variations of rhythmical patterns. While moving the permanent marker across the surface of the paper I made a series of gestures that resulted in rhythmic motifs; e.g., making a continuous 'zigzag' line from one end of the paper to the other without lifting the marker up from the surface. The short pauses created by the change in the up-or-down direction of the action of drawing made the distinction between one sound and another, i.e., between one 'beat' and the next.

86

⁶⁹ K Stockhausen, 'Aus den sieben Tagen', in *A Concise History of Modern Music*, P. Griffiths, Thames & Hudson, Great Britain, 1978, p 181.

Interested in the relationship between visual art and music, Paul Klee made numerous remarks and sketches on parallels between the two disciplines. In his *Pedagogical Sketchbook* from 1925, Klee wrote about the 'active line', which for him demonstrated how a line could represent a rhythmic motif – it constituted a form of visual counterpoint (see fig.22).

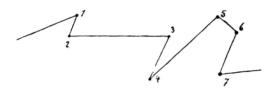


Figure 22
Sketch from Paul Klee's *Pedagogical Sketchbook*, demonstrating an 'active line'.

Klee explains that here is 'an active line, limited in its movement by fixed points' – and by using what he describes as 'limitation' given by 'fixed points', I found that I could create an even rhythm (both visual and audible) by drawing a series of lines that were all of equal length, and therefore of equal time duration as well. Of course, the same parameters could also be used to create an uneven rhythm – in which case, I would vary the length/time of the lines I draw between each 'fixed point' (see fig.23).

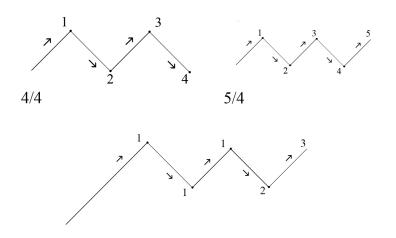


Figure 23

Examples of sound drawing (even) rhythms in time signature 4/4 and 5/4, as well as an example of an uneven rhythm motif (below).

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⁷⁰ P Klee, *Pedagogical Sketchbook*, Praeger Publishers, New York – Washington, 1972, p 18.

As I mentioned earlier, my objective in this drawing series was to create a sound experience through the act of drawing; and I therefore made audio recordings of the whole drawing process. Although I was conscious of the endless variations of rhythmical patterns that I could produce, I did not make any pre-composed structures for this series of drawings – this work was more about the act of experiencing, and improvising with, the various audible rhythms that I was curious about at this time.

After finishing the drawings I then created a musical composition out of a selection of the recorded materials. At first I intended to layer the selected recordings on top of each other in such a way that they would produce a dense body of complex rhythm structures, thus simulating the visual work that was their origin. The minimalistic works of Philip Glass and Steve Reich influenced this idea. I was interested in the way they built their works up out of simple rhythmic units, in their use of phasing, and in the transparency of the process. However, while I was working on this musical composition I made an unexpected discovery concerning the drawings themselves that altered my approach to the whole project. While moving the drawings around in my studio one day I happened at one point to turn them around, thus making the rear surface visible. To my surprise I found the reverse side more aesthetically pleasing than the front side of the drawings. So I decided that the next time I hung them, I would display this reverse side to the viewer (see fig. 24).

This change in the visual presentation made me rethink my approach to the musical composition too. Instead of showing a dense structure of intersecting and overcrossing lines of various colours, the drawings now seemed more minimalistic and fragile. In fact, the original linear structure was now transformed into a kind of pointillistic imagery. And so I began to experiment with how I could transform my recorded audio material in the same way as the visual images. I therefore abandoned the idea of creating a dense layering of the sound recordings I had made, and began to search for a simpler mode of presentation. My first idea was to shift from the vertical compositional structure (layering) I had been working with, to a more fragile horizontal structure; i.e., simply placing one short recording after another.

Also, since the linear structure of the drawings was not now as dominant as it had been when they were viewed from the front, I began to apply different effect settings to the musical composition to see if I could 'soften' the strong continuous sound of the lines. In the end I chose to use the effect of distortion offered by the audio software n-Track that I

was working with to alter the original sound. With this effect I was able to create satisfying variations on the sound produced by the permanent marker, as well as accentuating the rhythmic structure, by emphasizing both the character and the length of the sounds of the lines.

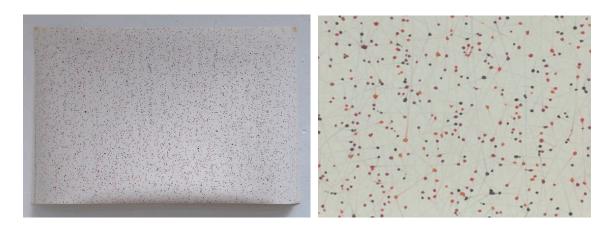


Figure 24

Sound drawing series (2005-06) - group 1/3 (and close-up) permanent markers on paper / 100 x 150 cm

For the visual presentation of the drawings I chose to show them from the back. The lines made by the permanent markers were visible from the rear, and the points that were created every time I stopped a line to change its direction were even more visible than the lines. This (unexpected) visual effect happened to coincide with the final result of the sound composition, where the use of distortion emphasized the pointillistic quality of the rhythmic structure.

Even though this experience of working on the sound had a strong effect on me, I was at that time not sure how to pursue this 'discovery' further within my art practice and my musical compositions. And so, up until 2009, I continued to use colour and graphic notation as the main means to express my musical thoughts when creating visual music paintings, compositions, or performances. It was only when I started working on a new piece entitled *performance sketches*... in 2009 that I realised how I could make use of the discovery I had made back in 2006.

5.2 "When we listen to it, we find it fascinating"⁷¹

When I began to work on *performance sketches*... in 2009, I decided to work only with the non-colours black and white for the real-time graphic notation, which I intended to project to the musicians (and to the audiences) during the performance. Indeed, around this time my palette was changing from being full of colourful acrylic paint to the use of the simplest drawing materials, such as graphite, pencils, charcoal and dry pastel. This change was due to my doubts about using specific colours to represent tonality, harmony, or specific notes on the musical scale. I found the experience of colour to be too subjective; while the simplicity of these basic drawing materials gave me another, more physical and more concrete connection to my music, through the use of the very gestures of the act of drawing itself, and the amplification of the sounds they produced.

One of the influences that brought me to the idea of working with my own sounds – that is, with the sounds that an artist produces directly through the handling of his/her materials for visual purposes – was Cage's notion that 'all sounds' could be a potential resource for musical composition. In fact, all we had to do to bring sounds into a musical context was to pay attention to them, as he famously demonstrated in his 1952 composition 4'33''.

"Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating. The sound of a truck at fifty miles per hour. Static between the stations. Rain. We want to capture and control these sounds, to use them not as sound effects but as musical instruments."

Indeed, Cage's 4'33" has been of immense importance to the development of sound art and music in the 20th century. It introduced everyday, mundane sounds into the realm of the arts; and by doing so, it extended the options available to artists and composers within the artistic process, even as it developed new aesthetic possibilities for their work.

As I got to work on *performance sketches*... I began to focus more and more on the act of listening.

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⁷¹ J Cage, *Silence. Lectures and Writings by John Cage*, Wesleyan University Press, Middletown, USA, 1961, p 3.

⁷² J Cage, Silence. Lectures and Writings by John Cage, 1961, p 3.

5.2.1 the act of listening

"Sound involves me closely in what I see; it pulls the seen towards me as it grasps me by ears. Sound renders the object dynamic." (S. Voegelin)⁷³

When choosing to shift my focus towards the *sound* of my work and become consciously active with my listening helped me get more 'in touch' with my work, of being more *in* my work. In her 2010 book *Listening to Noise and Silence*, Salomé Voegelin writes:

"He [the listener] is placed in the midst of its materiality, complicit with its production ... His subject position is different from the viewing self, whose body is at a distance from the seen. The listener is entwined with the heard. His sense of the world and of himself is constituted in this bond.

The understanding gained is a knowing of the moment as a sensory event that involves the listener and the sound in a reciprocal inventive production"⁷⁴

By always focusing on the visual, on the *looking* when creating my work, according to Voegelin, there is always going to be a distance, the notion of being on the outside of the work. However, by inviting the sound to take part in the drawing process, and even have dominance of the visual, I manage to get closer to the work, it literally becomes a part of my physical being as the vibration of the sound moving through the air touches my inner ear.

"The auditory is generated in the listening practice: in listening I am in sound, there can be no gap between the heard and hearing, I either hear it or I don't, and what I perceive is what I hear." (S. Voegelin)⁷⁵

Therefore by making active listening a part of my overall art and music practice turned out to be a very important decision that resulted in a significant transformation of my work. The more I gave my attention to the audible world around me, the more distance I began to take from any notion of traditional musical material (e.g., tonality and/or harmony), and the more my focus shifted towards a world of pure sound. What I mean here by 'pure sound' is that I became fascinated with exploring, for example, the potential of the simple

⁷³ S Voegelin, *Listening to Noise and Silence – Towards a Philosophy of Sound Art*, Continuum, New York – London, 2010, p 11.

⁷⁴ S Voegelin, Listening to Noise and Silence, 2010, p 5.

⁷⁵ S Voegelin, Listening to Noise and Silence, 2010, p.5.

sounds that my pencils and charcoal and graphite were producing, and how they could become a part of my musical world. What could be the connection/collaboration – indeed, how could there be any connection/collaboration at all – between a musical instrument and an artist's drawing material?

This transformation in my music followed on from earlier developments in my visual art practice. Up until 2002 I was creating figurative drawings and painting landscapes; however, after I started my art studies in Ghent in the fall of 2002, my work underwent a rapid change to focus on abstract and nonrepresentational art⁷⁶ - and more recently, on concrete works of art (where by 'concrete' I mean art works that relate only to themselves, to their material, and their making – and in no way invoke any symbolic associations with their outer surrounding, sounding reality). It was at this point that the medium of my art and of my music began to declare itself as the medium (I am referring here to the famous saying of art critic C. Greenberg, see section 5.2.2). In fact, it was at the point when my music completely merged into my visual art practice that it ceased to be abstract and became instead concrete, in the sense defined above.

5.2.2 "in music and in the visual arts the medium declares itself as medium."⁷⁷

According to the American art critic Clement Greenberg, every age has its dominant art form, and by the 19th century it was music's turn to be in charge. Greenberg considered the urge within the painted medium to 'imitate' music's abstract qualities as a positive move because music actually served as a model of *method* but not of *effect*. Greenberg was convinced that modern art had to concern itself with *method*, i.e. with the *how* and not the *what* - it had to shift its focus to "its own proper experience, ... that part of experience that has to do with the making of art itself." And Greenberg thought that, since music could exist free from the constraints of the 'rational' world, why should painting not follow its example?

⁷⁷ C Greenberg in *Visible Deeds of Music; Art and Music from Wagner to Cage*, S. Shaw-Miller, Yale University Press, New Haven & London, 2002, p 173.

⁷⁸ C Greenberg in *The Collected Essays and Critisim, vol.2; Arrogant Purpose 1945-1949,* J. O'Brian (ed.), University of Chicago Press, 1986, p 218-219.

⁷⁶ Here nonrepresentational art refers to an artwork that neither portrays nor resembles any *object* belonging to our physical reality. It may however have associations with musical thoughts and theories, as was the case was with paintings by W. Kandinsky, P. Klee, F. Kupka and others who created what is known as "visual

"As the first and most important item upon its agenda, the avant-garde saw the necessity of an escape from ideas, which were infecting the arts with the ideological struggles of society. Ideas come to mean subject matter in general. (Subject matter as distinguished from content: in the sense that every work of art must have content, but that subject matter is something the artist does or does not have in mind when he is actually at work.) This meant a new and greater emphasis upon form, and it also involved the assertion of the arts as independent vocations, disciplines and crafts, absolutely autonomous, and entitled to respect for their own sakes, and not merely as vessels of communication."

For Greenberg, music seemed to have no need to refer to the world outside - to our physical world – and so it could remain entirely focused on its own form, thus making itself its own main content. He therefore concluded that painting could follow music's example, so that the content of painting could very well become its form, while its form became its content.

This is indeed the direction my own art practice started to take while I ventured deeper and deeper into non-representation. I left the 'outside' world behind and looked towards the work itself, its form, and its very own material qualities – and out of this curiosity the notion of sound drawing began to emerge. The further I looked into what options the material of my artworks could offer, the more I became aware of their 'total' quality, which was both visual and aural. I started to listen to it as well as look – I began to listen to my own actions. And the more I listened, the more I began to see the work's endless possibilities as it stretched beyond the flat surface of the paper into the surrounding space, and into my music.

5.2.3 amplification – $\theta'\theta\theta''$

A major factor in the transformation of my art and music practice was my decision to apply audio amplification technologies to my drawing materials. Amplification was necessary because drawing with a 'soft' pencil (grades HB through 8B) does not make that much sound compared to, say the harsh sound of the permanent markers I had used in the 2005-2006 drawing series. And when collaborating with musicians – which I was about to

⁷⁹ C Greenberg 'Towards a Newer Laocoon' in *ART in Theory 1900-1990*, C. Harrison & P. Wood (ed.), 1992, p 556.

do in the first performance of *performance sketches*... – my sounds could all too easily be drowned out by the musical instruments. Amplification was therefore essential if I was going to introduce my sound drawing practice into the context of a collaborative performance.

My research had by this time brought me to Cage's 1962 composition 0.00''. Cage had begun to amplify small and inaudible sounds, which could, for example, be any type of actions and/or states of the human body. Of 0.00'' Cage wrote that it is: "nothing but the continuation of one's daily work, whatever it is, providing it's not selfish, but is the fulfilment of an obligation to other people, done with contact microphones, without any notion of concert or theatre or the public, but simply continuing one's daily work, now coming out through loudspeakers. What the piece tries to say is that everything we do is music, or can become music through the use of microphones; so that everything I'm doing, apart from what I'm saying, produces sound."

In fact, it had been back in the 1930s, after meeting the German filmmaker Oskar Fischinger, that Cage's fascination for making all kinds and every kind of object give sound was ignited; Cage explains: "When I was introduced to him, he began to talk with me about the spirit which is inside each of the objects of this world. So, he told me, all we need to do to liberate that spirit is to brush past the object, and to draw forth its sound. That's the idea which lead me to percussion. In all the many years that followed up to the war, I never stopped touching things, making them sound and resound, to discover what sounds they could produce. Wherever I went, I always listened to objects."⁸¹

And so Cage's words guided me towards paying attention to my 'daily work', i.e., my art practice. He pointed out that I should 'listen to objects', that is, to my drawing implements, as I took it. By placing a contact microphone on the same surface on which I made my drawings - i.e., the imagery that was becoming my new graphic notation language - the sound and rhythm of my actions could now be integrated into, and take part in the musical interpretation of, the graphic notation that was shown to the musicians (and to myself) during a performance. It was this amplification process that would slowly develop into the idea of creating my own sound drawing instrument. Indeed, as I researched more deeply

⁸⁰ J Cage in *Conversing with Cage*, R. Kostelanets, Routledge, New York and London, 2002, p 73.

⁸¹ J Cage in *Noise Water Meat; A History of Sound in the Arts*, D. Kahn, The MIT Press, Cambridge, Massachusetts – London, England, 2001, p 196-197.

the technological possibilities of amplified sound, I soon began to work on a new project where the amplified sounds would not simply be projected back into space, but could have various controlling/compositional functions as well. (I will discuss this subject in greater detail in chapter 7 on my composed drawings).

5.3 The instructions for *performance sketches*...

"Notation's ambiguities are its saving grace. Fundamentally, notation is a serviceable device for coping with imponderables. Precision is never of the essence in creative work." (H. Cole)⁸²

I created a series of instructions for *performance sketches*... that were intended to give a great deal of creative freedom to its performers (see excerpts in figs. 25 and 26). Indeed, as with my graphic scores, the instructions for the piece could be seen as a mix of composition and instigating improvisation. The instructions should push the performers out of their comfort zone and towards creating unpredictable sonic events. When discussing his experience of working with Cornelius Cardew's graphic score *Treatise*, AMM member Keith Rowe gives a clear description of the nature of the score; and at the same time what my intention was with the instructions for *performance sketches*...:

I think for me it was always, if I imagined say Beethoven or Mozart or Bach or Franz Liszt, that they were great improvisers, and what I understand is that when Beethoven improvised, it sounded like Beethoven, it sounded like a piano concert, in a way you would recognize it from his language, but it wouldn't be a composition, it would have a certain character to it which came from the improvisation – and I think it's roughly similar with *Treatise*, it still sounds like me, but *Treatise* is controlling, what's on the pages in front of you is controlling when you stop, when you start, how and exactly what you do. So I think it fits in to the way classical musicians used to do improvisation in the past. But as you quite rightly say, in a reverse way for us, we were coming from the direction of improvisation into the world of composition.⁸³

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⁸² H Cole, Sounds and Signs, 1974, p 130.

⁸³ K Rowe, excerpt from an interview with the author, unpublished, 2011. To read full interview, see Appendix.



Figure 25Excerpt from the instructions for *performance sketches*... (2009)

Now, instead of simply stepping back and giving full interpretative responsibility to the musicians, I decided to take part in the performance myself by drawing out in real-time the graphic notation elements indicated in the instructions. Indeed, by participating in the performance process myself, not only could I have an impact on the flow of the music from within the work, but the musicians could also influence the creation of the real-time graphic notation that I was producing and projecting into the performance space.

I was aware of John Zorn's piece *Cobra*, where he had composed a set of rules and made corresponding cue cards, which instructed the performers what action to take in their otherwise free improvisation. I had also had the opportunity to attend several improvisation sessions with the New Noise Ensemble at Brunel School of Arts, where director Peter Wiegold used a self-invented sign language to conduct the ensemble. This form of conducting seemed like something I could introduce into my real-time graphic notation performance. However, whereas Wiegold wields sole control over the flow of the free improvisation process, I was intrigued to have more of a dialogue between all the performers involved in my upcoming *performance sketches*... I was looking for something closer to what Zorn had achieved in his *Cobra* composition – where there was no single conductor guiding the performers of this piece, but any player could influence the flow of the music by giving signs from the cue list to the other players involved in the performance.

Thus, just as I would give cues to the musicians with my real-time graphic notation, and its sound production; in a similar fashion I would listen to the musicians, and be influenced by their actions. With this step I felt that I was both involving myself more closely in my own compositions, and at the same time I was discovering a way to bring my two disciplines of music and visual art closer together.

"And so I'm involved like a painter, involved with gradations within the chromatic world. And the reason I do this is to have the ear make those trips. Back and forth, and it gets more and more saturated. But I work very much like a painter, insofar as I'm watching the phenomena and I'm thickening and I'm thinning and I'm working in that way and just watching what it needs." (M. Feldman)⁸⁴

What started in my *performance sketches*... was just that what Feldman describes here: I finally realized that I could/should also be working 'like a painter,' with my music. I could create the music from within, 'thickening' and 'thinning' the music as the performance progressed. For the first time I was placing myself inside my own composition, in the same manner as I experienced myself as being *inside* my paintings and drawings while I was creating them.

5.3.1 lines, circles, squares & triangles

When making the instructions for *performance sketches*... it seemed obvious to keep working with my previous choice of graphic notation signs, which consisted mainly of lines and circles (e.g., *So Many Ways*, 2004), with the occasional use of squares and triangular forms. With these forms I could define a set of parameters, which both the musicians and myself should follow, such as:

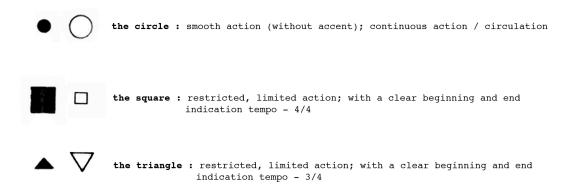


Figure 26
Excerpt from the instructions for *performance sketches*... (2009)

The size of a graphic form should/could also indicate increase (large form) or decrease (small form) in volume; an open/empty form has a more simple, even a fragile character to

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⁸⁴ M Feldman 'The Future of Local Music' in *Give My Regards to Eight Street; Collected writings of Morton Feldman*, B. H. Friedman (ed.), Exact Change – Cambridge, 2000, p 183-4.

its musical interpretation, as opposed to the solid filled-in forms, which could/should indicate a more dense quality than the open forms, and have more richness in their sound properties. Apart from the information provided as to what the different forms represented, and the general condition that the performance should be no longer than 30 minutes, there was no fixed compositional structure given to the performance beforehand.

5.4 Graphic notation in real-time

What I did not realize about my choice of graphic material until the very first rehearsal of *performance sketches*... was that the act of drawing the notation in real-time was not going to be a fluent experience; at least, not as fluent as I felt necessary. I found myself confronted with two apparently different ways of thinking and behaving; one belonging to the act of sitting at my desk and laying down the outlines of a compositional work, and the other that stems from the act of working as a visual artist in my studio. These two acts of thinking musically (mental) on the one hand, and drawing an image (physical) on the other, did not link together in my original concept of the work. I had thought to draw the graphic notation during the performance in a somewhat similar manner as I would draw a score; however, it soon became clear that the more fluent and intuitive way of working I had developed as a visual artist was more appropriate to the situation.

Indeed, I realized that even though I had given musical thoughts/associations/expressions to each graphic notation sign, when it came to reproducing this notation in a live performance situation, I could not make it connect with the overall context. The graphic notation language that I had been using up until now may have been suitable for performance by musicians (on musical instruments), but it turned out to be quite unsuitable for the part I myself had to play through my sound drawing performance. The notation worked as long as it had the function of being read and interpreted; however, now that it was also suppose to be a part of the performance as a visual and *sounding* element in itself (thanks to the amplification of the act of drawing), I found that this graphic notation language did not function anymore. When it came to the actual practice/performance of drawing out the chosen graphic notation signs, I immediately found that they acted to *limit* my part in the interaction with the musicians, rather than to open up possibilities for collaboration. I could not achieve the same expressive 'flow' within my chosen medium that the musicians were able to produce with their instruments. I therefore realized that to continue down this path, it would be necessary for me to invent a new (more fluent)

graphic notation language to use as my vehicle within the sound drawing performance context.

5.5 Clusters of horizontal and/or vertical lines

Considering what I might use instead of the graphic notation signs in the instructions for *performance sketches...*, I was reminded of my first experience with the 2005-2006 *Sound drawing* series (which I discussed at the start of this chapter). I wondered if now was the moment to return to the free sound drawing practice I had started to explore in those earlier works. Starting from the simple linear rhythm of the permanent marker drawings, I now began to examine a wider range of audible qualities associated with such lines and the physical gestures that produced them. Freeing myself from fixed forms and straight lines, a more organic touch began to emerge in my graphic notations. Clusters of horizontal and/or vertical lines drawn in rapid succession, irregular lines that engaged unforeseen rhythmic patterns, variations of grade (white to grey to black), points and short strokes – all these began to build up into a new sound vocabulary (see example in fig.27). Here below is also an example of some observations that I wrote down in a notebook during the rehearsals of *performance sketches...* in October 2009:

A straight line has a single sound — either short or long, depending on the length of the line and on the time it takes to draw the line.

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(e.g. 1 sec line)
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If the line is kept straight, as if it were drawn with a ruler, it gives a clear and definite rhythm suggestion.

d. | | |

But, if/when the line becomes more organic - even more irregular when drawn - it becomes possible to transform that line into a short (or long) sound motif of an intricate rhythm.



⁻ Variations of short/short-ish lines = rhythmic patterns

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⁻ Soft sounds, harsh sounds, percussive sounds ...

⁻ Variations of irregular (longer) lines = sound motifs 85

 $^{^{85}}$ A page from one of the author's notebooks, October 2009.

As the rehearsals of *performance sketches*... progressed, it became evident that my new real-time graphic notation drawing was no longer simply about the showing, reading, and interpreting of a visual image – my role was not just simply drawing out the image and waiting for the musicians to interpret it. The physical act of making the image was also becoming a part of the performance. The musicians could be just as aware of the gestures of my hands as they were of the image appearing on the screen in front of them. Was I drawing soft or hard? Was the movement of my hand fast or slow? Was I making a short movement or a long movement, a horizontal or a vertical movement? Indeed, the energy and the force I chose to give while drawing an image was now just as important as the image itself, particularly when the sound thus produced was amplified.





Figure 27 a selection of sound drawings/graphic scores (A4 size) created during the first performance of *performance sketches*... on November 9th 2009.

5.6 piano keys, pencils and aluminum foil

For the first realization of *performance sketches*... I asked violinist Marieke Berendsen and pianist Frederik Croene to collaborate with me. Being already acquainted with Marieke's style of playing, but only knowing Frederik from his reputation (particularly in the field of contemporary music), I was curious to see what the combination of these players would bring to the sound of the piece.

Instead of playing the piano conventionally, using the keyboard, Frederik chose on this occasion to play his instrument from inside the piano frame, touching the strings with his bare hands, or playing them using a group of piano keys held as percussion mallets in his hands. Marieke performed on her violin using extended playing techniques in combination with a simple version of a 'prepared violin' where she placed aluminum foil, pieces of wood and plastic objects on and/or between the strings. And then there was me, with my amplified sound drawing and live video projection. Having a table to place my paper on, a contact microphone, and a video camera overhead, I was ready to make some noise with my pencils, graphite, charcoal, pastel and permanent markers.

For this performance I asked Marieke and Frederik to play in a style of free improvisation, giving their attention to particular sounds, textures and moods, and to avoid any specific melodic motifs or harmonic structures.

As I have explained earlier in the chapter, almost from the moment the rehearsals started I decided not to work further with the score I had prepared. Switching to the new graphic

notation language I have just described, I shifted the focus of the work towards the sounds that I was producing, the use of the drawing materials, what kinds of image they could create, and I asked the musicians to be conscious of their physical movements when playing, since my own drawing gestures were going to be instigating gestures for them.

Indeed, I began to develop my own language in which to conduct the performance. Among the rules that I instigated for Marieke and Frederik in *performance sketches*... I specified that a change in my drawing material should/could prompt them to change how they played their instrument; e.g., Marieke could change from using her bow conventionally to using the wooden part of the bow, or to playing with her fingers on the strings. Frederik could move between string sections inside the piano frame, or switch between playing with his hands or the piano keys. Or they might simply interpret my change as a sign to change to a new texture, or mood. Then, there should be a distinction in their interpretation of horizontal and vertical lines; for this Frederik suggested simply imitating the visual direction of vertical lines with the piano keys, so instead of holding them horizontally, he would hold them vertically while playing. And then there was the way I changed the speed in my drawing gestures that should/could be simulated by the musicians on their instruments; playing long tones for the slow motion gestures, and rapid bow or finger movement for the faster movements.

I also asked Frederik and Marieke to take turns in following my indications – i.e., if Marieke heard that Frederik was already following my cue, then she should not follow it, at least not right away, and the same applied to Frederik. I wanted there always to be one that was 'at odds' with the other two, so that the sound material would not become too similar. And I asked them to feel free to take their own initiative to break out of a current texture, gesture or mood, and introduce new material, so that there could be a sense of dialogue between us. Indeed, as I mentioned earlier, I wanted there to be the same movement in the piece as in Zorn's *Cobra* – I wanted Frederik's and Marieke's playing to inspire my performance, as well as to inspire theirs.

5.7 Conclusion

"Focused listening is radical as it makes us 'see' a different world." (S. Voegelin)⁸⁶

To draw a conclusion from the experience I had during the creation and the first performance of *performance sketches*... – it directed both my visual arts practice and musical compositions towards what would thereafter become my main creative output, that is, my current sound drawing practice. I began to search for a sound world where the pure sounds of my drawing materials could encounter my musical compositions.

After the rehearsals and the performance, I went back to my studio and began experimenting further with the seemingly simplistic graphic language I had (re)created. Using recordings from *performance sketches*... rehearsal sessions, as well as the concert recording, I listened and drew, as if I was still in dialogue with the musicians (and with my (former) self).

I kept experimenting with different drawing materials, and soon arrived at a fixed basis of pencils with a variety of grades (though mostly using the harder once (HB-10H) since they could produce more sound when touching, scratching, marking the surface of the paper), and charcoal of different sizes; there was also dry pastel, white acrylics, paintbrushes and an eraser. I also began testing a variety of materials for the supporting plates/tables, to see how that would alter the sound. To start with I used mainly wood/MDF plates under my paper, but now I have changed over to glass because that gives a more detailed, and clearer sound, as opposed to the wood that gives a damper sound, which muffles a bit the original source in the amplification (I will go further into these details in the following two chapters).

As I went further into the sound drawing practice, the question of where the work belonged began circulating in my mind; was I making artworks (drawings), or music (sound), or graphic scores? On which medium was my focus going to be? I realized that I did not want to give an answer to this question, so I decided to leave it open – I did not feel the need to pin what I was doing down to one particular classification or another; why could it not have multiple functions? (I will be coming back to this question in the next chapter, which is about the sound drawing series *31* (sound)studies on paper created between 2010 and 2011).

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⁸⁶ S Voegelin, Listening to Noise and Silence, 2010, p 36.

In 2010, working within the solitary space of my studio, I began to contemplate the possibility of making solo performances. Up until that point I had only thought of performing my amplified sound drawing in collaboration with one or more musicians. At first it seemed that sound drawing needed to be a part of a larger musical context. But by looking into what technology had to offer, I began to think it might be possible for me to work independently as well. Therefore, in the fall of 2010 I enrolled myself in a class of experimental music with Belgian composer Paul Craenen with the purpose of exploring the further possibilities my sound drawing practice could generate. The two years I spent following Paul's class led to the creation of my own custom-made audiovisual sound drawing instrument (see chapter 7).

The experience/feeling of being *in* the artwork, of somehow being a part of it during the creative process, grew even stronger for me when the element of sound was added to the visual experience. I would therefore keep exploring this notion and eventually expand it towards including the perceptual experience of the spectator, too. I became curious as to how I could place the spectator 'inside' the work, instead of always having the conventional notion of her standing outside of it, looking in? I will discuss this in more detail in chapter 7 which deals with my latest works that fall under the general term of "composed drawings".

Chapter 6

31 (sound)studies on paper (2010-2011) 87



Figure 28
31 (sound)studies on paper / nr.2
Graphite, pencil, charcoal, pastel and acrylic on paper / 48 x 61 cm

6.1 sound drawing - (graphic notation)

With the experience of *performance sketches*... fresh in my mind, I was now back in the studio with the determination to explore further the possibilities that the new graphic notation language, that is, the sound drawing practice into which that language had metamorphosed, could offer my musical compositions and visual art practice. In the new works (both musical and visual) that had started to develop during the rehearsals and performance of *performance sketches*... (see chapter 5), I now wanted to focus on the physical act of drawing itself, along with the graphic notation vocabulary, and possible extensions of the sounds produced by my drawing materials.

I began practising, so as to get the feel for the act of drawing the new graphic notation. I wanted to get the sound drawing into my system, into my muscles, so that I would be more fluent and spontaneous when using it in future performance projects. I listened to recordings that had been made of both the *performance sketches*... rehearsal sessions and the concert, which helped me remember and rehearse my sound material. So I was not only listening to the various scratching sounds of my own pencils, or the various rhythmic patterns as I tapped them on the surface of the paper – I continued to listen to and study the

⁸⁷ Photographs of the complete sound drawing series *31(sound)drawings on paper* can be seen in the portfolio accompanying this thesis.

instrumental sounds of Frederik and Marieke as well, and used them to guide my search for new ways of producing noise with my own pencils, charcoal and paint brushes. I looked for ways to change the pitch of the pencils and charcoal so I could follow the changes the musicians were making in their own parts. When making a continuous backand-forth motion with the charcoal over a small area, I discovered that by applying a bit more pressure on the stick I could produce a higher sounding pitch than when I moved it in a longer continuous movement with normal (medium) pressure across the whole surface of the paper. With the pencil it was possible to produce variations in its sound by simply changing direction; a slight difference can be heard between when the pencil is moving with the grain of the paper, compared to when it is moving against it. Also, by altering the way I moved the pencil with my hand, I could produce various alterations in the pitch of the sound; e.g., when holding my hand steady and making the pencil move in circles, there would be variations between the moments when the movement was fluent (going with the structure of the paper), and those when it was more restricted (going against the structure, or grain of the paper, as well as when the drawing position of my hand became uncomfortable). There was also a noticeable difference in sound when drawing with the harder grade pencils as opposed to the softer ones. The sound of the harder grades gave a rougher, more direct sound, while the softer ones would produce a quieter, damped down sound.

Listening repeatedly to the rehearsal and concert recordings of *performance sketches*... also helped me discover how I could produce different forms of tempo, and it was especially important in relation to producing slow movements, because those movements did not come naturally for me when making a drawing. For example, to extend the sound of a single line so that it corresponded a slow passage performed by the musicians, I would have to draw it in 'slow motion'. I also found repetition – repeating a certain gesture so as to produce a specific sound result – represented a physical challenge for me, as again this was something that did not come naturally out of my earlier drawing practice.

While listening to the recordings, as well as listening to the sounds I was myself creating in response to what I heard, I sought to expand my graphic notation language. Up until now my graphic scores had never been related to the sounds of their own making; they were composed out of a language of general sign-to-sound associations of a kind that has been in use in graphic scores since the 1950s. For example, a change in dynamics and/or duration could be indicated by larger or smaller visual elements within a given score, a

convention already found in e.g., Karlheinz Stockhause's composition *Zyklus*, where a small note should be played *p*, and a large one *ff* - or in R. Moran's *Four Visions*, where the composer writes: "the sizes of the notes indicate the proportion of the dynamics". ⁸⁸ A difference in volume could also be indicated using light and dark elements, as e.g., in Bogusław Schäffer's composition *Azione a due*, where the composer indicated a dynamic progression by shifting gradually from a white/empty circle, representing silence, to a completely filled-in black circle, representing *fff* (see fig. 29). In Krzysztof Penderecki's *Anaklasis*, meanwhile, a wavy line could either indicate *molto vibrato*, or 'extremely slow vibrato' (in which the waves are larger and further apart); he also used broken horizontal lines (-----) to indicate repetition of tones.

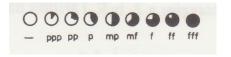


Figure 29Example from Schäffer's instructions for *Azione a due*

These are all commonly used indicators to guide musical interpretations, which I have used in my earlier works (*So Many Ways, Space to Space*, and *Solo* for bass clarinet). However, now that I was in the process of transforming my graphic notation language from this more formal scoring system into something that resembled, and even exceeded, the informality of Anestis Logothetis' freehand drawn scores (e.g., *Odyssee* or *Ichnologia*), many new compositional and interpretative possibilities presented themselves for me to explore.

6.1.1 white is loud and silence is black

My main sound source was the pencil, and I now began to use the entire range of grades it had to offer me. In doing so, an interesting 'contradiction' was revealed when my focus shifted from the visual nature of drawing to its use as a means of sound production.

The grades 6H-10H give a very light visual image, almost invisible if the touch/pressure of the drawing is minimal; however, they produce a very strong, rough sound when moving across the surface of the paper (it is possible to make deep indentations and/or cuts into the paper if the pressure of the touch is strong enough, thus enhancing and varying the range of

⁸⁸ R Moran in *Notation in New Music*, E. Karkoschka, trans. by Universal Edition, Universal Edition Ltd. – London, (First English language edition) 1972, p 80.

sounds that can be produced). On the other hand, when drawing with the softer pencils, such as grades 4B-8B, the image is stronger and darker, but the sound is very soft (see fig. 30). This produces a contradiction, in that it would feel very natural for a musically trained performer to interpret the light image as corresponding to a soft, delicate sound, and the darker image as a stronger, louder sound. Indeed, we all seem to feel that louder tones are darker than quiet ones, higher tones are smaller and brighter than low ones, and so low tones are both larger and darker than the high tones. ⁸⁹ One of the results of my graphic notation study showed that a majority of the participants identified the word 'white' with 'silence', and the word 'black' with 'forte'. In the same study, the general predisposition among the participants was to associate the word 'point' with 'staccato', 'pianissimo' with the word 'small', and the word 'legato' with the word 'line'.

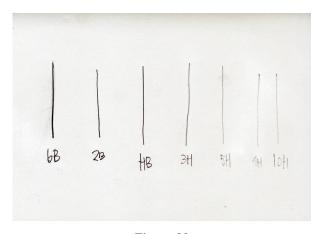


Figure 30

A page from one of my notebooks showing the difference in contrast between soft and hard grades of pencil (6B-10H). While the harder pencils produce more sound, their image is softer and would therefore be "naturally" interpreted as corresponding to a softer sound than the grade 6B pencil which makes the darker image.

Therefore, in this context my sound drawings propose contrasting experiences between what is seen and what is heard. This was an element that needed to be taken into consideration when giving performance instructions on the interpretation of future sound drawings and graphic scores.

The sound coming from the pencils depends very much on the physical gesture – any material can sound soft when used with a light touch, and by applying pressure it is possible to increase that sound. Another variable is the speed and rhythm of the drawing

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⁸⁹ This is explained in more detail in chapter 3, which is dedicated to the phenomena of synaesthesia.

gesture. Thus, for example, a long line can produce a continuous scratching sound with a slightly uneven rhythmical pattern to it, if the hand pushes the pencil forward slowly; or, it is possible to eliminate the delicate rhythm pattern by making a line equal in length, but with a very quick motion.

The clearness or cleanness of the sound can also vary depending on the support I place underneath my paper. At this time I was only using various thicknesses of MDF plates, and I always had a contact microphone on the surface to amplify the sound. Later on, I would experiment with a rough-surfaced metal plate which amplified the natural sound considerably, as well as altering it – the sound of my drawing materials thus got mixed up with the sound coming from the metal plate as it was touched. This mixture of sounds from the support and the drawing material had not been noticeable when using the MDF plate.

Although I was discovering that, in some cases, the nature of the sound material produced by a given action would contradict the general semantic reading of the graphic notation that resulted, this was not the case when using the permanent marker. Here, the consistency of the colouration remained constant, whether or not I drew softly or with more pressure. However, it was possible to produce a somewhat wider line accompanied by a louder sound by pushing hard down on the marker while drawing - or to make a thinner line and softer sound by drawing lightly. Thus, there was a consistency across these different cases between the image and the sound – because, when a line is interpreted, the general musical interpretative tendency is to see the thicker line as indicating more or louder sound quality (this will be explained further in the following section - 6.1.2).

A new kind of sound possibility I discovered using charcoal sticks was that they are more fragile than the pencils when pressure is applied to them in order to increase the sound production. A certain amount of force is needed to break a pencil's tip; therefore a greater range of soft and loud sound can be achieved. However, with the charcoal, especially with the thinner sticks (Ø3-5mm), the breaking point comes fairly quickly when extra pressure is applied. This makes the dynamic range of possible sounds much narrower than what can be achieved with the pencils; however, when the charcoal breaks, it adds a new sound element to both the musical composition and the performance practice. Indeed, the singular snapping sound that occurs when the charcoal stick breaks can be used as a deliberate (percussive) element in the music. This action could be repeated, thus reducing the charcoal into several smaller pieces, and these broken fragments (of the thinner

charcoal sticks) could then be crushed with one's finger, providing yet another rich and crunchy sound effect.

With the charcoal, too, there is an element of contradiction present between notational implications and actual sound produced. As mentioned above, there is a general tendency to interpret white as silence or soft, whispering sounds, and black as loudness (and the larger the black area, the louder it should/could sound). However, while working on the sound drawings, I found that I could create a large area of blackness with the charcoal while producing only a minimal amount of sound. While making a soft continuous hussing sound, I could fill the surface of the paper with the black colouring of the charcoal (this could of course also be done in an aggressive manner, but the point I am making here is that the opposite is equally possible, too). As a result, the musicians are confronted with a growing field of darkness, which would normally be translated into heavy, loud music, and which would therefore contradict both my action and the inherent sound of the real-time graphic notation.

6.1.2 a Line

It was therefore necessary for me to decide what would be the musical meaning of the sound drawings and the new graphic notation. I had created a seemingly simple language, a vocabulary of points, and lines, that built up to become a visual plane. Within that place, the focus was in particular on the line and its play on rhythm and duration.

To get better acquainted with the visual and musical material generated by my work, I looked for what history could tell me about the meanings that could lie behind it. Feeling that the graphic notation vocabulary might be becoming overly simplified, I was reminded of an observation Kandinsky made in his book *Point and Line to Plane*: "It is particularly interesting and significant that the graphic musical representation in common use today – musical notation – is nothing other than various combinations of point and line." So, in fact I was still working with the same visual elements as before, only rearranging and approaching them in a new manner.

In his book *The Music of Painting*, Peter Vergo points to an old tradition in which we 'read' out of lines such moral metaphors as 'aspiration of rising lines, the moral rectitude

⁹⁰ W Kandinsky, *Point and Line to Plane*, Dover Publication, Inc., New York, 1979, p 99.

of straight lines and the overtones of wickedness in crooked ones'. In the Western culture we also seem to have a strong predisposition to relate lines and their directions to gestural and physical movement, e.g., going upwards or downwards, moving to the left or the right, going straight or diagonal. And last but not least there is a feeling of force that relates to the reading of a line. We can sense the energy that the artist gave/gives, or did not give, in making his/her mark on the surface of the paper; and we also expend physical force/effort when as viewer we read the line (the drawing). For example, when looking at a simple small drawing, we can take it in at a glance; the eye barely moves, and we do not need to move our body in order to perceive it. However, with a large-scale and/or complex drawing there is more effort involved with reading it; the eye needs to move more, and we might even have to turn our body, or walk back and/or forth in order to be able to view the whole image.

According to the Jugendstil architect and designer August Endell different types of lines, i.e., thick or thin lines, long or short lines, are all directly related to the notion of tempo/rhythm. In his article 'Beauty of Form and the Decorative Arts', Endell created a table that explained in detail the information that could be read out of any given line according to its shape. For example, a thin straight line will appear to us as 'quicker' than it would if the same length of line was drawn a bit thicker; he writes:

Every quick motion gives us a certain feeling which we will call for the moment 'the feeling of speed'. The straight line awakes this feeling in us; it looks quick and the more so the longer it is. The width of the straight line, however ... has the effect of slowing it down. For a wide straight line requires more time for it to be appreciated than a narrow one, since it requires more perception. The straight line therefore appears faster or slower depending on whether it is narrow or broad.

The effect of direction is of a completely different nature. The vertically descending straight line (i.e. the straight line which we follow from the top downwards) has a light and effortless effect. The horizontal has a quiet strength, and the vertically ascending line gives the effect of strong exertion. The slanting positions, slanting downwards or upwards, offer intermediary nuances, so that we

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⁹¹ P Vergo, *The Music of Painting*, 2010, p 164.

⁹² Indeed, I used this notion of 'force' in the *performance sketches*... in 2009; e.g., one instruction for the violinist Marieke was to mirror the pressure I was putting on my drawing pencil with her violin bow, so that the harder I pushed on my pencil the more vigorously she would produce various sounding scratch tones on the violin.

have a continual table of characteristics stretching from a feeling of minimum effort to the strongest feeling of all. 93

Furthermore, in his 1987 study 'The effect of culture, environment, age and musical training on choices of visual metaphors for sound', Robert Walker demonstrated that "frequency was matched with vertical placement, amplitude with size, waveform with pattern, and duration with horizontal length."94 Indeed, the graphic notation study I myself carried out - which included showing 24 cards with various kinds of line(s) on them to 23 individual participants - demonstrated that elements of both Endell's observations and Walker's study remain relevant today when it comes to the metaphorical associations/interpretations that hold between a graphic image and a sound. For example, the interpretation of movement mentioned by Endell was a very common inclination amongst the participants in my study. "So it [the line] has become a sort of choreography for movements that make sounds,"95 was a remark from one of the participants when thinking about the 24 cards showing lines that we had just worked through. During another session, when a participant was shown one of the cards that had a single thick line floating in the middle of an otherwise white surface, he said: "I connect this with some very strong sound, where it is coming from depends on how I turn the card; here it is coming from above or underneath [vertical], and here from left or right [horizontal]."96 Then, generally, the length of a line would indicate the time element (this applied more to horizontal and diagonal lines than to vertical ones). If a line was placed high on the surface of the paper it could be interpreted as a higher-sounding pitch than when it was placed near the bottom of the paper (especially if there was a group of lines, then the higher ones were seen as higher in pitch than the lower ones). And a line was considered heavier, louder and/or slower when it was thicker (see fig. 31).

⁹³ A Endell, 'Beauty of Form and the Decorative Arts' in Art in Theory 1900-1990; An Anthology of Changing Ideas, C. Harrison & P. Wood, Blackwell Publishers Ltd., Oxford UK & Cambridge USA, 1992, p 64.

⁹⁴ R Walker, 'The effect of culture, environment, age and musical training on choices of visual metaphors for sound', *Perception & Psychophysics*, 42 (5), 1987, p 496.

⁹⁵ KS's participation in a graphic notation study made by the author, unpublished, 2011.

⁹⁶ KvP's participation in a graphic notation study made by the author, unpublished, 2011.



Three examples from the 24 line cards used in my study. The card on the far left was normally interpreted as a movement, from left to right, with an even length of sound (not too loud); the card in the middle was interpreted as a single loud sound, or a loud sounding cluster/chord; and the card to the right was generally seen as an indicator for a chord (triad).

6.1.3 a musical line, and a dot - Variations I(1958)

Dedicated to David Tudor, the graphic score *Variations I* was composed by Cage in January 1958. The score is meant to give various combinations of five lines and different sized dots. To employ indeterminacy in the piece, Cage drew the lines and dots on transparent sheets – six squares to be exact – which should then be superimposed on each other in order to produce the final notational view. He explains: "The 13 very small [points] are single sounds; the 7 small but larger ones are 2 sounds; the 3 of greater size are 3 sounds; the 4 largest 4 or more sounds ... The 5 lines are: lowest frequency, simplest overtone structure, greatest amplitude, least duration, and earliest occurrence within a decided upon time. Perpendiculars from points to lines give distances to the measured or simply observed." Thus, the distance between the lines and the points should indicate parameters such as frequency and amplitude, as well as when a sound should start and how long it should last.

When looking at the main sheet, the one with the different sized dots, the instructions fall comfortably in the range of general associations I experienced within my own graphic notation study – for the musicians that participated in it, it was normal for them either to increase the dynamics of a given dot if it was larger than the previous one, or indeed, as Cage instructed, to play more sounds as the dot gets bigger.

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⁹⁷ J Cage 'Variations I', Hemner Press Inc., New York, 1960.

Since the lines in *Variations I* are not to be read as individual elements, however, it is not possible to make associations between them and the results of my graphic notation study, or with the conclusions of Walker or Endell either, for that matter. Cage is using them merely as measuring tools – by covering the dotted transparent sheet with a sheet with lines on it, he provided a system for calculating specific elements in the performance of the work, such as pitch, dynamics, duration and position of a particular sound or sounds.

Despite the simplistic first impression of Cage's score, on closer examination we can see that it is indeed 'a score which deals with the unique interpenetration of all aspects of the sound event, since a different spatial arrangement of points to lines would bring about a different combination of characteristics, '98 as composer Michael Nyman explains.

6.1.4 the sound, as it actually is

In my graphic notation and sound drawing practice it is not only a question of what I think a line is, it is not only about what it could represent or become, it is also about what it actually *is*, in both its visual and its audible properties.

I want to find sounds in the materials around me and to see how they exist as themselves, as well as explore how they could/would change when introduced into a foreign sonic environment. This is just what I did in the *performance sketches*... - I took the pure sound of the pencil and introduced it into the rich musical environment created by Marieke and Frederik. And by doing this we were able to experience how its character was transformed by the interaction with the musical instruments. It went from being an everyday drawing implement to become a musical instrument.

Out of my research (see 5.2.1) and studio exercises grew a series of works I titled ...in search of sound(s) (2010), which consists of eleven black and white drawings, and Soundtracks (2010), consisting of eight large-scale, also black and white, drawings. With the ...in search of sound(s) drawings, I was working in more or less the same way as I had in performance sketches... However, instead of drawing on multiple sheets of papers (size A4), I now kept working on the same surface (58 x 58 cm, or 74 x 74 cm) over a longer period of time. I changed from thinking of my drawings as a horizontal timeline, and

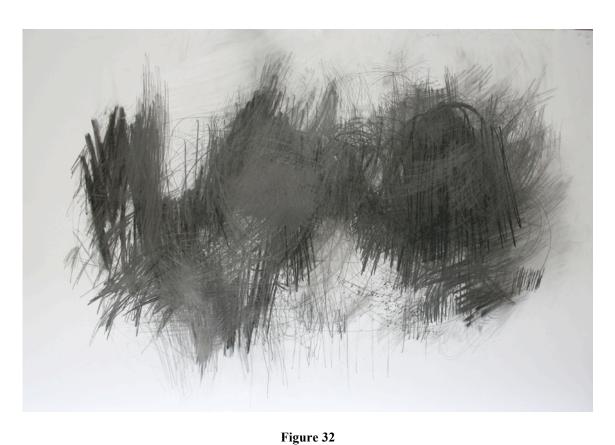
⁹⁸ M Nyman, *Experimental Music, Cage and Beyond*, Cambridge University Press, UK, (Second edition) 1999, p 66.

began to see them as going down into the surface of the paper (or building up on the surface of the paper). The result was a series of superimposed layers, which sometimes ended by covering the entire surface of the paper in grey and black-ish colouring. I continued with this way of working in the *Soundtracks* series, filling each sheet of paper with layer upon layer of sound drawings (see fig. 32). As the drawings were being created in my studio through the deliberate act of making sound, and *not* visual imagery, they began to represent an idea of a new sound world. Working with amplification as I drew on the paper that was laid out on an MDF plate, I began to make recordings. At that moment the only person who could hear the sounds was myself. However, I would soon start to introduce the sound drawing recordings into my soundscape compositions (see section 6.3 of the present chapter).

Instead of using a 'linear' motion, that is, reading the image from left to right (as we normally do when reading a musical score), I was beginning to move towards an inward, and overall, reading of the graphic score. All the sounds of the work were right there in front of me, floating in the space, floating in time, waiting to be heard again. I was reminded of Earle Brown's open-form compositions and graphic scores, and of his *December 1952* in particular; in that piece, the score is a frozen image of time, which the performer must transform back into space. Brown writes:

"... to have elements exist in space ... space as an infinitude of directions from an infinitude of points in space ... to work (compositionally and in performance) to right, left, back, forward, up, down, and all points between ... the score [being] a picture of this space at one instant, which must always be considered as unreal and/or transitory...a performer must set this all in motion (time), which is to say, realize that it is in motion and step into it ... either sit and let it move or move through it at all speeds." ⁹⁹

⁹⁹ E Brown in *The New York School of Music and Visual Arts*, S Johnson (ed.), Routledge, NY - London, 2002, p 33.



Soundtracks / nr. 5
Pencil, graphite, charcoal and permanent marker on paper 100 x 150 cm

"The relationship between the written work which the musician reads and the music which he produces from having read it, is similar to the difference between language and thought. One could also put it another way: the language in which I think determines the kind of ideas which occur to me. Similarly: depending on the »notation« I use, the music will sound accordingly." (P. Kofroň)¹⁰⁰

6.2 A series of 31 sound drawings

After ...in search of sound(s) and Soundtracks, I began working on a larger body of work entitled 31 (sound)studies on paper, which as the name indicates is a series of work consisting of 31 drawings. Unlike the two previous drawing series, this time I kept in mind that these images could also be conceived as graphic scores. I had not considered this while making the two earlier series, because I felt that I was still developing a process – as such, these earlier images are the registration of a sound activity, they are 'frozen' music, and should not be further transformed into anything other than what they are.

I continued working in layers, superimposing one rhythmic structure on top of another so as to achieve a more complex composition (see fig. 33). However, unlike in the two earlier drawing series, I did not simply draw one layer directly on top of another; this time, I would either more or less erase the previous layer so that its markings became softer (sometimes till only the white indentation marks in the paper were left where the drawing had been), or I would apply a semi-transparent layer of white acrylic paint over an existing layer so as to dampen its visual presence. In doing this I wanted to emphasize the element of time within the work. The bottom layer was less visible than the top layer. This relationship was directly linked to the music I envisioned for each work, to the links I imagined were multiple. Thus, the mark that is nearer, and is therefore more visible, could sound closer (louder) than the mark that can barely be seen from under the layers of acrylic paint, charcoal and other markings. Or they could be sounded at the same time, but in different locations – one near and the other farther away. Or indeed, the bottom layer could be sounded first and the top layer last, if the interpretation focused instead on interpreting the material chronologically.

¹⁰⁰ P Kofroň in *Agon Orchestra: Graphic Scores and Concepts*, P. Kofroň & M. Smolka, Miracle 7, Votobia, SNH, Prague – Olomouc, 1996, p 7.



Figure 33
31 (sound)studies / nr.6 (detail)
Graphite, pencil, charcoal, pastel and acrylic on paper

There is also a feature in this drawing series that I took from the graphic score I had composed for *projection-reaction* (see chapter 4). In that score I had wanted to extend, and emphasize, a link between the graphic elements by using a soft monochromatic colour effect over the whole surface of the paper. I felt that this gave an extra layer of texture and atmosphere to the work; and it also gave a continuity to the sound experience, as now there was no break, no silence, no empty white space between one element and another. While working on *31* (*sound*)studies, I felt that this 'overall' notion/notation should be added to my graphic language – it could enhance the atmosphere within each work.

6.3 Soundscapes – an immersive environment

While making the *31 (sound)studies* I made numerous recordings during the creative process. These recordings made up a growing database of sound materials that I intended to use in soundscape compositions. I wanted to create sound works that could exist outside of the performance context; and this led me to compose sound drawing soundscapes. I prefer to use the term "soundscape" instead of composition in this case because my aim is to surround the spectator with the overall perceptual aspect of my sound drawings – I want to create an immersive environment where they can look at the visual works at the same time they are surrounded by the sound of their (the drawings) own making. Indeed, the recordings are in a sense like field recordings made within my studio walls – and with them I seek to create an idiosyncratic acoustic environment to have together with the visual experience.

As discussed earlier, in the sound drawings the musical layers were flattened down onto the surface, one on top of the other. With the soundscape compositions, I was seeking to separate them out again and project them back into space. I wanted to inject an experience of depth between the elements, and allow for Time to come between the layers. I wanted my musical compositions to sound the same way as I experience my drawings.

"... I see in front of me the surface of the drawing, the eye can roam free within the borders of the paper, but with no particular centre, no element is more important than the other – each mark has its own identity within the whole, and the whole work exists because of the build up of the individual pencil markings, single strokes of white paint, cluster of points..." (H. Agustsdottir)¹⁰¹

What interested me was that these sound drawings, when read as graphic scores, could each have their very own individual sound world – unlike traditional Western music, where the scores are the registration of generic instrumental sounds. I felt that the graphic scores each had their own sound world, and I wanted that world to be heard. Although they could, and would be performed by musicians, I also wanted them to present, literally, their very own music. In the soundscapes there is no subjective translation of the graphic language into musical/instrumental sounds – it is the intrinsic sounds of the graphic score that we hear; the sounds of its own making.

¹⁰¹ Quote from the author's notebook, April 2011.

When researching the various functions a musical score could have, I came across Alvin Lucier's piece *I Am Sitting in a Room* (1969). Here Lucier narrates a text and records it, then plays it back into the space and records it again, and then plays it back into the space and records it yet again. He continues this process until the resonance of the room has 'erased' his words. In terms of the way it treats the idea of the score, this composition process resembled the idea I had at the time concerning my sound drawings. Similar to my sound drawings, Lucier's initial score is the sounding of his voice as he narrates what he wants to say; i.e., the score does not exists until he pronounces the words he has chosen to say (just as my sound drawings do not exist until their inherent sounds have been produced). In his book *In the Blink of an Ear*, Seth Kim-Cohen writes: "the score is the founding document of *re*-creation; it does not precede the work, but follows from it; it is the descendent of a realization that claims it retrospectively as a precedent ... the score always arrives after the fact to dictate the fact." 102

In my work, without the aid of the audio recording, all that is left from the initial sound drawing process are the silent markings on the surface of the paper. These silent markings are now the 'document of re-creation', which are reconstructed within the spectator's mind, or through the interpretation of a musician. Despite following instructions and guidelines from the composer (me), the reconstruction of the drawings will always be subjective and at a distance from the original sound source. Therefore, I also wanted to create a more objective relationship with the soundscape compositions. Because the markings refer to the sounds of their own making, I decided to start recording the sounds so that I could use them as material for their very own musical compositions in the form of soundscapes. Since the sounds of my own drawing activities were at the centre of the creative process of these visual works I wanted to find a way to present their inherent audible quality with the visual imagery – and the conclusion was to compose soundscapes which could be played into the exhibition space with the drawings. In this way I could help the audience to get closer to the true nature of the works, as well as diminishing the gap of the subjective musical interpretations (especially when of the soundscape would be used in a musical performance of the sound drawings).

¹⁰² S Kim-Cohen, In the Blink of an Ear; Towards a non-cochlear sonic art, 2009, p 188.

6.3.1 *crox 352* - **soundscape** (2011) / micro and macrostructure

What I began to observe while working on the *31 (sound)studies* series was that the drawings never seem to me to look the same twice. Their material is the same, for sure; however it is as if they continued to evolve, even when supposedly "finished", transforming before my very eyes, and allowing me to have a different experience of them each time I look at them. The difference in light, difference in location, and even in the environmental sounds - all these elements affect the way I see/read the works.

From my recordings of the sounds of myself working on the 31 (sound)studies series, I selected the material I would use in the soundscape composition, which could/would be played into the exhibition space where the drawings would be shown. Now the question was, how could I have the soundscape project produce the same (a similar) experience as the drawings? How could I have it evolve over time in the listener's perception, even as the audio material stayed the same? To achieve this result, I have made my musical material more flexible; i.e., by combining various lengths of repeated loops, the structure is in one sense always the same, but there is also an element of change to it.

Cage's work became a source of inspiration (again), this time as I looked at how he had used micro/macrocosmic structures to compose his *Sonatas and Interludes*. Here Cage based his methodology on fractal (geometrical patterns) and mathematical rules where local elements (micro structures) reflect the overall form of the composition (macrostructure). However, not wanting to copy Cage's method directly, and adopting it instead to my own methodology, I decided to have more flexibility in the structures I used, i.e., the loops that made up the material of the microstructure would not necessarily have to mirror the overall length or form of the macrostructure.

The microstructures consist of a selection of shorter loops (ca. two to forty second long) that are used as building blocks to create the macrostructure, which can stretch from being anywhere between five and thirty minutes long. For the composition process, I use the audio software AudioMulch; here I can mix and record as many of the small loops as I want. I select a minimum of four short loops with varied sound material – ranging from strong rhythmic motifs to the continuous sound of a single line or a dense scratching sound. After choosing the loops, I begin to play them together – testing the order, stopping them and starting them again, to see how they match and mix together. Gradually I build up a fixed setting where each loop gets a different delay on their playback function. This can vary from no delay at all, up to one or one and a half minutes delay between playbacks

of an individual loop. When decision on all the settings has been made and I have determined how long I want the overall structure to be, I make a recording that will constitute the macrostructure of the piece I am working on.

Now, even though the macrostructures in the soundscape compositions are fixed in time, they are never presented on their own; i.e., one at a time. To achieve the 'changing' experience I talked about at the start of this section, I always mix at least two macrostructures together. To get the maximum amount of change in the sonic experience these two structures will be of different lengths, so that how the material mixes together is constantly changing while they are played in a continuous loop against one another.

For the *crox 352* – soundscape I composed two macrostructures of five and seven minutes in length respectively. These two recordings were then played into the space from two CD players so that for 35 minutes there would be a continuous shifting of sound combinations before they would line up to start another 35 minute circle.¹⁰³

6.4 *crox 352 - improvisation on a drawing*

"Musical graphics, diametrically opposed to precise instructions as they are, strive to stimulate without constricting the imagination." (E. Karkoschka) 104

The first performance by a musician of my sound drawings, which included several works from the 31 (sound)studies on paper series, occurred during an exhibition in the art space Croxhapox, in Ghent in February 2011. This was a solo concert with the violinist Marieke Berendsen. One of the reasons why I was keen on asking Marieke to work with me for this concert was because she had already some experience of the sound world behind the drawings; she had experienced it first hand during our collaboration on my performance sketches... project in 2009.

In preparation for the performance, I sent Marieke several images for her to study of works that would be in the exhibition, and explained in detail to her the creative process of the works (see 6.2). I outlined for her the way she should/could read rhythm and duration from the various line structures, how she could play with the element of depth which I

¹⁰³ The two tracks on the accompanying CD - [2] soundscapes (2011-2012) - are recordings of the mixing of the two macrostructures, each of which is just over 20 minutes long. Track I. is made in AudioMulch, and track II. is a recording made of the soundscape playing in the exhibition space.

¹⁰⁴ E Karkoschka, *Notation in New Music*, 1972, p 77.

sought to achieve through the superimposition of layers, and how it was important to take note of the overall texture and atmosphere in each drawing. What I asked Marieke to do in her live performance was to build up an underlying soundscape with her live electronics that represented her experience/interpretation of the overall musical ideas behind the sound drawings, and then on top of that to play various layers of improvisation on her violin based on elements in individual drawings in the exhibition.

It became clear that my sound drawings could indicate to her various rhythmic structures, duration (length of lines) and dynamics, as well as give a strong texture and atmospheric direction to her otherwise improvised playing. Indeed, there is a strong creative collaboration needed in performing any graphic score, and perhaps even more so with my sound drawings, which live somewhere between the category of visual artwork and graphic notation. For this reason I titled the first performance of my 31 (sound)studies 'improvisation on a drawing'.



Figure 34

Marieke Berendsen performing *improvisation on drawings* at Croxhapox, on February 13th 2011 in Ghent. Photograph by Marc De Clercq © 2011

"For me, one of the big differences of working with your drawings and other graphic scores that I have performed was the depth and the texture. Most of the graphic scores I have performed till now are really flat, there is only one layer on the paper, unlike what you are doing now in your sound drawings ... Also I found it interesting to perform your drawings because it is not their only function to be graphic scores; you have a musical feeling while creating them, but it also goes beyond the sole purpose of making a score ... In this way you have managed to get rid of some compositional clichés ... that was my experience when performing them." (M. Berendsen) 105

¹⁰⁵ M Berendsen, excerpt from a recorded conversation with the author, unpublished, March 2011.

Chapter 7

Drawing compositions

Cardew's Treatise - ComposedDRAWING - 15 rocks and a Line

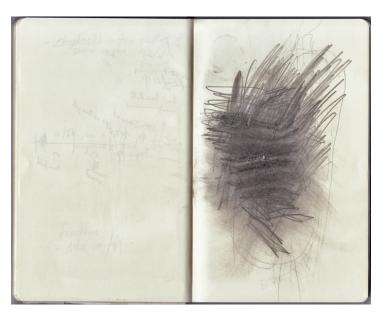


Figure 35Page from one of the author's notebooks.

"Isn't it wonderful if someone listens to something he is ordinarily supposed to look at?" (La Monte Young)¹⁰⁶

During the course of my research over the past four years, there has been one particular graphic score that has captured my interest even more than others, and this is Cornelius Cardew's composition, *Treatise*. Therefore, I would like to dedicate the first part of this chapter to discussing various features of this score that have influenced my own work in one way or another. In the central section of the chapter, I will discuss the first drawing composition I did early in 2011, and show how it developed into creating my own audiovisual sound drawing instrument, with the technical assistance of Belgian composer Paul Craenen and Norwegian artist HC Gilje. The last part of this chapter will discuss my

¹⁰⁶ La Monte Young in *Visible Deeds of Music; Art and Music from Wagner to Cage,* S. Shaw-Miller, 2002, p 226.

latest sound drawing compositions, *drawalineand* listen*toit*, and R=15, and the works that have inspired them.

7.1 TREATISE

"What I hope is that in playing this piece each musician will give of his own music – he will give it as his response to my music, which is the score itself." (C. Cardew)¹⁰⁷

Cardew started composing *Treatise* early in 1963, with the intention of producing "an elaborate scheme involving 67 elements, some musical, some graphic," so as to create "the fusion of two professions". ¹⁰⁸ Indeed, Cardew was strongly influenced in these choices by his work as a graphic designer at Aldus Books, who was his employer at the time he started working on the score:

"While there I came to be occupied more and more with designing diagrams and charts and in the course of this work I became aware of the potential eloquence of simple black lines in a diagram. Thin, thick, curving, broken, and then the varying tones of grey made up of equally spaced parallel lines, and then the type – numbers, words, short sentences like ornate, literary, art-nouveauish, visual interlopers in the purely graphic context of the diagram." ¹⁰⁹

The shapes and signs used by Cardew in *Treatise* are very basic – the circle, square, triangle, lines and ellipses – that were drawn up with the use of an underlying grid to create the graphic imagery. These strict geometric forms were then used in various shapes and sizes, and subjected to distortions and various levels of destruction. Except for the occasional modification, a single horizontal line runs through the whole score giving the performers something to "hold on to" while tackling the variety of graphic material floating around it. Cardew suggested this central line might be seen "as the life-line of the reader, his centre, around which all manner of activity takes place".¹¹⁰

¹⁰⁹ C Cardew in *Cornelius Cardew - a life unfinished*, J. Tilbury, COPULA, Matchless Recordings and Publishing, UK, 2008, p 228.

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¹⁰⁷ C Cardew, *TREATISE Handbook*, Edition Peters, London – Frankfurt – New York, 1971, p x.

¹⁰⁸ C Cardew, TREATISE Handbook, 1971, p i.

¹¹⁰ C Cardew, TREATISE Handbook, 1971, p x.

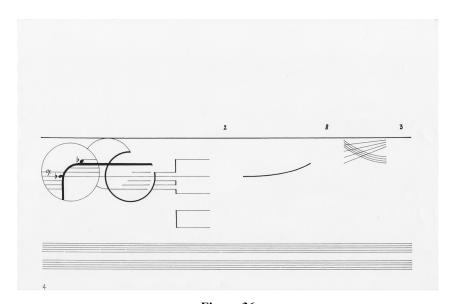


Figure 36Page 4 from Cardew's graphic score *Treatise*.

In his book *Cornelius Cardew - a life unfinished*, pianist and AMM member John Tilbury writes that: "In *Treatise* Cardew created a notation, which embodied his needs and aspirations at that time, freeing him from the cramping disability which, in the light of his own experience, the system of traditional notation seemed to impose on compositional thought." And in freeing himself from the traditional notation, Cardew invented a new language that did not have any instructions or indications as to how potential performers should interpret it. He himself writes: "Interpreter! Remember that no meaning is as yet attached to the symbols. They are however to be interpreted in the context of their role in the whole."

Indeed, consistency is important, as it is with any score, and in my own graphic scores and sound drawings, too. Once an action has been determined, it must be kept the same throughout the work, and adjusted in relation to its neighbouring features. As Cardew put it: "in Treatise a sign has to be *made* appropriate to its context". During a conversation I had with guitarist Keith Rowe, he described his experience concerning consistency when working with *Treatise*:

¹¹¹ J Tilbury, Cornelius Cardew - a life unfinished, 2008, p 234.

¹¹² C Cardew, TREATISE Handbook, 1971, p iv.

¹¹³ C Cardew, TREATISE Handbook, 1971, p iv.

... in *Treatise*, ... if you go back to the world of composition, that when you are playing a great work – if you are playing one section of the work you have to remember all the other sections, and the proportions, and the dynamics, and the approach of all the other sections, too. You can't just isolate one little bit and play it completely out of context to all the rest.

The idea is to get the architecture of the whole piece in place, and you always have that in your mind whenever you're playing the whole piece – and I think that's true of *Treatise*, that you always have to be remembering 34. You always have to remember the biggest blackest circles, you have to always remember the angles of the squares, and the big squares. So when you do something on page 45, you have to remember all the other square sections.

It is not possible to play a single page of *Treatise*, or a single part of *Treatise*, without regards to the whole – always remember the whole of the thing whenever you are performing it. And that's pretty impossible, but I think that should be the aim. ¹¹⁴

Taking the importance of consistency into account when performing the work underlines the fact that "the score must *govern* the music. It must have authority, and not merely be an arbitrary jumping-off point for improvisation, with no internal consistency". Indeed, as Rowe describes it so well: "In the end it is music – no matter how you grapple with it, how you deal with it, in the end you have to be prepared to place it next to a Shostakovich string quartet. In the end, it's the quality of the music that comes out from it, not how clever your interpretation was, or how oblique, etc... It's a difficult one, because it's not an improvisation piece – I know many improvisers look at it and improvise, and they feel that's ok; but for me, that was never the correct way of approaching it."

In some cases, the staff lines underneath the graphic notation have been considered irrelevant, or have perhaps simply been used as a space in which to notate traditionally the

¹¹⁴ K Rowe, excerpt from a recorded conversation with the author, unpublished, 2011, (p 185). To read full conversation, see Appendix, pp 178-187.

¹¹⁵ C Cardew, TREATISE Handbook, 1971, p iv.

¹¹⁶ K Rowe, excerpt from a recorded conversation with the author, 2011, p 184.

musical ideas the performer has associated with the graphical material on each page. But for Rowe, the sense of the staff lines was quite different: this was an important 'clue' from Cardew to say that, "it is music. Quite interesting, it's a hint, remember remember remember this is music, don't forget this is music. 'Cause ultimately, it is – in the end it is the same as a Haydn score, or a Mozart score, or a Beethoven score. One day it will be seen as exactly the same, only the notation is different."117

What fascinated Cardew was the challenge of creating a score that did not consist of signs that represented sounds, but that instead created situations in which the musicians, the performers, were invited to act out a sound. And this was what he did in *Treatise*: the graphic language does not depict specific sounds (except on very few occasions). Instead, the visuals are "there to inspire, even incite the performer in order to bring about music which does not yet exist" 118, as Tilbury puts it. And he continues: "Treatise cannot be circumscribed by purely musical references; *Treatise* invites us, irresistibly, to play, to sing – but also to dance ... to perform, to act, to move; ultimately, to self-invent". 119 Indeed, in my conversation with Rowe he had this to say:

It does encourage you to discover new things, which you wouldn't have done otherwise. For example, sometimes what I would do for a page would be to approach the page as gesture. So it would suggest that you move your hands in a certain way ...

A sort of choreography?

Exactly! So you would move your hand this way, or that way. Then you'd pick up a long object, utilize it in a way which made sense given the score - then a round object, a round stone, or a circular object, or a heavy object, or a light object, and actually manoeuvre it around the surface of the guitar strings, vis-a-vis the actual indications on the score.

¹¹⁷ K Rowe, excerpt from a recorded conversation with the author, 2011, p 182.

¹¹⁸ J Tilbury, Cornelius Cardew - a life unfinished, 2008, p 242.

¹¹⁹ J Tilbury, Cornelius Cardew - a life unfinished, 2008, p 248.

And there were times – I remember once in America that we did a performance with students. We just got into a car and used the score as a map.¹²⁰

7.1.1 Dividing *Treatise* into 7 sections

In his book *Experimental Music, Cage and Beyond*, composer Michael Nyman writes that: "the identity of a composition is of paramount importance to Boulez and Stockhausen, as to all composers of the post-Renaissance tradition". However, one starts to wonder if this relates to the composition as it is *sounding*, or as it is *written* – or perhaps both? Indeed, with the indeterminacy of more openly-interpreted experimental compositions, the *sounding* of the work could no longer function as the work's 'identity', for it would sound very differently every time it was performed. The only fixed feature of an indeterminate work is the (graphic) score. Nyman goes on to explain: "With a score like Cardew's *Treatise* ... aural recognisability is both impossible and irrelevant, since the (non-musical) graphic symbols it contains have no meaning attached to them but 'are to be interpreted in the context of their role in the whole'." 121

So, the only possible way to analyse a score like *Treatise* is by examining its visual appearance. According to Tilbury, the topography of *Treatise* is constituted by elements that belong to four categories: (1) abstract shapes (e.g. circles, squares, triangle); (2) signs 'borrowed' from traditional notation; (3) numbers; and lastly, (4) the horizontal line that divides the page into two equal parts. There is also a (hierarchical) pattern in the way Cardew distributed the graphic elements from these four categories throughout the length of the score; i.e. one symbol/shape may have a dominant role within one section of the score, but then take second place to another symbol/shape during other sections. Tilbury writes: "I have broken *Treatise* down into eight sections on the basis of the frequency, scope and visual presence of the particular symbols which characterize them: Section 1: pages 1-19. Section 2: 20-44. Section 3: 45-88. Section 4: 89-126. Section 5: 127-144. Section 6: 145-164. Section 7: 165-178. Section 8: 179-193." 122

129

¹²⁰ K Rowe, excerpt from a recorded conversation with the author, 2011, p 186.

¹²¹ M Nyman, *Experimental Music, Cage and Beyond*, 1999, p 9-10. With an additiona quote from Cardew within Nyman's quote taken from *TREATISE Handbook*, C. Cardew, 1971, p iv.

¹²² J Tilbury, Cornelius Cardew - a life unfinished, 2008, p 232.

However, given the relation to the work of Wittgenstein's *Tractatus* (which served as one of its key inspirations), it would seem tempting to take another look at the score and see if it might not be possible to divide *Treatise* into seven sections, just as there are seven propositions (sections) in the *Tractatus*. In that case, the last two and half pages of the score – with the 'empty' horizontal lines diminishing – would correspond to the seventh section of the *Tractatus*: "What we cannot speak about we must pass over in silence". Using Tilbury's eight sections as a basis, and taking note of the (hierarchical) pattern of the graphic imagery, I have revisited the score of *Treatise*, and would like to propose that the score can indeed be divided into seven sections corresponding to the sections of Wittgenstein's *Tractatus*. This analysis emphasizes the importance of the opening and closing propositions:

1. Die Welt is alles, was der Fall ist.

("The world is all that is the case.")

7. Wovon man nicht sprechen kann, darüber muss man schweigen.

("What we cannot speak about we must pass over in silence.")

The first and last propositions in Wittgenstein's *Tractatus* are considerably shorter than the other propositions, just as are Cardew's first and last sections in *Treatise* (according to my proposed division of the work). There also seems to be a strong visual reference to Wittgenstein's first proposition in the first six pages of Cardew's score For just as Wittgenstein starts with the statement that "The world is all that is the case", so Cardew opens his composition with the number "34", which is by far the largest number used in the entire score (the next highest number to appear is the number 10, which appears only once towards the end of section 6, in the middle of page 191). Just as Wittgenstein puts forth a bold claim, "The world is all that is the case", so Cardew makes his first 'proposition' by opening with the number 34. This is an opening to the work that lies ahead, it is an introduction. Rowe had this to say in relation to 34:

You've commented that one of the most important, or challenging, elements of Treatise comes at the very start, on the first page, the number 34.

That right. It's impossible to know what (the hell) that's supposed to mean [laughing]... I remember talking to Cornelius about it many times. I think John Tilbury and I often kick

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¹²³ L Wittgenstein, *Tractatus-Logico-Philosophicus*, trans. D. F. Pears & B. F. McGuinness, Routledge Classics – London & New York, 2008, p 89.

ourselves that we didn't ask him more closely what was going on. But just thinking about Cornelius, and thinking about his attitude and the way he saw things, in a way I think it's like a gateway, an entrance.

One interpretation that Cornelius often did was to do something 34 times, which could take 20 minutes or something, so it was like a slowing down, a gateway. Before you enter this territory you should 'stop', and reflect on what you are about to do, don't rush into it. You don't dismiss 34 very quickly. Maybe you should take a long time.

So I think it was in a way a warning, like a road sign, a warning sign for what is coming up...

Indeed, another 192 pages are about to follow...

That's right [laughing]¹²⁴

The opening with "34" is followed by six pages of an elegant circular design, indicating a form of overture or introduction to the work, which ends on page 6 where a cluster of horizontal lines introduces the start of the following section. The seventh section in *Treatise*, meanwhile, starts in the middle of page 191, where the central horizontal 'life line' ends on the second highest number (10) indicated in the score. Then two thinner horizontal lines situated above and below continue on to form delicate loops that run into a design of two parallel empty staff lines, which in musical terms would be seen as emptiness – there is nothing written on the staff. The music has been silenced.

This last section of *Treatise* – the empty staff lines coming out of the loops on page 191 – fits very well with the seventh proposition in Wittgenstein's *Tractatus*. For as Peter Caws writes: "*Schweigen* ('be silent') has ... in conjunction with *darüber*, also some additional overtones. One of the overtones is musical: *schweigen* as used of a musical performance is to end or to cease: it stands for the falling-silent at the conclusion of a work – for completion, for satisfaction, also perhaps for regret." Therefore, bearing all this in mind, as well as the overall impression given by scanning the visual imagery of the full score, I would like to suggest that Cardew's score can be divided into the following

¹²⁴ K Rowe, excerpt from a recorded conversation with the author, 2011, p 184-185.

¹²⁵ P Caws, 'TRACTATUS 7.1: Translation and Silence', *Philosophy Now*, issue 53, viewed in August 2012, http://philosophynow.org/issues/58/Tractatus 71 Translation and Silence>.

sections: (1) pages 1-6, an introduction to the work, with focus on circular and curves shapes and forms; (2) 7-44, with its strong focus on the line; (3) 45-88; (4) 89-110; (5) 111-144, the only section with black circular shapes, which reaches a beautiful 'climax' on page 133; (6) 145-191, which has the greatest development of distorted shapes; and (7) 191-193, silence.

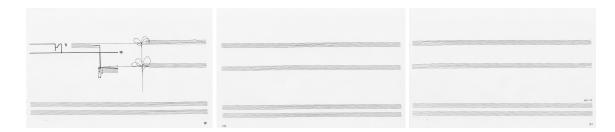


Figure 37

The three last pages of *Treatise*, which I suggest should be considered the seventh and final section of the composition.

You talked once about approaching Treatise as a kind of landscape. Could you elaborate a bit further on what you meant by that?

Yes, for example, if you would take three artists, three painters and put them in the same landscape, they would each end up with a very different image, depending who the artists are. And in a sense, what you do with something like *Treatise* is, it's what you do in a landscape, which is that when you look at the landscape, you pull down in front of you your own predilections, your own way of seeing. It's like a grid, or a filter. So you look through the filter with your own ideas – and I think with *Treatise* the idea was to pull down in front of *Treatise* your own filter on how you would see it. What results from that is your version of what's there. Actually, I never believed one should interpret *Treatise*, but that you should articulate it. The difference being that with interpretation you attempt to follow what the composer wants you to do, the intention of the composer. If you articulate it, then you don't think about what the composer wants, you see it through what you want to do. Therefore I think you need to look at *Treatise* in a highly specific way, which is your own.

Part of the original thinking for Cornelius was something which he got from Wittgenstein, was this idea, which goes back to a landscape, in a way, that idea of when you see a tree, in different cultures we produce a different sound in response to that fact, of the tree. This is very much like *Treatise*, that when we see a circle, for example, we each make our different sound-response to that circle, which is a part of what Wittgenstein was saying.¹²⁶

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¹²⁶ K Rowe, excerpt from a recorded conversation with the author, 2011, p 183.

7.2 composedDRAWING #1

My encounter with *Treatise*, and learning how it could not only be read as a score of musical codes, but could also be seen as a form of choreography that indicated gestures and actions that would produce sound, encouraged the development of my own sound drawing practice. By combining the idea I had gotten from Rudolf Pfenninger's *Audible Handwriting* (see 4.2 in chapter 4) with the openness of interpretation of Cardew's *Treatise*, I began to wonder what was the 'sound' of *Treatise* itself? How had it sounded when Cardew was drawing up the score? And could not that sound, and the act of drawing that produced it, be seen as a performance in itself? It was during a residency at Q-02, the Belgian-based workspace for experimental music and sound art in Brussels, in April 2011 that I began to work on my drawing compositions. Indeed my main objective for this residency was to start working on a solo sound drawing performance, and for that I needed a composition. The work that originated during the residency was entitled *composedDRAWING #1*. 127

When reflecting on what direction to take for the performance/composition composedDRAWING #1, I thought back to some of my very first attempts at recording/registering the sounds of my drawing materials, for which I had used the video medium. Indeed, back in 2006 I had made some early video works paper being moved around and crumpled, and of drops of paint falling onto a specially prepared canvas, and this gave me an idea of using video recordings in my solo performance. By projecting prerecorded videos, I could create extra layers of sound and image on top of my amplified and projected sound drawing. Having decided to work only with pencil for this work, I began to make recordings of various drawing actions: short lines, long lines, simple lines, irregular lines, slow lines, fast lines, single line, repeated lines, and so on and so forth. Then I started to work the recorded material together in much the same way as I had done in my previous instrumental video compositions (e.g., de(re)construction, see chapter 4). This time, I kept to a simple editing structure based on superimposition, without playing around with the speed of the recordings, or reversing the playback.

¹²⁷ The full score of this work can be seen in the portfolio accompanying this thesis.

Thus, the material I gave myself to work with was:

The Line: long – short – vertical – horizontal – diagonal

The Point: single – multiple

The Plane: little – large – closed (filled) – open (scattered)

Time: long duration (repetition, slow movement) –

short duration (single action, fast repetitions)

I was also thinking about a possible dialogue between the sound, the image, and the movement. For this I had the following compositional possibilities:

sound plus (+) image

sound minus (-) image

and/or image minus (-) sound

Indeed, when working with video projection, I could use the properties of the projected image as an additional feature of the composition. By situating the camera viewpoint somewhat inside my drawing space, it would be possible for me to draw and produce sound without being seen, i.e. outside of the visible frame. Thus at a certain point the spectator might no longer see what I was doing, but they could still hear me (i.e., **sound** *minus* (-) **image**). I also deliberately chose to produce some material where the image changes, but there is no sound accompanying it (**image** *minus* (-) **sound**) – this gives the visual part of the composition its own independent 'voice', so that it is not there only to 'illustrate' the sound.

For this composition I thought I would also try out on myself the idea I had had in *projection-reaction*, where I had asked the performer, Marieke, to react to the projected image of herself. Now it was my turn to follow my own (recorded) drawing actions during a live performance. At first I thought that I would synchronize the live performance to the video composition, i.e., that I would do exactly the same actions as were in the video, thus treating the video as my score to be followed as closely as possible. However, since it would have taken an extremely long time to learn the work by looking at it in video form, I eventually decided to use a mix of synchronization of live sound to recorded image and improvised interaction. Since then I have made a timeline 128, giving basic guidelines to the

¹²⁸ See with full score of *composedDRAWING #1* in the portfolio accompanying this thesis.

actions in the video composition, which should help raise the level of synchronization in future performances.

7.2.1 video projection tool - VPT

After my residency at Q-02, I had the opportunity to continue working on my solo sound drawing performance during the workshop "Projection on forms and spaces" at iMAL, a centre for digital cultures and technology in Brussels (also in April 2011). The workshop was conducted by the Norwegian artist HC Gilje, and was focused around the open source video projection tool – VPT – that he has designed.

With the help of HC's software, I was able to start manipulating/building up my performance in real-time, unlike the work I had done at Q-02, where I had been working with a pre-composed video composition. Indeed, HC's video projection software would enable me to record and play back in real-time both the audio and the image of my sound drawing. By designing a patch for me inside Max/MSP and linking it to his software, HC made it possible for me to manually record and play back the files. Thus at last, an idea that I had originally had three years earlier when working on *projection-reaction*, began to come together. At last, the video projection/composition would be constructed *during* the performance, in real-time.

HC's Max/MSP patch enabled me to record live five different video files together with their sound, and I could then play these back manually, with a choice of basic effects (such as looping and/or palindrome) that worked simultaneously on the video and the audio channels. However, the fact that all the functions had to be controlled manually made the fluency of the actual drawing action/performance more constrained that I would have like. I had to adjust my otherwise continuous drawing process so that I could combine the act of drawing and the act of working the sound and video files in the computer. In order to create a better overall structure for the performance I gave at the end of the workshop, which I entitled *composedDRAWING #2*, I therefore prepared three layers of audio and video beforehand. In that way, I could simply push play on one or all of them as I was drawing live – and that would leave me two layers (of sound and image) to record what I was doing in the moment. After a few minutes, I would then move over to the computer and start working with the pre-recorded audio and video files to build up an audiovisual soundscape for the spectators. I then finished by mixing in a layer of my live drawing act during the last few minutes.



 $\label{eq:Figure 38}$ View from the <code>compositionDRAWING #2</code> performance at iMAL - April 2011. Photographs by Marie-Laure Delaby © 2011

The results of this first experience of working with both loops and live performance struck me as too simple – too obvious. The image and the sound were not producing enough interaction, they were simply following one another. The quality of the sound recording inside the VPT software was not as good as I would have liked (not surprisingly, since the software was designed for video projection). Also, I was not entirely satisfied with having physically to divide my time between the computer and the live drawing. Therefore, even though I had had the opportunity to experiment with these new dimensions of my sound drawing performance, I was still looking for something else – something more elaborate, and doubtless custom-made, that would fit with my idiosyncratic sound drawing practice.

7.3 VPT + Plogue Bidule = audiovisual sound drawing instrument

After letting the experiences of *composedDRAWING #1* and #2 roll around in my mind for a few months, at the beginning of September 2011 I resumed my experimental music lessons with Belgian composer Paul Craenen at the Music Academy in Oud-Heverlee, which I had started to attend a year earlier. It would be during the following months at Paul's class that he would help me develop my ideas for the solo sound drawing performance project further. It was here that the notion of giving full control over both the sound and video output to my drawing actions started.

When comparing the experiences that I had had with *composedDRAWING #1* at Q-O2, and *composedDRAWING #2* at iMAL, I felt that I definitely wanted to go in the direction of working with live video and audio recordings (as I had at iMAL), rather than pre-recorded and composed video projections. However, I also wanted the same variety of visual

output, and the flexibility in my drawing activity, that I had had while working with the video composition in *composedDRAWING #1*, and that I felt I did not yet have in the live performance at iMAL. With the technical help of HC and Paul, the 'perfect' mix of sound and video interaction eventually became possible. By being able to control HC's video projection tool, VPT, through midi signals from custom-built "timegate" patches (see fig.39) designed by Paul in the audio software Plogue Bidule, I was finally able to get the result I was longing for.

When making the design of the "timegates" for my new audiovisual sound drawing instrument, Paul took into consideration the main 'characteristics' of my sound drawings, and the *process* that lay behind them. This came down to the basic distinctions between loud and soft actions, and between long and short ones (see list on page 10). Therefore he started out with the idea of designing timegates that were divided into "loud recording / soft playback" or "soft recording / loud playback", and within each timegate I could then control the functions of "short" or "long" actions.

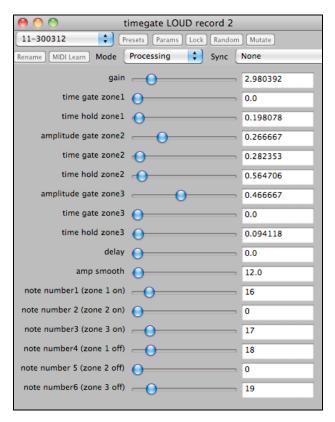


Figure 39

Example of a Plogue Bidule "timegate" - designed by Paul Craenen.

Figure 5 shows an example of a "timegate". As we can see, within each timegate there are three zones, however, I work only with zones 1 and 3. Each zone was designed to have a

parameter of amplitude, e.g., zone 1=soft, zone 2 = medium, and zone 3 = loud. But it turned out that to have enough leeway between soft and loud amplitude, I would have to keep zone 2 neutralized, otherwise it would simply be too close in amplitude to the other two zones, and so would tend to get triggered at the same time as one of the other ones, thus obviating the aim for it to have a separate function. Instead, zone 2 was simply repeating, mirroring what the others were already doing. Therefore, I work now only with two of the three zones inside each timegate. One zone is set to trigger the start of a recording, and the other zone will start the playback – and I can choose for each timegate whether a loud action or a soft one (terms which relate to the pressure that is applied upon the drawing surface) triggers a playback or a recording. I can have multiple timegates within one patch, so that I have more than one layer of audio (and video) interacting with the live drawing action. Indeed, by having more than one timegate, the same action can trigger a recording in one timegate and a playback in another.

The compositional differences inside each timegate are made up of the setting of the "gain" – the amplitude – and the "time gate zone" and the "time hold zone" (see fig.39). The "gain" simply determines how soft and how loud I have to go in order to get a reaction from each zone. The "time gate zone" controls the reaction time, how quickly a function is triggered; i.e., if I want a playback or a recording to start right away, the setting is 0.0 – and if I want a slight delay on the playback or recording, I increase the number accordingly. The "time hold zone" controls how long I would like a recorded file to become, 0.5 sec, or 1 sec or 5 sec, for example. The same goes for the playback file.

The time gate zones each have a specific midi note assigned to them, which I use to send signals to VPT. Through a router inside VPT (see fig.40) I can assign a midi note coming from Plogue Bidule to a specific function – a recording function or a playback function. The video files that are recorded during the live performance are saved within a specific folder inside VPT – and at the same time as I assign the playback function to a midi note in the VPT router, I can also decide whether or not the playback function will trigger the last recorded video file, or will choose at random one of the other files previously recorded during the performance from the video file folder.

I have, so far, settled on using three superimposed layers of video footage. Two layers are controlled by MIDI, and for these I can trigger the playback of either a randomly chosen video file, or the last one recorded, through my sound drawing activity. The third layer is the video projection of the live drawing. In the audio, too, I am working with two to three

"timegates" within each patch, with an additional "timegate" that plays in the background. The reason for not using more layers, or timegates, is determined by the processing capacity of my computer. At the moment I am running both audio and video software from one and the same computer, and this means that there is a 'natural' limit to how much work I can give it before the whole system breaks down.



Figure 40

Snapshot from a router setting in VPT showing midi note 17 (on the left) being assigned to "liverec", and midi notes 16 and 21 for playback of randomly chosen video files.

I find the video playback interaction I can now achieve within VPT very interesting. It differs considerably from the pre-recorded video composition in *composedDRAWING #1* where the sequence of the material was fixed in a closed structure. As I already mentioned, I can choose between different settings. I can playback the 'last' recorded video file, or have the software select at 'random' one of the video files that have been recorded during the performance of the piece. When using the 'last recorded video file' setting, the visual result becomes quite predictable after a short while. The image always seems to be running after the live action, like a ghost that follows my act, and this does not give me many options as to how I interact with it. However, when I use the 'random' setting, the interaction becomes much more intriguing and a new dynamic quickly evolves, injecting a new element of 'play' into the work.

When using the 'random' setting, no two performances will ever be the same, and this fascinates me. Even if I keep all the other settings in VPT and the Bidule patch the same, I will have a new version of the performance each time, a new interaction with the sound and the visual imagery. This I find very appealing. The drawing compositions thus become like my sound drawings, in the respect that even though they are always the same, it is possible to have a new experience of them each time you see them, depending on the environment, and on the path along which your eye travels as it moves over the surface of the paper.

Now my compositional process is focused on the design of the "timegate" patch for each new work that I create. The parameters that I set myself inside each patch control the characteristic of my drawing actions, determining what gesture I have to make in order to trigger a specific reaction from the audiovisual sound drawing instrument. Before bringing this chapter to a conclusion, I would like to give an example of two new drawing compositions that were specially composed for my new instrument. These are the works drawalineand listentoit and R=15.

7.4 drawalineandlistentoit

When my new sound drawing instrument was finally becoming a reality, I wanted to compose a series of works that would reflect on all the theoretical and historical research that lay behind it. I thought to make several compositions each of which would be inspired/influenced by an idea/theory, or a work, by a different artist or composer from the history of visual music and experimental music. The first piece in this series is entitled points becoming plane (2012), and is inspired by the writings of Kandinsky in his book Points and Lines to Planes. However, I am still working on the design of the patch for this composition, and therefore I am not including it in my thesis. It was the composer La Monte Young who influenced the next piece that I made, drawalineandlistentoit (2012) – more specifically, one of the works in his Composition 1960 series.

Dedicated to the artist Robert (Bob) Morris, *Composition 1960 #10* by Young consists of the 'simple' instruction: "Draw a straight line and follow it". With this degree of indeterminacy, any performance of the work would effectively incorporate the act of composing the piece, the performer creating a new score each time, by making a line of his/her own choice, and then performing the (re)written score by following the line on it. Nam June Paik did a performance of Young's work in 1962 during the first international Fluxus festival in Wiesbaden, where he not only recomposed this piece, but also renamed it *Zen for Head* – by dipping the top of his head into a bucket full of paint and then dragging his head down a long sheet of paper placed on the floor, thus making a line with his head at the same time he was following it with his body.

7.4.1 "Draw a straight line and follow it"

"My 'Composition 1960 No.10' consists of a straight line drawn on a piece of paper. It is to be performed and comes with no instructions. The night I met Jackson MacLow we went down to my apartment and he read some of his poems for us. Later when he was going home, he said he'd write out directions to get to his place so we could come and visit him sometime. He happened to pick up 'Composition No.9' and said, "Can I write it here?" I said, "No, wait, that's a piece. Don't write on that." He said, "Whadaya mean a piece? That's just a line." 129

Indeed, "Draw a straight line and follow it", "build a fire", and "release a butterfly into a room", are some of the instructions given by Young in his Compositions 1960 series, while yet another one challenges the performer to push a piano through a wall. When discussing his Composition #10, Young said: "I felt that a line was one of the more sparse, singular expressions of oneness, although it is certainly not the final expression. Somebody might choose a point. However, the line was interesting because it was continuous – it existed in time. A line is a potential of existing in time. In graphs and scores one designates time as one dimension. Nonetheless, the actual drawing of the line did involve time and it did involve a singular event – 'Draw a straight line and follow it.'" And this was one of the reasons I was interested in creating a work inspired by Young's straight line. For it is a continuous motion, it exists in time, and with my instrument I could make my own version of it – I could both project it into space, and translate it into sound.

In 1961 Young continued working with the notion of a 'singular event' by writing the same composition over and over again, twenty-nine times, each time changing only the date on the score. So all the scores said: "Draw a straight line and follow it". This was a repetition of his *Composition 1960 #10*, which he would perform by sighting with a plumb line and then drawing a line along the floor with chalk. Other versions of the piece could include all sorts of lines – Nyman writes: "like street-dividing lines, ruled paper or score

¹³⁰ L M Young in *On Line; Drawing Through the Twentieth Century*, C. De Zegher & C. H. Butler, The Museum of Modern Art, New York, 2010, p 177.

 $^{^{129}}$ L M Young in New Directions in Music, D. H. Cope, Wm C. Brown Company Publishers – United States, Fourth edition, 1984, p 310.

lines, lines on sport fields, lines on gaming tables, lines ruled by children on sidewalks, etc". 131

So why not also a sounding line, a sound drawing line? To start with, I made a simple play on words - drawalineandlistentoit, fitted perfectly into my new sound drawing performance practice. And the composition is just that simple: I draw a line and *listen* to it. Instead of following the line, as Young asks, I want the performer to *listen* to a line – with no preference as to whether it is a straight line, or a crooked line, a vertical line or a horizontal line, a short line or a long line. Just as in Young's composition, the only instructions I give are "draw a line and *listen* to it" Any further interpretation is at the discretion of the performer, such as, how many lines to draw during one performance? A single drawing or a cluster of drawings? In the drawalineandlistentoit demo video that is on the DVD [4] accompanying this thesis, I chose to do the repeated action of drawing a horizontal line with an H4 grade pencil. In this performance of the piece, an extra layer appears through the projected video images. The video projection consists of three superimposed layers – two that are controlled by the act of drawing, and one with a direct live feed. Just as I have explained in section 7.3 of this chapter, a loud/hard action can trigger either the recording of a video or the playback of a video file in one of the layers and at the same time it can trigger either a recording or a playback in one of the audio timegates. A soft action can then trigger a playback in the other video layer, and either a recording or a playback in a second timegate as well. With this setup, I create an interaction between my sounds, so that they guide my drawing action as I listen to the line that I am drawing.

7.5 R=15 (2012)

The third in my series of compositions for my new audiovisual sound drawing instrument is R=15. This piece was inspired by the *Ryoanji* works by John Cage. I found these works especially interesting because the title *Ryoanji* refers back both to a series of graphic scores, and to a series of visual artworks, which took the form of prints and drawings. I will discuss my own work further at the end of this section. However, I would first like to give a brief insight into the *Ryoanji* art works and compositions.

¹³¹ M Nyman, Experimental Music, Cage and Beyond, 1999, p 83.

¹³² The full score can be seen in the portfolio accompanying this thesis.

"It seemed to me that to be able to engrave required a certain calmness, and it's that calmness that I've been, one way or another, approaching in my music and writing and so forth. And then, it became physical, you see, with the engraving tool." 133

7.5.1 Cage, the artist - "A sober and quiet mind" 134

Returning to the visual arts late in his life, Cage looked upon the working process as a means to obtain "a sober and quiet mind" – a phrase he had so often used in relation to his musical theory. It was in 1978 that Cage started working on a regular basis as a visual artist after he was invited by Kathan Brown to come and work at the print workshop at Crown Point Press in San Francisco. In the first five years he was busy with series of etchings, engravings, drypoint and aquatint. Starting in 1983, he also expanded his printing method to include drawings and watercolours.

Cage's way of working with printing was much the same as the way he made his music. He would use the same system based on the use of the *I Ching* chance operations, whatever the medium he was working with. And his musical way of working also translated over into the actual production process, where he would simply 'replace' the musicians with assistant printers. Cage would present the printers with scores to execute, in order to produce the final printed image. He explains: "In moving from music to graphic work, I took with me the social habits of musicians, hmm? The division of labor, so to speak ... Composer to performer ... I composed the graphic work and he executed it, just as I would write a piece for a pianist and she would play it, or he would play it." 135

7.5.2 the *RYOANJI* works

Cage's so-called *Ryoanji* prints and drawings, inspired by the raked white sand-and-stone garden of the Ryoanji temple in Kyoto, consist of tracings around 15 different stones, corresponding to the 15 stones in the garden (the placement of the stones within the empty space of the white, raked sand can be seen as corresponding to Cage's ideas about music – the stones representing isolated sounds within the larger silent space of the white sand

¹³³ J Cage in *Every Day is a Good Day – The Visual Art of John Cage*, J. Miller (ed.), Baltic Centre for Contemporary Art and the John Cage Trust, Hayward Publishing, London, 2010, p 23.

¹³⁴ J Cage in *The Cambridge Companion to John Cage*, D. Nicholls (ed.), Cambridge University Press, 2002, p 49.

¹³⁵ J Cage in *MUSICAGE: John Cage in Conversation with Joan Retallack*, J. Retallack, Wesleyan University Press, 1996, p 93.

itself). The works were either printed or drawn on a single sheet of paper that had the same proportions as the garden itself (in fig.41 the print is full length but only one half of the width of the garden, whereas the print in fig.42 has both the full length and full width).



Figure 41

Where R=Ryoanji: R³ – 1983

Drypoint - by John Cage

With the prints Cage had to use specialised drawing or cutting tools to mark the etching plates, so while he did not have much choice, he would try to vary the pressure he used in cutting the printing plates – the harder he would push on his sharp drawing tool, the deeper indentation he would get, which in turn would result in a darker printed image. However, when he started working on his drawing series, he could also apply the *I Ching* to his choice of pencil. According to what instructions the *I Ching* would give him, he could use any of up to 17 different pencils of varying grades to trace around the stones (see fig.42).

Indeed, Cage would compose his drawings according to the instructions generated by the 64 *I Ching* hexagrams. He consulted the *I Ching* about which stone to use, which would depend on which one of the 64 hexagrams came up. The outcome of the hexagrams was also used to determine the placement of the stones on the paper, the number of tracings around each stone, and the number of pencils used when working on the drawings.

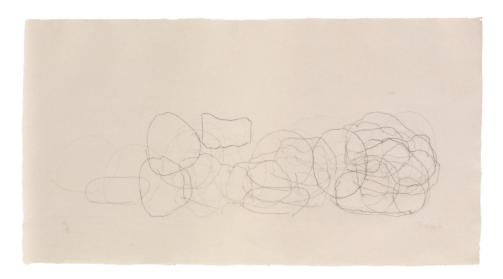


Figure 42

3R/17 (Where R=Ryoanji) - 1992
pencil on Japanese handmade paper
by John Cage

The title of each drawing refers to how many times he traced around the stones, e.g. 3R/17 indicates that Cage traced three times around fifteen stones, the R stands for Ryoanji and he used 17 pencils in the drawing, which could range from very hard to very soft grades.

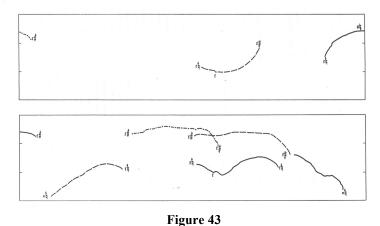
By leaving these choices up to chance, the elements of the artist's personality were left out, just as they were in his musical compositions. On the matter of working with chance operation, Cage explained in an interview with Joan Retallack: "If you work with chance operations, you're basically shifting from the responsibility to choose to the responsibility to ask. People frequently ask me if I'm faithful to the answers, or if I change them because I want to. I don't change them because I want to. When I find myself in the position of someone who *would* change something – at that point I don't change it. I change myself. It's for that reason I have said that instead of self-expression, I'm involved in self-alteration." ¹³⁶

Cage did not only make prints and drawings inspired by the Ryoanji stone garden in Kyoto, he also composed between 1983 and 1985 a series of graphic scores entitled *Ryoanji*. These graphic scores were composed using the same method as the prints and drawings just discussed, only this time instead of tracing full circles, Cage drew half-circle

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¹³⁶ J Cage in MUSICAGE: John Cage in Conversation with Joan Retallack, J. Retallack, 1996, p 139.

markings around the stones, thus creating pitch curves for the musicians to read. In an interview with Retallack Cage explains: "There [in the graphic work] I'm not dealing with time, so I can draw around the whole stone. Music is characterized by detail and by having to do things that work in time." Cage also stressed that when drawing the musical score he used curved lines that go "from left to right as music does. They don't go in a circle. Music doesn't go in a circle. The only way a circle could be expressed in music would be with two instruments, both of which went from left to right [one ascending, the other descending]." 137



Excerpt from *Ryoanji* – from the oboe part (1983)

It was in 1983 – around the same time Cage began making his *Ryoanji* drawing series – that the oboist Jame Ostryniec commissioned a piece from Cage which became the first of five in the *Ryoanji* graphic score series. This was a microtonal work, with percussion accompaniment. The idea was that the percussion part represented the white sand surrounding the 15 stones in the Kyoto garden, while the 15 stones were figured in the melodic line of the solo instrument. Just as the sand surrounds the stones and designates the borders of the garden, so the percussion should start and end the performance, maintaining a continuous soundfield around the solo part.

Between 1983 and 1985 Cage would add more solo parts to the composition –for voice, flute, double bass and trombone. These parts could either be played as solos, or they could be performed in any combination with the other four – and always with the percussion accompaniment (the percussion part was for an ensemble made up of any twenty instruments). Each solo part consists of eight songs (although the voice has one extra song

¹³⁷ J Cage in MUSICAGE: John Cage in Conversation with Joan Retallack, J. Retallack, 1996, p 242.

in its part), where each song is drawn over two pages consisting of two rectangular frames (see fig.43). Just as I described above, Cage would use the *I Ching* to choose where to make his tracings around a stone within the rectangular frames. In some cases, the curves that Cage drew overlapped, which made it impossible for a soloist to perform. The solution would then be to use a tape recorder, so that the soloist could play more than one voice at the same time.

In my own sound drawing composition $R=15^{138}$, I have looked for ways to combine aspects from both Cage's *Ryoanji* bodies of work. I use 15 stones in my work, just as Cage did – however, since I do not work with the *I Ching*, I myself pick the order of the stones randomly during each performance. And I allow the visual image that is building up in front of me as I trace around the stones to instigate where I should place the following stone on the sheet of paper. Again, since the *I Ching* is not a part of my personal methodology, I have simply fixed a set sequence of how many tracings to make around each stone, which is:

$$4-1-3-1-9-7-6$$

The performer should read this number sequence from left to right, but can choose to start either at the beginning (on 4), or somewhere in the middle, or at its end. Since there are fewer numbers in this sequence than there are stones (15), the performer will inevitably have to start again from the beginning after he/she has reached the final number (6). To each number in the sequence a specific pencil grade is assigned, e.g., 4 = 10H and 1 = HB etc. Just as when Cage prepared his *Ryoanji* print works, he would vary the strength with which he cut into the printing plates to get different visual effects, so, in the same manner, it is up to the discretion of each performer to alter the 'touch' of his/her drawing. The difference in the pressure applied to the pencils while drawing will determine whether the audiovisual sound drawing instrument makes a recording of a particular action, or a playback of a previously recorded audio and video file.

Cage used only half-circular tracings in his *Ryoanji* graphic score, since, for him, when read from left to right they carried with them the indications of a sound movement (a melodic line – or a change in pitch – either declining or ascending, depending of the direction of the curve). However, I felt that with my sound drawing composition, I could go back to the original drawings and prints made by Cage and draw full circles around the

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 $^{^{138}}$ Full score to R=15 can be seen in the portfolio accompanying this thesis.

stones, since it was these drawings that would produce their own inherent sound in the process.

As I remarked at the start of this section (7.4), what intrigued me about Cage's *Ryoanji* works was that by applying the same methodology to both music and visual art, he was able to create two distinct bodies of work. And indeed, he chose to keep them separate, and it did not seem to have crossed his mind to use the visual art works as graphic scores, nor to see the graphic scores as visual art. In an interview with Jean-Yves Bosseur, Cage responded to a question on this subject:

"You never integrated the two?

Only in the process of working: that is to say I've made etchings with stones, and I've made music with stones, but they're two different pieces." ¹³⁹

Even though Cage's graphic scores are frequently exhibited in museums and galleries, we must not forget, as David Sylvester pointed out in 1989, that "however beautiful [a score] may be to look at, it was not made as something to be looked at". ¹⁴⁰ Cage's visual art, on the other hand, has no purpose *other* than to be looked at.

In the case of my composition R=15, the two worlds of visual art and music meet in one single work. The sounds heard, and the drawing that is created, can both be seen as both visual and sound art. And the work is also a musical performance which culminates in the production of the score of its own making at the end of the piece. Indeed, when I have finished tracing around each of the 15 stones with the number of tracings indicated in my number sequence, the piece is finished, and all that is left of it is the pencil markings on the sheet of paper.

¹³⁹ J Cage in *Sound and the Visual Arts*, J-Y. Bosseur, trans. B. Holmes & P. Carrier, Dis Voir, Paris, 1993, p 126.

¹⁴⁰ D Sylvester in *The Cambridge Companion to John Cage*, D. Nicholls (ed.), Cambridge University Press, 2002, p 111.

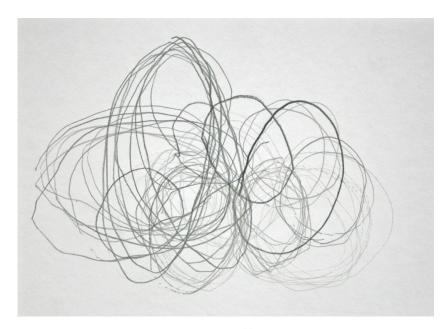


Figure 44 R=15 10:38pencil on paper 2012

7.5 Conclusion - keep the 'flow' going

"Everything is a conversation. We just start talking, unsure where we are going. Our starting points are altered by the process, and a final destination is not forthcoming and is hardly the point. What matters is the process of negotiation. Everything is a conversation, or as Heraclitus would have it, everything flows." (S. Kim-Cohen)¹⁴¹

Indeed, everything *is* a conversation – and Kim-Cohen's quote give a good 'picture' of my overall approach to my art practice. I place immense importance on the *process*, while the production of a fixed result – a "final destination" – is not the aim. The importance is to keep moving, to keep the 'flow' going.

Looking back to the start of this chapter, I found it fascinating when studying Cardew's *Treatise* how the work 'lived' in two worlds. It was created out of the mixing of Cardew the graphic designer and Cardew the composer. It is thus a representation of how expressive our visual language can be – touching on the findings of my research into

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¹⁴¹ S Kim-Cohen, *In the Blink of an Ear*, 2009, p xxiii.

synaesthesia, music to image associations, and the graphic notation study (see chapter 3). What was of crucial importance to my own sound drawing practice was that Cardew's score was not only supposed to represent sound codes, but could also be indicating activity, activity that resulted in some kind of sound production. Indeed, I began by making codes – graphic score compositions – that were to be interpreted as sound, but have ended up reversing the process, and now I make sounds that instigate physical activity – the movement of my hands as I draw marks on to a sheet of paper.

As my audiovisual instrument was beginning to take shape, I knew right away that I would like to do something with La Monte Young's *Composition 1960 #10* – its title and its instructions were just too inviting for my sound drawing practice: "Draw a straight line and follow it". At first I thought I would simply perform it. However, as the idea grew, I began to realize that the work was taking a new shape – the focus was no longer on the action of making a line, which might or might not result in some sort of sound production. I wanted to do something which made the work directly a part of my sound drawing practice, and I have therefore rearranged and changed the piece into, "Draw a line and *listen* to it". Indeed, much in the same way as Nam June Paik ended up creating a new piece (*Zen for Head*) when performing Young's work, so I have ended up doing the same. I wanted the focus to be on the act of *listening* to what you are doing, as opposed to Young's score, which strongly indicates that you must *look* at what you are doing.

Just as with *Treatise* and its 'two worlds', so I was immediately drawn to Cage's visual art works and graphic scores which all bore the same name, *Ryoanji*. Unlike Cardew's score, here were two distinct bodies of works, one belonging to the visual arts and the other to the world of music. But, they had both been created under the same conditions – Cage applied the same compositional methodology to his visual art as to his music. Despite the close creative relationship between these works, Cage did not consider that they might be classified under the same heading, as 'music'. When he worked on his drawings and prints he was making visual art, and when he was drawing his graphic scores he was composing music. I myself had respected this very same border in my early graphic scores and visual music paintings (see chapter 1). However, as my art practice has evolved to focus on sound drawing, my music has merged with it completely, and I do not anymore consider there to be a difference between the two disciplines with respect to my work.

This journey started in my studio some six years ago when I made my first *Sound Drawing* series (see chapter 5). Since then my art and music practice has slowly been evolving

towards this merger through many trials and errors, some of which have been described in the course of this thesis. Now, having reached the end of this text, I would like to give the final word to the artist who started me off on my journey into the combination and collaboration of sound and image in the first place:

"New principles do not fall from heaven, but are logically if indirectly connected with past and future. What is important to us is the momentary position of the principle and how best it can be used. It must not be employed forcibly. But if the artist tunes his [or her] soul to this note, the sound will ring in his [her] work of itself." (W. Kandinsky)¹⁴²

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¹⁴² W Kandinsky, Concerning the Spiritual in Art, 1977, p 52.

List of recordings on CD 1-3

CD 1

performance sketches... (2009)

I.	Concert recording on 10th November in Logos, Ghent, BE	26:44
II.	Rehearsal recording in October 2009, in Ghent, BE	28:03

Marieke Berendsen – violin Frederik Croene - piano démécanisé Hallveig Agustsdottir – amplified sound-drawing

CD 2

soundscapes (2011-2012)

I.	CROX 352	22:32
II.	CROX 352 (exhibition recording) *	26:53
III.	SOUNDs **	10:23

IV. Sound drawing performance at b-gallery, Brussels, Belgium 07:14

Hallveig Agustsdottir – amplified sound-drawing

CD 3

projection-reaction (2008-2009)

I. Concert recording on 10th November in Logos, Ghent 22:25

Marieke Berendsen – violin + live electronics

crox 325 - improvisation on a drawing (2011)

II. Concert recording on 13th February in Croxhapox, Ghent 49:57

Marieke Berendsen – violin + live electronics

^{*} The background soundtracks in the exhibition space that mix together with my soundscape during the exhibition came from the following video works being shown in a near by room: 1) *Copenhagen suspension* by STELARC; 2) *Oh lover boy* by Franco b; and 3) *Shattered dreames* by Niko Raes.

^{**} The piano music mixed into the soundscape is performed by myself on a dismantled pianoframe.

List of recordings on DVD 1-4

DVD 1

I. de(re)construction (2009)

Video composition 10:48

Frederik Croene - piano

II. projection-reaction (2009)

excerpt from video composition no.2* 07:51

Marieke Berendsen – violin

DVD 2

I. crox 352 - improvisation on a drawing (2011)

Excerpt from a concert on 13th February in Croxhapox, Ghent 14:43

Marieke Berendsen – violin + live electronics

II. performance sketches... (2009)

Excerpt from a concert on 9th November in Logos, Ghent 17:52

Marieke Berendsen - violin

Frederik Croene - piano démécanisé

Hallveig Agustsdottir – amplified sound drawing

DVD 3

composedDRAWING #1 (2011)

I. Video composition 08:16

II. Excerpt from a performance at Q-02 werkplaats in Brussels, 8th April 2011.

DVD 4

drawalineand*listen*toit

I. Video documentation made during a residency at Pianofabriek in Brussels, October 2012 03:52

Hallveig Agustsdottir - amplified sound drawing

R = 15

II. Video documentation made during a residency at Pianofabriek in Brussels, October 2012 10:38
 Hallveig Agustsdottir – amplified sound drawing

02:32

^{*} This second version of the video composition was made for a concert performance at Logos on 9th November 2009, Ghent, BE.

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& recommended further readings

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APPENDIX

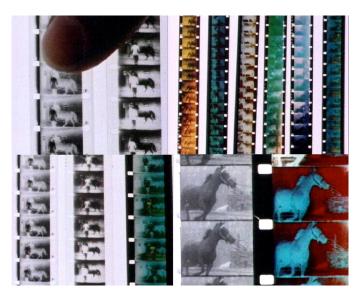
interviewing MALCOLM LE GRICE

12 September 2011 Interview conducted via Skype between Ghent, BE and Plymouth, UK.

by Hallveig Agustsdottir

You began as a painter. How important was it for you to have a painting background in order to transition to the film medium? Did early experiments in painting cross over to the way you explored film?

Yes, well, a lot of the paintings which I did towards the end of being a painter were bringing time into the painting. Some of them were very long paintings, which sort of developed from left to right, or from right to left, but they were sequential. That was one thing. And another thing was, I was making some paintings that had connections to the environment that they were in. They had clips, which were attached to objects that were in the space that they were in, which could be moved around. One of them had a sheet of aluminium foil with a microphone behind, and so as people walked by, it made sound. So what was happening was the paintings were taking in time. I was also experimenting with photography. I did a few photo pieces at that time, mostly montage and collage, but then I just got interested with working with bits and pieces of film.



footage from *Berlin Horse*, 1970 (courtesy of the artist)

Where I was teaching, at Saint Martins, is right in the middle of Soho. And Soho was the centre of the film industry, and in the bins outside of all the production houses, there were often pieces of film thrown away—huge quantities of film—and I was stealing this and looking through it and then just cutting it, sometimes just randomly cutting it and joining it together. So I got interested in film really by doing that.

I did some 8mm films as well, but it was also a time in London in the 1960s when the whole kind of question of what medium you used was open. And lots of other people were beginning to experiment not just with film, but other kinds of media.

So it was generally opening up to other things than painting. I carried on painting a bit after I started making film, but really film took over.

When you were finding this footage in Soho, did you start by using it as an object in your paintings, or did you directly start experimenting by making films out of it?

I started using it as film right away. At the college where I was teaching, there was a 16mm projector. And so, I was cutting the film up at home and joining [the pieces] together, not using any professional equipment, just joining it together with sellotape. And then I would take the film back to the college and put it on the projector to have a look at it. I was also still doing some things with music at the time. Because, you know, I played jazz.

Yes, this I knew.

I played in the same band with [AMM member] Keith Rowe. In Plymouth, we both played in the same jazz band run by a person called Mike Westbrook. He has still got a band, and he is quite well known in the jazz area. Keith and I played in that band, and Keith and I kept in touch with each other. We both went to London.

Did you meet Keith in the jazz band originally, or was it at the Plymouth art school?

It was in the art school. We were students there together, and I got on with him really from the beginning. We even collaborated on a piece of sculpture together. We made a piece of rather bad welded wire sculpture – a kind of fake modernist piece (Reg Butler's 'The Unknown Political Prisoner' comes to mind), but full of energy and enthusiasm and – for those days big, and for Plymouth rather far out. Come to think of it, I might first have met Keith when we played with Westbrook in the Plymouth Art Centre next to the Minerva pub – the oldest pub in Plymouth. I came to jazz from Armstrong and the Hot Five, Hot Seven, so I needed some education into more progressive stuff...

Were you then experimenting with music as well as with visual arts practice?

I did some prepared piano pieces. Actually, what happened was, Judith, my wife, she plays piano. She is a pianist—classical not jazz—and when we first moved to London, we bought a grand piano which was very cheap and not in very good condition. So I repaired it. I put some new strings on, and I put some new felting in, completely didn't know what I was doing, but I got interested in the inside of the piano, and I started to make some recordings of things which I was doing with the piano. I didn't know anything about prepared piano. Just experimenting with the sounds and so on, and I made some tapes, which I still have. And in one of the pieces I did—actually not with the grand piano that I was repairing, but with an old upright piano where I put sticks into the strings—I played it by flicking the sticks. And I made a piece which is on the soundtrack of an 8mm film, probably my first film really, called *China Tea* [1965]. I made a soundtrack, which was kind of Chinese, you know? It had that sort of intervals.

The pentatonic scale.

Yes, exactly.

Prepared piano [laughing], so I was experimenting in all directions really.

Indeed.

And then I linked up with Keith Rowe. How that happened was, we met at a venue for really experimental work in London, the Arts Laboratory in Drury Lane, and I had shown my film there in 1967, but they also had music and theatrical performances. Keith was there in a group doing a Cage performance, and I went to the performance and then linked up again with Keith. And a little while after that, we did some three or four performances in a small gallery in Kingley Street. That was at the time when Cornelius [Cardew] was playing with [AMM] Keith, Eddie Prévost and John Tilbury.

I can't remember how it happened, but I was experimenting with recording sounds and replaying them through an amplifier in a wire cage and a four-channel low quality mixer – equipment I think Keith had already been using. I was recording what the others in AMM were doing, making sounds myself and mixing them, then replaying – a kind of instant memory – into the AMM improvisation. Also, I used the loudspeaker signal to drive some small lights on a string that varied with the volume. I had no idea if they liked what I did or not – I don't think it was ever a question. AMM tolerated it. I still got on well with Keith.

So that's where the shift took place. It wasn't tidy, you know? It was quite untidy, really. I was doing all sorts of things, and I didn't know what I was doing. And so the next thing I did, I met with—at the Arts Laboratory—a person who I had been at the Slade with, called David Curtis. David was running the cinema at the Arts Lab in '67, '68, that sort of time.

What kind of a place was the Arts Laboratory?

It was really the centre of counter-culture in London. It was really *the* place to go for counter-culture, and for radical new art. It attracted a lot of political people, but it also attracted a lot of experimental artists. So I was showing regularly there with other artists.

And David and I discussed why there was so little experimental film in London. The main centre for experimental film was obviously New York. Although there was also a lot going on in Vienna, which I didn't know about at that time, the main centre was New York. Of course film-making was incredibly expensive then. To make something on 16mm was incredibly expensive. There were no cameras. You always had to hire cameras, so it was incredibly difficult. And there was no equipment for people to make film, so we cooked up this idea of starting a film-makers' workshop.

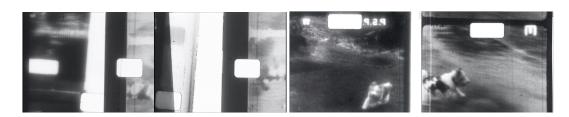
I built a lot of equipment for printing and developing film. I built it from old projectors. Again, I didn't know what I was doing. It was totally primitive. And I built this stuff really intended to be the basis of a film-makers' workshop for other people to use, but it was too unprofessional and fragile. I did, I think, five or six of my earliest films using it. But really, it wasn't robust enough for other people to use it. So we then had to find someone who was prepared to give us some money to buy some used professional equipment from one of the film laboratories, which I did. I bought the equipment, and we set that up as the film-makers' workshop in the second Arts Laboratory, and then everybody was using it. I was buying cheap film material from East Germany. Getting it to the workshop and then selling it on to the other filmmakers who wanted to use it.

And so all of the early part of my film-making was self-printed and developed. It was really a hands-on thing, like with painting.

Was it natural for you to become interested in the process and in the material itself?

I was talking about it then. The argument was really that artists could respond to the material in a modernist way. The thoughts were much more modernist. The artist could deal with the medium as the basis of what they were doing. Filmmakers couldn't do that,

because it was a commercial process. The whole thing right from beginning to the end was a commercial process. You made a script, a shooting script, you then raised money, then you got a film crew together, you had a cameraman, a sound man, you had actors, and then you shot it. Then you sent the material to a laboratory, cut out the bits you want, you then put that together in an editing room that you hire, you then go back to the laboratory for the final prints, and then the distribution was all through commercial companies. So it was a commercial process, and by setting up the film-makers' workshop, we took the film-making *completely* outside of the commercial process, completely outside, and it became much more like when you make a painting, or a drawing, or a piece of music. You got control of the whole process. Completely hands-on. That meant I was getting interested in things to do with the quality and the form of the image, the screen, the whole thing, in a way that there was no equivalent in the commercial cinema. Just no equivalent. So that's how I got into film-making, I think [laughing]. Something like that.



footage from *Little Dog for Roger*, 1967 (courtesy of the artist)

You have mentioned Robert Rauschenberg as an influence on your visual work, and it makes sense, because of your background as a painter. Were or are there other influences outside of painting, or filmmakers whose works interest you?

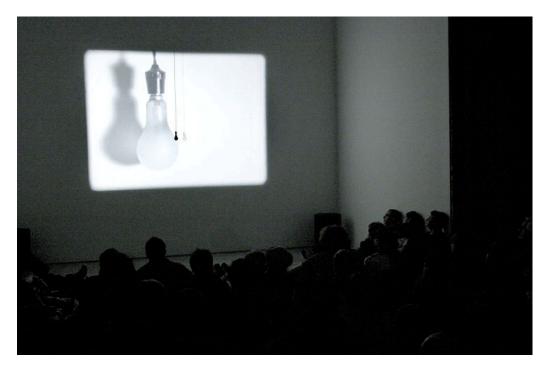
Yes. The music that I was interested in at the time—obviously I was interested in the kind of things Keith and AMM were doing—but, I was still really interested in contemporary jazz. At that time it was Ornette Coleman and what they called free-form jazz. And Dizzy Gillespie, and that kind of opening out of modernist jazz, and to some extent, rock music. I like Pink Floyd and that kind of development. I was much more influenced in my filmmaking by musicians and by painters. As you mentioned, Robert Rauschenberg was a big influence, especially the way Rauschenberg montaged graphic materials.

Yes. In his combine paintings from the early 1950s to the 1960s.

Yes, because for me it was very filmic. The influences for me in how I put the film together came much more from painting and from music, and to some extent, from some things in theatre—Beckett, obviously, and some of the ideas of Bertolt Brecht—but not really the theatre. The influences weren't coming from film at all. I think there were two or three filmmakers at the time that interested me. I was very interested in Godard, although I felt his form was old-fashioned. I liked Chris Marker's *La Jetée* [1962]. It was one of the few films that I saw in the cinema I thought was an interesting film. Obviously some of the early Soviet works. Vertov. Not Eisenstein, but Vertov. I was extremely interested when I saw *Man with a Movie Camera* [1929]. I was seeing a form there that was different from what had happened in the normal cinema. It has a fantastic opening sequence with the tearing film, but mostly, I wasn't seeing anything in the normal, conventional cinema that I found interesting. It was all really from outside. I was reading a lot. The other big influence on my ideas about structure and anti-narrative was from Kafka. James Joyce a bit, like everybody else, I was interested in *Finnegans Wake* [1939],

but never read the whole thing. I used to read bits and pieces of it, and I was interested in the fragments of *Finnegans Wake*, and in what Joyce was doing with words. My fascination was with the fluidity of association – narrative becoming a multi-dimensional matrix of constructed (constructing) associations through the look and sound of the words. This was, or is, not directly psychoanalytic word association or stream of consciousness. The associations are being constructed out of the words and continuously re-constructed out of the reading. It is creative, rather than memory retrospective. The main impact for me of Joyce is in my *Chronos* project and the work *Even the Cyclops Pays the Ferryman*, and possibly in the new work called *Finiti*. So yes, it is about fragmentation and fragments of image, sound, movement, that continually re-construct themselves into temporary wholes, defying coherent narrative.

But mainly my influence was Kafka, I think. In particular it was the constraint in the writing, that it was all from a single 'point-of-view' and no god-like overview. Two of my earlier works, *Castle 1* [1966] and *Castle 2* [1968], are really references to Kafka's *Castle* [1922], and in particular that sort of very formal paranoia you find in Kafka. Those are my influences.



Castle 1, 1966 (courtesy of the artist)

Your work/process is improvised. When preparing and making your films, do you work from a script?

It varies. [On] some of the films, like *Little Dog for Roger* [1967], I had no script at all. I simply had the material. I would look at it, print it, transform it, put it on the screen, bring it back, and transform it. So those developed like sort of improvisation. From the material, response to the material, and that was mostly the case with all of the early films that I did. In *Castle 2*, I didn't make a script, but I made some sheets with single-frames from all the material I was going to use, so I was sort of structuring it in part from those sheets. But it wasn't a script, and it didn't precede the film-making. It went along together with the film-making. When I made non-narrative type films, and the one-hour film *After*

Manet [1975], I did produce plans before I started, and some of them were diagrams. They will be in the exhibition in November.

I was interested also in looping, loop structures, partial repetitions, and developing repetitions. Some of that I think was based on an interest I also had in topology. One of the branches of topology is about connectivity, how things connect, and I did a whole series of experiments early on which are going to be in the exhibition. It was not a script for a film, but the points of looping I think were parallel to the things that I did in *Little Dog For Roger*, *Reign of the Vampire* [1970], and a number of other films where I used looping structures.



topology sketches (courtesy of the artist)

It is interesting how you use loops, repetition, phasing. They all have a strong resemblance to the minimalist music that was going on in North America at the same time, or thereabouts. But for you, it came from a different source.

That's right. And I used to talk about system-art. I used the wrong word, really. I called it "systemic", but it wasn't system. It was an interest in systems. Although I never applied my systems strictly, a lot of artists applied their repeating systems strictly, so that the process of the system became the producer of the work. I never did that. I always responded to what I saw, and it was never completely mechanistic. It was always responsive. The only things I did that were in a way completely mechanized were when I did the computer films, when I wrote programs for them. Even then, I was writing in devices in the program which were what programmers call "dirty programming." I would make changes inside the loops and so on—to be sure to get the result that I wanted—but they weren't strictly systems. You could see exactly how the thing was produced if you look at the computer program, but they weren't strictly mechanistic. The programming was done like I was doing other things: I would respond to something, so even the programming was sort of improvised.

Would you consider your work "experimental", or as "experiments"? If so, do you have a "hypothesis" or "hypotheses" you are testing in these experiments?

Hum... Exploratory is better than experiment. Because—if I'm using words strictly for me—experiment is a scientific process, right? I don't want to completely confuse it with that. Going and doing something, trying something out without a thesis, without a theory,

is explorational, rather than experiment. It's trying not to simply repeat history. In that sense—it's going into new territory—exploratory is better than experiment. I like the idea that experiment means that you don't begin with a completely preconceived idea. The word experiment is not so bad in one way, but now, I'm a bit more careful about using the term experiment.

Now, I'm working on something this minute. I'm working on a very long piece. It is the piece I have been calling *Treatise* [2004 -], but am now going to call *Finiti*, which is a new installation piece.

Are you reworking/reviewing the piece?

Yes, and before you ask, it has nothing to do with Cornelius Cardew's *Treatise*. Now, to avoid the confusion, I am not calling it that. I am calling it *Finiti*.

A lot of the longer works that I have made recently, there is a lot of symbolic content. It is not a narrative exactly, but I am looking for a symbolic shape. I am reading the symbolism of the imagery, and so, it is not just an abstract formal shape, but a symbolic shape. I am planning it out and trying to structure the work inasmuch in relation to the symbolic development as to the formal development. In a sense, it is now slightly impressionistic, rather than experimental.

Because you generally do not work with scripts but with diagrams, are these diagrams comparable to the graphic scores of say John Cage and/or Cardew?

In Finnegans Chin [1981], Emily [1979] and Blackbird Descending [1977], I actually made diagrams that were like graphic scores, because within the phasing I would improvise. But it gave me a structure to improvise inside, like a graphic score, or more like a diagram than a graphic score, although I am quite sure that a musician could play them. If I would take one of the diagrams to a group of musicians, I am quite sure they could use that to produce a piece of music. In a way, I suppose a graphic score provides a framework that allows improvisation inside the framework, and I think it is one of the responses to looking for a form of structure that isn't traditional.

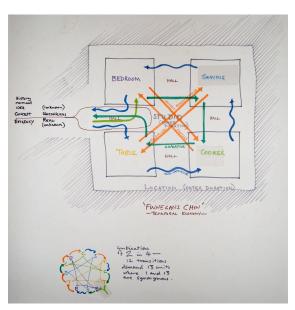


diagram for Finnegans Chin, 1981 (courtesy of the artist)

As for the audio track of your film and video works, do you make a plan or diagram for it?

No, because I don't think... My audio work is, I mean, in a way, rather traditional. The audio on the films either is what is happening in the film, and the sound comes from the same source, attached to the source. It may be sound effects, it may be occasionally words, but mostly it is what is going on. So that's one bit of the sound. The other is that, sometimes, I construct sound using a synthesizer, and then I mix these sources actually in the process of editing. So, it's a sound mixing process. It doesn't begin with any kind of diagram. It begins always from the sounds I am hearing. For example, I'll often make a long piece of synthesized sound which I then will select sections from. A good example of the process is in a film that I made called *Travelling with Mark* [2003]. All the sound there is generated by re-filtering and layering the sound from the railway train—electric railway train in Germany—which was on the tape of the video that I shot, but then I take the sound off and do a lot of things with reverberation, so it is a quality shift, and moulding the qualities in relation to each other. But it's a mixing process. It's not a planned process. Improvised mixing.

Creating most of the audio material for your films yourself, do you consider yourself a composer as well as a filmmaker?

The truth is that my films are structured more like music than they are structured by film, because I abandoned the idea of narrative a long time ago. They are not narrative. Sometimes there are, as I said, symbolic developments, so in a way the structures are closer to music. But also then, looking at a lot of the work recently, as much of the experience of the film is contained in the music as it is in the visual. The visual and the music are running really together.

But it is extremely difficult to work the sound at the same time as you are working the visual. You know that yourself through the editing. So, for example, in the work that I am working on now, I shall come back when I've effectively finished the visual track and rework the sound.

I am attracted to the fact that in your work, the visual and the audio work together, so to speak, unlike Len Lye's Free Radicals (1958), where the abstract animated image is mixed together with an audio-track of African tribal music. In your Threshold (1972), for example, both images and sound become completely integrated with one another. It becomes a whole, as opposed to Lye's film that has two separate elements that don't mesh together so closely.

Yes, well I hope so, because like you, I never liked the idea of just taking a piece of music and sticking it on the film. I have often used bits of music, but I use it in a way that AMM might use it. They would 'steal' a song from the radio but then integrate it into the new musical piece.

Exactly, like in Little Dog for Roger, that is a completely different experience from Yantra (1957) or Lapis (1966) by James Whitney, or Len Lye's Free Radicals.

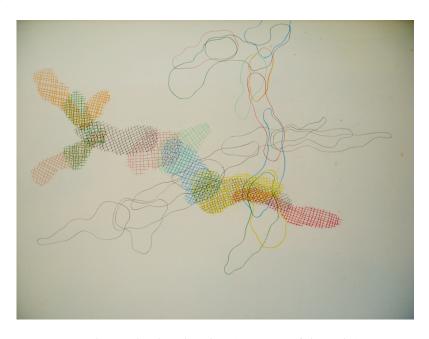
Yes, although there is work of John Whitney Sr., early original 8mm pieces, called Five Abstract Film Exercises (1940-45), where he made the soundtrack with a set of pendulums. And the soundtrack there is not like taking a piece of music from somewhere else and sticking it on.

You use a lot of superimposition and over-layering in your work. Where does that come from? Is that your way to express time?

Yes, in a way. Because by breaking the narrative—narrative imposes a consequential linearity. I have always been interested in simultaneity. In, for example, Vertov's *Man with a Movie Camera*, the relationship between the shots that are montaged say that these things are going on at the same time. So he recognizes the continued parallellness—like I am talking to you now but something else is going on at the same time, that there are people fighting in Afghanistan and so on. So the line which I am living in is, in a way, parallel to things that are not in the line I am living in. You see what I mean?

Yes.

And so for me, the superimposition is a way of [realising] the concept of simultaneity or alternative. In linguistics, there is the syntagmatic and the paradigmatic. It is a very simple idea: a sentence structure is the syntagmatic, but the paradigmatic is if any one word—a cat sat on the mat—what word could you replace "cat" with? A "dog" sat on the mat. The words "dog" and "cat" are the paradigmatic. It runs [vertically] across the line. So I am interested in the idea that at any one point in the movement in this [horizontal] direction, at any one-point there is a parallel, paradigmatic alternative that could go into that place in the chain. So, again, the multi-projection, and the superimpositions, [are] kinds of recognition of that parallel paradigmatic, I think. The other thing is that it is like music. In a way that three or four musicians working together superimpose on each other. I am in that sense using the visual chain of the work in the same sort of way, like a musical layering, like a harmonic. If the individual image is the melodic, the layering of the images is harmonic.



overlay projection drawing (courtesy of the artist)

What was your experience like of working with analogue in contrast to digital technology?

Analogue and digital—I think people make too big an issue of that. I don't have a problem of switching between digital and analogue. The only thing is that now I work with digital because the digital is much easier and quicker and there is nothing you can do in the analogue that you can't in a way reproduce in the digital. I have a big struggle, sometimes

with soft-frame. In analogue, the frame is often soft, and with film, the edge of the projection is always soft whereas in the digital you have to work quite hard to get a soft frame. I think most of the things you would do in analogue, struggling with analogue, you can now do in the digital and it's so much resolution [nowadays] in the digital that I don't think anyone looking at a good digital projection would know whether the original material was analogue or digital.

And you were already working digitally with computers in the late 60s, 70s...

Which was different. Because then it was very primitive, so the things you would have to do to produce something were different sorts of process. That's much too complicated a question to take on, because what digital has opened up in terms of form, and with interactivity and so on, isn't the same thing as using digital to produce a video work. There are so many approaches now in how the digital engages with the image, so it is much more a question of separating image and sound from the question that comes from digital technology. It is not analogue/digital. When we get it to our eyes and our ears, it is analogue because we are analogue. We are not digital. It is all about interfaces. Even looking at you now is an analogue interface, because the interface for us is always analogue. The final stage in meeting the audience is analogue. Digital is another question, about how it is produced, and what the options are with the analogue. If you go on the internet, you are doing something digitally, but what you are looking at is analogue. So I don't think analogue-digital is a big question, really.

How does one relate practice to research? It has been a big part of your life, to combine your art practice with theoretical research.

I don't think that in making any of my artistic works I've gone through a research process. There may be an experimental process, but not a research process, and certainly not a research process in finding something out beforehand. If there is a research process, it is in parallel, which has an influence on the artwork, but isn't directly a part of the artwork. It's parallel.

Yes, I agree on that.

You increase your knowledge. For example, it is very important that I have, through my life, understood other artists' work, understood what was happening with Rauschenberg, and what was happening with Stan Brakhage. It is very important because that forms the language context in which my own new works take place. I know what other people will have done. I know what strategies they have used. I know that if I produce something on a screen, this looks a little bit like what Brakhage might have done. So the research in that sense becomes the context or framework against which you then make your new work. And if you do not do that, your work is always going to be repeating, without knowing it, other peoples' work. The other research is the productive research of developing theory. But again, it is parallel. I don't make a theory and then make the work. The theory is a part of the work. Theory is part of the understanding. The research question, for me, was a pragmatic question inside the academic world. It was really to do with getting money for artists as teachers working in art school universities. Getting them funded for doing their creative work. The arguments about research were really to do with getting a funding stream for artists and for people doing PhDs - to get the finance stream and recognition. I always argue that we should use our own terms of reference and not use traditional concepts of research, because creative work is exploratory. It's experimental and it's creative. It's not retrospective research.

"Working in art is the same as the way you work in life", is a quote I read once from you. Are you saying life is art? That for an artist, the influences from our day-to-day life can be just as much, and even more important, than research?

Yes, I think that is right. We call it intuition, but for me, intuition is nothing more than a very complex processing system.

A complex processing system of our experiences.

It's just a very wide complex processing system. We don't actually always know all our parameters, and that is intuition. I have an intuition when I am making an edit about what this particular image means. Really what that is, is that it is matching this particular response to an incredibly wide range of art, and life, and theory experiences. And it is so complicated that you just do the intuition. You don't try to pinpoint what the components of the intuition are. It doesn't mean that the intuition is not rational. It's just that it is so complicated that it is easier to use intuition. We've got a very complicated mechanism going on here [in our brain], when I am looking at an image, and the best way of dealing with it is to use this intuition. Sometimes you analyze it, but mostly you don't analyse it. You use your intuition. You don't analyse when you make a mark and listen to the sound, do you? You don't analyse?

No, I don't.

You listen to the sound.

Yes.

And something is saying to you, "And the next thing I do is going to be this," or "The next thing I am going to do *isn't* going to be this," and you don't think "Ok, why am I not going to do that?" You just go [making rhythmical scratched sound with pencil and paper] and you think, "Well, that's too repetitive," so you go [making arhythmical scratched sound with pencil and paper], right?

True. You listen to what you do and listen to what the little voice inside you tells you to do with it in the moment.

That's the intuition. You don't analyse. It's the process, and it's the art process and also the performance process.

For me, that is what I like about performance. There, I am able to completely block out the analytical process, block my mind, and follow my instinct.

Yes. There is time for analysis and there is time for performance. When I am making an edit, I am performing in a way. I'm not analysing. A little bit of analysis maybe, but mostly I'm performing.



from a performance of *Horror Film 1*

What was it in your art practice and filmmaking that led you to performance?

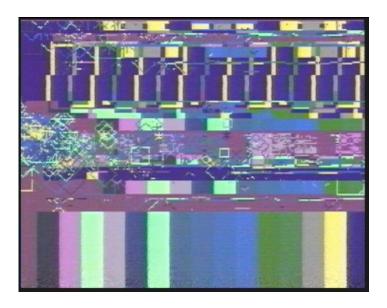
I guess I would have to say I'm not really a performance artist. The performance came, in one way, from producing something that was not a narrative and which concentrated on the actual conditions of film. The space in which the film was being projected became a component of the work, as did the screen. These things were not incidental. They were a part of the meaning. I got interested in the space in front of the screen, rather than the illusionary space behind the screen. The screen became point zero. What was in front of the screen and what took place subsequent to the screening, not what was reflected in the screening about the past, but what happened as a result of that. Throwing something into people's lives so that the reality of the work took place after the screening and not before it. So I got into the performance thing by exploring that space between the projection and the screen with *Horror Film*. I got interested in the idea of the shadow as being. . . you know that the image of a normal projection is actually shadows, coloured shadows. The light goes through the film material in the projection, it is actually shadow. This is not actually true with the digital media. There, it is light rather than shadows. But I got interested in the idea that a shadow of a person between you and the screen was the same material as the shadow of the image itself. You see what I mean? So I got into performance through exploring the shadow and reflection. Then performance with the projectors themselves, improvising with the projectors themselves, moving the projectors so that the work was made by the way in which the projectors were moved, and that was an improvisation. But I am not a performance artist. I did it because I was interested in the conditions of the time and space of the presentation.

So it becomes, in a way, similar to the way composers were working with graphic notation. You have fixed images, the score, but during a performance, a screening, they are shown each time in a slightly different way depending on the improvisation?

Yes.

It is not just about the space but also about the viewer. You create experiences for them. Is there a specific experience you look to create? Perhaps synaesthesia?

No, I don't think so. I mean, I think the core of that was the idea that the work belongs to the spectator. So that's the core. It's an ethical relation in the aesthetics. For me, ethics and aesthetics are quite close, so the concern with the spectator is a concern that they construct the experience. Of course, it is much more complicated than that. In one sense, it was the political, ethical idea that the spectator had equal rights and role to the artist who is making the work. But it's much more complicated because there is still a responsibility on the artist to engage a territory that is of interest for the spectator. So the relation between the expressive element of the artist and the constructive element of the spectator is still a very difficult one to pick [apart]. The idea that the spectator produces the work in the way that it is total interactivity. . . I can't really accept that. That becomes a game of the spectator, and there is no challenge for the spectator or an encounter with something outside themselves. I think the artist is providing an encounter for the spectator that is outside of themselves. In that sense, it is an intervention in their lives and you have a sort of responsibility, as the artist, to make decisions, that you think are intuitively the right decisions, and that means it can be expressive. I think the work I am working on now, and Even the Cyclops Pays the Ferryman [1998-2001], these are all clearly expressive works, maybe expressionistic works, with certain conditions that keep you a little bit away from the expressionistic.



still frame from Arbitrary Logic (courtesy of the artist)

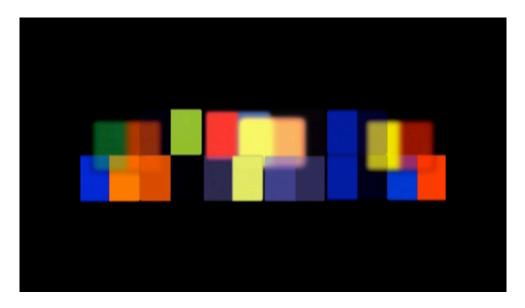
On your use of colour, does it have some relationship to synaesthesia in a similar way to, say, Kandinsky, who wanted to provoke a reaction in senses other than the eyes? Is there a relationship between Visual Music and the way you work with colours in your films?

I am not a synaesthetic. If you remember, there is a work of mine called *Arbitrary Logic* [1987-1989] which actually is saying that there *isn't* any direct relationship between a colour and a sound. And if you look at the science of the wavelengths, there is nothing in the visual spectrum that is the equivalent of the doubling of wavelength in an octave.

Indeed.

If you double the wavelength in any part of the visual spectrum, you are way off the visual spectrum altogether. So there isn't an intrinsic equivalence. There are correspondences.

If you ask people whether dark blue represented a low tone, and yellow represented a high frequency, I think you would probably get a fairly consistent answer on that. But I don't think it's a synaesthetic thing. I think it is, to a large extent, a learned response, or a looking for equivalences to connect things together. You can use colour in much the same way as a musician uses sound. You can use colour, but it isn't the synaesthetic relation. You use it structurally and emotionally, but I think there is less emotional response to specific colours than there is emotional response to tonalities. Certainly for me, I was always very suspicious of any intrinsic relationships. But you can use colour in a similar way, and I do use colour in a similar way. Again, in this new piece that I am working on, there is a big section about the spectrum just using colour shifts, because it is one of the core components. Why I called it *Treatise* was, in a sense, I wanted this to take on a lot of work I have done on core components. Fundamental components. Colour is, in that sense, one of the core components.



still frame from *Matrix* (courtesy of the artist)

And are there differences in your approach in different works? For example, in Berlin Horse (1970) where you used colour filters, or Joseph's Newer Coat (1998-2001), or Matrix (1973), where we get the experience of pure colour-fields?

I think they come from the same thing, in the sense that I see colour as a separable component. It can be abstracted from the form. For me, abstraction is the separation of a single entity into recognizably separate components. And if I am looking at you now and if you were in black and white, it wouldn't make a great deal of difference to recognizing your face, because the colours are separable. And then with the Fauves. The Fauves began this. They separated the colour relationship from the tonality relationship and from the identity relationship. So, colour then becomes a separable component in the language as does tone, as does movement. They become separable components in the language, abstractable from the form, and they can be recombined. And so for me, the spectrum has always been one of those separable components. Even in *Berlin Horse*, when I am making the colour shifts, the colours on the strip that I am using are in spectrum order: Blue, green, yellow, orange, red, purple, blue, green, yellow, orange, red, purple. They are in a sort of spectrum rotation because it is one of the components of the language, and it is effective—affective. Effective and affective.

What would you say is the relationship or non-relationship between the visual material and the audio/soundtrack? Do you mix together pre-composed music, environmental sounds, silence, noises? What is the connection between them, the image on film, and on screen?

Mostly, I don't use pre-composed music. There are a couple of occasions when I have, but mostly it is not pre-composed. If it is pre-composed, then it is re-mixed. So in that sense, one part of the music or the sound in my films is used in the same way as a conventional piece of music in the narrative cinema: as part of the emotional relationship. In one way, some of it is that. At a final stage of an edit, I try to make the sound and image work together so they are almost, in that sense, inseparable from each other. You don't know whether the experience is coming from the visual or from the sound. Do you see what I mean?

Yes.

It's one experience. And one of the things that interested me about early John Cage-type experiences—which comes from AMM and Keith Rowe—is you don't know what is inside the composed work, the intentional work, and what is outside of it. Actually, in the film construction, it is more that I include sounds that are in a way not chosen but are already there. I was also interested in whether something had started or not started, or whether it is finished or not finished. That interested me. And boundaries. Works that question the boundaries of what is the work and what isn't the work. It interests me still. Incidentally, most of the work isn't found footage. A lot of the early works were made with a lot of found footage, but some of them were made with shot material. Recently, there is virtually no found footage, although I've got a little bit in the new work. There is some found footage to represent history, really.







Leonardo Tryptich

About your After Leonardo (1973) performance, what was it like to collaborate with Keith Rowe?

When I did the first version of *Treatise*—which is what I am working on now, as a five-screen video piece—I did it in collaboration with John Tilbury and Eddie Prévost in Dundee. I had the video, and they were performing, but I was unhappy that I had no performance element in it myself. I was interested in the collaboration with them as musicians, so when I did *After Leonardo* with Keith, I created a situation where I had a video performance element as well. I had two video cameras and two moveable video projectors, and then Keith had the feed from the soundtrack, which he could then manipulate. And this [*After Leonardo*] is a work that is growing all the time. This

[holding an envelope up to the computer camera] is the envelope from the original exhibition which always has the picture [of Mona Lisa] in it, and on the envelope is written. . . it is getting very fragile now, it is a fetish object in some way. . . on here is a record of all the performances. Here is the original screen layout, and here is the original Leonardo image in here. And so the idea was that. . . it is a sort of fetish object, but it is also the way that. . .ah, here is a list of all the performances which I have done later. . . and gradually, the original thing is deteriorating and it had to be taped together. So the piece continues. I think about the way the meaning of a work changes continuously over time. And so the Leonardo, which is assumed to be an absolutely consistent icon in the world of art, here becomes something else. The performance in a sense now isn't just a single performance. It is the whole history of the performances, from when it was a film, and now it is a video performance. And each performance of it becomes new, and I'll be doing it again with Keith in November in France.



In few words, what is the main difference between your early works and work(s) you are doing now?

Well, I've always wanted to move on. I don't want to just do repeating things. And as I am aware of that, it has been a big problem for me. A lot of my early work was to do with the materiality of film and the projection situation. Well, one of the things that electronic and digital does is that it becomes non-material. There is no material of the digital in the same way that there is tactility of the film material—[which was] a major bit of what I thought was the framework of my practice as an artist, and certainly covered the first five, six years of my work as an artist. A lot of the conditions of that really disappeared, and so then I come to terms with the digital. At the moment, I am coming to terms with the recreation of the illusory space through the high-definition image. Those are difficult things. I mean, I'm trying to adjust my practice as an artist to those changing conditions.

So, always moving forward?

Well, I hope. I don't know if I am moving forward, or taking one step forward and six steps back [laughing].

Of all of your works, is there one particular film or performance piece you are most pleased with?

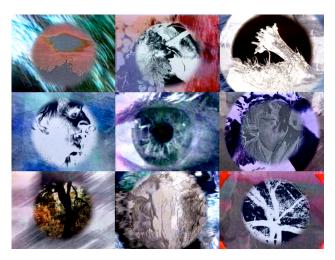
Two really, I think. If I have to work only with two things, I think certainly *After Leonardo*, and I like the *Horror Film's* performance, the shadow performance. *Berlin Horse* is the big money spinner. Everybody likes it, and I like it, but I can get tired of it. I don't think it's one of my best films, but everybody likes it. Oh, and *Cyclops; Even the Cyclops Pays the Ferryman* which was a big change for me. The complexity of that and the reintroduction of a symbolic space. So those three, I think. *Cyclops, Horror Film*, and *After Leonardo*.

I believe you did your first film, China Tea, on your father's camera.

Yes. It was actually on two cameras, and both belonged to him.

And Little Dog for Roger was made from footage that your father took when you were a child. Could it be said that your father was an influence on your film-making?

No, I don't think so. I think the influence was that he was open to anything. Always open to anything. Never censorious and restrictive, always open to things. He didn't think about it. Just did it.



still frame from The Cyclops Cycle

^{*} I would like to acknowledge and thank W. S. Cheng who contributed to this interview.

On improvisation, AMM & Cardew's Treatise

A conversation with the British musician **KEITH ROWE** 25 July 2011

by Hallveig Agustsdottir

Would you say you were equally interested in music and the visual arts already from an early age – or did one come before the other?

It was the art. I think very similar to Malcolm [Le Grice]; we weren't in the same painting class, for some reason I was one year ahead of him. So in the daytime we had the painting class with the tutors and everything, and in the evening we had a kind of jazz cellar, where we could go and play. Malcolm and I both played guitar and we both went down to the jazz cellar and played like Dixieland Jazz or something like that.

But at that point it were very separate activities, right at the beginning there was not really a connection. It was after about three or four years, once when the bandleader gave me the score for the music that we were going to play I started re-interpreting what he gave me into kind of a quasi-Paul Klee type of graphic notation in a sense. At that time there was nothing very grand in my mind, you know, it was just a way to make it more interesting for myself.

This would have been the time you were in Mike Westbrook's band?

That's right; that was from about 1958, 1959 through to about 1964, that kind of period.

And at this point were you aware of other graphic scores? Did you know of some of those experiments, for example, the compositions of John Cage or Morton Feldman?

I knew of them, but they had no influence on me at all. It was just one of those things you know of floating around, but I didn't have an ambition to make graphic scores or anything... although in fact I was actually making them.

So I think in that period what was important for us was the American Black Mountain College school where the visual arts and dance and painting and writing poetry met and came together, worked together.

Did the music influence the art that you were making at that time?

Yes it did. If I look at the titles of the paintings from that period being in the art school [in Plymouth], many of them had jazz titles, like *Ella*, and some of the paintings were actually my imagination of what a performance was, what a jazz performance was like. None of the paintings have survived, but I think jazz was an important ingredient in the painting.

I read once that a teacher of yours had said that 'only Caravaggio can paint Caravaggio'

[laughing] Yes, that's right.

What was for you the message intended behind those words of his?

I think the message was, and in fact I think it's a very important message, that in the art school, in a way you don't really have a permission to paint other peoples' paintings, you can only make your own work, you only have permission to make your own work. Where as in the conservatory, in the music school, one's training would be to play other people's music, you know, to play Mozart, to play Haydn, to play Beethoven. So if you take the mindset of the art school and apply it to musical instruments, then you have a very different way to approach it.

After finishing your art studies in 1961, and before AMM was formed in 1965, 1966, were you equally busy with painting as with playing music?

Yes, I was still playing in Mike Westbrook's band right up until we formed the AMM group. And at that period I was also still painting, but less and less in a way: making more assemblage, making paintings which didn't conform to what paintings would normally be thought of. I think Malcolm even might remember: for some of the paintings I took packages from fruit pies, or something, and just glued them across the canvas.

Did you have an inspiration for these works? It sounds like you were going in the direction of the works of the American artist Robert Rauschenberg?

They weren't directly influenced by Rauschenberg's work, but I can see they are very similar in what they do.

And then AMM was founded. What was the inspiration behind making the group, why was AMM founded?

What was inspiring for us was what black musicians had done. Historically they, in a sense, developed a completely new kind of music called jazz. Out of their own circumstances, they developed something very important, and we, as white European kids, well we didn't want to do the same thing, we didn't want to appropriate, we didn't want to steal what they had done, but we wanted to be inspired to actually make our own music in the way black musicians had made their own music, and not to copy them.

In just over a six-month period or so, we had developed something called AMM, which was at that point like no other music that existed – so we felt we had done roughly what the black musicians had done, which inspired us.

So right from the start you came to your own sound world, the AMM sound world?

Yes, in a way. What I think happens in jazz is that you synthesize two or three other people styles, and then come up with something remotely like your own, but you can identify within it. With me you could hear a little touch of Jim Hall, who was a very prominent player, a little bit of Wes Montgomery, a little bit of Charlie Christian, a little bit of Barney Kessel – so in a way you almost made your own style from the ingredients of other people's styles. Whereas, I think in the visual world there tends to be big revolutions of a completely new style coming, like Cubism arriving or Futurism. And I think this touches on something very important, in a way on what has happened in the last 60, 70 years, where some musicians have worked much closer to the way we would recognize painters working, in the sense of actually developing a personal style of painting, or personal style of playing an instrument. So in something called free improvisation, which is not free, and not improvised quite often, but in that so-called field, you'll find people working like painters, that they will have an individual style of playing which is just not

like anyone else's. And the aim is to find your style, to find what you want to say, and that was very different from the way of performing musicians.

Yes, instead of following a written pre-composed score, you let go of that and go searching for your own 'inner' voice.

That's right, in a way you could say that composers always looked out for their individual way of doing it, whereas performing musicians did not. Until you get to jazz – there people have distinctive styles, and then in free improvisation it was even more distinctive, that the total language would be different.

And when was it that you first laid your guitar flat down on a table?

That comes between 1965 and 1966. At first it got laid on the floor, like a Jackson Pollock canvas. That was in a way the breakthrough. I knew enough about art history to know of sweeping generalizations. For the American school to develop they had to make a break with European easel technique, the usual European techniques. And by laying the canvas flat on the floor, the European easel technique became inappropriate. Then, as a guitar player, playing the guitar in a regular way, the difficulty was to see how you could approach the instrument in a completely different way. You could fiddle around with it, but it was really really hard because, if you think, it's one of the most popular instruments in the world, and actually stare at it and think how on earth can I approach it differently...

Indeed, that sounds like quite a daunting task

Exactly. And then by just laying it, very simply, laying it down, and all the problems are solved. So simple, it's unbelievable.

True, so many times it are those simple solutions that make a break ...

Yes, that's right. And I think, in making that break, thinking outside of the confines of the jazz guitar (in my case), and actually thinking of it in painterly terms -- to think about painting, not to think about the guitar, and just then use the guitar like a blank canvas, which you can do lots of different things on – this was the breakthrough for me.

And I think very quickly lots of other concerns became immediately solvable. Something like ...if you're playing ...if you study painting, as you know, in the visual arts, something like ambiguity is actually a very important part of the process of what you are doing. And if you play the jazz guitar, for example, ambiguity is really difficult. To see where that can fit, where what is ambiguous... trying to get degrees of ambiguity, I could never solve that. But when I laid the guitar flat on the ground, or on the table, ambiguity became immediate in a sense. For me the first example was taking a normal table knife, a knife that you would eat with, and actually placing it on the guitar pick-up and putting it in between the strings, and if you then flick it with your finger, making a sound; what you hear becomes ambiguous. You don't know what you hear, what is it? Is it the guitar? Is it the knife that you hear? Or is it me playing the guitar? It is really difficult to know. So that kind of ambiguity became very important for me at that stage.

You talk about the paintings, or painting technique, of Jackson Pollock, but were you also aware at that time of the prepared piano of John Cage? Did Cage also have an influence on you and your experimentation on the guitar?

Roughly at the same time, yes, that came through Cornelius Cardew. Cornelius had joined the group and he started preparing the piano, and I immediately made a link between that and what I was doing.

I think it's a very important thing that John Cage gave us a sense of permission to do things. I would mess about with stuff on the guitar, but there was no permission to do it – it was thought of as completely stupid activity, or not musical. Then as soon as I saw Cornelius, and John Tilbury, and other people, using preparations on the piano that gave me (and others) the permission to do it as well. I don't know what would have happened if I didn't have that permission from people like John Cage. Would I have continued? Would I have just stopped?

They were very important in the way they not just inspire you but, actually *gave* you the freedom, the permission to do what you want to do.

Yes, even John Cage himself talked about a similar thing in relation to his silent piece 4'33'', where Robert Rauschenberg's White Paintings [1951] inspired him, gave him the permission, the courage to compose his 4'33'' piece.

That's right. So I think that's a very important part of what we do, when we live our lives, is to pass down permissions to do things, and to have an open attitude towards our work.

So you feel that the collectivity of AMM was a good influence for your own artistic development?

I think it's possibly true, and might be true for Cage too, that in a way you can only find yourself amongst other people. Being in a collective, or a group, or a school, means that you can find yourself ... I don't know, maybe it is more difficult to find yourself if you are not with other people

Not having the input and feedback from your surroundings.

Yes, and you can match it with the very early Cubists – meeting together, drinking wine and discussing the ideas and finding some clarity in what they are doing. And it was true for the New York artists as well, to go to the bar, and meet and talk and argue and discuss – and for us it was in the context of AMM.

In the very early period of AMM we discussed a lot. In the period late '65 through to the middle of '66 we discussed a huge amount and analysed what we did very detailed, very critically. A conscious participation in the process was important for us. But then we reached a certain point where we decided, ok we've discussed it now; no more discussion – and then there was never any discussion after that.

Was AMM from the beginning a pure improvisation group? You generally didn't work from scores, did you?

It's true. And just possibly, AMM was the first music ensemble not to have scores as a part of what they did.

So within the group there was no attempt in making scores, to register the works that you were doing?

No, and even there was quite a strong resistance to recording as well at one point, and to releasing material. Improvisation should just live and die there and then.

And then how was it for AMM to go and tackle a score like Cardew's Treatise?

Well, for me it was relatively straight forward, because I immediately became very good friends with Cornelius, we got on very well straight away.

It was through you that Cornelius Cardew came to join the AMM group?

Yes. I was in another bigger group run by another bandleader, doing kind of experimental big band stuff, with Alan Cohen. And he knew Cornelius from university days. Alan knew that Cornelius was looking for performers to perform his music, and that he was looking for people who were visually articulate – also, that they would have the freedom, that they could play their instruments freely. The classical world that he [Cardew] knew, this was, well, it was quite difficult to find people like this. So it was Alan that introduced me to Cornelius. And Cornelius started talking about what he was working on, *Treatise*, and he showed me, and we discussed it. He would bring pages for me to look at and to play, and share ideas. Therefore immediately I understood *Treatise*, from the very first moment. Possibly it's because I had previously taken Paul Klee's drawings, and other paintings, and tried to express them musically. So when it came to a score like *Treatise*, it was in a way quite straightforward for me.

It might even be possible to look at Treatise, or other graphic scores, as the reverse process to your earlier transformations of the sheet-music you got in Mike Westbrook's band, that you turned into visual scores.

Yes, it's a kind of reversal.

And then below the graphic images, Cardew added a pair of staff lines to suggest, or invite, the performers to write down, in traditional notation, the musical material on the page.

Yes, he did – and they also have the function of letting you know that it is music. Quite interesting, it's a hint, remember remember remember this is music, don't forget this is music. 'Cause ultimately, it is – in the end it is the same as a Haydn score, or a Mozart score, or a Beethoven score. One day it will be seen as exactly the same, only the notation is different.

Your history with Treatise is then quite a long one, even in the years of its composition you were working with it. Were you then familiar with the process by which Cardew composed it? For example, did he revise pages after they had been drawn?

Yes, I know the work from its earliest period. I think we [AMM] did the first performance of it in some places, although I think there were a few earlier performances, of some of the very first pages, with John Cage, John Tilbury, and [Frederic] Rzewski. This was before I got to know Cornelius.

I would see the pages, and I probably still have somewhere very early hand-drawn pages, pages which aren't finished. So I knew the process very well. Cornelius and I would have conversations quite often, over the actual techniques of drawing, how you draw, how to hold the rapidograph, what size of rapidograph would be best to use and so on...

Would you say that the act of making a drawing, the gesture, was also of concern to Cardew? That the way of drawing would influence his approach to the composition?

Yes, in a way, because if you've ever used a rapidograph, depending on what kind of paper, when you stop and start you get these little blobs, which I in fact exploited in the very early pages. Like the Paul Klee drawings: he would make a line, then stop and change direction, and the ink will have flowed down and made a blob, and then he'd move on.

Yes, and this makes the line 'more alive'.

Yes, and in *Treatise* you have this too, and Cornelius sometimes tried to get rid of it. You can see it in the staves underneath on the left-hand side, quite often they have a little lump. And it was hard to draw circles without the lumps, without the blobs. And if you look very carefully, you can see them. So technically it was quite challenging.

Another discussion was on how many thicknesses of rapidographs he should use. Maybe it should be more than just one – so the centre line is a much heavier, thicker rapidograph. Most of the other drawings are done with a thinner rapidograph. I think there are three thicknesses in total.

You talked once about approaching Treatise as a kind of landscape. Could you elaborate a bit further on what you meant by that?

Yes, for example, if you would take three artists, three painters and put them in the same landscape, they would each end up with a very different image, depending who the artists are. And in a sense, what you do with something like *Treatise* is, it's what you do in a landscape, which is that when you look at the landscape, you pull down in front of you your own predilections, your own way of seeing. It's like a grid, or a filter. So you look through the filter with your own ideas – and I think with *Treatise* the idea was to pull down in front of *Treatise* your own filter on how you would see it. What results from that is your version of what's there. Actually, I never believed one should interpret *Treatise*, but that you should articulate it. The difference being that with interpretation you attempt to follow what the composer wants you to do, the intention of the composer. If you articulate it, then you don't think about what the composer wants, you see it through what you want to do. Therefore I think you need to look at *Treatise* in a highly specific way, which is your own.

Part of the original thinking for Cornelius was something which he got from Wittgenstein, was this idea, which goes back to a landscape, in a way, that idea of when you see a tree, in different cultures we produce a different sound in response to that fact, of the tree. This is very much like *Treatise*, that when we see a circle, for example, we each make our different sound-response to that circle, which is a part of what Wittgenstein was saying.

How was it to perform Treatise together with the composer, together with Cardew? Did he give you any guidelines or instructions to follow?

There were discussions, philosophical discussions on how you would approach something, saw something – there certainly would be no help on the sound world, the sound world was completely open. And I think if you approached it obliquely, Cornelius quite liked that.

I remember very early on people, Frederic Rzewski, for example, suggested that it would be a very good piece for measuring, that you could measure things – but Cornelius really didn't like that idea, that you would measure it. I think a mechanistic outcome would not be in the spirit of what Cornelius was attempting in *Treatise*.

I saw recently that someone, on the internet, had made a sine-wave version of *Treatise* and it's really anti-Cardew, it is very mechanistic.

It should be more flowing, more organic?

In the end it is music – no matter how you grapple with it, how you deal with it, in the end you have to be prepared to place it next to a Shostakovich string quartet. In the end, it's the quality of the music that comes out from it, not how clever your interpretation was, or how oblique, etc... It's a difficult one, because it's not an improvisation piece – I know many improvisers look at it and improvise, and they feel that's ok; but for me, that was never the correct way of approaching it.

Would you hold on to ideas in Treatise? If you once decided on something in the score, would you continue using it in future performances?

Yes I would. For example, with the circles. John Cage, in the very early, maybe the very first performance of any of the *Treatise* material, for the circles, he used a radio. On old radios you had a dial, a circle, which he moved.

In the world of, say, Baroque music, one is able to do performances based on things that you know from history, and play on the original historical instruments. You can also interpret Purcell in a manner which approximates to how they played it in 1680. So therefore you can do the same with *Treatise*. You can actually take ideas from earlier performances, that you have done, or other people have done, and actually perform it using the same ideas in the same context. So what I did, what I always have for the last 50 years or so, when I've played *Treatise*, for the circles I've always used a radio, which is kind of a tribute to Cage in a way, but it's also a way of recognising history – bringing historical ideas into the performance.

How did it work to have on one side the complete freedom of pure improvisation, and then to come to work with a score like Treatise?

I think for me it was always, if I imagined say Beethoven or Mozart or Bach or Franz Liszt, that they were great improvisers, and what I understand is that when Beethoven improvised, it sounded like Beethoven, it sounded like a piano concert, in a way you would recognize it from his language, but it wouldn't be a composition, it would have a certain character to it which came from the improvisation – and I think it's roughly similar with *Treatise*, it still sounds like me, but *Treatise* is controlling, what's on the pages in front of you is controlling when you stop, when you start, how and exactly what you do. So I think it fits in to the way classical musicians used to do improvisation in the past. But as you quite rightly say, in a reverse way for us, we were coming from the direction of improvisation into the world of composition.

You've commented that one of the most important, or challenging, elements of Treatise comes at the very start, on the first page, the number 34.

That right. It's impossible to know what (the hell) that's supposed to mean [laughing]... I remember talking to Cornelius about it many times. I think John Tilbury and I often kick ourselves that we didn't ask him more closely what was going on. But just thinking about Cornelius, and thinking about his attitude and the way he saw things, in a way I think it's like a gateway, an entrance.

One interpretation that Cornelius often did was to do something 34 times, which could take 20 minutes or something, so it was like a slowing down, a gateway. Before you enter this territory you should 'stop', and reflect on what you are about to do, don't rush into it. You don't dismiss 34 very quickly. Maybe you should take a long time.

So I think it was in a way a warning, like a road sign, a warning sign for what is coming up...

Indeed, another 192 pages are about to follow...

That's right [laughing]

So, I've always seen it as a warning. And it touches on something else in *Treatise*, and that is, again if you go back to the world of composition, that when you are playing a great work – if you are playing one section of the work you have to remember all the other sections, and the proportions, and the dynamics, and the approach of all the other sections, too. You can't just isolate one little bit and play it completely out of context to all the rest.

The idea is to get the architecture of the whole piece in place, and you always have that in your mind whenever you're playing the whole piece – and I think that's true of *Treatise*, that you always have to be remembering 34. You always have to remember the biggest blackest circles, you have to always remember the angles of the squares, and the big squares. So when you do something on page 45, you have to remember all the other square sections.

It is not possible to play a single page of *Treatise*, or a single part of *Treatise*, without regards to the whole – always remember the whole of the thing whenever you are performing it. And that's pretty impossible, but I think that should be the aim.

And how was it taking part in performances of the complete score of Treatise?

I remember in an art school up in York we did a complete performance taking 8 or 9 hours, which is quite quick. I think it should probably take about 18 or 19 hours on a reasonable pace.

One of Cardew's comments, which intrigues me, about performances and interpretations of Treatise, is when he says that for him one of the most successful performances he experienced was with a group of art school students. Is that something you remember hearing about?

I'm not sure which one he is responding to, or referring to, but I can well understand him saying that. Cornelius liked freshness, and that would have come out of the students in terms of the sound world and the way that they saw it, that they would have read it in a completely different way than trained musicians had, or would have.

For example, a traditional musician would normally read it as a normal score, going from left to right. But the students saw it differently, their approach was more open, and some might have ventured into inventing their own instruments, and stuff like that...

That somehow refers back to the beginning, when you met up with Cardew, that he was looking for people, performers that were visually trained.

Yes, and that is what was interesting - it was a nice process - that there were times that I could see things in *Treatise* which he hadn't seen, and then of course he would point out things which I hadn't seen too, and that was a very nice process of finding just remarkable occurrences.

Indeed, it can be a valuable part of the process to have an extra pair of eyes to look at your work from a different angle - or an extra pair of ears...

Yes, and sometimes disturbing as well [laughing]

I think one of the skills is to be able to bring these filters down, so that you can only see it [*Treatise*] in a particular way, for example, only see right angles. Then you develop an eye for right angles. And I think that's the way Cornelius liked to approach the score, and liked that you would approach it, with a very very specific notion. That you would only perform when an angle less than 90 degrees is followed by a number, for example. So you might sit through a performance, page after page, without doing anything. And that, I think, was very important, the kind of filtering out how you see it.

Would you say that working with a score like Treatise inspired, or induced you, to search for 'new' sounds?

It does encourage you to discover new things, which you wouldn't have done otherwise. For example, sometimes what I would do for a page would be to approach the page as gesture. So it would suggest that you move your hands in a certain way ...

A sort of choreography?

Exactly! So you would move your hand this way, or that way. Then you'd pick up a long object, utilize it in a way which made sense given the score - then a round object, a round stone, or a circular object, or a heavy object, or a light object, and actually manoeuvre it around the surface of the guitar strings, vis-a-vis the actual indications on the score.

And there were times – I remember once in America that we did a performance with students. We just got into a car and used the score as a map.

An important part of Cornelius was his skill of observing, observing the world around him, and I recall doing workshops with him where we would take the students onto the road, onto the streets and just get them to look around, to improve their ability to look. That kind of looking and seeing was very important for Cornelius.

And the combination of listening and looking has been a part of your own work over the years, when you do collaborative work with visual artists such as Malcolm Le Grice or Kjell Bjørgeengen.

Yes, Kjell is a performer I have worked a lot with, combining video image and sound. And Malcolm and I have over the years done some collaboration, but not on a regular basis.

In a way, I think that what I do on the instrument *is* painting. It's just highly disguised. I think it is actually impossible to describe it, the process. I think what happens is that the input is from the agenda of painting, but what comes out, the vehicle for its transmission, is music. So for me, it kind of unites these two things.

What Cage and Rauschenberg, or David Tudor and Rauschenberg, brought together at one point, for me, I can hear it as music, I can also see it as painting. So it is not very clear what it is ... in a sense it's indescribable...

Is your approach then the same when working with visual artists like Kjell or Malcolm, as with AMM or other musicians? Do you feel that the visual works are some kind of score which you then follow?

With Kjell it's different, in the way that we work in a specific manner, maybe quite a restricted manner, based around the philosophy of [Slavoj] Žižek - the idea of violence. I

suppose it comes from the observation that the video monitor is perhaps the most violent object in the world in terms of what it does, and what comes from it. It's invisible, a kind of violence we don't normally recognize. I think the idea is to use the object of the monitor – strip it of its normal content, and actually show the basic flicker, as a basis of cinema and audiovisual, and exploit that quality and express a kind of violence which is normally invisible.

Whereas Malcolm is working in a very different way from that. *After Leonardo* is much more [about] European painting, and the space that you are in, and the interaction of the people and the artistic spirit. So it's much more open, much more expansive – well, it is expanded cinema, I suppose, in a way, where as Kjell is very minimal, very concentrated, and tries to reveal something very different.

Would you say that this also reflects the idea of the performance ... the space ... your way of always being IN the space ... IN the moment?

Well, that is all that exists, nothing else exists, just that moment that you are there, doing it. That's the reality of those moments.

PORTFOLIO

LOOKING at SOUND / LISTENING to IMAGE

WORKS 2008-2012

by

HALLVEIG G K ÁGÚSTSDÓTTIR

scores & sound drawings:

projection-reaction (2008-2009)

de(re)construction (2009)

performance sketches... (2009)

31 (sound)studies on paper (2010-2011)

composedDRAWING #1 (2011)

drawalineand*listen*toit (2012)

R=15 (2012)

Hallveig Agustsdottir

'projection - reaction' for violin(s)

instructions for

projection - reaction / a composition for violin(s)

(with accompanying video projection)

I Score

1m-4m

The score is thought of being in 4 movements, and each movement has a dominant note with in it. It should give the 'colour' to the music - it is the centre point to the activities within the movement, however, it need not be used exclusively.

A1-3, B1-2 & C1-2

The score is divided into 4 major groups, A1-3, B1-2, C1 and C2. The idea is that C2 is to be used both as a source material in itself but should also infiltrate into the other groups. The performer can chose a section from C2 to use in the other 3 groups as she/he wishes, or use it as a guide to any other material she/he would like to use.

A1

This section can be repeated, but need not be. If it is repeated then it should not sound the same both times. It is also possible to only repeat one or two of the three lines.

ad libitum...

The idea is that the 'personality' of the composer and the performer mix in the performance of this piece. The composer brings the material and then the performer adds her/his own impression onto it, her/his own characteristics.

Nothing is fixed in the score, anything and everything is open for change from the performer. What is written down is more to give an atmosphere, a colouring to what the music should/could be about.

In short, there is in fact an *ad libitum* over the whole score even though there are some additional indications of it within the score.

II Graphic score

The performer can look as wide or as close into the score as he/she wishes, that is he/she can focus in on specific details to use in the performance, e.g., chose only four or five items/images out of the whole score, or read it in its totality to get a visual stimulation to what the music is about.

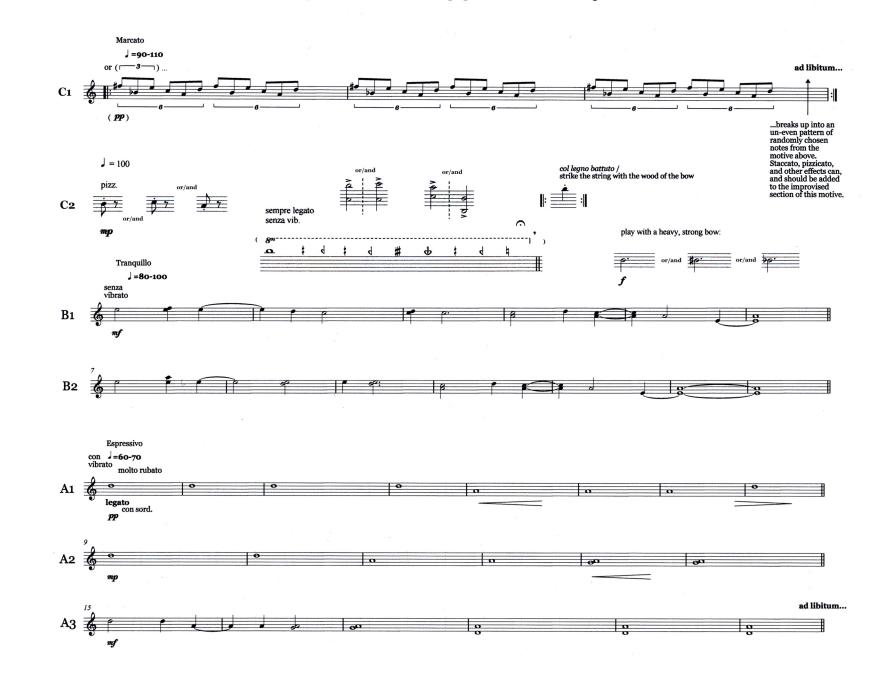
III Video

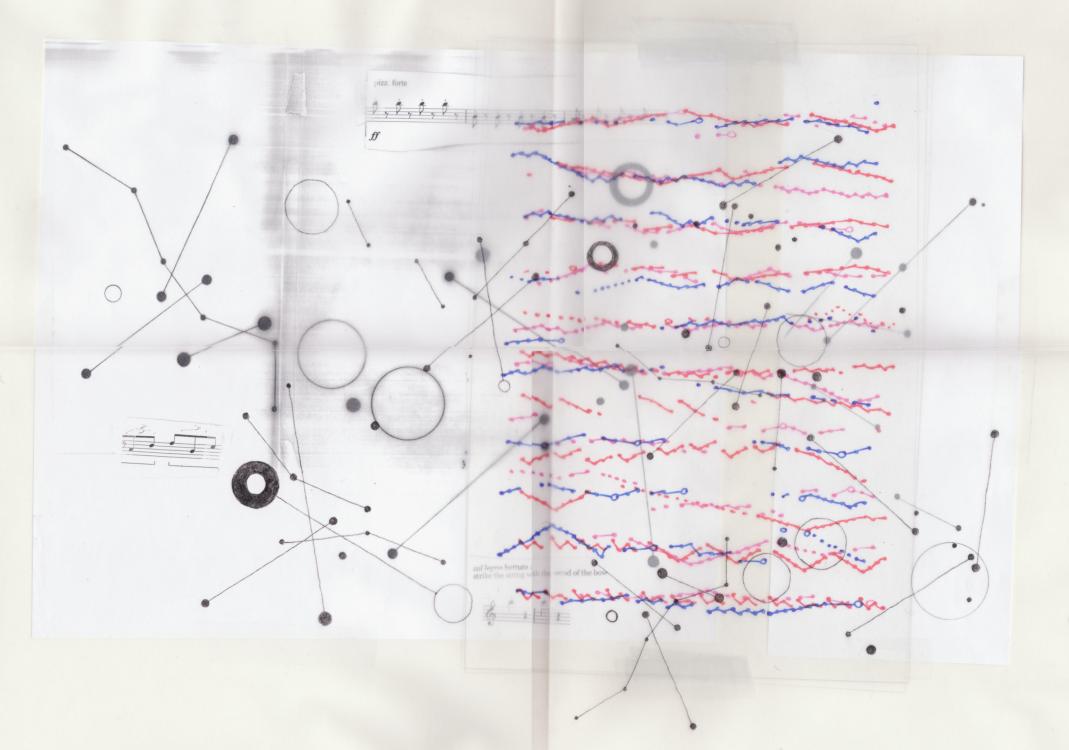
The video composition gives a fixed structure to the performances (see timeline), and allows the performer to work with variety of layers and superimpositions of both audible and visual material. By making a pre-recorded video work of the musician in addition to the visual score creates a platform where both concrete and improvised material can come together during a performance of the work.

When working with the video projection there is also an improvised reaction process created for the musician as he/she searches for a way to connect with him/her projected self on a screen in front of him/her. Thus exploring the physical awareness of him/herself in movement and in sound.

'projection - reaction'

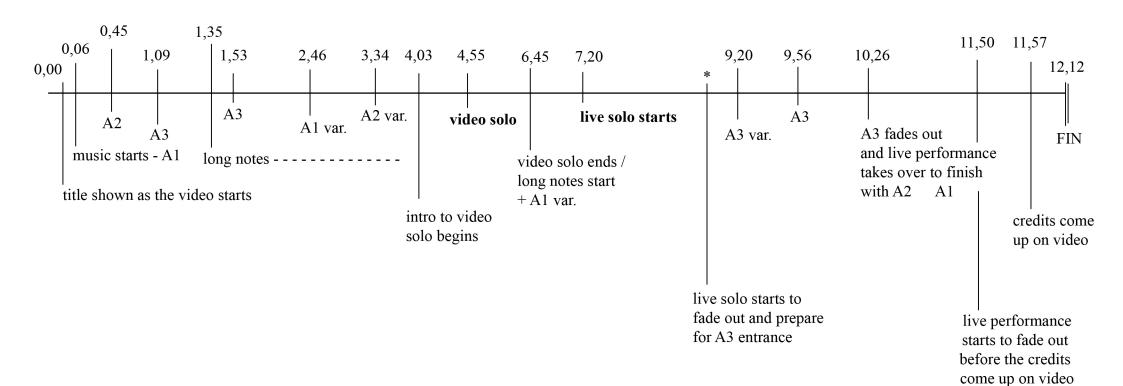
The score need not be played exactly as written - it can also be a source of inspiration for the musician in connection to the graphic notation and the live performance.





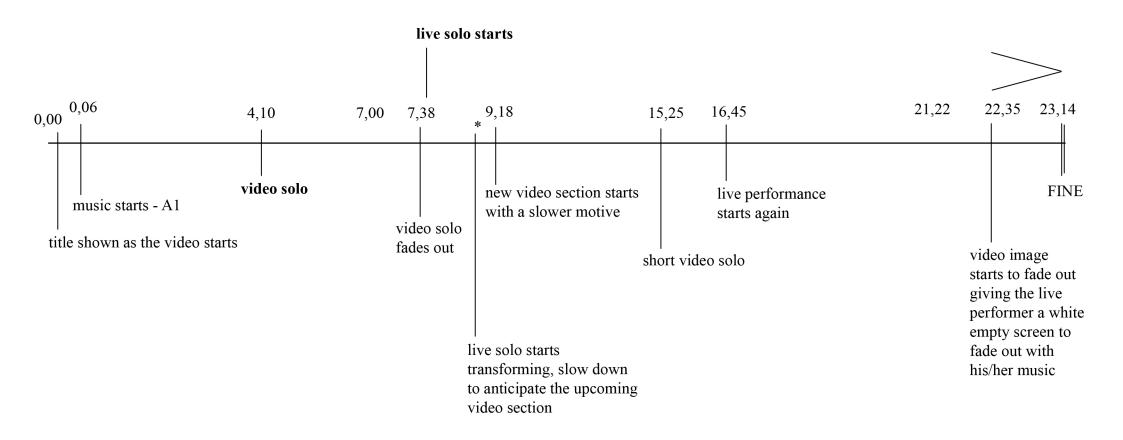
TIMELINE (2008)

for live performance with video



TIMELINE (2009)

for live performance with video



Projection-reaction has been performed twice at this point, on 20th May 2008, and again on 10th November 2009), both times by Marieke Berendsen for concerts at Logos, a centre for experimental music and sound art in Ghent. The first performance was about half the length of the second one, which was about 23 minutes. I reworked and re-edited the video part for the latter performance to add more space/time for the musician to work with and to develop the sound material.

Hallveig Agustsdottir

de(re)construction for Frederik's piano(s)

de(re)construction

- a [video] composition for Frederik's pianos

INSTRUCTIONS:

CONCEPT

The title of the piece points directly to the compositional concept of the work, i.e., to deconstruct and reconstruct, and deconstruct again the folksong¹ which is rooted within the work.

AUDIO/performance

The score² need not be read entirely from left to right, or from top to bottom – it is possible to 'travel' back and forth within a single page as well as in the overall score. It is possible to read two pages at a time and/or take an element from one page and play it with the material of another, i.e., the performer can do his/her own deconstruction and reconstruction of the score.

The score is composed under the general assumptions that the larger an image/sign/symbol is, it can be associated with increase in dynamics and/or belonging to a lower tonal register. The same applies to smaller visual imagery, i.e., the smaller an image/sign/symbol becomes the higher in pitch it can become and/or softer in volume.

VIDEO

For the video³ composition the score acts as a visual guide as to how to handle the audio and visual recording, i.e., it demonstrates the fragmentation, deconstruction, reconstruction, distortion, and superimposition of the material.

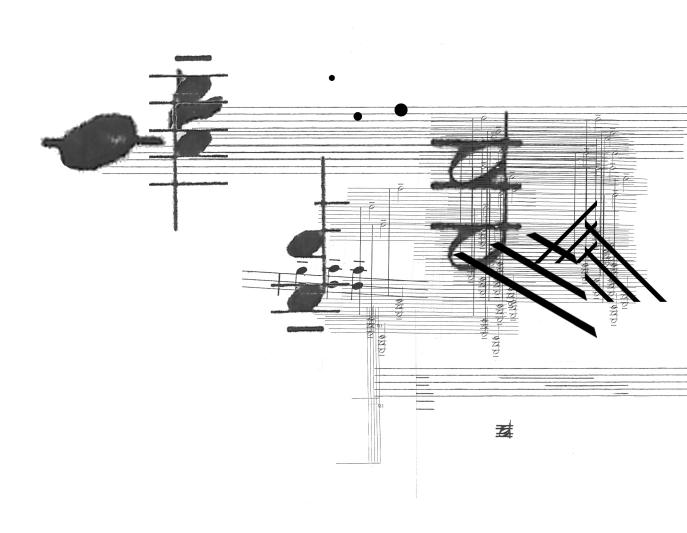
When composing the 2009 video performed by Belgian pianist Frederik Croene, we made several recordings that I then edited together into what became the final version of the piece. At the centre of the work is the Icelandic folksong *Ísland Farsældar Frón*, which Frederik studied from the arrangement I had made of it in 2007.

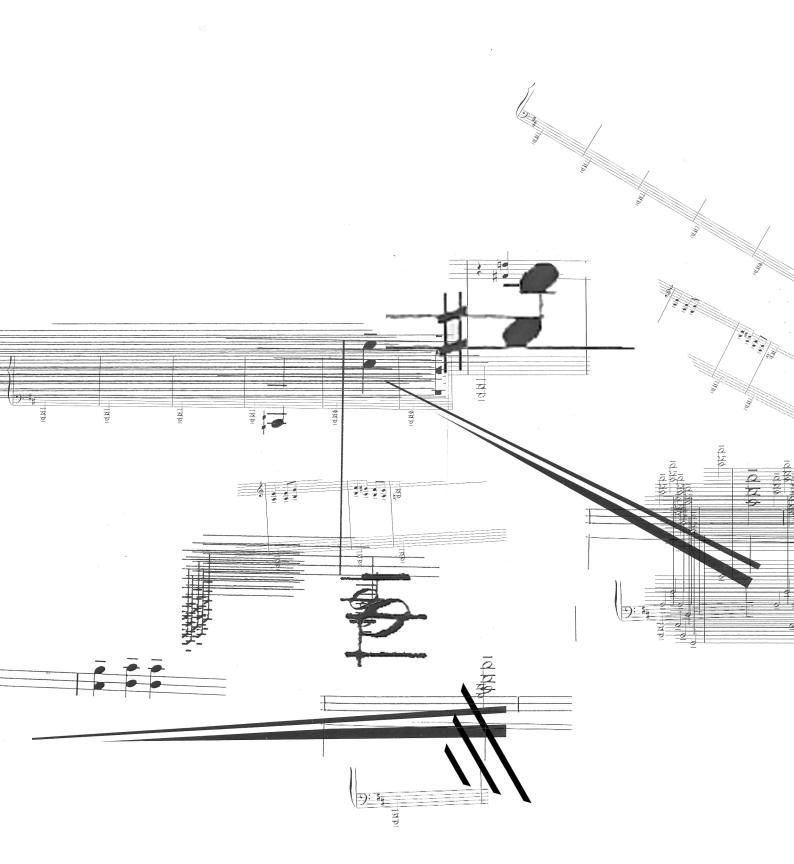
In the first recording Frederik gives as close an interpretation of the folksong as possible - playing from memory - so as to allow his own response to the music to become mixed together my arrangement. Then during the following recordings, each version enhances the improvisation element, moving further and further away from the original material; however, still keeping in mind the tonality and atmosphere of the song.

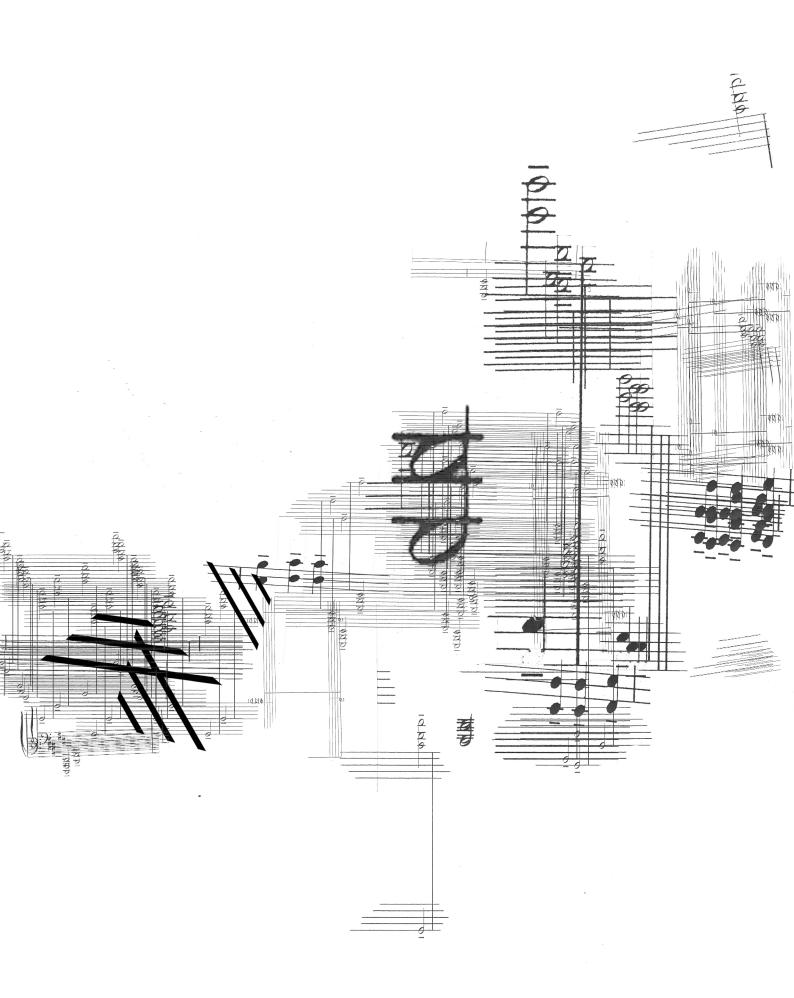
¹ The folksong used in the composition is ÍSLAND FARSÆLDAR FRÓN (poem by Jónas Hallgrímsson 1807-'45). The version of the song that I am using here is an arrangment I did in 2007 from Jón Leifs *Ísland Farsældar Frón (Isländisches Praeludium)*, Op.2, No.2 (see **APPENDIX**).

² For the first realization of this piece the pianist Frederik Croene had only the arrangment of the Icelandic folksong to work from. The final score which is presented on the following pages was composed after the video version of the piece had been completed.

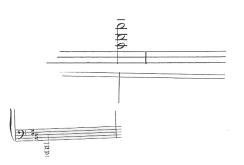
³ It is possible to skip the video projection and make instead a version of pre-recorded tape composition to play in accompany with a live performance of the piece.

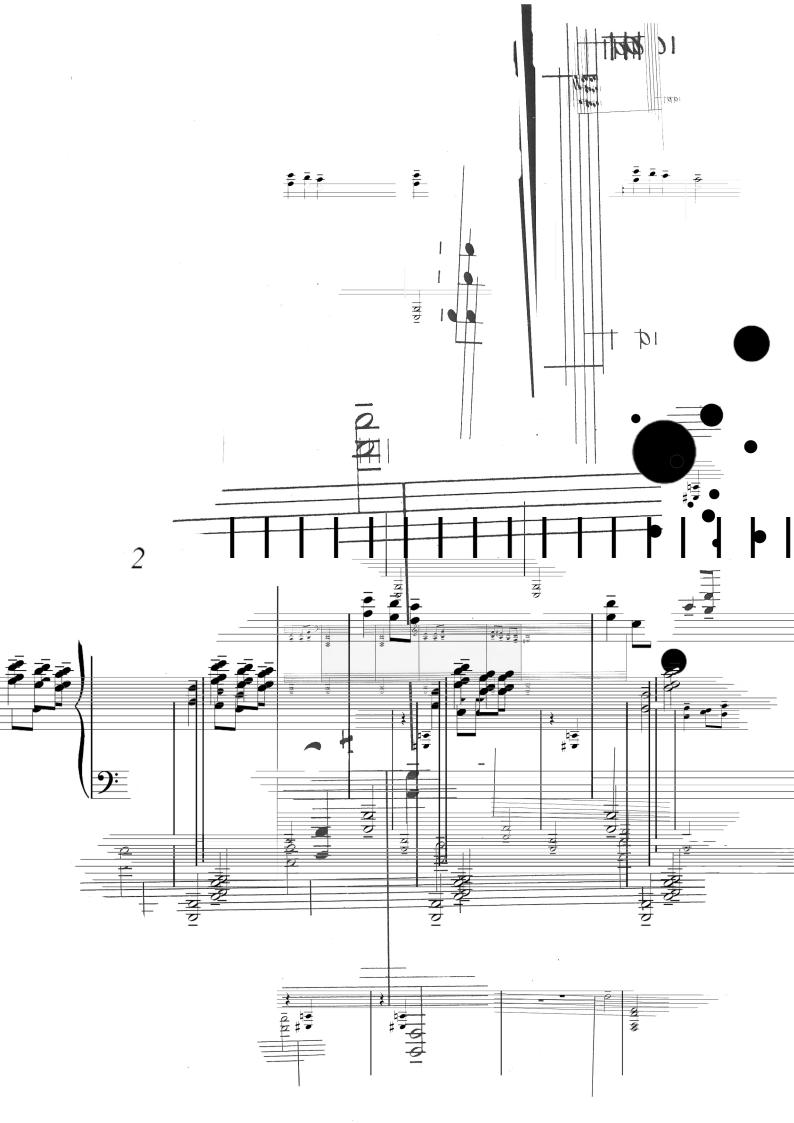




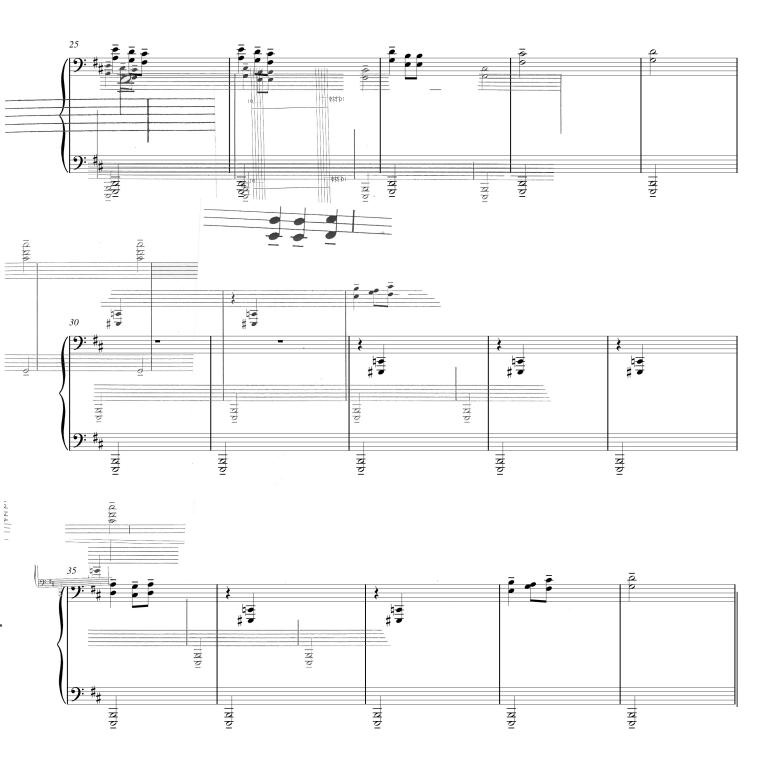


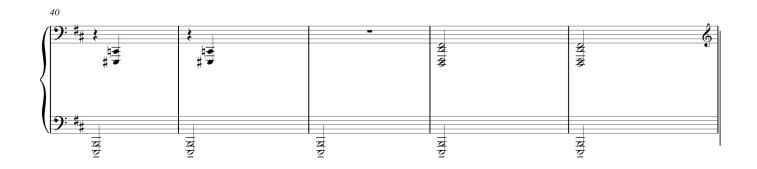


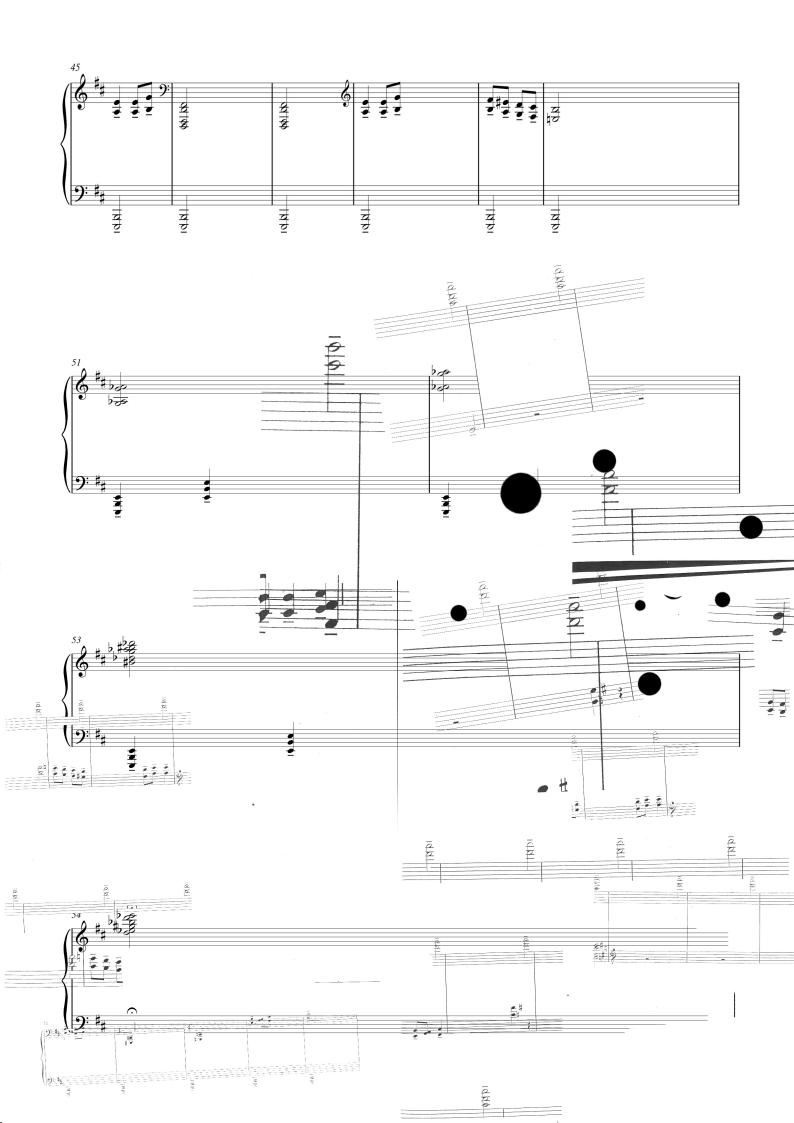


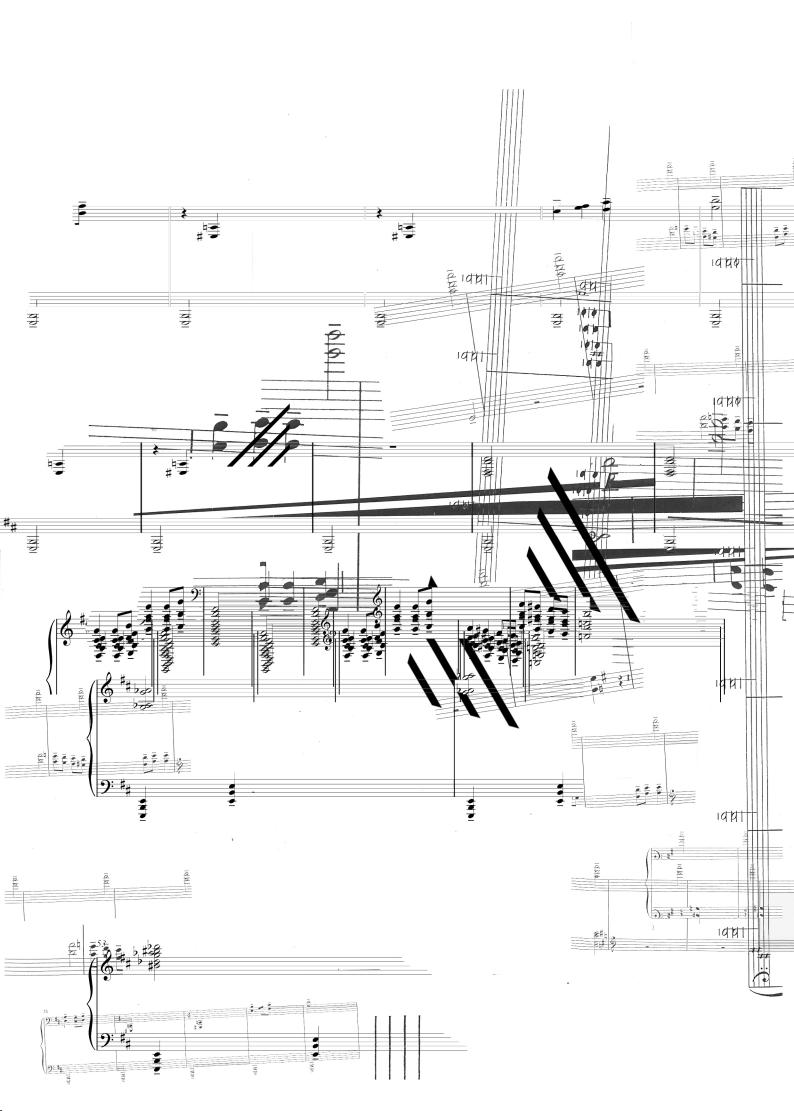


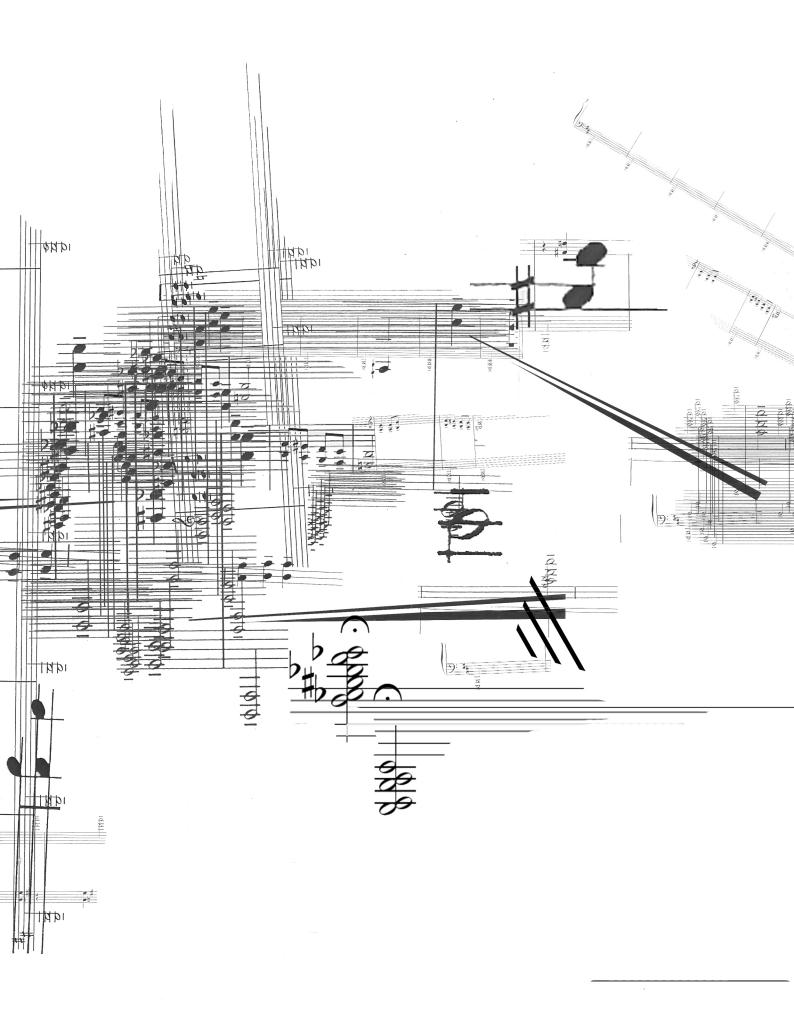


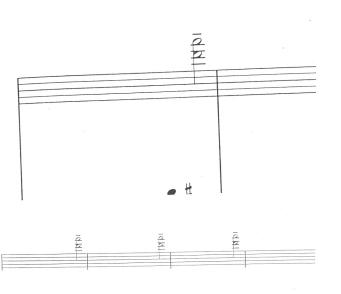










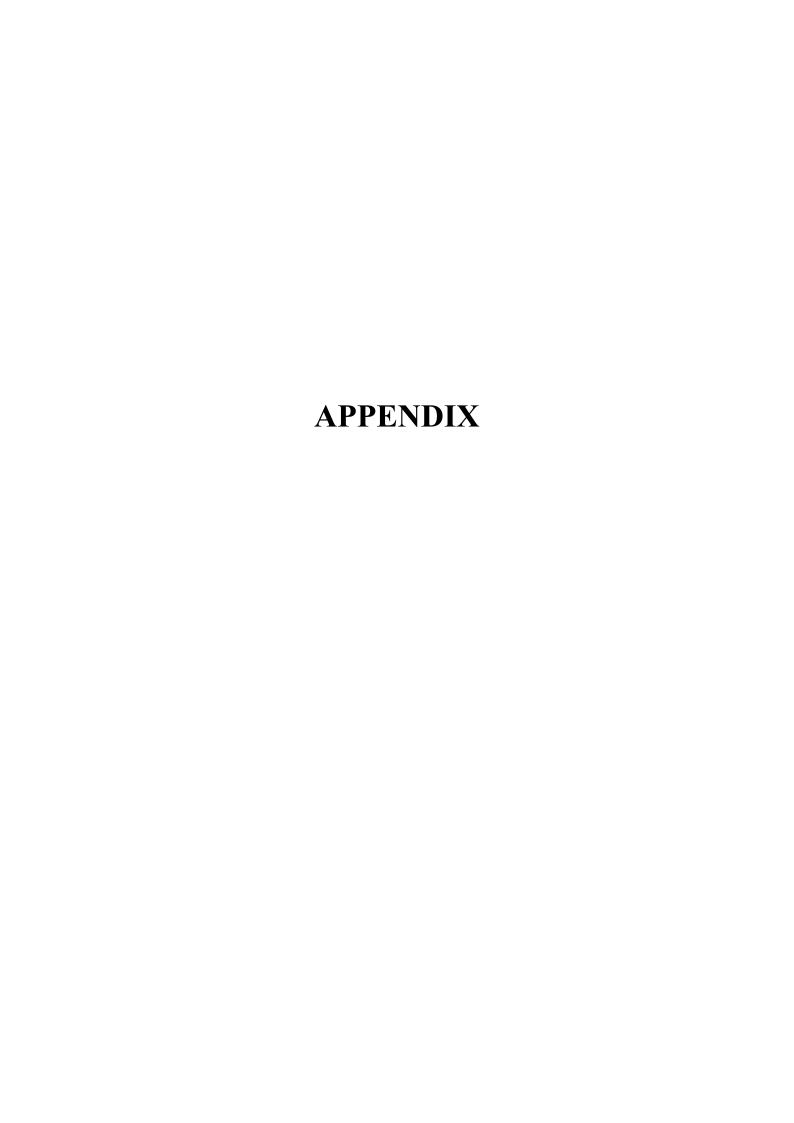




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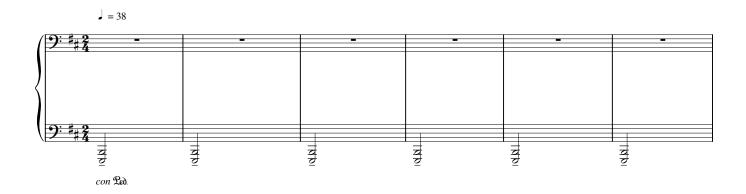
De(re)construction has been screened twice; at a concert in Logos, centre for experimental music and sound art, in Ghent on 10th November 2009, and again during a performance festival at the OFFoff Art Cinema in Ghent, on 26th June 2010.

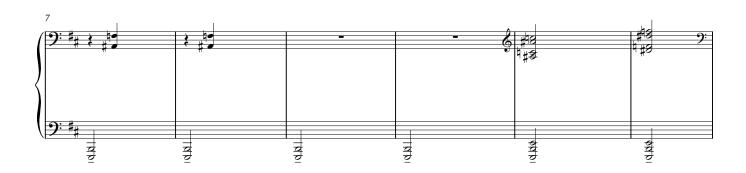


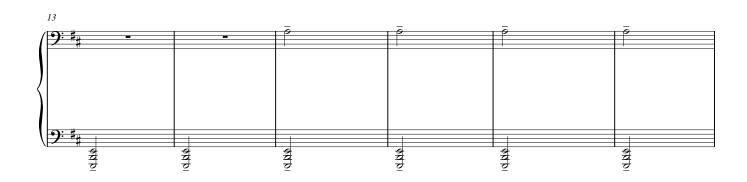
Isländisches Praeludium

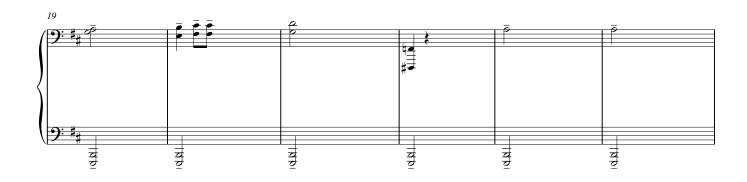
"Ísland farsaeldar frón"

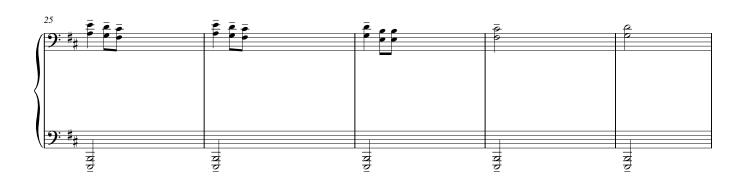
Jón Leifs, Op.2 No 2 arr. Hallveig G.K. Ágústsdóttir 2007

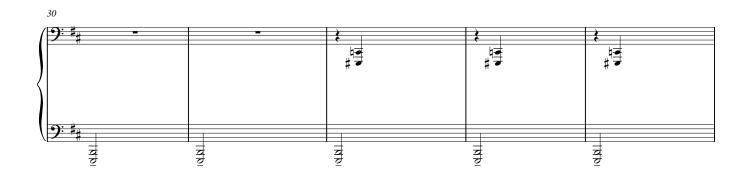


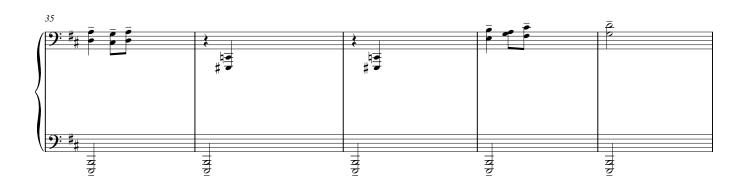


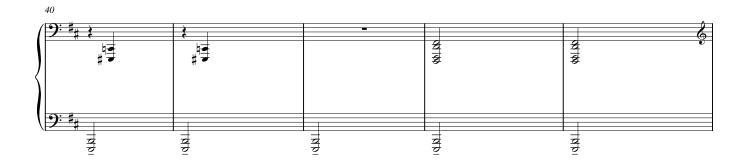




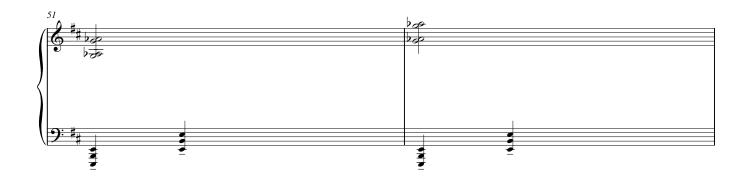


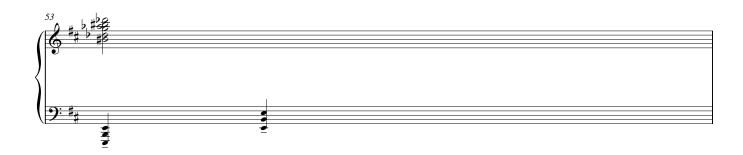


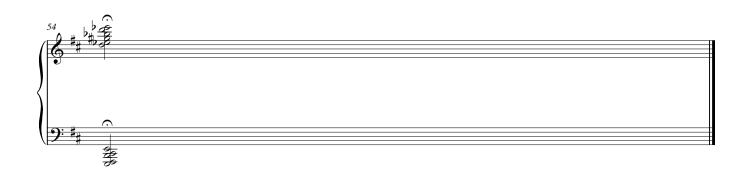












HALLVEIG AGUSTSDOTTIR (2009)

performance sketches...

for one or two musical instruments
 & an amplified live sound-drawing
 with visual projection

Instructions:

This performance piece is intended for one or two musicians that will be following a graphic score that is being drawn in real-time by a third performer.

The performer that draws out the graphic score will also be producing sounds by using contact microphone attached to the surface on which he draws on.

All performer should study the meaning of particular signs shown on the following page. The performer that will be drawing the graphic score should not have a fixed structure prepared beforehand - the purpose of the real-time drawing of the score is so that what is happening in the moment should influence the next move in the performance, the next sign that will be shown.

The performance should not be shorter than 7 minutes, and should not exceed 30 minutes in total playing time.

	<pre>verticality / events : something short, compact</pre>
	horizontality / happenings : something that continues
	<pre>open forms : simplicity, fragility, openness</pre>
•	filled forms : density, cluster
	The different-sized forms/signs indicate relative periods of duration, or volume. The larger the form/sign, the longer and/or louder the interpretation of the sound is.
	dynamics / texture :
	low / soft
	medium
-	loud / hard
	dinashian of a builded indicator .
A 4 + T	direction of a triangle indicates : 1. to play high pitch
1. 2. 3. 4.	 to play middle to high pitch to play middle to low pitch to play low pitch
	Triangles 2. and 3. can also give instructions on dynamic changes, (2. = cresc. / 3. = dim.)
• the circle	: smooth action (without accent); continuous action / circulation
the square	: restricted, limited action; with a clear beginning and end indication tempo - $4/4$
▲ V the triang	<pre>le : restricted, limited action; with a clear beginning and end indication tempo - 3/4</pre>

Performance sketches... have been performed on two occasions so far, first at a concert in Logos in Ghent on 10th November 2009, and again at the Art Academy in Waasmunster, in Belgium on 25th November 2010. The line-up for the first performance was with Frederik Croene playing with his unattached piano keys inside the body of a grand piano, Marieke Berendsen playing the violin, and myself with amplified live drawing.

On the second occasion *performance sketches*... was performed by pianist Frederik Croene, this time on a dismantled piano frame of his, and myself with amplified live drawing, but no video projection – the emphasis was purely on the sound.

Performance sketches... is scheduled to be performed at PERFORMATIK, a Festival for performance art at Kaaitheatre in Brussels on 26th February 2013.

Hallveig Agustsdottir

31 (sound)studies on paper

a series of sound-drawings

Scraping the surface

about the drawing of Hallveig Agustsdottir

Being fascinated by the relation between music and visual art and not wanting to choose between them, Hallveig Agustsdottir turned to soundscapes in her most recent drawings. She started a quest for an accurate way of depicting music, sounds, noise. Yet this sound-based approach turns out to be a starting point for exploring texture and material. By restricting herself to an artist's basic materials (paper, charcoal and white acrylic) she seems to discover freedom within this strict limitation.

Paper, more so than canvas, is sensitive to mark making and thus can be dented and scarred. by carving, scraping and injuring, the paper itself becomes textured which affects the black of the charcoal and the white acrylics applied on it. The unctuous wet gesso disintegrates the charcoal at some points in unintended veils of brown and blue while the surface becomes a bursting crust that erodes and recovers itself through the both soft and powerful handling of the materials.

Through an aleatoric method of working Hallveig shows us the importance she attaches to the process of the making of the drawings and wipes out the difference between noise and music, scribbling and drawing, black and white. She accepts all consequences of every mark and that implies that every drawing is worked on until it satisfies and has balance. Layer upon layer is added - erasing is obtained by adding more drawing and gesso. In that way the drawing process evokes a whole world of creation and destruction, light and dark, with reminiscences to landscapes, musical scores and noise. And the viewer isn't even forced to choose between them.

Michael Bouchez © 2010





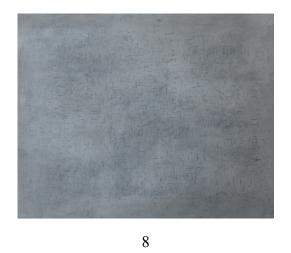
































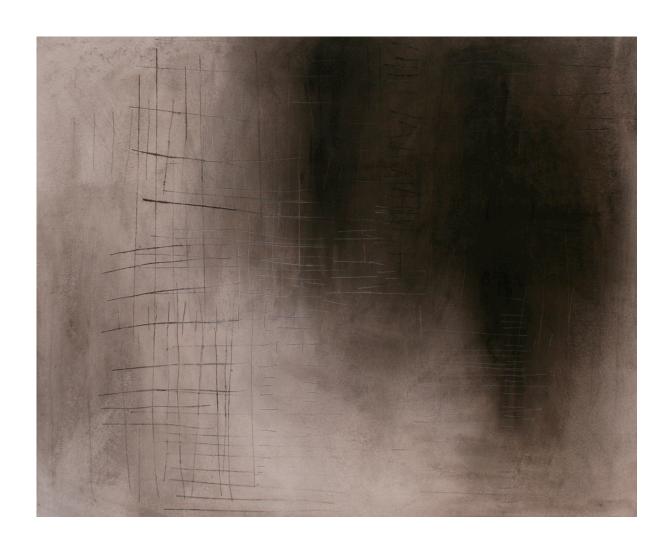


















27 (see detail on the following page)











Sound drawings were shown in the following exhibitions:

- VIER, DIE AUSZOGEN, Weltecho Gallery, Chemnitz, DE SOUNDS, in Arts & Books Gallery Draulans, Westerlo, BE OBJETs SONOREs, at b-gallery, Brussels, BE FOLLOW the LINE, at Secret Kitchen Gallery, Temse, BE
- 2011 CROX 352, in Croxhapox, Ghent, BE TEKENKUNST, at CC Zwaneberg, Heist-Op-Den-Berg, BE What you see is [not] what you see, at Borghoutstraat 44, Antwerp, BE CHARACTERS MAKE STORIES*, at NICC, Antwerp, BE
- 2010 PRIJS VAN ASSE, in Kapel Zwartzusters, Asse, BE

SOUNDSCAPE

(Two different soundscapes were played into the exhibition space during these exhibitions. The material used to compose the soundscape was from audio recordings made during the making of my sound drawings).

- I *CROX 352*, in Croxhapox, Ghent, BE
- II SOUNDs, in Arts & Books Gallery Draulans, Westerlo, BE and in the exhibition What you see is [not] what you see, at Borghoutstraat 44, Antwerp, BE

crox 352 - 'improvisation on a drawing'

At the moment the sound drawings have only been used as graphic scores on one occasion, which was at a concert organized during my solo exhibition *crox 352* at Croxhapox in Ghent.

The works were interpreted and improvised on during an hour long concert by violinist Marieke Berendsen on 13th February 2011.

HALLVEIG G K AGUSTSDOTTIR

composedDRAWING #1

for a sound drawing performer and a sound drawing video composition

HALLVEIG G K AGUSTSDOTTIR

composedDRAWING #1

composedDRAWING #1 is a composition that is intended for a sound drawing video composition and a live sound drawing performer

Instructions:

The sound drawing performer should look at the video composition as both an audible and visual score. He/she should familiarise him/herself with the structure of the video, its visuals and sound material and use it as guidelines for his/her own interpretation.

The performer should in fact attempt to know as much of the video's material by heart, so as to be able to cue his/her live performance together with the video during a live concert (see TIMELINE).

When giving a live concert of *composedDRAWING* #1 the video should be played two times, first time as a solo but for the second time the sound drawing performer starts up a duo/dialogue between the fixed composition and his/her interpretation/improvisation.

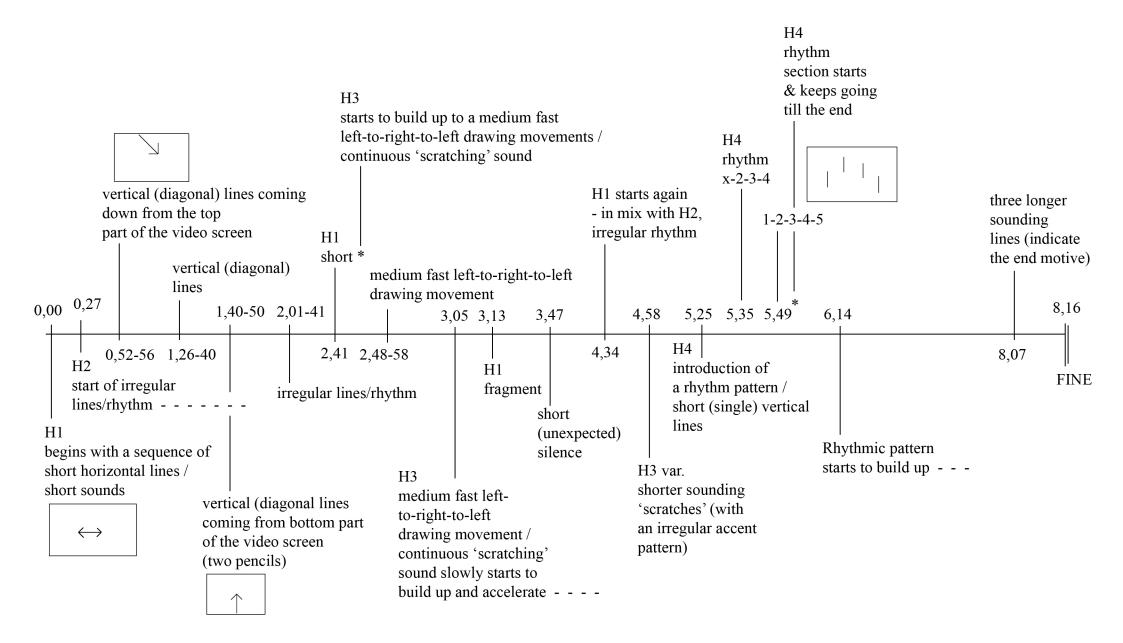
A pencil is the only sound source in the video composition; however the performer is free to add other drawing materials to have a wider variety in his/her sound production.

The sound drawing of the live performer should be amplified to mix together with the audio of the video composition.

There should also be a live projection of the sound drawing, which can either be layered on top of the video composition projection, or the projections can be situated side by side or overlapping in any way the performer chooses to present it.

composedDRAWING #1 (2011) - timeline:

for live performance with video



composedDRAWING #1 has been performed twice so far; first during a post residency showing at Q-02 werkplaats in Brussels on 8th April 2011, and second time during a concert at the Music Academy of Oud-Heverlee, in Belgium on 22nd June 2011.



Residency at Q-02 April 2011

HALLVEIG AGUSTSDOTTIR

drawalineand listentoit

for a sound drawing performer

HALLVEIG AGUSTSDOTTIR

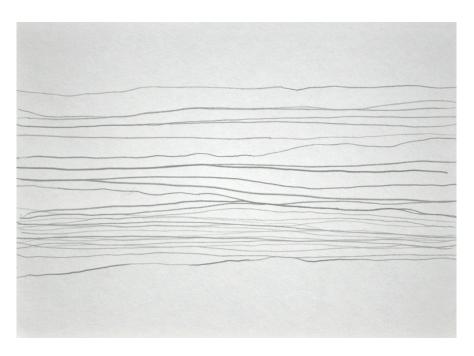
drawalineand listentoit

for a sound drawing performer

* inspired by La Monte Young's Composition 1960 #10

Instructions:

- draw a line and *listen* to it



drawalineand*listen*toit

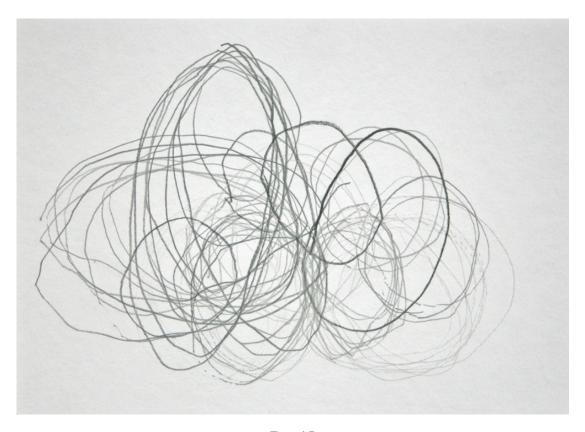
03:52
pencils on paper
15x21 cm
201

*drawalineand*listen*toit* has been performed twice this year – first performance took place during the opening of the group exhibition VIER, DIE AUSZOGEN at the Weltecho gallery in Chemnitz, Germany on 24th March. The second time I performed *drawalineand*listen*toit* was during my solo exhibition OBJETs SONOREs at the b-gallery in Brussels on 21st April.

HALLVEIG AGUSTSDOTTIR

R=15

for a sound drawing performer



R = 15 10:38 pencils on paper 15x21 cm 2012

HALLVEIG AGUSTSDOTTIR

R=15 * inspired by Cage's *Ryoanji* compositions & drawings

for a sound drawing performer

- Use 15 stones (size is optional)
- Each stone is used only once
- The order of the stones is up to the choice of the performer
- The placement of the stones on the surface of the paper is arbitrary
- There are six options of the number of traces made around each stone, which are in the following sequence:

$$4-1-3-1-9-7-6$$

- It is not necessary to start on the first number (4) you can start wherever you like within the sequence of tracing numbers; however, you must follow the order from left to right, and when you reach the last number (6) and you still have stones left to trace around then start again on the first number (4)
- It is not allowed to alter the order of the numbers in the tracing sequence
- Each trace number has a designated pencil grade accompanying it:

$$4 = 10H$$
 $1 = HB$
 $3 = 2B$ $9 = 6H$
 $7 = 8H$ $6 = 4H$

- It is up to the performer whether to trace softly, average or strongly around each rock, thus altering the dynamic of the sound
- It is possible to vary the strength/dynamics of the tracings within a single tracing action, e.g., while tracing seven times around a chosen stone you can start by tracing softly for the first the circle and then have the last four with harder/stronger tracings
- It is also up to the choice of the performer to decide whether to move slowly in the sound producing actions or more rapidly indeed this can be varied in the same manner as the strength/dynamics



Photograph of video projection during a performance at the Art in Translation conference in May 2012.

R=15 has been performed on three occasions this year. First performance was during a presentation at MUSICA, Impulse Centre for Music in Neerpelt, Belgium on 14^{th} April. The second performance took place during a performance lecture at the Art in Translation conference in Reykjavik, Iceland on 25^{th} May. And the third performance was during a concert on 21^{st} June at the Music Academy in Oud-Heverlee, in Belgium.