

FOLIO OF COMPOSITIONS

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Abstract

This folio of compositions represents three years of practice-led research into the development of my own distinct compositional voice, through the use of techniques and ideas that I have explored and developed. All of the works presented here are concerned with at least two of the following areas, which have been the focus of my research during this time: note rotation as a method for expanding on a small amount of material, free rhythm and bar-less notation, movement form, and the corporeal aesthetic of the American composer Harry Partch (1901-1974).

The pieces in this folio were all written between October 2009 and September 2012. They employ a variety of forces, from chamber to orchestral, including two vocal works. Through these compositions, common threads can be traced, as I explored and investigated these different compositional techniques and ideas, all of which reach a peak in the two summative pieces of the folio, the orchestral work *trees and paths I loved fade* and the smaller-scale song cycle *cloud chamber music*.

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The music department at the University of York is a lively environment for composers, and I would like to thank many composers and musicians both in the MRC (music research centre) and elsewhere for being sounding boards for ideas both large and small: these include Mark Hutchinson, Martin Scheuregger, Christopher Leedham, Rafael Karlen, Jonathan Brigg, Nora Ryan, Rich Powell, Emily Worthington and many more.

I have been very lucky whilst at York to be involved in innumerable performances of a huge variety of a music, as both a horn player and a conductor. Performing is a large part of my musical experience, and very helpful in spurring my creativity in composition, whether I am performing contemporary music or anything else. Therefore I would like to thank the many ensembles who have provided me with so many opportunities to perform a wonderfully diverse array of music.

Throughout both my MA and PhD, my supervisor, Dr. Thomas Simaku, has been a constant source of encouragement and help. Supervisions with Thomas always resulted in a large dose of fresh inspiration and ideas, and his own passion and enthusiasm for composition is infectious and invaluable. The Department of Music at York has been a wonderful place to study and develop, and I would like to thank them for the many opportunities I have been given whilst here. This PhD would also not be possible without the generous funding of the Arts and Humanities Research Council.

Finally, I would like to thank several close friends, some of whom have been named already but also Emily Scaglioni, Jennifer Brady and Rachel Wilkinson, and of course my family (Mum, Dad, brothers, sister, in-laws and nieces) for their constant and unconditional support.

Chronology of the works in this folio

The table below shows the eight pieces roughly in the order that they were written. I usually write dates in the format season/year on my scores partly for poetic reasons, and partly because it is often difficult to be any more precise about when I have finished a piece. Première dates refer to full performances in concert, and not to any prior workshops. The final two columns show the approximate duration and number of movements, and the number of musicians (including conductors) involved in a performance of each piece.

Piece	Date on score	Première	Duration (movements)	Number of musicians
<i>Symmetry Trio</i>	Autumn/Winter 2009	-	6'	3
<i>with ripples like dragon scales</i>	Spring/Summer 2010	10/9/2010	10' (three)	3
<i>Five acts</i>	Autumn 2010	-	13' (five)	12
String Quartet #2 <i>in a silent way</i>	2010-11	5/12/2011	14' (six)	4
<i>Twilight Songs</i>	2011	9/12/2011	7' (two <i>attacca</i>)	13
<i>Aino</i>	Spring 2011	22/5/2012	10' (five)	2
<i>trees and paths I loved fade</i>	Autumn/Winter 2011/12	22/2/2012	14-15' (four <i>attacca</i>)	45
<i>cloud chamber music</i>	Summer 2011/ Winter-Spring 2012	5/6/2012	17-18' (nine)	6

Contents of the accompanying CD and DVD

I was fortunate enough to receive full performances of six of the eight compositions in this folio. Recordings of these performances are all included on the CD. The only pieces in this folio not to have been performed in any way are *Symmetry Trio* and *Five acts*. However, I have included an electronic realisation of *Symmetry Trio*, which gives an adequate impression of the piece.

Additionally, I have included a video DVD which contains performances of the final two pieces of my folio, *trees and paths I loved fade* and *cloud chamber music*, the latter of which was semi-staged and performed from memory by the soprano soloist. These videos document the same performances as those on the CD.

The recordings vary with regards to performance quality, but all of them offer at least a satisfactory representation of the pieces. Perhaps the most noticeable discretion from the printed score actually occurs in one of the strongest performances: towards the start of *With ripples...*, the percussionist suffers and then admirably recovers from a vibraphone malfunction (the pedal falling off), which slightly throws the first section off balance. Though all the scores have been revised since performance in terms of presentation, there have been very few material changes to the actual music.

Recording quality is also varied: *trees and paths* was recorded by a music technology student using several microphones, whilst most of the pieces employed single or dual microphones. In *cloud chamber music*, the microphones were situated behind the ensemble, to the slight detriment of the soprano and guitar parts (particularly in the quietest moments). Also, the recording of the string quartet *in a silent way* suffers from a constant hiss. Over the page is a list of the recordings as they appear on the CD, along with the date and venue of each recording and the performers involved.

- 1) Symmetry Trio
Duration: 5:38
Sibelius 7 Sounds (chamber) realisation (November 2012)
- 2-4) With ripples like dragon scales
Duration: 9:28 (4:32, 1:58, 2:58)
Recorded 10th September 2010, Sir Jack Lyons Concert Hall
Lu Yan *violin*, Mark Hutchinson *piano*, Martin Scheuregger *percussion*
- 5-10) String Quartet #2 - *in a silent way*
Duration: 12:28 (2:40, 1:20, 1:48, 1:34, 2:12, 2:54)
Recorded 5th December 2011, Sir Jack Lyons Concert Hall
The Kreutzer Quartet - Peter Sheppard Skærved, Mihailo Trandafilovski *violins*,
Morgan Goff *viola* and Neil Heyde *cello*
- 11) Twilight Songs
Duration: 7:10
Recorded 9th December 2011, Sir Jack Lyons Concert Hall
Chimera Ensemble; James Harper *baritone*, Lucy Pickering *alto*,
James Whittle *conductor*
- 12-16) Aino
Duration: 8:20 (2:18, 0:48, 1:10, 1:26, 2:38)
Recorded 22nd May 2012, Sir Jack Lyons Concert Hall
Doug Spaniol *bassoon*, Martin Scheuregger *vibraphone*
- 17) trees and paths I loved fade
Duration: 14:51
Recorded 22nd February 2012, Sir Jack Lyons Concert Hall
University of York Chamber Orchestra; John Stringer *conductor*
- 18-26) cloud chamber music
Duration: 16:52 (3:04, 2:20, 1:24, 1:17, 1:59, 1:31, 1:16, 1:20, 2:41)
Recorded 5th June 2012, Sir Jack Lyons Concert Hall
Stef Conner *soprano*, Rob Carruthers *guitar*, Rich Powell *violin*, Paul Sild *cello*,
Sarah Morpurgo *alto flute*, Jennifer Brady *clarinet*.

The scope of this commentary

This commentary is intended as a guide to some of the compositional ideas that run through these pieces. As well as some more general observations about my compositional practice, its influences and the thoughts running through it, I will provide some information on each of the pieces contained in the folio. This information will include programme notes, supplemented by details of the techniques I employed, and examples of their use in each piece. However, the main body of research is contained within the pieces in the folio, and not in this commentary.

The main section of this commentary comprises short writings about each piece, including the circumstances in which they were written and the techniques that they employed. These are interspersed with four short sections detailing ideas that run through the whole folio. All of these are intended as a guide to some of the processes behind the music, and not a comprehensive analysis. This is followed by a brief section drawing some conclusions from my research.

Programme notes

I often give my programme notes a considerable amount of thought. Rather than being written after the piece has been finished and ahead of the first performance, my notes are often conceived whilst the piece is still in progress. When I am about halfway through the writing of a piece, I like to write the programme note as if the piece has finished, in order to give myself a broader view of where I think the piece is going and what there is left to do in order to accomplish this. I tend to keep them fairly brief (with the exception of my orchestral piece, a single paragraph), and light on musical detail. Usually, I try to avoid giving the audience information that prescribes how they should listen to the piece; for example, listening out for a crucial C-sharp in the glockenspiel part, the pentatonic melodic structure first outlined in the piano left hand, etc. At the same time, I also do not want to load the pieces with any programmatic detail (whether there is any or not) – I would rather the audience interpret my pieces in their own way.

As these programme notes are a part of my compositional process, I include them in this commentary as a reference. Below are the notes for each of the eight pieces in this folio, as they appeared either on my website or in the programme booklets of the concerts they were premièred in:

Aino

This five movement, nine minute work attempts to exploit the full range of the euphonium. The vibraphone, incapable of playing in the middle or lower range of the euphonium, often acts as an extension to the solo line, sometimes elaborating upon the main material and at other times merely allowing it to resonate. This piece was written in the weeks around the centenary of Mahler's death; one of the main themes of the work is a variation of the 'falling second' motif from his Ninth Symphony. However, in retrospect it reminds me more of the main theme of Sibelius' Seventh Symphony, and the title refers to that (named after the composer's wife). It will probably remind you of neither.

cloud chamber music

cloud chamber music is a short song cycle for soprano, guitar and small ensemble, setting the same words (though in a slightly altered order and with one poem dropped) as an early piece by the American composer Harry Partch, *Eleven Intrusions*. These words are drawn from a variety of sources, from ancient Chinese and Japanese poetry to contemporaries of Partch, but all share a similar sense of melancholy. The cycle is written sparingly, mostly without bar lines or time signatures and with many freedoms and decisions given to the performers. The first and last songs (and the introduction and epilogue) are for the full ensemble; the five songs in between involve different subsets of the ensemble with the guitar. The guitar is treated almost as a concertante instrument in many of the songs, although the other instruments also come to the foreground occasionally, particularly the violin in *The Waterfall*.

Five acts

This piece, as implied by the title, sets out to be a purely musical drama. The stage layout helps to define this: the woodwind trio in the middle are the protagonists, the masked trio of percussion, piano and keyboard at the back the antagonists, and the string quintet at the front serve as a chorus. In the first movement, two key ideas are explored: a chord sequence around the middle register, pronounced four times by the bass drum, and a simple melodic idea first expressed in the bass clarinet. The next three movements explore further derivations of this material in more dramatic fashion, before the fifth movement returns back to the bare bones, almost desolate. The five acts attempt to set out the dramatic structure of Freytag's pyramid: exposition, rising action, climax, falling action, dénouement.

String Quartet #2 - in a silent way

Taking musical and extra-musical inspiration from the Miles Davis album of the same name, *in a silent way* consists of six movements (also named after tunes recorded by Davis) which can be performed in any order. This order is to be determined by the performers, and is not to be decided arbitrarily or by chance. Most of these six movements (all between one and three minutes) contain some material designed to be ambiguous, in much the same spirit as Davis' instruction to guitarist John McLaughlin to play the main tune of '*In a Silent Way*' 'as if you don't know how to play the guitar'. Aptly, the other main theme of this piece is silence, in

various forms. I would like to thank the Kreutzer Quartet for their valuable advice and suggestions in two workshops whilst I was writing this piece.

Symmetry Trio

In this short trio, two ideas are explored in turn, one becoming more prevalent as the piece progresses whilst the other diminishes.

trees and paths I loved fade

trees and paths I loved fade consists of four movements, all running attacca into one another for a total of about 13 minutes. The title is taken from the poem set at the end of Schoenberg's second string quartet, and aims to portray a (not necessarily negative) feeling of finding yourself in a strange new world, not looking back but occasionally being reminded of things from your past.

The first movement consists of a fragmented chorale in the horns, trombones and bassoons – shadowed and punctuated by the strings, with distant percussion and piano ruminating below and woodwinds floating above. In many ways this monolithic texture is subverted by the movements that follow; however, the harmonies that emerge in and out of focus are ones which re-appear throughout the piece, and within the density can be found many melodic ideas which are later expanded.

The second movement is quasi-symmetrical, beginning with the two clarinets and containing at its nucleus solos for the piccolo and trumpet. The scherzo-like third movement begins with a quote in the violas from my favourite symphony. The fourth introduces a new idea, but only one - the rest of the musical material can all be identified from the previous three movements, as the orchestra gradually becomes more unified.

Twilight Songs

Twilight Songs sets two pieces of poetry written approximately 1400 years apart, and both translated into English: *Drinking Alone by Moonlight*, one of the most well known poems by the Chinese poet Li Po, and *towards the sublime* by the Italian composer Giacinto Scelsi. These poems are presented clearly and in full, one attacca into the other, the first sung by a

baritone and the second by an alto, and both accompanied by nine instrumentalists. There is a story, probably not true, that Li Po met his demise after falling from his boat, drunkenly attempting to embrace the reflection of the moon in the river.

With ripples like dragon scales

With ripples like dragon scales, for violin, piano and percussion, takes its name and some structural and expressive ideas from a poem by Li Po, translated by Ezra Pound. The poem, *Exile's Letter*, is melancholic and reminiscent in tone, with the main body of text recalling a close companionship which has since been separated. A very long first stanza is followed by two much shorter ones, more bleak in tone. A similar structure is played out in this piece: the first movement builds to a violin cadenza, from which the material of the much shorter second and third movements is drawn.

My process of composition

Although I approach each piece that I write in a slightly different way, I have formed a clear method of composition which I tend to re-use, whether consciously or not, in all of my pieces. I recently tried to write this formula down for the purpose of a composition lecture, and found it to be a useful exercise in analysing my own working method. Below is a brief summary of the steps that I take in writing a new piece, which may offer a useful perspective on the formation of the pieces in this folio.

Step 1: The initial idea

I begin at the piano, and devise some musical material (anything from one chord or sequence of notes, to 10 or 20 bars of music, depending on the piece). At this point, the only defined parameters of the piece are usually the instrumentation and duration, although both can be flexible. I very rarely take the approach of skimming over details until later – the dynamic and timbre of a gesture or melody is equally as important as the pitch even in the very earliest stages of writing.

Step 2: Self-analysis (part 1)

Taking this material, which has been created intuitively, I build a system around it – for example, taking the notes I have used already and inverting them in different ways to create a larger set of related notes. Also, I often analyse what I have written to see which notes or intervals are particularly emphasised or neglected, and establish a hierarchy which I can choose to reinforce or subvert later on in the piece.

Step 3: Further composition based on this note system

I then utilise this system in order to create the rest of the piece. The vast majority of compositional decisions are still intuitive, but they are all derived from these sets of notes and rules that were themselves established from my original writing. I always apply this approach to harmony and melody, and occasionally to rhythm and timbre also.

Step 4: Self-analysis (part 2)

After having written a more substantial amount of material (2-3 minutes, say), I perform the self-analysing process outlined in step 2 again, but this time come up with broader ideas related to what I have written so far. This usually involves identifying motifs, textures and timbres that can be manipulated further and re-used.

Step 5: Structural mapping/the bigger picture

At this point (although occasionally this happens earlier), I begin to devise a more concrete structure which I use to map out the rest of the piece. The musical material that I have already written will not necessarily be the start of the piece, and certainly will not necessarily stay the same. I also often write a programme note at this early stage, and begin to think about a title.

Step 6: Late changes

As I approach the final stages of writing the piece, sometimes drastic decisions can be made, particularly with regard to structure. Many entire sections are often deleted at all stages of writing, but particularly when the piece has begun to be fully formed. The last section that I write is very rarely the ending of the piece – this often comes quite early on.

Step 7: Minor editing

Once the piece is ‘fully formed’, in other words the music runs from start to finish without any (unintentional) gaps, I go through the whole score and edit. However, these changes are usually quite small; any major compositional decisions have already been made during the main writing process.

The rest of this commentary will explore each piece included in this folio in turn, along with some techniques and ideas that run throughout. With each piece, I will endeavour to explain the basis of the musical material – the ‘blueprint’, as it will be referred to several times – along with one or two examples of how this material has been developed in the process of composition.

The compositions: techniques, ideas and influences

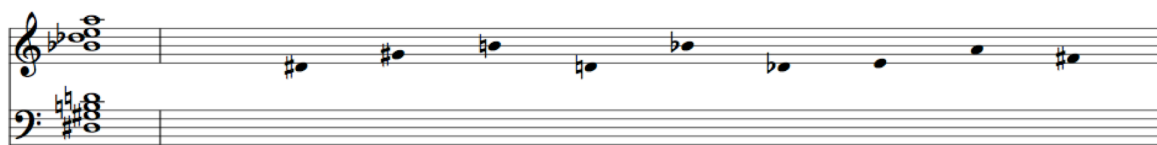
Symmetry Trio

The title of *Symmetry Trio* does refer to a musical concern in the piece, although a harmonic as opposed to a structural feature. The piece consists of two contrasting and recurring sections, interlocking whilst gradually diminishing and growing respectively. The piece was originally written for a competition deadline, but then put on hold for a while after missing that date. As a result, it is one of two pieces in this folio not to be written for specific performers.

The two contrasting sections of the piece are primarily distinguished by two features: the harmonic material that they use, and barred/barless notation. In addition, the sections using ‘X’ harmonic material are, initially, more angular and employ a wider dynamic range (though this changes towards the second half of section D and the final section F, where the material becomes subsumed by the mood of the ‘Y’ sections). The table below shows how these recurring sections are structured.

	start	A	B	C	D	E	F
Bars	1-20	21 (free)	22-35	36 (free)	37-65	66 (free)	67-77
Duration (approx.)	45’’	24’’	38’’	32’’	1’24’’	56’’	53’’
Harmonic material	“X”	“Y”	“X”	“Y”	“X”	“Y”	“X”

The chords and notes used in the first section, and those marked B, D and F (the ‘X’ harmony in the table above) are shown on page 18. All of the chords, set out in treble and bass clef, consist of eight notes, four above and four below middle F-sharp. The first chord, devised at the piano, is symmetrical around the F-sharp, i.e. D below and a B-flat above, a B below and a D-flat above, etc. Subsequent chords were created after analysis of this original chord: the notes were written out into a nine note row, starting from the bottom note (D-sharp) and finishing with F-sharp. This row was then rotated around the F-sharp to create eight more rows, which were then transformed back into chords. The example over the page shows this process with just the first chord.



The first chord of *Symmetry Trio*, arranged into a row from bottom note to top, and then rotated from F# to form another row, which creates the second chord (some notes are spelled differently enharmonically in the chord).

The image displays ten systems of musical notation for the 'X' sections of *Symmetry Trio*. Each system consists of two staves, a treble clef staff on top and a bass clef staff on the bottom. The systems are labeled with their respective bar ranges: bars 1-15, bars 16-20, bars 22-26, bars 26-35, bars 37-44, bars 45-50, bars 51-52, bars 67-71, and bars 71-77. The notation includes various musical symbols such as clefs, key signatures (including one sharp and one flat), and notes with stems and beams. The music is written in a style that suggests a complex, symmetrical structure.

All of the chords and notes used in the 'X' sections of *Symmetry Trio*. The rows have been assigned to the opposite chords (i.e. first and ninth rows swapped, second and eight, etc.) This means the fifth chord and row (bars 37-44) remain together. The second row of each set is the same notes as the first row, arranged into a scale.

Each of the nine chords in the piece is used once, in order from top to bottom: none are returned to later on, although there are similarities between them. The note rows for each chord have been matched with the opposite chord; i.e. the row created by the first chord is placed next to the last chord, the second row by the eighth chord, the third row by the seventh chord, and the fifth row staying with the fifth chord: a further use of “Symmetry” in this piece. These rows are used in the piece in conjunction with the chords, though the extent of their use varies in an intuitive rather than systematic way.

The ‘Y’ harmonic material, by contrast, explores two simple chords comprising of seven and four notes respectively. The seven-note chord consists of all the notes of the B-flat major scale, whilst the four note chord is an E major triad with a C-sharp. The one note not included in either of these chords, and consequently not found in any of the ‘Y’ sections, is the symmetrical F-sharp of ‘X’ (which gradually fades in prominence through the piece).

The rather systematic nature in which melodies and chords are employed in this piece perhaps reflects a desire at the start of my PhD folio to experiment with composing in a stricter way. Over the course of this folio, there is a gradual loosening of melodic and harmonic ‘rules’ as my own compositional intuition grows more confident.

Note generation: rotations and hierarchies

In the course of writing the pieces in this folio, I have experimented with many different compositional techniques in relation to structure, rhythm and instrumentation, amongst others. However, one area that has remained remarkably consistent in terms of technique (if not necessarily in the appliance) is that of melody and harmony. All eight works employ some form of rotation, of rows of between four and 12 notes. These rows form the basis of almost all melodic and harmonic content in each of the pieces. In all pieces with the exception of *Symmetry Trio* (which travels through each rotation in turn), these rows are used in a selective and intuitive way, providing a bank of material from which I select freely.

I do not use this technique exclusively because I strongly believe it is superior to others; rather, I have become accustomed to it and found it to be versatile enough to suit all of my compositions to date. There are a number of reasons why I find rotations an attractive

compositional tool. Of these, three in particular come to mind as they apply to every piece in this folio:

- Rotations offer an implicit tonal centre (whichever note the rows have been rotated around), which can be either supported or subverted in the compositional process.
- Each row is built around the same combinations of intervals, offering the composer the option of building strong motivic material and a cohesive melodic identity over a whole piece.
- By using this technique, a composer can take a small amount of material - a single chord or melody, for example - and produce enough variations on this to sustain a whole piece.

These two factors mean that it is important to consider the content of a row or melody before rotating it. Some pieces deliberately employ rows that use only a small set of intervals, whilst others utilise more diverse rows, or multiple complementary rows.

In addition to the technique of rotation, most of my pieces additionally employ a further melodic or harmonic idea. This is often generated later on in the compositional process, and is intended to provide contrast to the main content. In several pieces, I have created this additional row or chord by counting how many times each of the 12 notes appears in the original grid of rotations, and then writing out this hierarchy in the form of musical material. The following piece, *With ripples like dragon scales*, contains an example of this approach, with a special row generated using only those notes that occur more than once vertically.

With ripples like dragon scales

This piece was written for a violinist, Lu Yan, who was studying for an MA at York in 2008-9. I had worked with Lu in the new music ensemble, Chimera, as a conductor and horn player, on several occasions throughout the year. Around January 2009, I asked her if I could write a piece for her final recital that September, where it was performed alongside pieces by Luciano Berio, John Cage and Roger Marsh.

The violin is accompanied by two further players, a percussionist and a pianist. I had written a couple of solo/small pieces accompanied by percussion prior to my PhD, but this is the first piece where I combined percussion with the more traditional piano accompaniment. The title comes from a line in *Exile's Letter*, a poem by Li Po in a (liberal) translation by Ezra

Pound. The poem consists of a long stanza followed by two shorter ones, a structure that I sought to emulate in the piece: the first movement states all of the musical material (including a challenging cadenza for the violin), whilst the second and third movements provide smaller (materially, as well as temporally) contrasting responses.

Similarly to *Symmetry Trio*, *With ripples like dragon scales* employs an eight note row, rotated (around F-sharp, again like *Symmetry Trio*) and inverted for a total of 16 rows. Each of these rows leaves a four note chord from the notes not included in the row: all of these chords are minor triads with a major seventh (rotations), or major triads with a minor sixth (the inversion and its rotations). The diagram below shows just the first row and the first inversion, along with their corresponding chords.



One further row was created by taking notes 2-8 in the original row and its rotations, and writing down those notes that appeared twice vertically (e.g. the note A-sharp/B-flat appears in the third note of both the original row and the last rotation). This forms a seven note row, with notes three, four and five actually being two note chords (as both notes appear twice vertically). This row is used sparingly but prominently in the piece, for example in bars 36-42 (the centre of the violin cadenza, in reverse order).



With ripples... also contains a recurring rhythmic idea, that of stating every beat or half beat division of a bar once each over a number of bars. This idea is first heard in the bass drum introduction of the opening four bars; it is immediately repeated over the scale of four half-bars (exactly, at double the speed) by the cymbal in bars 5-7, and alluded to through the rest of the movement with similar rhythmic but irregular pulses in the vibraphone and piano

parts. The idea returns at the end of the movement in the tubular bell part of bars 50-54, and on a smaller scale with the violin pizzicati of bars 52-54. At the start of the second movement, the idea is stated in the first two bars by the tam-tam and subsequently in the top G sharps of the violin and piano (every quaver division except the first beat). The bass drum (bars 92-95) and tubular bells (122-128, itself a reference to the piano part at bars 16-19) continue this idea through the third movement. Though the process of filling in each quaver beat over the space of several bars is primarily a compositional technique for myself (it is unlikely to be perceived by the audience, especially as it is performed un-conducted), it nonetheless fulfilled a useful purpose of creating intriguing, pulse-like but irregular rhythms at regular intervals through the piece.

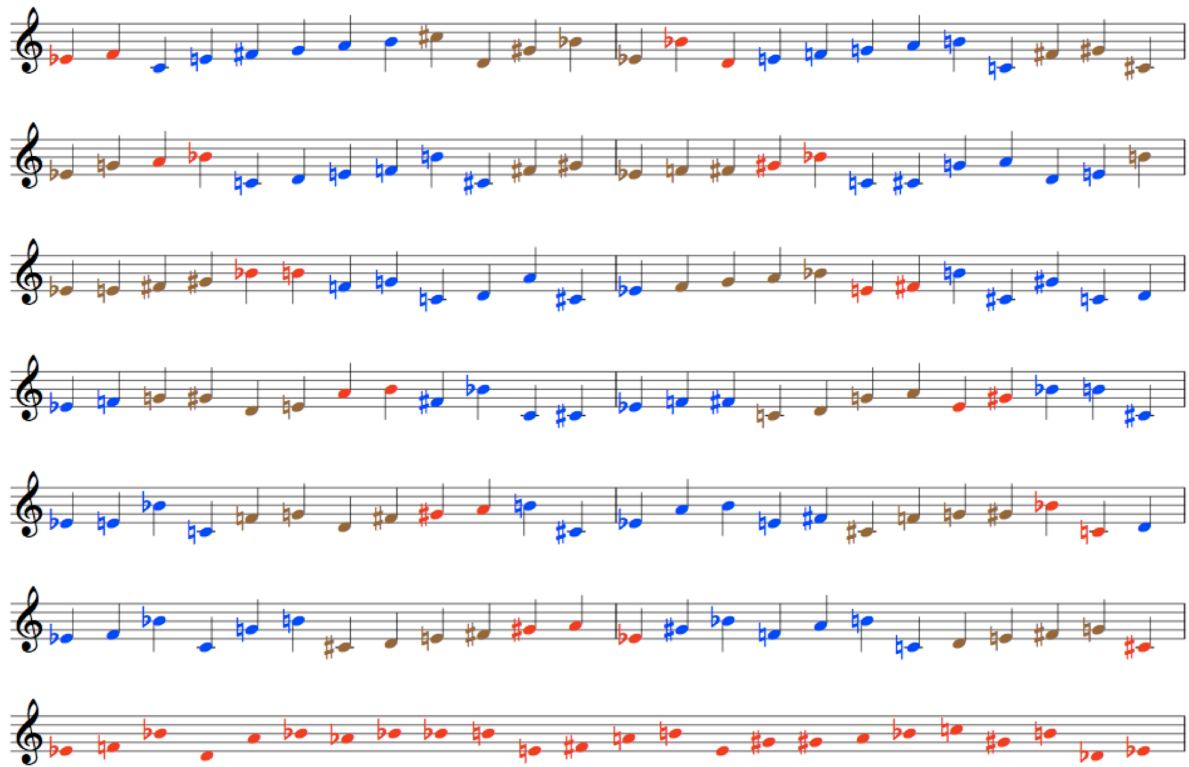
Five acts

Five acts was the second piece to be written with no specific performers in mind in this folio, and is in some ways the most experimental piece of the eight. The piece is structured in five movements, of symmetrical length, which are intended to mirror Freytag's pyramid, an analysis of the dramatic structure of a five-act play: exposition, rising action, climax, falling action, dénouement. The first four 'acts' are all of a different character, whilst the sparse fifth act, 'dénouement' (roughly translated as 'untying'), consists of the same chord sequence as the first act, upon which fragments of the other acts are layered, often in their original tempo. Musically, much of the material is influenced perhaps more strongly than most of my work by the composer György Ligeti, whose work I have long been engaged with both as a composer and as a performer.

The instrumentation of this piece is split into three very distinct sections: the protagonists (flute, oboe and clarinet), the antagonists (percussion, piano and keyboard, who are required to wear masks), and the chorus (the string quintet). To further enhance the theatricality of the piece, the conductor is instructed to avoid cueing the three masked musicians, in order to give the illusion of the antagonists being an independent force. The keyboard is defined as any quiet, sustaining keyboard instrument whose dynamic can be kept at pianissimo throughout.

The musical material is generated from a twelve-note row, rotated around E-flat to create 11 more rows. This row has been split into groups of two, four and six notes. These

groups then shift one note to the right on each subsequent row, so that the group of two notes is the first two notes of the first row, the second and third notes of the second row, etc. The two note groups of each row are then taken in order to form a 24-note row. This row establishes a note hierarchy, containing five B-flats, four A-flats, three ‘A’s and ‘B’s, and no ‘G’s.



The tonal scheme for *Five acts*. Each twelve note row is split into two (red), six (blue) and four (brown) notes, with each group shifting one note to the right for each rotation. All two note groups (red) are then taken in order to make a 24-note row. This row is used in full as a melody in the first, fourth and fifth movements of the piece (bars 9 bass clarinet, 46 oboe, 260 piccolo and double bass, 311 double bass and 314 piano).

String Quartet #2 - in a silent way

Q: There's a story about your lyrical playing on [1969's] "In a Silent Way" that implies you were baffled as to what Miles Davis wanted on the recording. Can you describe the session?

A: Since Miles had invited me to the session only the previous evening [Feb. 17, 1969], I was very nervous. It was the last thing I'd expected on arrival in New York [he'd left England earlier that month]. 'In a Silent Way' was Joe Zawinul's tune, and he'd made

an arrangement that Miles didn't like too much after we'd run it down a couple of times. Miles asked me to play it solo, and Joe had given me a copy of the piano score since he'd no time to write a guitar part. So I said to Miles that I needed a minute to read the piano score since he wanted both chords and melody at the same time. Miles didn't like that and said I should play it "like I don't know how to play guitar" (verbatim). This is the equivalent of a Zen master giving one of his students a Koan, and an instant resolution of it! After a few seconds I threw caution to the winds, and literally threw all the chords out, and the rhythm also. Even if you don't know how to play guitar, most everybody knows the E chord. I played that one chord and played the melody around it. Miles had already got the red light on, and at the end he really liked what happened. In fact he liked it so much, he put it as the first and last track on side one!¹

My second string quartet began as two separate quartets of three movements each, before being combined into one more substantial piece. Three of the movements, titled *yellow*, *double image* and *darn that dream*, were written for a commission from a student quartet in London, who requested a piece with a theme of silence, using in some way a quotation from the Catholic mystic Meister Eckhart, 'In silence man can most readily preserve his integrity.'

The student quartet disbanded shortly after the piece was completed, and the string quartet was put to one side for almost a year. Later, I began writing a new quartet to be workshopped by the Kreutzer Quartet. After hearing one movement, *sanctuary*, in this workshop, I began to explore the possibility of combining this movement and the two more that I was planning to write with the three movements of the prior quartet.

Perhaps the most striking immediate feature of this quartet is that the six movements can be performed in any order, to be decided by the musicians. This was a decision not reached lightly; rather, it was the result of many weeks of playing around with different orders. The fact that they can be played in any order does *not* mean that I think they work in any order – rather, that they can work in many different orders, and a quartet that has rehearsed and discussed the piece for a reasonable amount of time should be able to devise a satisfactory one.

¹ John McLaughlin, www.accessatlanta.com

To test this theory, in a lecture to undergraduates on a project called ‘The String Quartet’, I split the students into four groups and gave them four copies of my piece, each with the movements in a different order. Giving them five minutes to look through the score and discuss, I instructed them to place the movements in a musically satisfying order. The results of this (in the table below) were interesting, with some movements occurring in the same or a similar position in multiple orders.²

Original intended order	Student group 1	Student group 2	Student group 3	Student group 4	Kreutzer Quartet
sanctuary	yellow	sanctuary	sanctuary	sanctuary	sanctuary
agitation	sanctuary	yellow	double image	darn that dream	agitation
yellow	darn that dream	agitation	yellow	agitation	yellow
double image	agitation	double image	recollections	yellow	double image
recollections	double image	darn that dream	agitation	recollections	darn that dream
darn that dream	recollections	recollections	darn that dream	double image	recollections

One of the main purposes of the interchangeable order of the movements, as well as many other elements of ambiguity within the piece (particularly rhythmic, although also moments of choice/improvisation in the cello part of *sanctuary* or the viola part of *darn that dream*), was to recreate the kind of atmosphere described in the John McLaughlin quote above – tentative, uncertain, but expressive.

The notes used in *in a silent way* come from two different sources: *yellow*, *double image* and *darn that dream* (those written for the original string quartet project in London) use notes directly linked to Miles Davis’ *In A Silent Way*, whilst *sanctuary*, *agitation* and *recollections* use another set of notes, consisting of three sets of four notes that have been rotated.

² The Kreutzer Quartet received the score in the original intended order, but did not read the performance instructions on the first page about altering the order. In rehearsal their pages changed order, and on the day of the performance they told me that they had lost the original order as there were no page numbers, at which point I pointed out the instructions to them. Therefore, the similarity between the original order and their performance is perhaps not particularly coincidental. Additionally, the score of “sanctuary” is the only one to contain my name, which may have contributed to the decision of some groups to place it first.



Notes used in *sanctuary*, *agitation* and *recollections*. The top row is a twelve note row; this has been split into three sets of four notes (beginning with B, C# and C) which have then been rotated below (meaning there are repeated notes in the three subsequent rows. These are used horizontally and vertically, for melody and harmony.



Above, the melody of *In A Silent Way* by Joe Zawinul (before Miles Davis removed the rhythmic element of it), which structures the three movements *yellow*, *double image* and *darn that dream*. Line one from the melody can be seen in the high violin harmonics of *yellow*, line two in the cello pizzicato notes of *double image* and lines three and four (with the upbeat at the end of line two) in the unison arco and pizzicato notes of *darn that dream*.

Below, a 12 note row and its inversion, which is based on the notes *not* used in the melody (followed by those which are). This row is never used in full.



Free rhythm and bar-less music

When composing pieces prior to and during the first few months of my PhD, I often found that the most difficult part of the process was the rhythm. Although for the most part my rhythms were well defined, either as part of a recurring motif or process or a clearly imagined melody, I struggled with rhythm in other passages where I did not want the music to sound in any way mechanical. Sometimes a partial solution to this problem was to use ratio rhythms (especially triplets) frequently, as they tend to sound less prescribed than straight quavers and crotchets. However, this gradually gave way to a new way of thinking, where rhythms are deliberately avoided in certain passages and responsibility is passed to the performer.

This idea becomes gradually more prominent during the course of this folio. *Symmetry Trio*, *With ripples...*, *Five acts* and *trees and paths...* all contain elements of sections of bar-less or free music, where rhythms are not defined precisely. Three more pieces, *Aino*, *cloud chamber music* and two movements of *in a silent way*, contain no or very few bar lines, allowing the musicians to make more substantial decisions in relation to the pacing of the music.

The primary purpose of these instances of bar-less music, whether over a smaller or larger scale, is to ‘free up’ the music. This intended effect is in a way paradoxical:

- The performers, especially in the larger bar-less pieces, are actually encouraged to play tightly together as an ensemble, with the notation clearly showing where they play as a group and where they are individual. No longer able to merely count and know that they will be in the right place, they now have to more actively pay attention to the pacing of their fellow musicians.

- Conversely, the (intended) effect on the audience of this music is that they see musicians free from counting, un-conducted, and seemingly playing when they want to as opposed to when they are dictated to, either by a conductor or a communal pulse.

I make an important distinction between *rhythm* and *pacing* in this process. Whilst the rhythms have indeed been freed in some of my pieces in a way that passes decisions on to the performers, I still try to keep a very tight hold on pacing. Even in *cloud chamber music*, which is almost entirely without bar lines, the ensemble are instructed in the score to follow the soprano whenever she is singing or reciting, and she is to treat her part more metrically than the instrumentalists.³ Similarly in *Aino*, a pacing hierarchy is implied with the first performance instruction on the score – ‘the vibraphone player needs to be able to see the bassoon player, but not vice-versa.’ To this end, I actually find the playback feature of the Sibelius software that I use for notating my compositions quite useful, as although the computerised sounds are not ideal it can provide a very useful guide to the pacing of a piece.

One other minor contributory factor to my preference for bar-less music is a slight aversion to conductors. This is not to say that I dislike the art of conducting – I have conducted many pieces myself, and greatly admire many conductors who I have known and worked with. Rather, I dislike the unnecessary use of conductors. As a composer, I am highly conscious of exactly how my piece will appear on the stage and who will be involved, and it would be inconceivable for me to write a piece where the role of a conductor is in any way ambiguous. Three of the eight pieces in this folio involve a conductor:

- *trees and paths I loved fade*: in this piece for an orchestra of 44 musicians, the absence of a conductor was never even considered. I have known and worked with the conductor of the University of York Chamber Orchestra, John Stringer, for several years, making this decision easier still. Several elements of the score, such as metric modulations between movements and several *accelerandos* and *ritardandos* in the third movement, further necessitate conducting. At the start of movement IV, the conductor is instructed to decide how long the general pause will be (anything from a short breath to eight seconds).

³ It is interesting to note in *cloud chamber music* that my estimations of the durations of each song (contained in the score and written before the performance) are almost entirely accurate despite the barless nature of the music, with the exception of *Epilogue* (a bit under).

- *Five acts*: here, the conductor is considered as a major part of the simple theatrical element of the piece. He/she is instructed to ‘try and avoid cueing the masked musicians throughout the piece’, and in the first movement is further told to not show the beats of any bars where quaver equals 60 (articulated just by a bass drum over a held chord on the keyboard).
- *Twilight Songs*: the conductor is more of a necessity in this rhythmically intricate piece, which contains frequent time signature changes. The only point where the conductor is acknowledged in the score is towards the end of the first song, where he/she is instructed to restart beating after the baritone solo. As with *trees and paths...*, the movements are linked by a metric modulation, further increasing the need for a conductor.

Twilight Songs

Twilight Songs consists of two movements, one sung by a bass-baritone and the other by an alto, accompanied by ten instruments. Although I had written for voice before, this piece represented my first attempt at writing a full pitched vocal line; previously, I had tended to stick to spoken word or *sprechstimme*, in order to ensure that the words were clear. Nonetheless, care is still taken with clarity in this piece, the vocal parts alternating between spoken and sung and often accompanied sparsely.

Although the two songs of the piece run *attacca* one into the other, the musical material is quite substantially different. However, they share a similar compositional process and almost the same quite distinctive instrumentation. Originally, a third song was intended, which would feature both bass-baritone and alto, but this never materialised (though substantial parts of it were written) as the piece felt complete after the second song.⁴ The words come from two different poems: *drinking alone by moonlight* by Li Po (trans. Arthur Waley), which I had intended to set for quite a while, and *towards the sublime* by the composer Giacinto Scelsi (trans. Robin Freeman), which I came across by chance whilst browsing the university library. Though both are written in the first person, they are otherwise

⁴ One significant trace of this third song remains: the last six bars of the second song are written in quintuplets, intending to set up a metric modulation into the third song in the same way as the triplet crotchets of the piano right hand did at the end of the first song.

quite different, with the Li Po having a clear narrative as opposed to the more abstract nature of the Scelsi. Both are set in the evening or at night, hence the title.

Both songs use simple hexachordal rotations as a basis for the musical material, on G and C respectively. In both cases, the notes have been tallied and a ‘hierarchy’ of notes established. The second song gives perhaps the clearest example in this folio of my note-counting technique: F-sharp does not appear in any of the rotations of the six note row used in this song, and therefore I decided to give it a special role. Throughout the song, F-sharp appears in octaves (the only note used in this way), forming a constant pedal through the introduction of the song and being reiterated regularly afterwards. Additionally, the whole-tone scale is used in both of these songs, forming another crucial musical link. This is most apparent in the tubular bell part: through the whole first song, the bells gradually proceed down the scale from B to D-flat, before reiterating the scale in quick succession at the end. This part is then tacet for most of the second song, returning at the end to play the notes of the other whole tone scale, D to C, though not in sequence.

The instrumentation in this piece is weighted significantly towards the higher pitch range, with only the bass clarinet (in movement I only), the piano and the cello used to occasionally provide lower register material, along with the bass-baritone soloist. The piano and celeste are often used together, as are the three string parts. In the transition to the second song, the oboe is swapped for a flute⁵ (employed as a second soloist) and the bass clarinet for a B-flat clarinet, offering a slightly altered sound world. The flute part in ‘towards the sublime’, generally alternating with the alto in providing the focal melodic content, is doubled in unison by another instrument almost throughout.

Aino

This piece was originally written for euphonium and vibraphone, and received its première in that version. It was written for a final MA recital, and was largely successful, although some sections of the piece were very demanding and as such were not pitched accurately. However, it did reflect the lyrical side of the euphonium that I wanted to portray, and the vibraphone complimented the sound well. A few months later, I showed the piece to a bassoonist, Doug

⁵ In the first performance, the oboeist was also a very competent flautist, and therefore played both parts.

Spaniol (a Fulbright Scholar at York for nine months), and re-arranged the piece for him. Although I originally intended to revise the piece quite substantially to make it work for bassoon, it turned out to work very well almost as it was with very few alterations. The piece was subsequently performed both in York in May 2012 and later at Butler and Indiana universities, USA, in September 2012.

Aino is split into five movements, all of which draw from the same musical material. The title comes from the name of the main theme of Sibelius' Seventh Symphony, named after his wife (heard in full in the trombone solo towards the end of the piece). This title was decided after all the music had been written: my original intention was to write a piece with reference to Mahler (on his 150th birthday), but I decided afterwards that it reminded me more of Sibelius. Whether Mahler or Sibelius, the intended musical reference was nothing more than a descending major second, an interval that I use frequently in this piece (as well as its related cousins, minor sevenths and major ninths). This interval is used by Mahler in his Ninth Symphony, and occurs at the start of the 'Aino' theme.

All melody and harmony in *Aino* is generated from a seven-note row, rotated around B-flat. This note grid is used horizontally and vertically but in no particular order. Each of the five movements begins and ends with either B-flat or E-flat, played by the bassoon at the start and the vibraphone at the end (although this rule is disregarded at the very end, where the B-flat becomes an upbeat to a D-flat). Perhaps reflecting its smaller scale, this piece was written more intuitively than most, with the five movements being composed more or less in the order that they appear on the score. The choice of vibraphone (as opposed to, say, a piano) as the accompanying instrument perhaps reflects a desire to keep the piece on a small scale. The accompaniment was originally intended to be more minimal than it transpired to be, although it still very much follows the bassoon for the majority of the piece.

Experiments in structure and movement form

Seven of the eight pieces in this folio are split into movements, although in two of those (*Twilight Songs* and *trees and paths...*) they are performed *attacca* (in both cases via metric modulations). These movements are often structured in an innovative way, usually with a defined progression of ideas or musical content through the piece. Several pieces (*Five acts*, *Aino*, *cloud chamber music*) explore a symmetrical movement structure. Most strikingly, *in a*

silent way contains six movements that can be performed in any order, to be determined by the performers.

Due to the way in which I tend to compose, in several of the pieces in this folio the first movement⁶ acts as a sort of musical ‘blueprint’ - all of the material for the entire piece has first been explored in some form here, and subsequent movements are a result of a thorough analysis and development of this first movement. This concept is most clear in *With ripples like dragon scales*, but can also be seen in *Five acts, in a silent way* (which has two ‘blueprints’, *yellow* and *sanctuary*), *Aino, trees and paths I loved fade* and *cloud chamber music* (also two, ‘The Rose’ and ‘Vanity’). This blueprint structure is intended not merely as a compositional technique, but in many cases as something that will be clearly recognisable to an attentive audience member.

trees and paths I loved fade

trees and paths I loved fade, by some distance the largest piece in my folio in terms of instrumentation, was the annual University of York Chamber Orchestra commission for 2012. I was given the commission in September 2011, to be written by January for weekend rehearsals in February. I quickly made some decisions by looking at the other pieces on the programme, which began with my piece:

Elgar	<i>Romance for Bassoon</i>
Martinu	<i>Double Concerto for Flute and Violin</i>
Beethoven	Symphony No. 8

All three of these pieces had an influence on my own. The Elgar, only six minutes long, contains a small part for three trombones, which are not required for the Martinu or Beethoven; I therefore decided to give them prominent parts in my piece. I knew the two soloists in the Martinu well, and asked if I could use them as offstage musicians. The instrumentation of the Martinu also provided me with a piano in my piece. Finally, I decided to include a musical nod to Beethoven’s Eighth Symphony in my piece; in original sketches

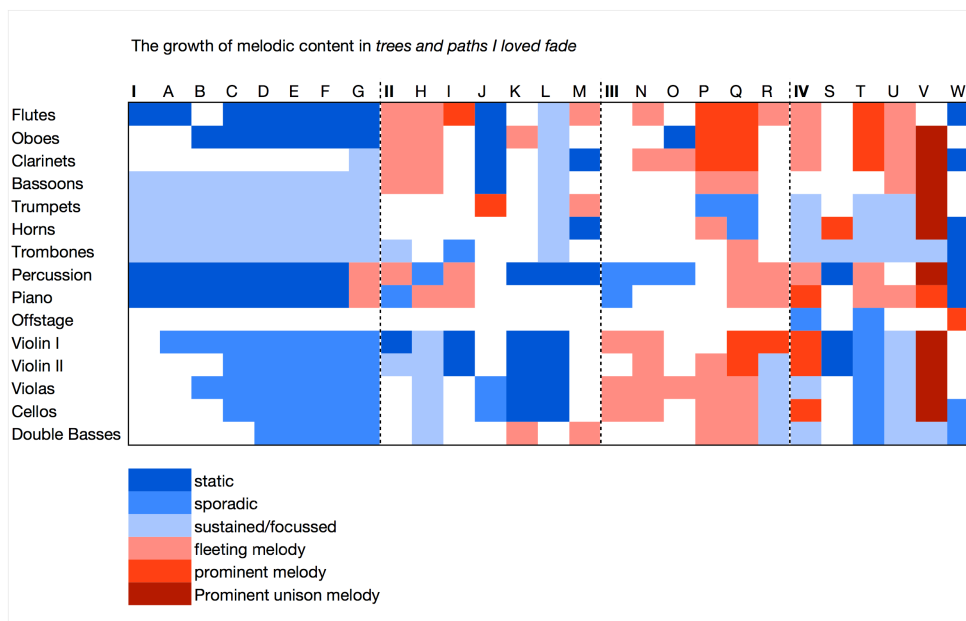
⁶ Usually the first movement of a piece is the first movement I write, although subsequent movements may be written out of sequence.

this was a fully orchestrated quote of the surprise C-sharp in the fourth movement of the Beethoven, at the start of my own fourth movement. Later, it was changed to be played by just the offstage players, heard briefly before being drowned in the activity of the orchestra. Further on in the movement (at letter T), it is re-stated by the offstage players and consequently developed in the orchestral material. The third movement also begins with a quote, this time of a repeating viola figure from the first movement of Carl Nielsen’s Fourth Symphony (‘The Inextinguishable’).

Excerpt from Nielsen’s Fourth Symphony, ‘The Inextinguishable’.

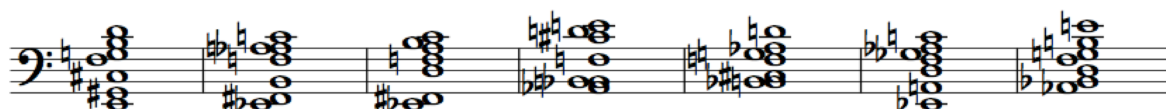
Unusually for me, I had a fairly strong idea of how this piece would be structured from a very early stage in composition, before much of the musical material had been conceived. Writing the piece in four separate movements appealed to me partly because of the strong orchestral tradition of four-movement works, and also simply because this was my first piece for orchestra and I felt that I may have quite a lot to say. It also became clear very early on that I wanted this piece to be about melody.⁷ Therefore, before much music had been written, I devised a structure where melody gradually grew in prominence: almost absent in the first movement, fragmented in the second, chaotic in the third, and finally more momentous and ultimately in unison in the fourth. This plan was largely adhered to, although the third movement was originally intended to contain strong elements of aleatoricism, and I added a coda after the unison melody of the fourth (and an interlude halfway through featuring the horns) that returned to the melodic character of the second movement.

⁷ A working title for this piece was *Melodrama*, punning on ‘melody’ and ‘drama’ but unfortunately perhaps implying something less than flattering about my music. The final title, taken from the poem set in Schoenberg’s second string quartet, was chosen after the piece had been written.



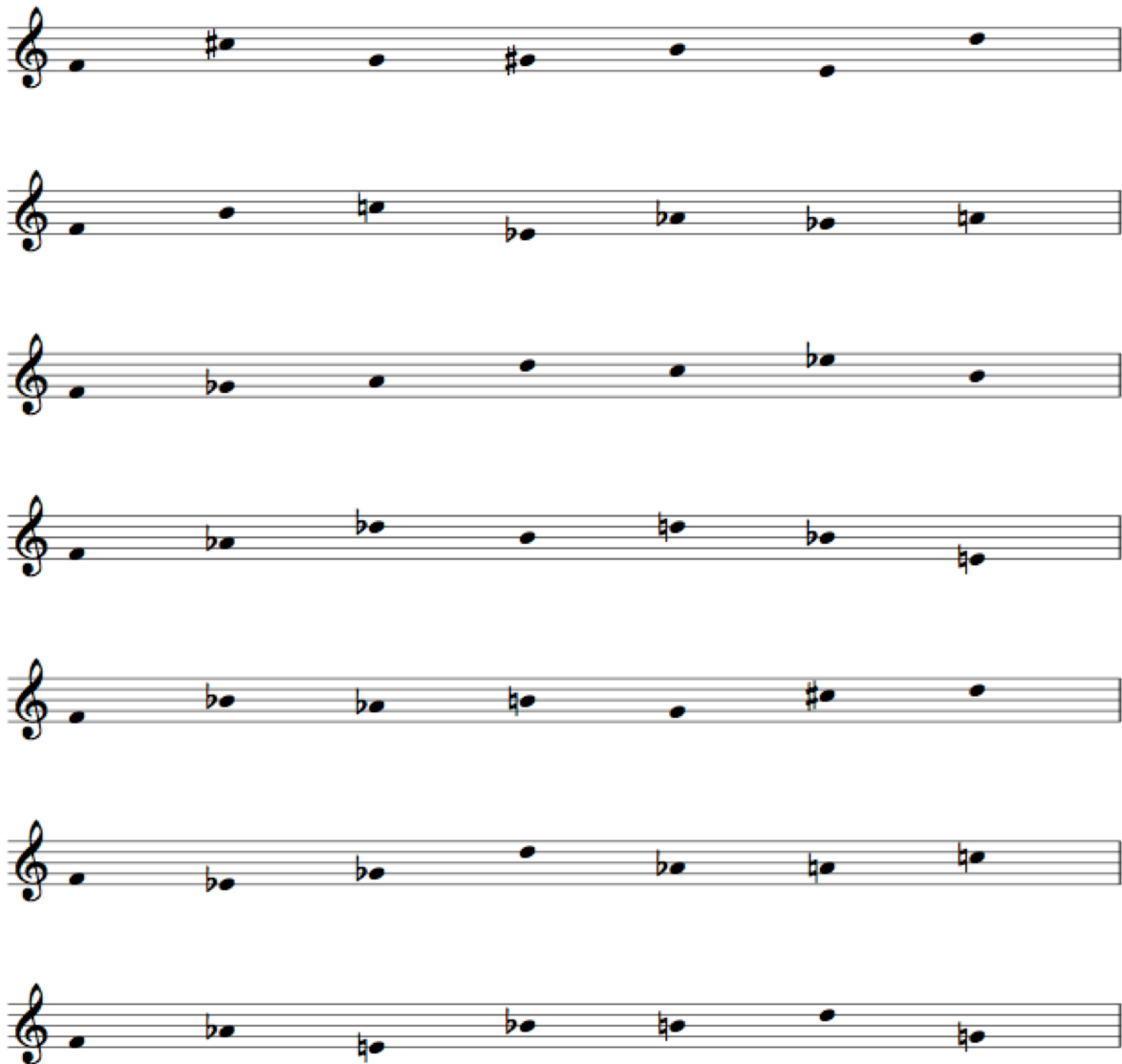
Above: an analysis of the melodic content in *trees and paths I loved fade*, showing how it spreads through the instrumentation of the orchestra through the four movements.

The musical material of this piece can all be traced back to the seven note chord that is gradually formed at the start by the bassoons, horns and trombones. After devising this chord, I transformed it into a seven note row, taking the middle F as a starting note and then alternately the notes below and above it. This seven note row was then rotated around the F, and the other rows transformed back into chords using a similar process (F in the middle, alternate notes above and below). These seven chords form the backbone of the first movement (outlined in the bassoons, horns and trombones and also doubled by various string desks), and are used to generate material throughout the following three movements, particularly through use of the grid of seven note rows both horizontally and vertically.



Above: The seven chords that create most of the harmony in *trees and paths*. Sometimes they are used in full, but more often smaller three or four note chords are taken from them. All of the chords have an F in the middle; as a consequence, the first movement (which gradually progresses through each chord in turn) contains a pedal F, played by the second horn.

Below: A set of seven seven-note rows comprising of the same notes as the chords above. The rows are created by rotating around F. Every second, fourth and sixth note of the rows is placed above the F in the chord, and every third, fifth and seventh note below. Whether the notes were placed directly below or over an octave below the F was decided intuitively.



The table over the page shows how every element of the first movement returns in the subsequent movements in a quite literal sense, as well as providing the harmonic and melodic content. Only direct repeats of material are listed; other variations on these basic themes also occur throughout.

Musical idea	Movement I location and instrumentation	Subsequent location(s) and instrumentation
Sustained quiet semitone trills	Flutes from start, joined later by oboes	II: Strings at K IV: Violin II at S, flutes and clarinet at W
Free rhythmic material, prescribed only by bar lines with a precise pitch order	Piano from bar 2	IV: Woodwinds at U
Seven note chordal progressions, quasi-chorale like	Throughout in bassoons and brass, supported by different string desks	II: Strings at K, woodwinds at L IV: Brass at start
Col legno repeated notes	Individual string desks at each double bar line	II: Violas and cellos at J IV: Strings building up from bar 254 through to V
A low F alongside a higher E-flat	Horns, clarinets, trombones, trumpets followed by marimba from G	II: Marimba at start III: Oboe and cor anglais at O, woodwind, brass and basses leading up to R IV: Basses leading up to S, Brass chord leading up to V, first two notes of unison melody at V, Trombone II, bass trombone, piano and double basses from bar 306
E minor triad, first inversion	Piano and strings at end of movement	II: Trombones bar 51 IV: Trombones bar 257, Horns and Trombone I 307-8
Regularly recurring percussion in a 5-beat pattern	Bass drum and tam-tam throughout	IV: S and W (same instruments)

It is worth noting a small change that I made to the score after the first performance: in movement III, the sections from bars 113-146 and 149-178 were originally conceived and written as repeated sections, with several sections of the orchestra instructed to play second time only. This was more recently changed to be written out entirely after much thought and

various different opinions from my peers. My original reason for including repeat marks was a belief in the performers needing to be explicitly aware that they are repeating material. However, I ultimately decided that this would become apparent anyway, and writing it out would make it much clearer to read. Of course, no musical changes were made by doing this, and the score still fits with the recording of the first performance of the piece.

Harry Partch's 'corporeal' aesthetic, and its influence on my work

Throughout history the Monophonic concept has been consistently manifested through one medium: the individual's spoken words, which are more certainly the juice of a given identity than anything else in the tonal world. Of all the tonal ingredients a creative man can put into his music, his voice is at once the most dramatically potent and the most intimate. His voice does not necessarily mean his own voice and it certainly does not mean the specialised idiosyncrasy known as "serious" singing. It means his conception as expressed by the human voice and it means one voice. The instant when other voices are added to that one voice is an instant of metamorphosis. Thereafter his identity is not that of the inner self alone but the identity of a group. The drama and the intimacy of the individual are superseded by a different esthetic or sociological quality.⁸

The aim of my research, at the start of my PhD, was to produce a composition folio that explored, in different ways, the 'corporeal' aesthetic of the American composer Harry Partch (1901-1974). This exploration took on many forms, with different works focusing in varying degrees on different aspects of his thinking. The final piece, *cloud chamber music* (named after a Partch piece, and setting the same words), is the most concentrated output of this research.

I have long been interested in Harry Partch, after first discovering his music in my mid-teens via an interview with the singer-songwriter Tom Waits in a magazine. As an undergraduate, I wrote a dissertation on Partch, and digested fully his *Genesis of a Music*, along with various other writings of his and the biography by Bob Gilmore. My interests in

⁸ Partch, *Genesis of a Music*: 7

Partch as a composer began to focus more specifically on his early works, defined here as those written before *Oedipus* (1951). These earlier pieces, in contrast to many of those from *Oedipus* onwards, can be characterised by their smaller scale and intimacy, their adherence to Partch's 'One Voice' ideal, and often a less percussive/rhythmic texture (although percussion is still important in many of his early pieces).

It is important to point out, however obvious, that most of my music does not sound like the music of Harry Partch. Whilst I do not fully subscribe to the common view that his ideas are more interesting than his music, I have absorbed mostly his ideas and associated them with my own compositional techniques. My first composition to be explicitly associated with Partch was a piece written in early 2009, *Four Settings of Li Po*. These settings were of four of Li Po's poems translated by Ezra Pound, and were written for singing violist and percussion, drawing an obvious parallel to Partch's first surviving piece, *Seventeen Lyrics of Li Po*, for adapted viola and voice. The motivation to continue exploring aspects of the works of Partch through composition came partly through the success of that piece.

Although I have studied and analysed Partch's 43-tone scale, microtonality has so far been a very minor element of my own compositions. This is primarily simply for practical reasons: I do not have access to microtonal instruments or musicians, and as such am not familiar enough with microtones, nor would I be able to get such pieces performed very easily if I were. However, I would also argue that although 43 notes to the octave is the first fact that many people associate with Harry Partch, he considered it merely one element or tool in his striving for a corporeal form of music. Though I would like to explore microtonality further in the future, I do feel that there are still areas ripe for exploration in Western equal temperament.

cloud chamber music

This final piece of my composition folio is the longest, and indicative of the direction that I have begun to take my music in over the course of the three years in which these pieces were written. In that sense, it could fairly be called the summative piece of the folio, containing musical elements and ideas from each of the preceding pieces, with less experimentation.

The words for this piece are taken from a variety of poems, all of which were also set in *Eleven Intrusions*, a relatively early piece by Harry Partch. *Eleven Intrusions* has long been

the piece by Partch that I admire the most, containing a focus and integrity which I don't always find in his later works whilst also contrasting between rhythmic and more abstract songs. I tried not to think too much about how Partch set each of the poems as I composed my own piece, except for one part (the second half of *Lover*) where I explicitly reference his own strikingly rhythmic setting.

The table below shows the structure of the movements of *cloud chamber music*, in terms of length, tonal scheme and instrumentation. The guitar appears in all nine of the movements, whilst the other instruments each appear in six. The order of the middle five songs was altered a few times during the composition process.⁹ One structural feature strongly considered, but ultimately not used, was the idea of giving the performers the option of playing through the movements in reverse: i.e., starting with 'Epilogue' followed by *Vanity* and so on, finishing with the 'Introduction'. This idea was eventually abandoned as I felt that the ending of 'Epilogue' would not run smoothly into the start of *Vanity*, although many other transitions would have perhaps been more successful. In a future performance, I may explore the option of letting the performers decide the order of the songs between themselves, like *in a silent way*. The songs were not composed in the order that they appear in the score, although *The Rose* did come first.

Movement	Words	Length (approx.)	Tonal scheme	Instruments
Introduction	-	3'	A	Tutti
<i>The Rose</i>	Ella Young (1867-1956)	2'30"	A	Tutti
<i>The Crane</i>	Tsurayuki (872-945) trans. Arthur Waley	1'15"	A	guitar, clarinet, cello
<i>The Waterfall</i>	Ella Young	1'15"	A	guitar, violin
<i>Lover</i>	George Leite (1920-1985)	2'	B	guitar, violin, flute
<i>The Wind</i>	Ella Young	1'30"	B	guitar, flute, clarinet
<i>Soldiers/War/ Another War</i>	Guiseppe Ungaretti (1888-1970) trans. William Fense Weaver	1'	A	guitar, cello
<i>Vanity</i>	Guiseppe Ungaretti	1'15"	B	Tutti
Epilogue	-	2'	B	Tutti

⁹ The original intended order had the tonal schemes 'A' and 'B' alternating throughout.

The piece was premièred by the composer Stef Conner, and performed by her from memory in a semi-theatrical setting. Though the performance instructions in the score do mention the possibility of performing from memory, I never suggested this directly to her and was delighted when she did, as it certainly added to the drama of the piece. The guitarist (Rob Carruthers, whom I consulted at various times during the process of writing the piece) was seated alongside Stef at the front, whilst the other four performers were seated on raised staging a few feet behind them. Audience seating was also placed on the stage of the hall, in close proximity to the performers.

One of the main challenges in composing this piece was writing for the guitar, an instrument I had never used previously in my music. My aim for the guitar part was for it to be prominent but not over-complicated; its main function throughout the piece is to provide harmony and continuity, serving as a counterpart to the soprano. I used my own limited knowledge of the guitar to try and produce four and six note chords that are playable, although one chord (in *Vanity*, at the end of the first system) involved the guitarist stopping a string with their right hand. After experimenting with various alternative voicings to try and eliminate this problem, I eventually decided to keep it, partly because the strained effect of reaching for that high note had a dramatic quality which I found to be appropriate to that song.

The tonal schemes used in *cloud chamber music* (referred to as A and B in the table above) are very straightforward, and used in an intuitive way. Scheme A, similarly to *in a silent way*, consists of four four-note rows that have been rotated around B, G and D, with the four note row consisting of a major triad with a minor seventh. Scheme B uses hexachordal rotations on A-flat. In both of these schemes, the frequency of notes through all of the rotations has been tallied in order to create a hierarchy of notes that informs other compositional decisions. Tonal scheme B was conceived as six-note rows in order to create some large six-note chords for the guitar, heard at the start of *Vanity*.



Above: The prime rows for tonal schemes A and B respectively, all of which have been rotated. The first two four note rows of A are stated at the start of “The Rose” by the guitar and clarinet. The third rows when rotated around the D produces three more major chords with a minor 7th: G, E and D. All four chords are stated by the alto flute and violin on the second page of “The Rose”, and elsewhere. The prime row of B starts “Lover”, played by the alto flute.

Almost all of *cloud chamber music* is written without bar lines or time signatures. I decided before I began writing the piece that this would be the case, partly as a result of the success in writing in this way for two movements of *in a silent way*. Although I made it clear to the performers that this notation was intended to offer a degree of freedom, I did attend most rehearsals and offered occasional pointers, usually if I thought the pace was too slow. However, there were relatively few problems with interpretation. One unusual feature of the notation is the two single line staves above and below each system of the score; these are there to make sure it is absolutely clear where one system ends and another begins. As well as the three songs that contain some bar lines (‘Lover’, ‘Soldiers/War/Another War’ and ‘Vanity’), ‘The Waterfall’ also has a fairly straightforward pulse due to the rhythmic and constant violin line.

As well as the acknowledged musical homage to Partch in the second half of ‘Lover’, *cloud chamber music* also contains a nod to the composer Erik Satie (shown over the page), whose music I have enjoyed and studied for many years.

Lent et douloureux

Above: The opening bars of *Gymnopedie* No.1 by Erik Satie

Below: The second system of 'Vanity' from *cloud chamber music*

$\frac{4}{4}$ = 92 liting

Sop.
man bent o-ver the wa-ter sur-prised by the sun

Cl.
pp ff

Gtr.
mp

Vln.
pp mp
pizz. arco

Vc.
pp p ff
sul pont.

A. Fl. ff

Conclusions

Having three years dedicated to the study of composition has been a very rewarding process. Aside from the volume of music that I have been able to write (whether it has ended up in this folio or in the music department's paper recycling bin), I believe my compositional practice as a whole has benefitted enormously during this time. During the course of this PhD, I have matured from a student with a strong interest in composition into a young composer with a clear voice. This process of self-discovery, as I have learned what defines my own music and how I achieve this, has been one of the most important aspects of this process.

The eight compositions that I have included in this folio employ a wide variety of instrumental and vocal forces, showing how similar compositional techniques can be applied to pieces ranging in size from solo bassoon and vibraphone up to a large chamber orchestra. All of the works engage with music both contemporary and old, but without being restricted by this historical baggage; I hope that they offer new ideas and perspectives.

The two largest pieces both feel like culminations in my compositional thinking during this folio, for different reasons. *trees and paths I loved fade* successfully develops my technique of devising lots of material from one chord for a larger ensemble setting, and achieves a strong thematic unity through its use and re-use of simple melodic, harmonic, rhythmic and timbral ideas. *cloud chamber music*, on the other hand, achieves a clarity and intimacy greater than the works that came before it, complimenting the more grandiose vision of *trees and paths*... on a smaller scale.

Through the course of this folio, one can clearly see the emergence of my compositional voice, always present but gradually more apparent, culminating in the longest and yet most focussed piece, *cloud chamber music*. Various strands of my compositional technique have been explored, experimented with and refined through these works, resulting in a diverse set of pieces with many common threads tying them together. In this sense, I hope that this folio can be considered as valuable research in the field of composition.

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