

Portfolio of Compositions

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PhD

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Abstract

My portfolio of compositions comprises 13 original composition scores and accompanying CD and DVD media. This work spans a six year period from 2006-2012 and is written for a variety of instruments from solo piano and vocal works through to large scale orchestral and choral. Nearly all the works have been commissioned and performed professionally and recordings of the performances are included.

There are several arcs to the development of my composition that are displayed in this portfolio, and the commentary splits these into four main categories: mechanics of performance, exploring vocal technique, sonority as a structural mechanism and using 'found material' for tonal structure. My folio also covers areas of research involving the use of vocal multiphonics (such as traditional Mongolian throat-singing), and conveying poetic meaning through reference and musical discourse. My goal in composing these works is to create a flexible and meaningful compositional technique and, above all, to display a breadth of material and diversity of musical techniques that are equally balanced between experimentation and self-expression.

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List of Compositions

Madrigale in 12 Parts (2007)

7' for 3 trombones

Poem in Silence (2007 rev. 2010)

6' for solo soprano

Fl. Vcl. (2008)

9' for flute and violoncello

Madrigale III (2009)

14' for solo violoncello

Madrigale II: Qu'est devenu ce bel oeil (2010)

21' for 12 instruments (fl. Ob. Cl. Mand. Guit. Harp Perc. Pno. Vln Vla Vc. Dbl Bs.)

En Un Vergier Sotz Fuella d'Albespi (2010)

7' for baritone and alto (with subtone and overtone singing)

Sop. Fl. Vcl. (2010)

7' for voice, flute and violoncello

[SqueezeBox]² (2010)

6'30' for classical accordion duet

Spitfire Irene (2011)

25' for solo soprano (with overtones)

Two Poems (2011)

13'40' for solo Piano

Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn (2011)

'In his house at R'lyeh dead Cthulhu waits dreaming'

6' for string quartet

what fruite of immortality, a book of laudes or praises (2012)

38' for chamber choir (24+ voices including soloists with optional overtones) and large ensemble (2.2.2.2.2 + 2 perc)

R'lyeh (2013)

12' for large orchestra (3.3.3.3 4.4.3.1 4 Perc 12.12.8.8.4)

List of Recordings

CD 1

1. Poem In Silence *4:04*

Live recording, Chimera Concert 12/3/10 Sir Jack Lyons Concert Hall, University of York

Nora Ryan, soprano.

2. Poem In Silence *6:36*

Live recording, Late Music Concert Series 6/11/10 Unitarian Chapel, St. Saviourgate, York

Peyee Chen, soprano

3. Fl. Vcl. *9:05*

Live recording, Late Music Festival 2008, NCEM, York

Trio Atem

4. Madrigale III *10:40*

Live recording, 2nd performance, Black Hair Ensemble Concert, Spring Festival 15/5/10, Sir Jack Lyons Concert Hall, University of York

Charlotte Bishop, cello

5. Madrigale II: Qu'est devenu ce bel oeil *20:40*

Live recording, Huddersfield Contemporary Music Festival, 20/11/10 St. Pauls Hall, Huddersfield

Nieuw Ensemble cond. Artjom Kim

6. En un vergier sutz fuella d'albespi *5.48*

Live recording, 'Lost Songs' project, 12/6/09, Rymer Auditorium, MRC, University of York Music Department.

Ensemble Bright Cecilia

7. Sop. Fl. Vcl. *7:02*

Live recording, Late Music Concert Series 1/5/10, Unitarian Chapel St. Saviourgate, York

Trio Atem

8. [SqueezeBox]² *6:29*

Live recording, Cheltenham Festival 14/7/10, Parabola Arts Centre, Cheltenham TOEAC

CD 2**1-7. Spitfire Irene** *23:27*

Live recording, Wingbeats Festival 10/9/11, The Orangery, Sewerby Hall,
Bridlington
Elizabeth Marshall, soprano

8-9. Two Poems *13:39*

Live recording, Late Music Concert Series 6/8/11, Unitarian Chapel, St. Saviourgate,
York
Ian Pace, piano

10. Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn *4:41*

Live recording, Chimera Concert 22/6/12, Sir Jack Lyons Concert Hall, University of
York
The Chimera String Quartet

CD 3**1-9. What fruite of immortality** *37:52*

Live recording, Sir Jack Lyons Celebration Concert, University of York music
department 20/6/12
The 24 and University of York music department instrumentalists, cond. Graham
Bier. Narration by Jason Darnell

10. R'lyeh *3:12*

Workshop recording (fragment), University of York music department 8/5/12
University Symphony Orchestra cond. John Stringer

DVD**What fruite of immortality** *42:29*

Live Recording, Sir Jack Lyons Concert, University of York Music Department
20/6/12
The 24 and University of York Music Department instrumentalists, cond. Graham
Bier. Narration by Jason Darnell

Poem In Silence *5:14*

Live recording, Chimera Concert 12/3/10 Sir Jack Lyons Concert Hall, University of
York
Nora Ryan, soprano.

[SqueezeBox]² *6:59*

Live recording, Cheltenham Festival 14/7/10, Parabola Arts Centre, Cheltenham
TOEAC accordion duo

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Author's Declaration

I declare that all of the work in this portfolio and commentary, and the research upon which it is based are my own work. Where reference is made to the work of others, the extent to which that work has been used is indicated and acknowledged in the bibliography and the body of the text.

This work has not been already accepted for any degree and neither is it being concurrently submitted to any other university or for any other degree.

Introduction and Background

My PhD composition portfolio was completed over six years and in that time has incorporated research into many different ideas and aspects of the compositional process. At the heart of my research has been the idea of composition as an explorative and experimental¹ process. From this starting point it has spread out to include a large gamut of compositional ideas, some of which are not relevant to this commentary. For narrative purposes I have split the most important of them into subject areas: mechanics of performance, exploring vocal technique, sonority as a structural mechanism, and using 'found material' for tonal structure. Additionally the topics of vocal multiphonics and poetic meaning and reference are discussed.

The larger pieces incorporate more than one of these ideas and so will be split across the relevant sections. Of the aspects not touched on in this general structure, the issues that have been most interesting to me include experimentation and empiricism of notation (metered and non-metered), performance as part of the compositional process, collaboration and the idea of embodiment. These issues will be discussed more fully as they come up.

I have had many musical influences, including a number of the composers that I have worked with, that have influenced my work in the past: Although my music does not incorporate the ideas of the 'complexity' movement, I have a respect for the work and language of Michael Finnissy. Some of my work for example echoes the gestures and lyrical content of his String Quartet (1984)² and solo piano works³. Australian composer David Lumsdaine has influenced my work from an early stage, especially his solo piano work *Ruhe sanfte, sanfte Ruh'* (also in an incarnation for piano and ensemble, *Mandala 3*) which is derived from the chorale 'Wir setzen uns mit Tränen nieder', No. 68 from J.S Bach St. *Matthew Passion*⁴. The works of Salvatore Sciarrino and Helmut Lachenmann have influenced me in my use of extended technique, for example the interludes from Sciarrino's work *Luci Mie Traditrici*⁵ and Lachenmann's *Guero* for piano⁶. Many of György Ligeti's works have influenced my compositional process, for example the *Nonsense Madrigals*⁷, which have informed my approach to solo and chamber vocal writing. Ligeti's *Études*⁸ as well as György Kurtág's *Machaut to Bach*⁹ transcriptions

¹ By 'experimental', here and throughout my commentary I am referring to the act of experimenting with the form, structure, techniques and other aspects of musical experimentation as apposed to the generally accepted term for the output of composers such as John Cage and Christian Wolff.

² Finnissy, *String Quartet (1984)* Full Score.

³ Finnissy, *English country-tunes, Gershwin Arrangements, Verdi transcriptions for piano (1972-1988)*.

⁴ Lumsdaine, *Mandala 3, Ruhe Sanfte, Sanfte Ruh'*.

⁵ Sciarrino, *Luci mie traditrici*.

⁶ Lachenmann, *Guero: Piano Solo*.

⁷ Ligeti, *Nonsense Madrigals*.

⁸ Ligeti, *Études Pour Piano, Premier Livre, (1985), Études pour piano, deuxième livre (1988-1994), Études Pour Piano, Troisième Livre (1995-2001)*

⁹ Kurtág, *Transcriptions from Machaut to J. S. Bach* for piano (duet and six hands) and for 2 pianos.

have influenced my approach to prescriptive notation and performance practice. Ligeti has also been an influence on a more philosophical level in the way he trades thoroughly systematised processes for more generally structured progressions. Morton Feldman was an early influence with the idea of placed 'sound events', his sense of harmony and use of chord inversions, for example in *Piano and String Quartet* and *For Bunita Marcus*¹⁰. Harrison Birtwistle was another early influence, in particular in my approach to theatrical gesture and large-scale structuring techniques (for example *Silbury Air*, *Punch and Judy* and *The Mask of Orpheus*¹¹). More minor influences have been Roger Marsh (largely in his economy and objectivity of language)¹² Sofia Gubaidulina in the use of Accordion techniques¹³ (in my piece [*squeezeBox*]²) and Garrett Sholdice in his use of exploration of intervallic relationships to create musical structure (in my piece *Madrigale III*).

While some research has been derived from the study of published material, a large portion of my PhD has been conducted through personal research. For example, my research into vocal multiphonics and Mongolian Throat singing has included autodidactic practice, as well as teaching and workshops with singers interested in the topic. Many of the extended techniques used in the instrumental pieces were worked out through experimentation with the instruments and deductive reasoning as well as the use of various technique manuals listed in the bibliography¹⁴.

With every piece I have created, regardless of the experiment conducted and techniques used, I have felt it important to create a meaningful musical structure with a clearly defined aural and theatrical language, and have not shied away from expressing personal sentiment through musical devices. With this portfolio I hope to display a breadth of material and diversity of musical techniques that are equally balanced between experimentation and self-expression.

¹⁰ Feldman, *Piano and string quartet, For Bunita Marcus, piano solo*.

¹¹ Birtwistle, *Silbury Air, The Mask of Orpheus*.

¹² Marsh, *Lullaby, A little snow*.

¹³ Gubaidulina, *Et Expecto I*.

¹⁴ Bartolozzi, *New Sounds for Woodwind*.

Bok, *New Techniques for the Bass Clarinet (Book & CD)*.

Dempster, *The Modern Trombone*.

Richards, 'The Clarinet of the Twenty-First Century.'

Dick, *The Other Flute*.

1. Mechanics of Performance

Early on in my PhD, with the composition of *Madrigale in 12 parts* for three trombones, I started to become interested in exploiting naturally occurring ‘quirks’ of musical performance and how to integrate them into composition or indeed to structure pieces around them. The first example that interested me was the beating that occurs between very similar pitches emanating from a single or near sound source. This is an idea that is easily replicated when producing multiphonics on a wind instrument through singing and playing at the same time. I was interested in how to control the beating minutely and how to incorporate it into a meaningful structure. *Madrigale* incorporates this idea as well as other performative ideas based on the way sound is produced through the instrument (p. 14).

This exploration of aspects of performance is designed to span not only the use of extended techniques, but also the idiomatic features of performance in each of the instruments used, including theatrical and sonic implications. For example, *[squeezeBox]²* explores the range and expressive potential of the accordion, including the theatrical nature of performance, and the particulars of control over expression and sound quality that the accordion is capable of (p. 15).

My aim has been to create works that not only incorporate aspects of performance practice into their composition, but that also are in some way self aware of the implications and mechanical action of performance. For example, when writing for the voice I have been aware of the personal theatrical implications of giving unusual performance directions. See *Poem In Silence* (p. 18) and *Exploring Vocal Technique* (p. 18) for more examples of this.

A large influence for me in the progression of these ideas was the work of György Ligeti and György Kurtág. Two interesting examples of the use of performance mechanics are found in Ligeti’s *Monument - Self Portrait - Movement* for two pianos¹⁵ and Kurtág’s transcription of J.C Bach’s *Sonatina from Actus Tragicus, BWV 106* from his *Transcriptions From Machaut to Bach* collection¹⁶. In *Self Portrait with Reich and Riley*, movement 2 of *Monument - Self Portrait - Movement*, in each piano part the pianist continually plays a five-note scalic pattern with the right hand while using the other hand to hold notes of that pattern down silently so that they don’t sound as they are played, resulting in a semi-predictable but uneven rhythmic pattern. In his transcription of *Sonatina from Actus Tragicus, BWV 106*, Kurtág instructs Piano 1 to play very similar instrumental parts two octaves apart with hands crossed; The uneven-ness that results creates an effective illusion of two separate instruments playing in unison. In both examples the composers are using the action of performing the instrument to create interesting musical results and in Ligeti’s case this informs the structure of the piece.

¹⁵ Ligeti, *Monument, Selbstportrait, Bewegung*.

¹⁶ Kurtág, *Transcriptions from Machaut to J. S. Bach* for piano (duet and six hands) and for 2 pianos.

Kurtág, Gyorgy, Bach, J.S. Gottes Zeit ist die allerbeste Zeit (BWV 106 ACTUS TRAGICUS)
from Transcriptions from Machaut to Bach, p. 46 b.4

II. Selbstportrait mit Reich und Riley (und Chopin ist auch dabei)
Self-portrait with Reich and Riley (with Chopin in the background)

Presto: so schnell und so gleichmäßig wie möglich (siehe beiliegende Spielanweisungen) / as fast and as rhythmic as possible (see the directions for performance)

ohne Pedal/without pedal

Presto: so schnell und so gleichmäßig wie möglich (siehe beiliegende Spielanweisungen) / as fast and as rhythmic as possible (see the directions for performance)

ohne Pedal/without pedal

Left-hand notation:

- = depress the key silently and hold down.
- = depress the key so that the note sounds, and hold down.
- ◌◦ = depress the key so that the note sounds, and hold down; the note is tied to a "silent note" in the next "bar", even through the tone may continue to sound.

Right-hand notation:

A normal note head indicates that the tone sounds.

A small note head indicates that the key is depressed but the tone does not sound, since the key has already been depressed and held down by the left hand.

The  figures are played as fast as possible (or "still faster"), *leggiero quasi legato*. The result will be legato only in passages in which several sounding notes follow one another; the succession of tones will be broken by short rests wherever small note heads indicate a non-sounding key.

Ligeti, György Monument • Selbstportrait • Bewegung, p.18, 16

Although this section highlights *Madrigale* and *[squeezeBox]*² as examples where the mechanics of performance form the driving force behind the composition, this aspect is also present in many other works and for example provides the impetus behind the embodiment and multiphonic ideas used in *Exploring Vocal Technique* (p. 18) and *Sonority as a Structural Mechanism* (p. 29).

Madrigale in 12 Parts

Madrigale in 12 Parts started life as a piece exploring the rhythmic possibilities that exist in the use of the beating that occurs when there are two microtonally close pitches emanating from a single source. The trombone was a logical choice of instrument for experimentation as the long slide allows for precise control over the distance between sung and played notes and therefore control over the rhythmic beating. The structure of the piece then became informed by the action of singing and playing simultaneously and other trombone techniques. Extending the idea of the technical process through which the beating was obtained (i.e. singing and playing simultaneously) led to and informed the structure of the piece, which became an exploration of the mechanics and techniques involved.

Influenced by online examples of vocal and instrumental beatboxing techniques¹⁷, it occurred to me that there are a number of different independently controlled mechanical processes involved in producing sound, while playing the trombone, besides the use of two separate vibration generators (vocal chord and lip). There are also other means of manipulating the air-stream and timbre/quality of the sound, all of which could be manipulated semi-independently in separate lines of counterpoint. Were these devices to be used in counterpoint the outcome would be defined by some of the co-dependent relationships between them and this co-dependence as well as the filtering effect of change also drove some of the key structural aspects of the piece.

Independent Percussive	Percussive Filter	Filter	Pitch
Tapping on body with hand	Rattling mute against trombone bell	Trombone Mute	Playing via lip vibrations (normale)
Tapping on floor with foot	Rhythm of breath re-takes	Unusual objects as mutes	Singing
Tapping on instrument with hand	Tonguing on teeth	Holding nose	Throat Singing
Tapping on instrument with beater or percussive instrument	Change of dynamics	Adjusting the embouchure (e.g. with vowel shapes)	Playing pitched percussion with one hand.
gnashing teeth		Position of the tongue	
Vocal grunts		Airiness around the mouthpiece	
		Removing the mouthpiece and playing it.	

Potential independent instruments available to the trombonist

¹⁷ *Beatboxing Flute Inspector Gadget Remix.*

The four principle devices used (vocal chord, lip, embouchure via vowel shape and wah-wah mute) were chosen mainly as they are the most clearly audible.

The structure of the piece is based on the repetition of a tonal schema derived from renaissance melody *Madre, non mi far monaca*¹⁸. The purpose of this was to provide a prefabricated tension-based tonal structure and source of rhythmic derivation on which to base the twelve available lines of counterpoint. The piece repeats this pitch and rhythmic material six times, exploring different combinations of technique and sonic environments, culminating in an extended section combining all the techniques (bb. 154-end).

The opening of the piece was workshopped using undergraduate performers. This revealed some interesting bi-products of using trombone technique in this way and revealed the difficulty of the piece. Some of the interest in experimenting in this way lies in the unpredictability of the final sound and how manipulating the separate elements influences the performance of others. For even the most experienced trombonist the piece represents a significant challenge but I am confident that it can be performed with some dedicated practice.

Although these technical experiments are the guiding principal behind the main compositional process (initially inspired by a trombone workshop) the aesthetic and tonal structure are influenced by different sources. Most of this will be covered in the latter section *Madrigale in 12 Parts* (p.42).¹⁹

[squeezeBox]²

[squeezeBox]² was commissioned as part of a scheme run by Sound and Music and Cheltenham Festivals. The brief was to write a 5 minute long piece for Dutch accordion duo TOEAC (Renée Bekkers and Pieterneel Berkers). The scheme included a weekend collaborating with them in the Copenhagen DKDM, where they were based. This provided a great opportunity to explore a very interesting, versatile instrument and the two performers were particularly athletic and theatrical. Some reference material was provided including an unpublished manual by one of TOEAC's tutors²⁰ and a number of YouTube examples of performances and pieces²¹, most notably Sofia Gubaidulina's *Et Expecto*²² which was to prove a major influence on the work.

The instrument is highly versatile, with a large range and chromatic keyboard on each side, laid out in button format, allowing the performer to easily reach large chords and play quick chromatic passages. The method of sound production consists of two large harmonica-like metal reed boards either side of the inside body which are vibrated using the air which is pumped through them via

¹⁸ More information on page 42 *Madrigale in 12 Parts*

¹⁹ Although there are some similarities between this and the work of Aaron Cassidy (<http://www.aaroncassidy.com/>)I was unaware of that particular research at the time.

²⁰ Draugsvoll and Højsgaard, *Handbuch der Akkordeonnotation*.

²¹ TOEAC Performing 'View from a Dutch Train' by J. Ter Veldhuis on the Accordion.

²² S. Gubaidulina - *Et Expecto I*.

the squeezing of the bellows and the opening of vents via the keys. This, unlike the action of a piano, allows the performer great expressive control over the tone quality of each note, and also gives access to techniques such as 'bellows shake' (a tremolo achieved by shaking the bellows using the bass arm) and a controlled vibrato. The theatricality of the performance, which requires great strength and dynamism, is particularly noticeable in the dynamic between the two accordionists. Also there is an interesting parallel between the use of the 'air' button (which releases the air in the bellows without producing a note) and breathing.

My first thoughts were about how to utilise two such instruments meaningfully, given that their versatility already allows for complex multi-phonetic parts. I started with the basic theatrical action of opening and closing the bellows. My intention was that one performer would be pushing inwards while the other would be drawing out, and that this relationship would remain the key source of movement and tension behind the structure, as well as a source of theatrical excitement. I expanded this idea with the notion of one performer playing pitches, and the other playing air-tone. The pitches and air-tone overlap to give the impression of breathing.

During the opening section the pitch material is built up horizontally, outlining a static chord. The second section begins with a statement of an alien pitch B flat, around which an inversion of the opening chord is formed. The second section explores beating, bellows extension and bellow shake, emphasising theatrically the mechanical action of the accordion, and slowly becoming more rhythmic in preparation for the final section, which is a rhapsodic and frenetic exploration of the pitch material (now a mix of the prime and inversion chords) and the violent gestures that the instruments are capable of. Throughout the piece the role of the two accordions emulate each other and yet are distinctive, mirroring the relationship of the performers themselves.

Collaboration was a key element in the composition of the piece, not least because of the technicalities of the instrument, and a number of ideas were brought to light during the process. The score was often revised to ensure that the player could reach the notes, and to clarify which techniques to use, for example bars 65-68 which could be performed using the 'bellow shake' technique (performing quickly repeated notes by shaking one side of the accordion rhythmically) or 'ricochet' (playing repeated notes by bouncing the fingers off of the keys).

It was also interesting to receive contrasting feedback from the two performers, who had subtly different attitudes and approaches to difficult material.

A particular point of interest to me was in the first page of the score, in which my score specified that the bellows should move outwards to produce air, and inwards to produce the note. To produce air-tone an accordionist uses the air key at the top of the left-hand keyboard, causing a rush of air to be let off without producing a pitched note. As the hole is wider and designed for easy deflation of the bellows, the rate at which air escapes when playing air-tone is much greater than when performing a pitched note. This understandably caused some problems for

the performers as when given the same length of note for air-tone as for a pitched note (as they have in the first page of the score) the physical distance the bellows travel is further for air-tone than it is for pitched material, leading to an ever-expanding bellows action. However the general theatrical effect of an outward movement signifying breathing and inward movement signifying performing was what I was aiming to achieve, and the instruction was included in the score as an 'aspirational' mark. The performance reflects adequately the desired effect²³.

The expressive idea behind the piece is an exploration of the extremes offered by the instrument, ranging from quiet, tiny and sweet sonorities to the extreme violence of the bellow shake. I also wanted to play with the mechanistic nature of the instruments, in contrast to the expressive use of the air column and the similarities with the idea of breathing. Although the exploration of the instrument and the mechanics of performance were the main drive of the piece, the opening material and progression into violent gesture was inspired in part by the idea in the back of my mind of a street musician playing a battered old accordion ('squeeze box') and railing against the misfortune of his position.

²³ See the *[squeezebox]²* video on the accompanying DVD.

2. Exploring Vocal Technique

My interest in exploring vocal technique sprung from my experiments with the mechanics of performance²⁴ and became an important topic. My initial exploration of the voice was prompted by the investigation of the mechanical processes involved in performing on the trombone²⁵. The result was *Poem in Silence* (p. 18), and when it was finally performed, it opened up some interesting questions about embodiment and text setting.

I was further interested to learn from a fellow PhD candidate, Christopher Macklin, about sub-tone and over-tone throat singing and its relationship to the manipulation of vowels. After some early experimentation with an improvisational piece *Deep Throat* for solo throat-singing cellist and ensemble (not included here²⁶) I became interested in incorporating this and a greater use of naturally occurring harmonics into my compositional language, although without inferring reference to Eastern traditional throat-singing. This became a recurring concern over the years and the focus of a lot of empirical study (p. 21).

What made the voice particularly interesting to study, apart from the range of extended techniques not commonly known about or used, were the implications of embodiment i.e. that the performer is not manipulating an instrument but rather using their own body for performance. This creates certain theatrical implications that place limits on the type of experimentation possible, for example in reference to popular cultural idioms or surprising facial expressions. On the other hand these implications also enhance a number of theatrical ideas in terms of performance practice, which I have explored in *Spitfire Irene* (p. 26).

Choral music also became a concern, starting with *Go Down*, an early experiment in cellular improvisation. The practical limitations are doubled when there is a group of singers involved and, to a degree, writing for the voice forces a certain level of conservativeness in the approach to experimentation. As with instrumental techniques²⁷ part of my work has been to try and up-scale the experimental ideas available for a solo performer to a larger group of performers²⁸.

Poem In Silence

While completing *Madrigale in 12 Parts* for 3 Trombones²⁹, which is built around the mechanical process of playing the trombone and how many independently controllable elements are involved, I began experimenting and thinking about how many similar processes are involved in singing or speaking and, in the same way

²⁴ See *Mechanics of Performance*, p. 12

²⁵ See *Madrigale in 12 Parts*, p. 14

²⁶ *Deep Throat* for Solo Throat-singing Cello and Ensemble.

²⁷ See *Sonority as a Structural Mechanism*, p. 29

²⁸ See *what fruite of immortality*, p. 52

²⁹ p. 14

the trombone uses mutes, how many sonic elements could be added through filtering the sound or using body percussion.

The piece became an important part in my research because it was evident that, although sonically one can create a large network of different controllable musical elements, the voice also carries implications of embodiment and reference that limit the expressive potential. I examined, for example, holding the nose and using it as a con sord. effect in the same way that the wah-wah mute is used in *Madrigale*. This created an unusual and easily trite theatrical effect which can be inappropriate to the context in which it is used, as might other examples, for example cupping a hand over the mouth rhythmically, which is a gesture that holds many cultural references such as yawning or an out-of-date reference to indigenous Americans. For these reasons I moved away from the 'simultaneous lines of counterpoint' model advocated in *Madrigale* and instead focused on divorcing musical elements - vowels, consonants and pitch - and treating them as separate musical objects.

I had already written an appropriate text for the piece. *Poem in Silence (text)* is a poem I had written about the experience of having an epileptic seizure. The poem attempts to deal with a sudden debilitating and extreme event by talking distractedly and objectively about my own experience of become introverted and calm as the body entered into seizure:

*In silence rapt
As in pressures worn
The seconds jumped.
I saw them.*

*Beside my place
Where there was me.
Unfoetal works.
Prevented me.*

*Time ignored
In silence rapt
Closing me
Beside me.*

*Where there was me
Preventing me.
Beside my place
I saw them.*

Edward Caine, 27/9/05³⁰

³⁰ Caine, *Poem In Silence*.

The first stanza of the poem forms the basis for the whole piece. Consonants form percussive elements and the vowels are interspersed so that the vowel shapes are formed while voicing the consonants and voiced wherever a vowel would usually appear.

The musical notation shows two staves. The first staff begins with a box containing the vowel 'ε'. It is followed by rhythmic patterns for 'ss nn', 'w nn', and 'th ss'. The second staff continues with 'th', 'th ss', and 'c nn d ss', ending with a box containing the vowel 'æ'. Various musical symbols like accents, slurs, and dynamic markings like 'sfz' are present.

Edward Caine *Poem in Silence* page 3.

The structure of *Poem In Silence (music)* is semi-improvisatory and cell based. The layout of the cells on the page resemble the arc of an epileptic fit, starting quiet and slow and leading to the peak of the structure at the loudest and most busy section, at which point the singer can take an optional improvisatory path through the cells, then tailing off towards the end. The performer reads from left-to-right, top-to-bottom as they move through the material in order.

The cells are made up of rhythmic gestures, however the exact timing and placement of the cells are left to the performer. The material builds up organically from single quiet percussive ideas to whole strings of consonants that begin to form the semblance of words. The layout of the score and nature of the material owes a stylistic debt to Georges Aperghis's *Recitations* and *Le corps à corps*, although I tried to avoid emulating his processes³¹.

Poem in Silence (music) received its first performance in 2010, three years after it was originally written, by which time my compositional ideas had moved on. However in rehearsal and performance it became an invaluable influence on my research. It was clear that there were a number of implications of performance beyond that of the initial ideas behind it (relating to consonants and vowel separation, which turned out to be comparatively subtle). The theatrical implications of splitting the consonants and vowels equate to the idea of someone trying unsuccessfully to form words, and the pitch material becomes both frantic and inward in relation to the seizure playing out on stage. The piece itself is uncomfortable to watch, as it appears that I have put the singer into upsetting and extreme situations. The empathetic affect on the audience helps with the idea of a seizure being played out on stage. The effect is to reintroduce the violence of the fit into the distracted and introverted nature of the poem. Additionally the peak of the seizure and thus the climax of the piece appears unexpectedly after the written

³¹ Aperghis, *Récitations, Le corps à corps*.

dynamic peak of the piece as it begins to slow down on the second page of music (page 4, line 2, cell 8).

In later performances I requested that the singers read the rest of the poem at the end of the piece to give it some context and this has become an optional addition to the score.

Owing to these considerations the score was revised in 2010 to include autobiographical details and more information about the emotive nature of the music and the impetus behind the gestures, as well as the text of the final three stanzas of the poem.

Experimenting with Vocal Multiphonics

Through early collaborative work with singing group YoMAMA on *Go Down* for SSAB (not included here)³² and later with the Black Hair Ensemble and postgraduate singers Christopher Macklin and Graham Bier on an improvisational piece *Deep Throat (or Lowering the Tone)*³³ for solo throat-singing cellist and ensemble (also not included), I became increasingly aware of the possibilities of vocal multiphonics and the (mostly Eastern) traditions of throat-singing which allow the performer to produce multiple pitches simultaneously. My studies included learning to throat-sing, teaching it to others and incorporating it into compositions. Near the end of my PhD I travelled to China with student choir The 24 and while in Huhohote, Inner Mongolia, had a private lesson with mongolian singer 'Uni' from the Anda Union³⁴, a group of traditional Mongolian musicians.

There are several aspects to throat-singing (called *Hoomei (Khöömii/呼麥)* in Mongolia and Tuva³⁵) which I have studied and used at various junctions:

Growl Tone is produced using just the vestibular fold (a muscle just above the vocal chord, often referred to as a false vocal chord³⁶). Using growl tone you can produce a single low note usually about an octave below your lowest singing range. I can produce consistent growl tones over a minor third range G1-Bb1. Growl tones can be inconsistent and it can be hard to control the pitch. They are also quiet and have a distinctive sound quality.

Subtones, also known as *Herekera* in Mongolian tradition, are multiphonics produced by singing one note using the vocal chords and producing a lower note through sympathetic resonance on the vestibular fold. Although it is possible to produce them across a wide range, subtones are most effective at the bottom end of the voice. The sound is guttural and distinctive although easy to hide in a large

³² Caine, *Go Down*, 2007. See Appendix

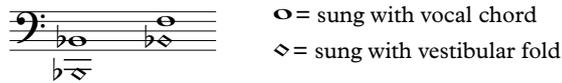
³³ *Deep Throat for Solo Throat-singing Cello and Ensemble*.

³⁴ 'AnDa Union.'

³⁵ There appear to be no accepted standard for spelling these words in English. The names of the different techniques listed on this page were written for me in my notebook by Uni in what I think is a variant of Pinyin. Other spellings exist.

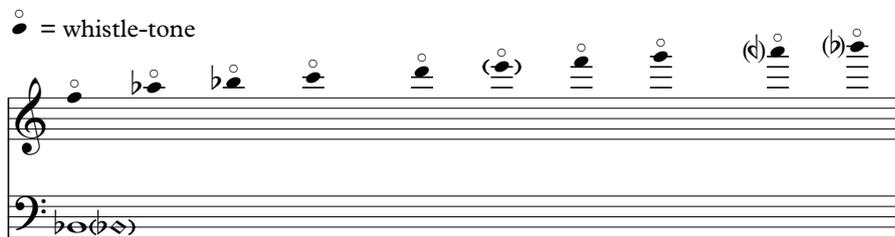
³⁶ 'Vestibular Fold.'

choir as a super low note³⁷. *Herekere* is very difficult to produce, especially for female singers. In addition to producing a note an octave below the sung note, it is also possible (although difficult) to produce a note a fifth below the fundamental.



Iskre is the tone-quality Mongolian throat-singers produce to enhance the production of overtones. It involves singing one note using the vocal chords and vibrating the vestibular fold sympathetically *at the same pitch* as the sung note. The effect is a dampening of the fundamental note and enhancement of the overtones. This is difficult to achieve and not good for the singing voice.

Overtones (or *SiHa*) are produced by manipulating the tongue and lip position. They can be produced without producing the *Iskre* tone, although not as clearly. The available notes conform to the harmonic series above the fundamental note sung:

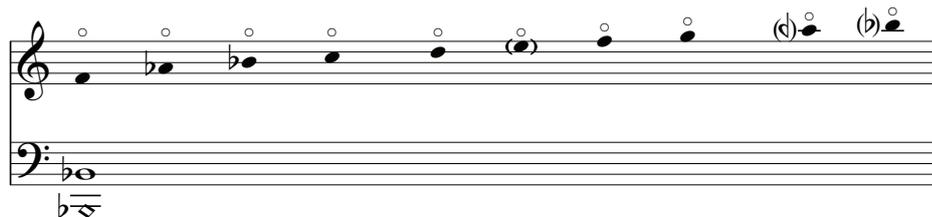


Available Overtones

Overtones are the easiest thing to produce and any singer can produce them with some work and without danger to the voice. The lower notes are produced by shaping the lips around vowel sounds ('o, u, a, e, I' in order of pitch produced, low to high) and manipulating a retroflexed tongue position produces the higher notes. If not using the *Iskre* voice, greater results can be achieved by pushing the tongue further back, restricting the resonant chamber and achieving higher resonance through the nose.

By combining these techniques, it is possible to produce three pitches in the voice simultaneously, although the lower fundamental pitch and guttural tone quality produced by sub-tones lowers the over-tones by an octave and obscures their purity. Mongolian *Hoomei* singers only use the vowel shapes and thus lower overtones when performing in this way.

³⁷ For an example of this see Neil Sorrell's *Mass for Choir and Gamelan: The 24 and Brooks, New Music from Old York*.



Available overtones while performing Herekere

Go Down for SSAB³⁸ explored different vocal ideas including using a succession of vowels to bring out overtones and other filtering mechanisms to embellish held notes. *Deep Throat*³⁹ featured a throat-singing cellist in the centre of the stage (me) improvising textures around multiphonics and rearranging the ensemble (which included overtone and subtone singers and instrumentalists) into different configurations as if seeking for a particular sound. Both were improvisational and were early experiments into similar vocal techniques and how to incorporate them into compositional structures.

It is important to my work that the way in which these ideas are incorporated does not come across as a cheap stylistic reference to Mongolian tradition and mystical chanting. Indeed for the bulk of my work using subtones and overtones, I was only superficially aware of Mongolian tradition. Other implications to bear in mind were the practicalities involved. In general singers cannot be expected to produce any of these techniques on demand. While teaching and collaboration are options, *Herekere* and *Iskre* are potentially bad for the voice and it is not advisable to try and get a classically trained musician to reproduce them.

To that end I limited myself to the more conservative end of throat-singing except where the singer I was working with had already experimented with the technique. My first experiment *En Un Vergier Sotz Fuella d'Albespi* was with Ensemble Bright Cecilia, who had already experimented and could produce overtones and subtones (p. 24). In *Spitfire Irene* I chose to teach the singer how to perform overtones (p. 26) and in my large-scale choral work *what fruite of immortality* for choir and ensemble I was reduced to only inferring over-tones using vowel sounds and written harmonic series, except where I was performing and where I had a particular singer in mind although there are some solo throat-singing moments and hidden subtones (p. 52).

³⁸ Caine, *Go Down*, 2007. See Appendix

³⁹ *Deep Throat* for Solo Throat-singing Cello and Ensemble.

Most of my research into multiphonics was autodidactic, with the help of some Youtube tutorials and videos⁴⁰, fellow postgraduates Christopher Macklin and Graham Bier, and Uni.

En Un Vergier Sotz Fuella d'Albespi

Lost Songs was an MA project by singer and medieval musicologist Robin Bier, to take six poems written in ancient Occitane by French troubadours (for which the music no longer exists) and write new settings based on the meter and stresses of the poetry. To this end she commissioned a number of composers to write settings for Ensemble Bright Cecilia to perform, a duet that consisted of Robin and her husband Graham Bier. The project was useful to my research, as Graham is a keen throat-singer, and Robin has had experience in producing overtones.

My main objective when setting the text (beyond basic word painting) was to use multiphonic techniques in a way unfettered by reference to Mongolian tradition. My approach focused around using the attributes of the technique, which are as follows:

- 1) **Pitch:** producing two simultaneous pitches.
- 2) **Filter:** both subtones and overtones 'filter' the voice, altering the timbre and shape.
- 3) **Vowel Interaction:** use of different vowels used in the poetry to bring out particular over-tones.
- 4) **Hierarchy:** overtones are generally softer than the fundamental, and have an ethereal quality, analogous to a solo and accompaniment relationship.⁴¹
- 5) **Ornament:** overtones can be said to 'ornament' held pitches, creating sonic interest without altering the fundamental pitch.
- 6) **Harmony:** using two voices, it is possible to create complex four-note chords and harmonies, given time enough to create them.
- 7) **Drone:** despite being able to change in pitch dynamically, subtones are most effective as a drone.
- 8) **Beating:** I was also interested to explore the possibilities of beating between two solo voices.

The poem *En Un Vergier Sotz Fuella d'Albespi* was a good fit for my ideas. Although pronunciation of Occitane is not certain, the way Robin was pronouncing the poem in a recording we were given gave heavy prominence to the vowels, especially in the refrain of the poem 'Oy Dieus, Oy Dieus, de l'Alba tan tost ve.' providing a really useful opportunity to use the overtone technique:

⁴⁰ For example: *Throat Singing Tutorial. How i Started Kargyraa Throatsinging. Overtone Singing Tutorial.*

⁴¹ This is true in the context of western-style overtones, which the performers were familiar with, however Mongolian overtones can be considerably louder.

freely

sfz p *sfz p* *p*

A. Die - us Oy - ie - us de - l'al - ba tan tost ve

sfz p *sfz p* *p*

B. ie - us Oy Die - us de-(oh) → (ah) → (oh) ba tan tost ve

Edward Caine, *En Un Vergier Sotz Fuella d'Albespi*, page 1

The refrain of the poem ('Oy Dieus, Oy Dieus, de l'alba tan tost ve.') is the focus of the piece. The refrain utilises a repeated diminished second interval that resolves onto a minor third, providing harmonic tension, a device through which to explore beating and a suitable set of intervals to create interesting overtone chords around. During the piece it is extended and explored, punctuated by the verses which are structured using word-painting, play-offs between the voices, dance-like material and indirect Messiaen paraphrase (the faux bird-song on 'aval e.ls pratz on chanto.ls auzellos' ["down in the hayfield where sing [the] birds", bars 23-24]). The end of the piece contains the full logical extension of this idea - a progression of four-note chords between the voices with discernible beating between them. The overall effect I intended to be beautiful, emotive and crucially distinct from reference to Mongolian tradition.

as much time as you need.

discernable beating between the voices

54

A. face each other 0 - - - y Di - e - -

B. 0 - - - y Di - - - e - -

gliss

A. us! Oy Di - - e - us! de l'al - ba tan tost ve.

B. us! Oy Di - - e - us! de ah wah wa woh weh

Edward Caine, *En Un Vergier Sotz Fuella d'Albespi*, page 7

Spitfire Irene

Spitfire Irene, a 25' song cycle for solo soprano, was commissioned as part of 'A Woman's Lives and Loves', a project ran by Cheryl Frances-Hoad involving collaboration between six poets and six composers, each producing a song cycle inspired by or in response to Robert Schumann's *Frauenliebe und Leben*. I was lucky to work with Adam Strickson, a poet and playwright I had worked with before as a performer. Adam had been working on the cultural Olympiad project *Wingbeats*, which was based in Bridlington and explored 'the relationship between flying and the landscape, and the history of aviation in the East Riding of Yorkshire'⁴². The festival especially explored the life of famous spitfire pilot Amy Johnson, and Adam was keen to write a work based on a similar character. I was able to choose my own performer, so I chose Peyee Chen, whom I had also worked with before on *Poem in Silence*. Although it was not a composer-performer collaboration from the start, the piece was written very much with Peyee's voice and abilities in mind.

The text for *Spitfire Irene* follows the life of Irene, a pilot from the Women's Air Transport Auxiliary (the A.T.A Girls). Social attitudes prevented female pilots from fighting in the Second World War, so they would join the A.T.A whose job was to ferry aeroplanes between military airforce bases. The A.T.A Girls strike me as an interesting early example of female empowerment and they were often mistreated by their male counterparts. Records include anecdotes of commanding officers demanding to see the (male) pilot on arrival at the airbases⁴³. The pilots were glamorous and among the most famous of them were Amy Johnson and Amelia Earheart. After the war the ATA was disbanded and many of the pilots went back to leading more subservient lives. The story of the fictional Irene, an ATA pilot, follows her life from childhood through her first flying experiences, an unhappy marriage, subsequent divorce, and finally dotage and regret.

Adam and I worked collaboratively from the start. This was a good opportunity to expand on and solidify some of the ideas from my previous vocal experiments, and I had a few musical ideas I wanted to explore. Early meetings ensured that these ideas were worked into the text. It was important to me that I did not end up cutting the text arbitrarily, and so when it wasn't quite right for my musical ideas there was usually an exchange and revisions of the poems. In general each poem was to have a maximum 2-3 literal and musical ideas in it. Some repeated motifs would be useful, although with the kind of free setting I was interested in, it was not helpful for it to be in metered rhyme. Following on from *Poem in Silence* I was interested in exploring indeterminacy in at least one poem, and the consensus was that the poems should move from vitality in youth through to old age, stagnancy and dementia. I was also interested in using overtones as a gesture representing flight.

⁴² 'Wingbeats | Imove - Yorkshire's Cultural Programme for London 2012.'

⁴³ Lilley, *Spitfire Women*.

As in *Poem In Silence*, I was also interested in experimenting in presentation and score structure. The timing of the movements is largely down to the performer with the notation representing phrase types and rough timings in a time-space/traditional notation mix. In movements 1 and 3 the staves are shaped to enhance the representation of phrasing and to distance separate blocks of material. In general, most of the poems use symbolic musical gestures, which are then expanded and juxtaposed to reflect the meaning of the text. Adam's poetry often involves a reflective refrain at the end of each poem that brings the listener back to the present. At the heart of my settings is the idea that the poetry is the most important thing and in setting it I am forcing it to be read in a certain way. It was important to me that the words were heard and that the meaning of the text came across with no extraneous musical activity (hence the lack of accompaniment). Similarly, following the ideas of embodiment explored in *Poem in Silence*, the settings are written as if Irene is herself singing them, starting with fresh strong memories of childhood and moving outwards to depression and the onset of dementia, becoming more fragmented and wandering as they go.

1. *I Was My Own Wendy*

This movement relates a childhood memory of vitality, curiosity and independence. I took the idea of childish game-like musical gestures (e.g. the triplet rhythm, the clap of hands, and a childish giggle) and slowly expanded them, spinning them out of control. Musical gestures such as the handclap initially represent a game, and then a fall, and finally being smacked. In the final refrain I first introduce the overtones that represent flight (pre-empting movement 3. *You Moved, I Moved*).

2. *Darling of the Air*

The progress of this movement was slow and involved a long exchange of emails with the poet. I had difficulty with the very strict rhyming structure and an over-used refrain. Eventually a compromise was found. Further exploring the idea of a gesture that changes as the poem progresses, I was interested in introducing a prop, in this case a diary, to provide musical and theatrical interest.

3. *You Moved, I Moved*

This was the first poem set, following on from my ideas of structuring a piece using sonority⁴⁴. The refrain is based on a set of air-noises and elaborations of the phrase 'You Moved, I Moved' that, as the movement progresses, grow organically. The setting of the text is based on the doppler effect of an aeroplane passing by and has its basis in the childish gesture 'nyarrgh'⁴⁵, with the overtones brought out (e.g. page 8 line 2). As the movement progresses the text is dissolved until only the musical gesture remains (again a reference to the progression of Interludes in Sciarrino's *Luci mie traditrici*⁴⁶). In the poem, Irene is at her happiest

⁴⁴ See *Sonority as a Structural Mechanism*, p. 27

⁴⁵ This appears to be one of the few examples of explicit use of overtones in British culture.

⁴⁶ Sciarrino, *Luci mie traditrici*.

on her own and enjoying the thrill of flight. The setting portrays this through having a lot of space and quick horizontal movements.

4. *In Such A Night*

Adam's poem describes Irene meeting her husband at a ball and being taken in by his glamour and shallow humour. Here I was most keen to explore embodiment, representing erotic climax through the control of the singer's breathing. The intention was not to make light of the idea but to make it present, blunt and in some way awkward, with the singer holding her breath at the moment of climax. The pitch material takes Noel Coward's ballad *I'll See You Again* as a starting point and constant reference. The 'giggle' and excitement from movement 1. *I Was My Own Wendy* is also referenced to symbolise naïveté and thoughtless action.

5. *Stuck*

Mainly the description of the aftermath of Irene and her husband's relationship and subsequent divorce, this movement starts with another section of *I'll See You Again*. At this point she is no longer a pilot and has been literally brought to ground, as many female pilots were after the war. My setting is mainly a recitative with elements of other movements creeping in to represent flying and loss.

6. *Losing Altitude*

The final two songs describe Irene's descent into grief and the onset of dementia. In *Losing Altitude* the first two lines ('A women's task is the task at hand' and 'and this has killed me slowly') are utilised as little mantras that she constantly recites to herself, and that cut into her thoughts, but that are also the cause of her grief and anxiety. I was interested in fragmenting the text here and having sections of it running concurrently, both providing a subtext to the main body of the work and also to start to illustrate rambling, anxious thought. A challenge to me was how to bring out the main line while at the same time breaking it up with these background thoughts.

7. *Woman Much Missed*

In the last poem Irene is an old women, slowly losing focus and dealing with the onset of senile dementia, but still has some fight and is in general more hopeful. I enjoyed Adam's line 'I'm ninety now, ninety!' which I thought of as gleeful and amazed, like a child climbing a mountain and looking back at the distance they've come. I was interested in exploring further the use of an improvisatory structure, in the manner of *Poem in Silence*, but to a different theatrical end. Luckily, the rambling nature of the character at this point and the need to bring back earlier material to knit the cycle together provided good context and material to do so.

3. Sonority as a Structural Mechanism

My thoughts about musical structure revolve around theatrical, pitch-based and purely sound-based structures. For this latter there are two models that I have been exploring. The first is inspired by Morton Feldman's approach to 'sound events'⁴⁷, how they are juxtaposed and the homogeneity between sounds in creating a larger structure, and in sound filtering and transformation inspired by Sciarrino's painter-like approach to orchestration in pieces such as *Luci mie traditrici*⁴⁸.

In Sciarrino's opera *Luci mi traditrici* there is a prelude and three intermezzos based on Claude Le Jeune's chanson *Qu'est devenu ce bel oeil*⁴⁹. Opening with a counter tenor singing the soprano line, there are then three orchestrations of the Le Jeune, each of which is re-orchestrated to slowly reduce the audibility of pitch, changing the character of the music, almost as if it is being put through an electronic filter. The orchestration in each intermezzo is subtle, and shifts, evoking ideas of breathing and patterns of light. Through the transformative process of orchestration Sciarrino provides an autonomous structure independent of the chanson, which is always present.

Morton Feldman, in pieces such as *For Bunita Marcus*⁵⁰ treats separate pitches and other musical gestures as autonomous entities or 'events' which are combined and re-combined in a linear fashion, following ideas of memory patterns and progression from one event to another. Feldman's use of these 'sound events' juxtaposed against each other struck me as an interesting way to approach musical structure.

In my piece for Trio Atem *Fl. Vcl.* the structure revolves around the combination of sonorities and sound events. As well as an exploration into extended technique, the piece slowly explores combinations of sound and the relationship between the instruments, unpitched and pitched, although pitch played a very minor role in its composition (p. 32).

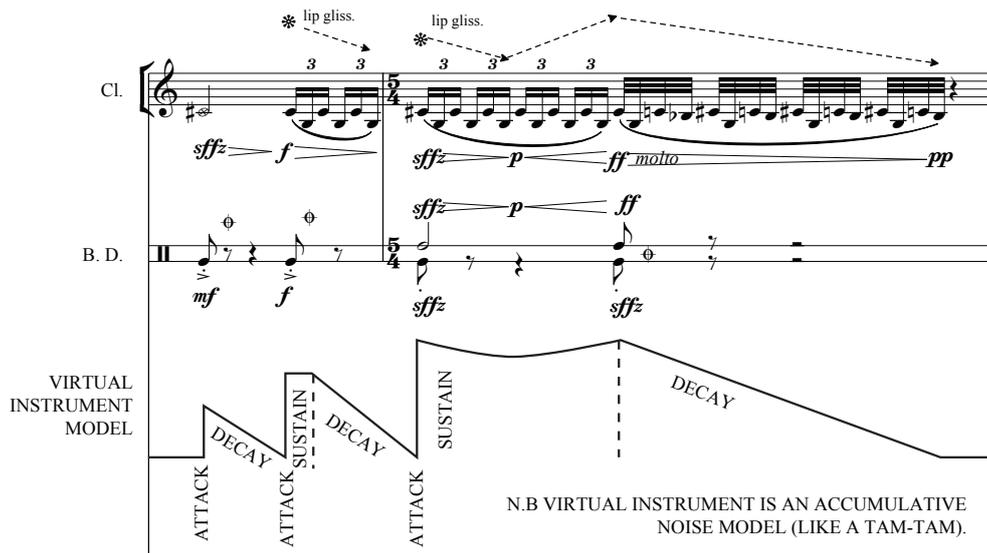
Early experiments during my Masters degree also involved the idea of 'virtual' instruments created by using multiple instruments to imitate the creation of waveforms in synthesiser sampling technologies (attack, sustain, delay).

⁴⁷ Feldman, *Give My Regards to Eighth Street*.

⁴⁸ Sciarrino, *Luci mie traditrici*.

⁴⁹ Le Jeune, *Qu'est Devenu Ce Bel Œil (Pièce Chromatique)*.

⁵⁰ Feldman, *For Bunita Marcus*.



Cl.

B. D.

VIRTUAL INSTRUMENT MODEL

ATTACK DECAY SUSTAIN DECAY

ATTACK SUSTAIN DECAY

N.B VIRTUAL INSTRUMENT IS AN ACCUMULATIVE NOISE MODEL (LIKE A TAM-TAM).

Edward Caine 5/5/05 page 1, analysis.

Sop. Fl. Vcl. Atem is much less about sound events, but is still an attempt to reconcile the less homogeneous instruments through the use of sonority. In my exploration of multiphonic vocal technique⁵¹ I had hit upon the idea of the sonic properties being used to inform structure. Here I was interested in juxtaposing overtones with, arguably, the string and woodwind counterpart, natural harmonics (p. 32).

Madrigale II: Qu'est devenu ce bel oeil uses this idea at various points to greater and lesser degrees. In each of the *Madrigali* I have provided some sort of re-orchestration of the renaissance tune *Madre, non mi far monica*, influenced by the Sciarrino opera (most of this is described in more detail in *Madrigale II: Qu'est devenu ce bel oeil*, p. 47). In particular though there is one movement *SARDINES*, which is at odds with the rest of the piece and uses mostly unpitched sound to create a sonic landscape.

Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn combines my work on vocal technique and using sonority to structure music, in attempting to mimic speech across the string quartet. In the same way that Sciarrino uses orchestration to imitate breathing I was interested in structuring a piece around speech. The piece treads a fine line between simply imitating the sound and creating a unified musical piece. Some artistic license is used to help create this structure and bring across the subject of the chant (p. 33).

R'lyeh follows on from and integrates the *Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn* chant and attempts to experiment with sonority-based structures on a large scale. Again it treads the fine line of mimicry versus musicality but

⁵¹ See *Experimenting with Vocal Multiphonics*, p. 21

rather than using musical gestures to represent speech I created large scale textures using visual and mathematical systems. *R'lyeh* also uses more spectral techniques, deriving musical structures and events from audio sources (p. 35).

My work in this area spans a number of different ways of using audio information to inform compositional structure. A rich diversity of compositional resources can be derived from the examination of the properties of sound. I have found that, combined with ideas of speech and vocal practice, orchestration can take on the role of embodiment, for example in the 'breathing' gestures of *Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn*, *Madrigale in 12 Parts*, *Madrigale II: Qu'est devenu ce bel oeil* and the *Prologue* and *Epilogue* sections of *what fruite of immortality*⁵². My earlier works (*Fl. Vcl.* and *Sop. Fl. Vcl. Atem*) explore the implications of using sounds as vertical events divorced of the context of line or theatre and instead examining points of homogeneous contact between the sounds produced by foreign sound sources. My later works focuses more on spectral technique and using the audible properties of sound to create and inform musical entities and structures.

It has been important throughout that the sounds and techniques used are not used as 'effects' or references, but instead used for their musical properties in the same way that my use of Mongolian throat singing is used in a non-referential way⁵³.

⁵² See *what fruite of immortality*, p. 51

⁵³ See *Experimenting with Vocal Multiphonics*, p. 19

Fl. Vcl.

Fl. Vcl. was initially an exploration into the use of extended techniques on the 'cello and bass flute. I collaborated with Manchester flautist Gavin Osborn to build up a catalogue of sounds available on the flute and their implications. I consider it an early experiment in using 'sound events' and juxtaposing them based on their sonic properties. There were a few techniques in particular which I was exploring at the time, for example the harmonic trills in the 'cello, and air sound in the flute. The structure of the piece is heavily influenced by the 'sound event' properties of the music of Morton Feldman, as well as some earlier pieces of mine (*One likes the way red grows...* and *5/5/05*). Structurally the piece starts with the simple contrast of white noise produced by the two instruments, and organically progresses to producing pitches and chords between the instruments using harmonics and multiphonics. The gestures gain significance through repetition and varied juxtapositions. In the creation of this piece I started to experiment with new notation techniques, which I later used a lot, specifically the descriptive white-noise string notation that shows where to play on the instrument. A lot of the gestures become imitative between the instruments and should often lead from one instrument to the other as if one gesture was growing out of the other.

In terms of technique and notation *Fl. Vcl.* is an important study as it broke the ground for a lot of ideas that I was to play with later on, and provided some early research into a collaborative way of working, and into a-harmonic structural ideas. In this sense, *Fl. Vcl.* and *Sop. Fl. Vcl. Atem* form two early stages of an important trajectory in the development of my compositional technique.

Sop. Fl. Vcl. Atem

The over-riding concern in the composition of *Sop. Fl. Vcl. Atem* from the outset was balancing the quite different timbres of the voice, flute and 'cello. I had decided from the outset to deal with the issue on a purely sonic basis and not to set a text. I found it a difficult trio to deal with in terms of timbre, however two main ideas helped me to reconcile them. In *Fl. Vcl.* I had worked on a number white noise and tremolo-like percussive sounds, which I found I could replicate in the voice by blowing into a small loudhailer. The other idea was informed by my exploration of vocal overtones⁵⁴ and the parallels with natural harmonics in the 'cello and flute. As an experiment the success of the piece was quite dependent on the singer (Nina Whiteman) being able to produce clear overtones.

The piece opens with this point of cohesion and sets up a more rhythmic horizontal context for the rest of the piece. As distinct from *Fl. Vcl.* I was interested in playing more with horizontal line, pitch and texture as apposed to sound events, although that approach did inform how I placed the gestures alongside each other. The piece has a firmer structural basis, with three distinct sections, the first spreading out and using the gestures and harmonies set up in variations of and

⁵⁴ See *Experimenting with Vocal Multiphonics*, p. 19

organic growth from the initial gesture, a middle fast section based on contrapuntal lines informed by the gestures and their combination, and then a third section repeating the opening material and a quote from *Fl. Vcl.* to end (essentially a simple ternary form).

The performance of the piece highlighted several interesting things. In general the more horizontal approach to writing gave a more satisfactory structure and drive to the piece, and the points of vertical cohesion drew the instruments together sonically providing a more unified homogeneity. The role of the singer was less satisfactory, partly because the performer was not very used to producing overtones, a foreseeable problem but worth experimenting with. It would be interesting to try the piece again with a singer that can perform *Iskere*-style overtones.

Ph'nglui mglw'nath Cthulhu R'lyeh wgah'nagl fhtagn

'Ph'nglui mglw'nath Cthulhu R'lyeh wgahnagl fhtagn'
*'ia! ia! Cthulhu ftagh'*⁵⁵

Translation: *'In his house at R'lyeh, dead Cthulhu waits dreaming'*
'Rejoice! Rejoice! Cthulhu dreams'

Being a long time fan of science fiction and horror novels, I was interested in creating musical pieces based on something related. Lovecraft's cult classic *The Call of Cthulhu* provided a great opportunity to work with some of the ideas I had already been experimenting with. The phrase 'Ph'nglui mglw'nath Cthulhu R'lyeh wgahnagl fhtagn' is a chant used by the followers of the cult of Cthulhu, a group of animalistic followers of the mythical demigod Cthulhu that lives in R'lyeh, a submerged continent. Cthulhu is itself an enormous bipedal monster with taloned hands and feet and a tentacled head that sends out psychotic dreams in its sleep to the docile and weak-minded, inspiring insanity, cultism and intense works of art.

Unlike the Elvish language created by J.R.R. Tolkien in *The Lord of the Rings*, the language of the cultists is reportedly made up of random syllables and consonants. Lovecraft was evasive about the pronunciation of them and there have been many attempts by Lovecraft enthusiasts regarding how to pronounce this sentence, which has gained cult status⁵⁶. I thought it would be an interesting challenge to try and use my knowledge of overtones produced while speaking and experiment with sound-based structures to create a piece informed by trying to mimic the vocal sounds suggested by the sentence (assuming an English pronunciation of the Latin alphabet characters).

⁵⁵ Lovecraft, *The Call of Cthulhu & Other Weird Stories / H.P. Lovecraft ; Edited with an Introduction and Notes by S.T. Joshi.*

⁵⁶ Ibid.

For example, using the more western approach to overtones⁵⁷ while moving between the characters 'u' and 'i' of 'Ph'nglui' (assuming an IPA pronunciation 'u' and 'i') produces a harmonic glissando from the second harmonic to around the seventh. This easily translates to an open fifth and an upwards harmonic-glissando in the strings:

The musical score illustrates a harmonic glissando for the string quartet. At the top, a dashed arrow points from a box containing 'u' to a box containing 'i'. The Violin I part features a 'sul D harmonic gliss' starting at a *pp* dynamic and moving upwards. The Violin II and Viola parts play an open fifth (G-D) with dynamics ranging from *p* to *mf*. The Violoncello part plays an open fifth (C-G) with dynamics ranging from *ppp* to *mp*. The strings are marked 'arco'.

In the same way the start of the final phrase 'ia!' can be used as a downwards harmonic glissando. Fricatives, trills and consonants can be imitated using some combinations of techniques and percussive sounds available to stringed instruments for example 'gl':

The musical score shows a percussive 'gl' sound in 1/4 time. The Violin I part has a note with dynamics *mf* and *ff*. The Violin II, Viola, and Violoncello parts play a percussive sound marked 'pizz.' (pizzicato) with a dynamic of *sfz*. The Violoncello part also includes a 'gliss.' (glissando) marking.

As with other pieces in which I have translated the properties of sound into musical elements it was important to use this kind of audio analysis as a starting point and then beyond that basic idea to take some artistic liberties with this

⁵⁷ Placing the tongue further back in the throat and manipulating the resonating chamber using the lips; For more information see *Experimenting with Vocal Multiphonics*, p. 19

model; for example, when ‘Cthulhu’ appears, instead of repeating the open fifths from the first word ‘Ph’nglui’, I’ve created a low, loud and dramatic chord involving beating to signify the enormity of the demigod, as if a crazy cultist was expressively shouting the word. Other things to note are the pace of the chant (which is very slow in order to explore the sonorities) and little sound landscape interjections to create atmosphere (for example page 1 line 3).

While not an entirely serious piece, I was interested in exploring the results and implications of the techniques used to derive the musical material, and also the cohesiveness of the structure when based on the sentence. I am not sure that the approach would be entirely comprehensible if used on recognisable languages, but it might be interesting to try, particularly on languages that rely more on inflection. For example Cantonese, Mandarin and Mongolian. Basing the structure on speech (even in an invented language) does seem to me to create an interestingly expressive form, dramatic gestures and parallels with the embodiment issues in singing, albeit in a group form.

R’lyeh

R’lyeh is an orchestral tone poem based on the third section of H.P Lovecraft’s *The Call of Cthulhu* (“The Madness from the Sea”). The story follows the crew of the merchant vessel *The Alert*, after having a clash with a ship of Cthulhu cultists. During the clash, a figurine of Cthulhu is obtained and as the *Alert* makes its way across the south pacific, the figurine starts to affect the sanity of the crew. The crew then stumbles across the continent of *R’lyeh*, the normally submerged home of Cthulhu. Lovecraft describes the landscape of *R’lyeh* as “broad impressions of vast angles and stone surfaces—surfaces too great to belong to any thing right or proper for this earth, and impious with horrible images and hieroglyphs. [...] the *geometry* of the dream-place he saw was abnormal, non-euclidean, and loathsomely redolent of spheres and dimensions apart from ours.”⁵⁸, and refers to flying beasts known as Krakken. The seamen walk inland until they come across a giant, terrifying statue in the shape of the figurine they had taken from the cultist ship standing next to a bottomless pit, out of which Cthulhu emerges suddenly. Two of the crew die instantly of fright, and three more are swept up by the great claws of Cthulhu. The remaining crew members are then chased from the island and make sail, pursued by Cthulhu, who “slid greasily into the water and began to pursue with vast wave-raising strokes of cosmic potency”⁵⁹. Realising that they could not outrun the demi-god, they turn the ship around and crash it into Cthulhu, who is injured and slinks away.

In *R’lyeh* the narrative structure is broken down into several blocks:

The *Alert* sets off

A: A Sea Journey (with echoes of chant).

⁵⁸ Lovecraft, *The Call of Cthulhu & Other Weird Stories / H.P. Lovecraft ; Edited with an Introduction and Notes by S.T. Joshi.*

⁵⁹ Ibid.

D: A Journey Across R'lyeh (with many unusual creatures)

G: Cthulhu emerges, and five crewmen die

H: Cthulhu gives chase back across R'lyeh

M: Cthulhu give chase across the sea (with chant).

O: The *Alert* rams Cthulhu

P: The *Alert* remains.

The piece is mainly derived from two pieces of material, themselves the product of sound analysis. The first piece of material is a chord derived from the spectral analysis of a large bell sound, including relative dynamics and regular beating of each successive overtone. The bell chord is transposed up an octave and in the opening is passed from one side of the string section to the other as if swinging back and forth on the mast of the *Alert*.

PRIME INVERSION

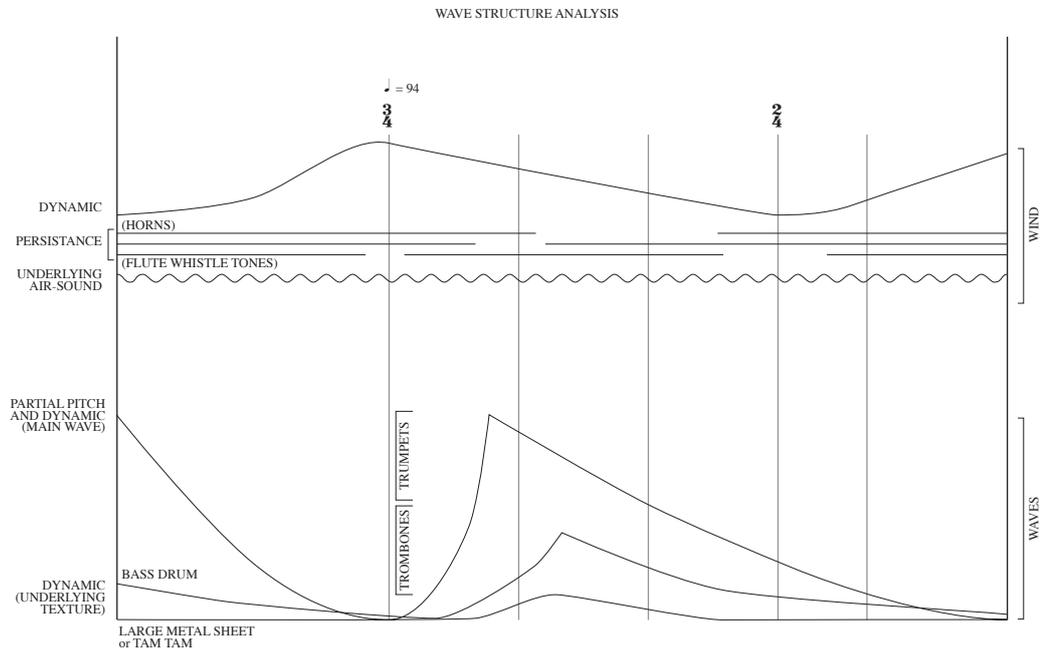
The image shows a musical score for a bell chord and its inversion. It consists of two measures. The first measure is labeled 'PRIME' and the second 'INVERSION'. The notation is written on a grand staff (treble and bass clefs). The key signature has one sharp (F#). The Prime chord is a complex chord with notes in the treble and bass clefs. The Inversion is a similar chord, transposed up an octave and inverted.

Bell Chord and Inversion

Harmonically, the piece follows a rough ternary form, with the bell chord recapitulating at the end ("The *Alert* remains"), and the inversion of the chord playing the role of the B section harmony. A slow tentacle-like process of inverting the chord represents the land of R'lyeh:

retrograded to represent the land again in the “Cthulhu gives chase back across R’lyeh” section.

The second main piece of material is derived from the analysis of a sea-wave sound sample. This time the analysis was based on audio quality and dynamics and was traced on a simple chart:



This pattern is first used during “A Sea Journey”, using air sounds created by the brass section blowing through their instruments in an attempt to recreate the sound, along with Tam-tam and Bass Drum. The pattern is then re-used throughout the piece. In the R’lyeh sections it first creates a rhythmic pulsing in the string section, and then represents the beating of Cthulhu’s giant wings as he gives chase. The tension in the piece is created partly by the ebb and swell of this model during the prominent moments in the narrative structure.

Other pieces of material used in the piece include material from *Ph’nglui mglw’nath Cthulhu R’lyeh wgah’nagl fhtagn*, which is used to represent the echoes of the cultist’s chant and the slow decay of the crew’s sanity. First it is used as an octet (bars 29-48), then doubled up and contrasted with a wind quintet (bars 50-78) and then finally in the whole string section (bars 346-366), incorporating the harmony of the bell chord.

The final major pieces of material used are based on animalistic sounds. The piece opens with the sound of seagulls in the oboes, which then returns when land is sighted (bar 92) and begins to develop as the crew traverses R’lyeh. Other animals are represented by microtonal flurries in the trumpets and horns, whose pitch content is derived from the bell chord inversion process (bar 105 onwards).

When Cthulhu emerges, the seagull cry is transmuted in the double basses to become part of his footfalls and later his cry. The microtonal flurries represent his movement, the depth of the pitches representing different types of action: he starts by pacing, then running, and finally flying (bars 221-301), his footfalls appearing in the percussion.

The call of Cthulhu itself (bars 202-205 and then interspersed through to the end of the piece) is based on the combined chart and spectral analyses of a number of different animal sound samples including Lion, Horse and Elephant, roughly sewn together using the harmonic content of the bell chord and with some creative license.

4. Using ‘found material’ for tonal structure

Despite (or because of) a general background of classical and modern classical repertoire, I have found it difficult to prioritise one form of pitch technique over another and instead have resorted to creating technique around my own aesthetic preference for certain types of acerbic dissonance, typified in pan-tonal and serial practices.

The challenge for me is to create a meaningful aural structure incorporating those kinds of dissonances without being reliant on the structural concerns inherent in serial technique. At some point I took on the idea of using existing diatonic structures on which to ‘hang’ more chromatic harmony. Early experiments included my piano piece *Aus tiefer Nott schrei ich zu dir* which took the J.S Bach chorale tune of the same name⁶⁰ and repeated it, iteratively adding a note (of my choosing) between each note of the pre-existing tune:

Edward Caine, *Aus Tiefer Nott Schrei Ich Zu Dir* page 3 line 1

Quick but not rushed. Molto Rubato. \downarrow between 105 and 140 poco rit. A Tempo

\circ = pitch from J.S Bach “Aus tiefer Nott schrei ich zu dir” chorale melody.

Edward Caine, *Aus Tiefer Nott Schrei Ich Zu Dir* page 5 line 1

Strong

A similar experiment in another piano piece [...] *simplest of all tongues* involved using a chord progression from Franz Schubert’s *Duo in A Minor*⁶² (bars 89-103) and again using the same iterative process to increase the complexity of the material, this time illustrating an idea from Patrick White’s novel *Voss*⁶³. Both in the choice of novel and in the use of the ‘found’ sources I was influenced by David Lumsdaine’s *Mandala 3* which incorporated his piano piece *Ruhe sanfte, sanfte ruh*,⁶⁴ itself based on the chorale No. 68 ‘Wir setzen uns mit Tränen nieder’ from J.S Bach’s *St. Matthew Passion*.

⁶⁰ J.S. Bach Chorale Prelude ‘Aus tiefer Nott schrei ich zu dir’. BWV 687 (*Organ Music*, 58.)

⁶² Schubert, Franz *Duo ‘Lebenssturme’ posth. Op. 144 D 947* (Schubert, *Works for Piano Four-hands, Volume III*, 3:20.)

⁶³ White, *Voss*.

⁶⁴ Lumsdaine, *Mandala 3, Ruhe Sanfte, Sanfte Ruh*.

SCHUBERT ALLEGRO Op. 144 D 947 BARS 89 - 103
CHORD STRUCTURE

Edward Caine, "[...] simplest of all tongues" page 5 line 1

V. "[...] climb out"

○ = fragments of Schubert chord structure

In the set of *Madrigali* (which includes *Madrigale in 12 Parts*, *Madrigale II: Qu'est devenu ce bel oeil* and *Madrigale III*) I explored this idea further. *Madrigale in 12 Parts* uses the tonal structure of medieval/renaissance tune *madre, non mi far monica*, as well as rough renaissance stylistic references as a bedrock on which to build other harmonies and to experiment with trombone technique⁶⁷. This study used the structure in a similar way to an electronic 'envelope' structure in that key aspects including starting notes, points of cadence, length of phrase and phrase direction were kept intact. I started referring to it as a 'tonal envelope'.

Madrigale III, written directly after *Madrigale in 12 Parts* took this study a step further and split the pitch material of the earlier piece into groups of notes, each phrase being a separate group. *Madrigale III* became as much a listening exercise as an exploration of 'cello technique and a-rhythmic notation' (p. 45). Elements of the phrase structure and cadential harmony remained intact although the material became more to do with the harmonic 'fields' or groups of notes.

In *Madrigale II: Qu'est devenu ce bel oeil* (p. 47) the study continued but with a different set of priorities. I utilised Claude Le Jeune's chanson *Q'est devenu ce bel oeil*⁶⁸ after having discovered it through its use in Salvatore Sciarrino's *Luci mie traditrici*⁶⁹. The Le Jeune was already very chromatic so I derived groups of notes straight from the harmony and used them in contrasting ways. At this point my research drifted from purely utilitarian uses of the material to ideas of reference and derivation (p. 46).

Through these studies and the increased use of reference for poetic meaning the nature of the structural pitch material, for example in *Madrigale in 12 Parts*, had become subservient to the reasons for choosing that particular piece of

⁶⁷ See *Madrigale in 12 Parts* p. 12 and p. 40

⁶⁸ Le Jeune, *Qu'est Devenu Ce Bel Œil (Pièce Chromatique)*.

⁶⁹ Sciarrino, *Luci mie traditrici*.

material. *when you rise*; the first movement of *Two Poems*, furthers the use of found tonal structure, this time using Roger Marsh's *Lullaby*⁷⁰ and exploiting existing quirks of the structure and harmony to derive new gestures and meaning, in the same way that *Ph'nglui mglw'nath Cthulhu R'lyeh wgahnagl fhtagn* and *R'lyeh* exploit the musical aspects of found audio samples⁷¹.

Ultimately my use of pitch derivation and generation techniques have become reliant on the context in which they are used and the nature of the composition to which they are attached. *what fruite of immortality*, a piece composed in collaboration with musicologist and conductor Graham Bier, explores a range of ideas derived from the psalter written by the Archbishop Matthew Parker (1504-1557) and the psalm settings written by Thomas Tallis (1505-1585). The use of the found material varies with each movement and aims to compliment, explore, set and be removed from the material in equal measure (p. 52). As with *R'lyeh* I have started to use large single-use structures, influenced by Harrison Birtwistle (for example the pulse labyrinth in *Silbury Air* and the block textures in *The Mask of Orpheus*⁷²). These are entirely reliant on the context in which they are created.

The importance of these approaches in my work has been to break some ground in creating a purposeful chromatic language that does not rely heavily on either over-systematisation, conventional classical harmony or folk reference, but that is flexible enough to use in different musical contexts. A desirable side-product of this approach has been the incorporation of poetic reference into my compositional language and therefore a more meaningful aural discourse.

Madrigale in 12 Parts

Although mechanical experimentation was the main drive behind the composition of this piece⁷³, it required another layer to provide structure and harmony to it. Many of the aesthetic concerns behind the piece were inspired by pieces such as Harrison Birtwistle's *Hoquetus David*⁷⁴ and Salvatore Sciarrino's *Luci Mie Traditrici*⁷⁵. The name of this piece and subsequent pieces in the series was influenced by Gavin Bryars' series of the same name⁷⁶.

The structure and material of *Madrigale in 12 Parts* is derived from the tonal structure of medieval/renaissance tune *madre, non mi far monica* (or *Une Jeune Fillette* as I knew it from the fantasies of Eustache de Caurroy⁷⁷). The clearly delineated tonal structure of the melody as well as the pseudo-modal harmonic

⁷⁰ Marsh, *Lullaby*.

⁷¹ See *Ph'nglui mglw'nath Cthulhu R'lyeh wgahnagl fhtagn* (p. 31) and *R'lyeh* (p. 33).

⁷² Birtwistle, *Silbury Air [for orchestra]*, *The Mask of Orpheus*.

⁷³ see *Madrigale in 12 Parts*, p.12

⁷⁴ Guillaume, *Hoquetus David, instrumental motet / Harrison Birtwistle*.

⁷⁵ Sciarrino, *Luci mie traditrici*.

⁷⁶ Bryars, 'First Book of Madrigals | Gavin Bryars.'

⁷⁷ Harnoncourt and Wien, *Instrumental Music of 1600*. Tracks 5-9 *Une Jeune Fillette*.

implications it implied provided me with a very clear tonal framework on which to 'hang' my own harmonic and experimental ideas. Also the strophic nature and performative implications gave me a simple macro-structure to expand on with my technical and aesthetic details.

The tonal schema was arrived at through a general desire to avoid serial technique but to maintain a chromatic aesthetic with a strong internal structure, hence the use of *Une Jeune Fillette*, which provided a tonal grounding slightly off kilter by ending frequently on the dominant against a tonic bass:

Une Jeune Fillette
or *Madre non mi far monaca*

A

Begins on a D

Arch structure

Ends on a D
(ambiguous resolve
in G minor)

B

10 | 2.

Octave Transferral,
relative Major (Bb)

Descending sequence

19

V I

Perfect Cadence,
tonic resolve.

My alterations to the tonal scheme involved adding chromatic harmony (non-systematically) into the structure and creating a general spread between that and the notes of the existing harmony. Although *Une Jeune Fillette* is audible, it is not prioritised over the general harmonic movement. At key points a G# was used to bridge sections and to further break up the original tonal structure, giving a good vehicle for exploring beating between that and the submedian A.

Madrigale in 12 parts Tonal Scheme

The image displays three systems of musical notation for the 'Madrigale in 12 parts Tonal Scheme'. Each system consists of two staves. The first system is labeled 'A' above both staves. The second system is labeled 'B' above the top staff. The third system is also labeled 'B' above the top staff. The notation includes various musical symbols such as notes, rests, and accidentals, indicating a complex tonal structure.

The general arc of the piece involves the slow layering of ideas and parts, starting with pure harmonic concerns and slowly adding in separate parts, exploring beating and relationships between them. As the piece progresses there is a nearly silent section that acts as a breath before the densest section of the piece, and reduces the structure down to key elements (bars 115-142). This is influenced by Sciarrino's orchestration techniques and comes back in later pieces. Gesturally things like the wah-wah mute line are influenced both by Birtwistle's theatrical rhythmic language and by the idea of creating the impression that that line reflects a kind of demented, sped-up ghostly madrigal.

Madrigale in 12 Parts Structure

Strophe	1	2 [A]	3 [B]	4 [C]	5 [D]	6 [E]
Description	Introduction of pitch material	Introduction of mute rhythmic material	Quiet section (+ air tone and touches of voice to bring out structure)	All lines	Quiet Section (to bring out quiet vowel line)	All lines
Instruments	lip voice	lip voice mute	mute only	lip voice mute vowels	voice vowels	lip voice mute vowels

The appendix *madre, non mi far monaca* was composed and added with the idea that the two pieces would be performed together so that the audience member could hear the relationship between *Madrigale in 12 Parts* and the original melody.

Madrigale III

Madrigale III was written directly after *Madrigale in 12 Parts* (I had already decided that the second piece in the series should be a large scale work). It was primarily an attempt to explore more closely the tonal structure created in *Madrigale in 12 Parts*. It was also a second study in 'cello technique (the first cello study *Theme and Variations* is not included here). I was influenced by PhD colleague Garrett Sholdice's slow exploration of intervallic relationships (for example his *Preludes I-IV*) and also interested in exploring the use of metered notation in an a-metrical way. Sciarrino's orchestration techniques also played some part in the exploration of harmonics.

The piece consists of three movements based around the *Madrigale in 12 Parts* pitch material. These are broken up with two *Interludes* which are transcriptions of the source material *Madre, non mi far monica* (or *Une Jeune Fillette*). Whereas in *Madrigale in 12 Parts* the pitch material and phrase structure of *Une Jeune Fillette* remained intact while harmonies were added around it, *Madrigale III* uses each phrase as a group of pitches and uses only sparse information from the original structure.

Madrigale III Pitch Groups



Poetic Meaning and Reference

Using literature and poetry as a reference point for musical structure has long been an interest of mine. As I started to incorporate 'found' tonal structures into my compositions⁷⁸, it followed naturally that the meaning imbued in the older structure started to become relevant to the meaning of the new work. While composing *Madrigale II: Qu'est devenu ce bel oeil* (pp. 47), owing to personal circumstances the piece became about loss, and the words of the Claude Le Jeune chanson *Qu'est devenu ce bel oeil* ('What has become of those beautiful eyes')⁷⁹ became an unheard reference. The manner of manipulation and how the piece was derived from the chanson became a vehicle for expressing poetic meaning.

However, owing to the obscurity of the source material and how it is buried in the structure, the poetic meaning in *Madrigale II* is not necessarily audible in the aural product of the piece without a programme note or some other guide. I have some problems with the idea that a musical piece can accurately convey specific meaning, and feel that, without universally acknowledged reference points (syntax, musical 'words', wider context etc.), the intended meaning of the piece can be compared to someone speaking in an unknown foreign language. Like someone speaking in a foreign language, meaning can be inferred through bodily gesture or tone of voice, as music can in performance, and there may be some similar or shared words or syntax, in the same way that some musical languages share traits, but direct communication is difficult and sometimes impossible.

I have been writing poetry and working with poets for a number of years and what strikes me about the craft is that, without using direct language, poems tend only to express simple or general ideas and do so by using reference to nature, surroundings or people and indirectly referring to the subject they tackle. It is rare that a poem tackles an issue head on, and when it does it can be oblique in the same way that a title or programme note might be. The result is quite often trite. I thought about how this idea can be transferred to music. Reference is a good starting point for conveying meaning and fits in with my use of found material.

Two Poems (p. 50) is an exercise in conveying basic meaning. The first movement *when you rise*; references the popular seventeenth-century poem *Golden slumbers kiss your eyes*; by Thomas Dekker⁸⁰ (1572 –1632) and is derived from a setting of the poem by composer Roger Marsh⁸¹. As in *Madrigale II*, the meaning is conveyed through the way in which the source material is transformed and sequenced. The second movement, *missing*. attempts to convey basic meaning through musical rhetoric. The second 'poem' should by lack of reference be more universally understandable, although this remains to be seen. Both musical poems are oblique in the meaning they are trying to convey but also attempt some nuanced rhetoric as well.

⁷⁸ See *Using 'found' material for tonal structure*, p. 39

⁷⁹ Le Jeune, *Qu'est Devenu Ce Bel Œil (Pièce Chromatique)*.

⁸⁰ Dekker, *The Pleasant Comodie of Patient Grisill As It Hath Beene Sundrie Times Lately Plaid by the Right Honorable the Earle of Nottingham (Lord High Admirall) His Seruants*.

⁸¹ Marsh, *Lullaby*.

Madrigale II: Qu'est devenu ce bel oeil

Madrigale II: Qu'est devenu ce bel oeil was commissioned as part of the Huddersfield Contemporary Music Festival and Nieuw Ensemble Professional Development Scheme for Composers in February 2011. The scheme involved two weekends' workshopping material with the Nieuw Ensemble in Amsterdam in March and June, and then rehearsals and performance over two days in the Huddersfield Contemporary Music Festival, November 2011.

There were a number of ideas behind the composition of this piece. Having already written *Madrigale in 12 Parts* and *Madrigale III* I was keen to write a large-scale work as the second in my set of *Madrigali*, so the use of found material (specifically medieval/renaissance era) was expected. I felt I had exhausted the material provided by *Madre, non mi far monaca* and at the same time was interested in exploring the chanson *Qu'est devenu ce bel oeil* by Claude Le Jeune⁸² which I initially discovered through Sciarrino's use of it in the opera *Luci mie traditrici*⁸³. The three-part chanson was already chromatic enough so I split the material into groups of pitches following the major structural points of the piece:

Madrigale II Pitch Groups Example

The image shows two staves of music. The top staff is labeled 'Chanson' and the bottom staff is labeled 'Madrigale II'. The Chanson staff is divided into three sections by vertical dashed lines, labeled 'Group 1', 'Group 2', and 'Group 3'. Each group contains a series of chords and intervals. The Madrigale II staff shows a single melodic line that follows the pitch contours of the Chanson groups. The notation includes various accidentals and clefs.

I was also interested in exploring the ideas of Frank O'Hara's poem *Why I am not a painter*⁸⁴, which I had been interested in during my undergraduate degree. The poem describes how O'Hara visited an abstract-painter friend Mike Goldberg while Goldberg was completing his piece *SARDINES*⁸⁵ and observed how the word 'SARDINES', initially written large at the bottom of the painting eventually was painted over, but that the painting still somehow resembled SARDINES. He then talks about his own set of poems inspired by the colour orange, and how the set in the end does not include or reference the word orange, although he calls it 'ORANGES' (*ORANGES: 12 Pastorales*⁸⁶). The idea that something could be crucial to the structure of the work and yet not visibly or audibly present interests me. In *Madrigale II* the chanson *Qu'est devenu ce bel oeil* by Claude Le Jeune is the SARDINES of the piece, never appearing but profoundly influencing the structure and nature of it.

⁸² Le Jeune, *Qu'est Devenu Ce Bel Œil (Pièce Chromatique)*.

⁸³ Sciarrino, *Luci mie traditrici*.

⁸⁴ O'Hara, *The Collected Poems of Frank O'Hara*, 261-262.

⁸⁵ Goldberg, 'Sardines by Michael Goldberg / American Art.'

⁸⁶ O'Hara, *The Collected Poems of Frank O'Hara*, sec. Oranges: 12 Pastorals, 5-9.

It was also the first time I was able to write for an ensemble of this size and have the piece performed, so I was interested in exploring issues of orchestration, experimentation and, again, the mechanics of performance⁸⁷ throughout the piece. It gave me a good opportunity to start exploring large-scale structures, block texture and to start thinking about larger structuring devices, which I began to use in later pieces. One of my big concerns when writing for this ensemble was how to incorporate the plucked instruments (harp, guitar and mandolin).

Owing to personal circumstances and the apt nature of the text of the *Le Jeune chanson* ('What has happened are those beautiful eyes') the piece also ended up being about grief and loss and during its composition I started to think about the nature of reference and how the source material can be manipulated and used to create a meaningful aural discourse.

The piece is split into six continuous structures:

1. *AH GOOD THE SEA*

'*AH GOOD THE SEA*' is a famous piece of chalk graffiti on the University of York campus and has been re-chalked by students for over a decade. Conveniently the reference to the sea directly describes the breathing motion I was interested in creating in this opening section, which essentially introduces the harmonic and sonic context of the piece. The first three pitch groupings are introduced slowly, avoiding inference of a settled key, in a repeating wave-like structure. Use of breathing and white noise sounds are introduced early on, both to enhance the image of a seascape and to prepare the ear for later unpitched sections. I was also interested to explore the use of time/space notation and systems of cuing. I learned to my cost (after having to revise 120 pages of parts in under a week) just how much information is needed in the parts to enable this.

2. *Trio*

Trio is a wholesale exploration of the pitch material. At any one point there are three types of material being played out: 1) a line which progresses through the pitch material as if it were a tone row and repeats in different orchestrations, some times played in hocket over two or more instruments, 2) a fast improvisational line based on the groups of pitches and 3) a slow accompanying harmony made up of a cluster of the pitches already used in material 1. I used this material to explore different groupings of instruments. In bars 84-99 I have three of these trios playing simultaneously and in bars 106-125 a super texture is created with the strings on material 2, piano on material 3 and winds on material 1. Throughout, the trio is interrupted by un-pitched material. I thought of this material in a similar way to the text and pitch material of *Poem In Silence*⁸⁸ as moments of detachment as the world around descends into chaos. The piano and harp chorale of the next section (*Chorale*) enters during these points and the violent staccato chords that interrupt

⁸⁷ See *Mechanics of Performance*, p. 11

⁸⁸ See *Poem in Silence*, p. 16

the chorale are also introduced at the climax of the section, signaling the end and bringing in the next section.

3. *Chorale*

As the title would suggest, *Chorale* is an exploration of the vertical harmonies present in the material. The movement focuses around a single interval played by the clarinet and flute, which the harmony then builds around. The slow material interrupts itself haltingly with a staccato chord and out of that a supposedly beatific chorale expands between the piano and harp in unison. The intention is to create the feeling of absolute stillness.

In retrospect, it has an air of depression, the language of which I was later to use in the second movement (*missing.*) of *Two Poems*⁸⁹. *Chorale* is slow, stark and halting, as if the slow moving chords are adrift, and the protagonist (me, or the listener) is trying to spin something beautiful (the piano and harp material) out of the surrounding harmonies.

4. *'Une Jeune Fillette'*

While I did not want to quote the *Le Jeune* explicitly in this piece, I did feel that *Madrigale II* needed to be tied into the *Madrigali* series, and had enjoyed playing around with some orchestration ideas in the workshop, so I included an orchestration of *Madre, non mi far monica* (using its latter French title *Une Jeune Fillette*). The orchestration works effectively as an interlude and deliberately contrasts with the language of the rest of the piece.

5. *SARDINES*

Referring to the *SARDINES* of O'Hara's poem and Goldberg's painting, this movement is a deliberately abstract and barren soundscape made of almost completely unpitched material. The structure of the material is cyclical with a build up to the last beat of each section in a manner reminiscent of a gamelan *balungan* (with the large gong emulated here by the double bass and muted piano), also conveniently referencing church bells. It repeats four times with minor changes each time and does not use the pitch material of the *Le Jeune*. I see the section as chaotic and representative of 'life without *Le Jeune*', creating a deathly texture.

6. *Exeunt, pursued by the ghost of Claude Le Jeune*

In this section I had in my mind the image of someone who has lost something that meant everything to them (the *Le Jeune* chanson), desperately and violently throwing themselves at a bass drum, trying to conjure the chanson back out of the resonances that the drum creates, with the reflections of sound bouncing around the room. The chanson is quoted almost verbatim here, *pianissimo* and barely audible as the bass drum strikes, the chords building up (each chord is held onto the next strike, creating a cluster). Glimpses of the other movements return like passing regrets. The attempt is futile and the piece fades into nothing.

⁸⁹ See *Two Poems* p. 48

Two Poems

Two Poems was commissioned by Late Music for performance by pianist Ian Pace. The piece, consisting of two standalone movements for solo piano, aims to tackle thoughts about conveying poetic meaning through musical structure. It takes as a starting point the notion that poetry, like music, often derives meaning indirectly through context, reference and rhetoric. For example, a context might be the description of an event or an object, and the way it is described may infer meaning, developed rhetorically and backed up by reference to other contexts or writings. The central argument to a poem might be a simple expression of emotion, explored through this language in the same way that the communicative range of music is also limited to simple emotive contexts.

1. when you rise;

The piece *when you rise;* takes its title from the Thomas Dekker's poem *Golden slumbers kiss your eyes*:

*Golden slumbers kiss your eyes,
Smiles awake you when you rise;
Sleep, pretty wantons, do not cry,
And I will sing a lullaby,
Rock them, rock them, lullaby.*

*Care is heavy, therefore sleep you,
You are care, and care must keep you;
Sleep, pretty wantons, do not cry,
And I will sing a lullaby,
Rock them, rock them, lullaby.*

- Thomas Dekker (1603) ⁹⁰

when you rise; references the poem through a setting by composer Roger Marsh (*Lullaby*⁹¹) which uses an economical but effective harmonic structure, setting the text as the poet seems to intend it - a simple, effective and comforting rhyme, with a chorus that refers to childhood. Marsh marks out the structure by providing a very simple modulation into D flat in the chorus, by means of a falling melodic figure:

⁹⁰ Dekker, *The Pleasant Comodie of Patient Grisill As It Hath Beene Sundrie Times Lately Plaid by the Right Honorable the Earle of Nottingham (Lord High Admirall) His Seruants.*

⁹¹ Marsh, *Lullaby.*

Roger Marsh *Lullaby* Tonal Scheme

II/I I Vb IVb Vb sus4 I pedal (IV)

In Db: V IV III II I V IV III II I

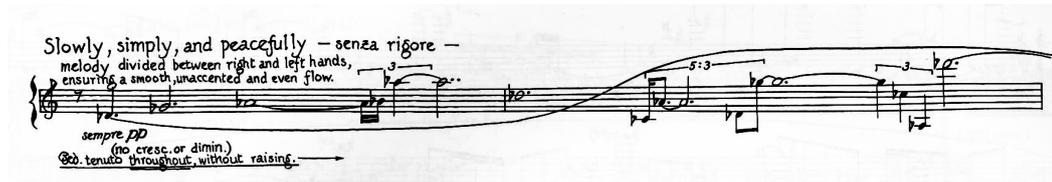
The poem, which has had several different settings and responses including The Beatles (*Golden Slumbers*) first appeared in the 1603 play *The pleasant comedie of patient Grissel* towards the end of the play, sung to Grissel, a working-class girl dishonoured and separated from her children by her husband, a rich Marquisse. The poem, comforting in nature, speaks of the grief that inspires it, and poignantly refers to the children Grissel is no longer able to comfort. In modern settings including *Lullaby*, the poem is divorced from the context of the play, however is no less poignant, owing to its maternal nature and reference to the healing nature of sleep. *when you rise*; uses the poem, inferred through the structure, pitches and harmony of Marsh's setting, to comment through development on the contextual grief in which the poem naturally sits.

The piece does this by developing two gestures derived from the verse and refrain of the structure. Each section does not develop far in terms of the characteristics of the Marsh, for example the verse section retains a static and non-modulatory harmonic field, despite a continued chromatic elaboration, while the 'refrain' structure uses the parallel triads as a method of modulating in the same way.

The developmental aspect of the piece lies in the extremes to which these characteristics are taken. The refrain, for example, spins off into multiple dissonant modes and explores the range of the piano gradually, transforming from a gentle, comforting sentiment into an overarching chaotic structure. By introducing a chromatic context, the 'verse' structure is dismantled and explored in a more human context. Bell-like gestures are introduced to tie the sections together and to signify finality and loss. The return of the original gestures over the harmonic wash created with the pedal during the peak of the development embodies a transcendental change in the significance of the Dekker, as the structure takes on new significance through what has passed.

2. missing.

missing,⁹² by contrast does not use reference as a poetic tool and instead relies on musical language to convey meaning. The language is inspired by Michael Finnissy's *My Bonny Boy* from *English Country Tunes*⁹³.



Finnissy, Michael *English Country Tunes* p.52

English Country Tunes explores a complex, emotional and cantankerous landscape, and the presence of My Bonnie Boy in the middle of it, as a reference to an English folksong (although not quoting it) is moving and reverent. The language, melodic and expanding over consonant but disparate intervals expresses a sense of beauty and hushed reverence. *missing*, in taking that language as a starting point aims to take the nudity of the language and instead of developing and transforming it as the Finnissy does, develops only so far before being interrupted. The vertical harmony 'catches up' with the horizontal melody and 'trips it up'. The choice of interval and direction, such as it is, is stark and bleak. The theme of the poem is depression and its non-developmental nature is designed to capture the idea of loss and of lifeless-ness.

what fruite of immortality

what fruite of immortality, a book of laudes or psalmes (hereafter *what fruite*) was commissioned by the Sir Jack Lyons Celebration award. The brief of the commission was to write something that responded to Leonard Bernstein's *Chichester Psalms* and use forces available to the composer within the music department. Owing to my previous work in using found material I had been interested in working with early musicologist and conductor Graham Bier, having worked with him previously on a number of other projects (including *Lost Songs*⁹⁵). It transpired that Graham was interested in working on a project involving a psalter (1567) written by the Archbishop Matthew Parker (1504-1557). Working from facsimile material found online⁹⁶ he had been analysing the text of the psalter, which includes a lengthy introduction discussing the merits of the psalms and how to set them as well as nine settings in the Epilogue written by a contemporary of Parker's, Thomas Tallis (1505-1585). The Tallis settings, written to accompany any

⁹² 'missing.' Is a reference to the title (not the music) of Richard Whalley's 'Missing Jen' (Whalley, 'Richard Whalley - Composer.'). which Whalley describes in his programme note as 'the closest I have ever come to writing a love song.' Like the inverse relationship the music has to Finnissy's 'My Bonny Boy', the title is meant as a response to that idea.

⁹³ Finnissy, *English country-tunes*.

⁹⁵ See *En Un Vergier Sotz Fuella d'Albespi*, p. 22

⁹⁶ Parker, *The Vvhole Psalter Translated into English Metre, Which Contayneth an Hundreth and Fifty Psalmes. The First Quinquagene*.

psalm in the psalter in the correct meter, are well known but are in general only performed with the two sample verses that appear under the parts. Graham's interest in the project was in creating an edition of the Tallis and performing them with different psalms and more verses.

Graham researched the background and intricacies of the text and produced a valuable spreadsheet analysing the psalms. The Parker text is a fascinating mix of scholastic and poetic writing. The Archbishop of Canterbury, Matthew Parker, was a prominent voice in the English Reformation and the psalter, which predates the King James Bible, is an attempt to translate the Latin psalms into vernacular English. The most prominent feature of the psalms is their use of several standardised meters, the most used of which Graham grouped as [6 6 6 6], [6 6 8 6], [8 6 8 6] and [8 8 8 8] (the numbers refer to the number of syllables per line). There are other groups including, for example, [5 5 5 5] and [11 11 11 11] as well as some irregular metres. For a number of the psalms Parker provides several alternative metres and in some, for example psalm 42, the regular setting is in one meter ([6 6 8 6] in psalm 42) while Parker adds extra text in parenthesis to provide an alternative meter ([8 8 8 8]).

¶ Here beginneth the Second

book of Psalms

The Arguments of Psalms XLII.

As Christ (the Lord) for hym and hys,
In trust did pray : in (paynfull) streße :
So man euen like : as did his head,
May just the same : (in worde) expresse.

Quemad-
modum
ceruus.



¶ Iken lyke (in chace) the hunted Hynde,
the water brokes : (doth glad) desire :
¶ Euen thus my soule : that faintie is,
to thee (my God) would fayne aspire.

- ¶ 2 My (wey) soule : byd thyself to God,
To God (the fount) of lyfe and grace :
¶ It sayd euen thus : when shall I come,
To see (at eye) Gods lively face.
- ¶ 3 My teares in fiede : of (fode and) meate,
Both day and nyght (to me) they were :
¶ Whye that all day : rebukers sayd,
Where is thy God : (fro thee) so far.
- ¶ 4 When this (O Lord) came sone to hart,
I yet (therin) recomfort felt :
¶ And trull to lead : the people forth,
to go (full glad) where thou hast dwelt.
- ¶ 5 To ioy in (hart : and) voyce of mynth,
¶ Whye laudes & thankes (most due) alway :
Among thy folke : when that they kepe,
So hys (in sight) theyz holy day.

¶ iiij. ¶ Whye

Parker additionally wrote two long poems in [6 6 8 6] meter *To the Reader* and *On the virtue of the psalms* which feature in the introduction to the psalter, and include some interestingly flowery language. My own analysis of the meter, which was done by spot check on similar psalms, delved into the stress patterns inherent in the text and how (or whether) they change between psalms and meters, for example psalm 42 [6 6 8 2]:

EUen lyke the hunted Hynde,
 / / / ^ / ^
 the water brookes desire:
 / ^ / ^ / ^
 Euen thus my soule: that faintie is,
 / / / ^ / ^ / ^
 to thee would fayne aspire.
 / ^ / ^ / ^

My soule: dyd thyrst to God,
 / / / ^ / ^
 To God of lyfe and grace:
 / ^ / ^ / ^
 It sayd euen thus: when shall I come,
 / / / ^ / ^ / ^
 To see Gods liuely face.
 / ^ / ^ / ^

/ = short accent
 ^ = long accent

My conclusion was that the stress patterns don't change significantly between psalms of the same meter but that having an odd number of syllables often provided unusual patterns, which created some useful material for composition. Graham's analysis also revealed that there were several interestingly quirky translations, including two psalms that open each stanza with the letters of the alphabet in sequence. Additionally there are some interesting musings in the introduction about how the music of the psalms should be written and which instruments they should be performed on (specifically the psaltery). Parker provides a key for how the tunes that set the psalms should be tempered and sung, as well as which psalms are of which type:

- ~ 1 The first is méeke: deuout to sée,
- \ 2 The second sad: in maiesty.
- / **3 The third doth rage: and roughly brayth.**
- / 4 The fourth doth fawne: and flattray playth,
- / **5 The fyfth delight: and laugheth the more,**
- \ **6 The sixt bewayleth: it wéepeth full sore,**
- \ 7 The seuenth tredeth stoute: in froward race,
- ~ 8 The eyghte goeth milde: in modest pace.⁹⁸

It appears by their composition that the Tallis settings do not follow this chart; however, they are a fascinating collection. Each tune sets two verses of material, with each verse in a contrasting manner. Following Parker's stipulation that "The Tenor of these partes be for the people when they will syng alone."⁹⁹, the

⁹⁸ Ibid. Image 259

⁹⁹ Ibid.

main tune is always in the tenor, and in a single mode. The outer parts harmonize the tenor tune, often in one or more contrasting modes, which provide chromatic interest.

I was particularly interested in *Tune 3*¹⁰⁰ because of its irregular musical meter and major/minor ambiguity caused by his choice of modes. I was also aware of Vaughan Williams's *Fantasia on a theme by Thomas Tallis*, which quotes the tune. Although the Vaughan Williams is fantastic (we were originally thinking of incorporating it into the performance) I decided to veer away from using aspects of it, although there is a passing reference to it in the *Epilogue* movement of *what fruite*.

The main function of the piece is to take the listener through these various aspects of the Parker psalter and to incorporate performances of Graham's edition of the Tallis. The initial premise was that I would compose a piece that provided a framework for the Tallis as well as movements that commented on both the Tallis and the Parker. Our initial idea to base the movements around Parker's nine types of psalm was sidelined by musical and narrative purposes, but the piece remained in nine movements. Time constraints prevented us from using the Vaughan Williams but the idea of using a string ensemble remained, and the choir (The 24) which Graham conducted and I sang in, was always to be the choir used. A narrator and slides were added to help link the piece together and present the text to the audience.

1. Prelude

The prelude echoes the introduction to the psalter by setting passages of *To the Reader* and *On the virtue of the psalms*. We chose the words for their poetic nature, particularly 'it is a glasse, a mirror bright, for soule to see his state'¹⁰¹ which opens and closes the piece. In the *Prelude* 'it is a glasse...' is sung in the choir underneath the narrator (Parker) who reads another section ('The psalm is the rest of the soul'¹⁰²), which talks about how Parker saw the psalms.

In Tallis's *Tune 3* the tenor line is in E Phrygian mode while being harmonized in E Hypolydian, creating a major/minor ambiguity which is controlled by his use of chords II and VIIb (Fmaj, Dmin/F). The choir form cluster chords using a descending mode, each part holding a note in the mode. The modes I use are roughly based on the structure and tonal scheme of *Tune 3* with a few added pitches. The movement is freely notated and the choir is cued alternately by the conductor or by words said by the narrator.

The counter tenor solo comes in with the opening poem 'To the reader'¹⁰³ sung to the tenor line of *Tune 3* (both text and tune are in [6 6 8 6] metre). Sciarrino again inspired the instrumental texture¹⁰⁴ and I was interested in creating partly

¹⁰⁰ Ibid. Image 262

¹⁰¹ Ibid. Image 6

¹⁰² Ibid. Image 19

¹⁰³ Ibid. Image 2

¹⁰⁴ Sciarrino, *Luci mie traditrici*.

the idea of distance and time and partly the notion of breathing. The instrumentalists accompany the counter-tenor with Tallis's harmony in very high harmonics.

2. *Tune 4*

Tallis *Tune 4*, to the text of psalm 95 'O come in one to praise the Lord'; A call to prayer following the introduction and designed to give more of a feeling of a church service (Tallis).

3. *On The Psaltery (Boya)*

In his introduction Parker talks about the use of the psaltery: 'The Psalterye put forth the swetenes of his harmonious melodie from the upper part, teaching us therby that we should set our whole study and meditation in heavenly thinges above.'¹⁰⁵ Without having access to a psaltery I was interested in replicating this in some way. I did so by using the audio analysis of samples of a bowed and plucked psaltery, using the traits which they displayed i.e.:

Bowed Psaltery	Plucked Psaltery	Shared traits
soft attack, crescendo as bow leaves string,	loud pizzicato attack	Non legato
Regular harmonics very quiet steady resonance	louder resonance, with slow beating on the 5th partial, and incrementally accelerating beating on the 4th partial	Metallic sound
first five harmonics strength (including fundamental): mp, mf, pp, mf, mf	fundamental appears on the 1st partial Dynamic strength of first five partials (including fundamental): f, mf, f, p, sf	Long resonance (5+ seconds)
Narrow frequency bands for each harmonic (narrow vibrato)	Wide frequency bands for each harmonic (wide vibrato) NB: Upper partials resonance diminuendo quickly, fundamental very slow diminuendo	

¹⁰⁵ Parker, *The Vwhole Psalter Translated into English Metre, Which Contayneth an Hundreth and Fifty Psalmes. The First Quinquagene*. Image 20

When I was writing *what fruite* I had just got back from a tour around China and had learned about the famous Guqin player Yu Boya (俞伯牙). The Guqin is an extremely quiet instrument and is designed to be performed for an audience of one or two, an idea which really interests me. Legend has it that Boya, on hearing that his best friend had died, destroyed his instrument saying that his only audience had passed away¹⁰⁶.

The structure for the movement (visible on the 'structure' line in the score) is a monody inspired by the style of Guqin playing found in one of Boya's more well known pieces '*flowing water*' (*Liu shu* 流水)¹⁰⁷. Each note of the monody is translated into the ensembles using the traits of the bowed and plucked psaltery. The two ensembles perform alternating notes and as the next note starts provide the resonance underneath it. The bowed crotales and vibraphone help to create the metallic sound. Harmonics are used where possible to retain a purity of pitch.

There are some issues with the recording (CD 3/DVD) in that dynamics are not strictly adhered to and I was unable to revise the score in time to remove an unwanted staccato passage (subsequently revised for e.g. bar 26, Ensemble II Violin II). However the sound of the psaltery does come through, most noticeably at the beginning.

4. Tune 5

We chose this tune to display the relationship of the tenor to the rest of the parts, highlighting it through the choir singing in unison, led by a solo tenor. Parts are then added around the tenor line.

5. Tune 6

The performance of the 5th and 6th tunes were designed by Graham to display Parker's text in their original setting, making use of the standardized meter in the psalter. This performance of *Tune 6* uses the text of two different psalms.

6. Psalm 23 'The Lord so good, who giveth me food'

Five main ideas went into the composition of this movement: 1) I was interested in exploring the Tallis *Tune 8*. 2) I was interested in creating a slow moving static choral texture. 3) I had in my head the idea of resonances of the hall being a pool into which we pour sound. 4) I wanted to experiment with overtones and subtones on a large scale and 5) I was interested in setting psalm 23, which is one of the more universally recognised psalms in the King James Bible version ('The Lord is my shepherd, I shall not want').

The parts in Tallis's *Tune 8*¹⁰⁸ are arranged semi-canonically (hence modern performances of the tune as 'Tallis's cannon') and the tessitura of the parts spread

¹⁰⁶ 'Bo Ya.'

¹⁰⁷ *GuQin - Flowing Water*(by Guan PingHu).

¹⁰⁸ Parker, *The Vwhole Psalter Translated into English Metre, Which Contayneth an Hundreth and Fifty Psalmes. The First Quinquagene*. Image 267

out from an open fifth, as if there was a slow unfolding of harmony. At a poignant moment a surprising minor 7th appears. Tallis harmonizes the tenor line, which is in a hypolydian mode, with the other parts, which are in hypolydian and mixolydian modes. The result is that as the harmony spreads out the minor 7th appears at the exact moment you would expect if you were moving slowly up the harmonic series. Thus the static nature of the harmony validates the presence of the minor 7th against a hypolydian mode. This use of the harmonic series provided a opportunity to continue my vocal experiments with overtones (see p. 21 *Experimenting with Vocal Multiphonics*).

The image shows two musical staves. The top staff, labeled 'Tune 8', is in 4/4 time with a key signature of one flat (B-flat). It features a melody in the treble clef and a bass line in the bass clef. The melody consists of quarter and eighth notes, with some chords. The bass line is a simple accompaniment of quarter notes. The bottom staff, labeled 'Harmonic Series', is also in 4/4 time with a key signature of one flat. It shows a single melodic line with notes corresponding to the harmonic series of B-flat: B-flat (1st), C (2nd), D-flat (3rd), E-flat (4th), F (5th), G (6th), A-flat (7th), and B-flat (8th). The notes are placed on a five-line staff, with the 7th note (A-flat) marked with a flat sign.

I created a static texture by using the harmony of the Tallis spread across the choir and held in thick chords. This provided a frame for the movement and was inspired by performing in a workshop of Alessandro Striggio's (1537-1592) 40-part *Mass* (with a 60-part *Agnus Dei*) with Robert Hollingworth in the Sir Jack Lyons Concert hall, in which I remarked on how it felt as though we were pouring sound into the space. I was interested in recreating this idea, with the slow change of harmony providing gentle movement.

Using overtones in a choral context is difficult. Being a member of the choir myself I was able to provide some solo overtone support but most of the overtones used in the performance were inferred through the use of vowel shapes. The context of this gentle unfolding harmony is also accompanied by a slow changing of vowels (u - o - a - e - i), which result in a progression of harmonics and brightening of sound. Optionally the choir performs with a pushed back retroflective tongue to bring out the harmonics explicitly (unfortunately the rehearsal schedule meant I was unable to enact this in the premiere). This opening is reflected in the closing statement of *Tune 8* (page 45 bars 61-62) in which the vowels close up again. I used this slow change of vowels as a frequent reference through other movements and for the ending of the piece (movement 9 *Epilogue* page 80).

In a Tallis reversal the tenor solo line of my setting is based on the harmonic series and harmonised by the Soprano and Alto in the major diatonic. In bars 64-76 the solo parts are accompanied by explicit harmonic series on the tonic and dominant chords of the B flat (the chosen diatonic mode). Luckily there was also a tenor who could produce a low B flat growl tone and the use of that and myself singing overtones provided a rich resonant tone.

The movement is based on the image of this slowly spreading out harmony into a pool of sound. When the solos appear it should be like a drop of water coming into focus and then falling into the pool, spreading ripples across the surface for e.g. bars 38-44 and bars 53-55 as the harmonies spread back out into the Tallis-based material. In bars 38-46 the resonance of the hall is supported by the choir who hold the soloist's pitches and vowels quietly underneath them.

7. Together clap ye hands

In this movement I was interested in exploring Parker's meters. The meters used were [5 5 5 5], [6 6 6 6], [6 6 8 6], [8 6 8 6], [8 8 8 8], [10 10 10 10] and [11 11 11 11]. The nature of the meters and options for stress patterns provided great potential to explore polyrhythm. The 24 had just performed Ernst Toch's ubiquitous *Geographical Fugue*¹⁰⁹ and I was interested in exploring un-pitched vocal material, although the Toch was not influential on its outcome. The layout of the parts (1-7) do not bear any reference to tessitura, however for the premiere we chose to order them high-low in terms of speaking voice.

There is a general progression within the piece that starts with the choir breathing in rhythm, first in unison on [8 8 8 8] and then breaking off gradually into separate meters until they are all being expressed. They then progress onto lines from psalms that correspond to their respective meters spoken in strict rhythm and articulating the first beat of each line. There is some elaboration and then they progress onto more natural word setting (stresses are given different rhythmic values and the lines are given more rhythmic interest).

Soloists are brought in with an abrupt and violent texture change, inspired by Michael Finnissy, who often uses this as a gesture, specifically in his *String Quartet (1984)*¹¹⁰. Another big influence on the use of polyrhythm and the type of singing and rhythmic interest is György Ligeti's *Nonsense Madrigals*¹¹¹.

The overall impression, musically, should be a rhythm moving into a texture, moving into counterpoint, and theatrically the choir move from being purely rhythmic through being mechanistic and machine-like and, egged on by evangelical preachers (the 3 soloists), into being human and jubilant. Finally the choir chant their way through psalm 145 in which every verse starts with a letter of the alphabet (corresponding to the 22 letters of the Hebrew alphabet; J, U, V and Z are excluded). The ensemble enters during this process, providing another layer of rhythmic interest in triplets. The material is a fragmented version of Tunes 3 and Tune 7.

There is a degree of parody in my use of the evangelical priests and the contours that I've chosen for their speech patterns. I instructed the singers to be grotesque and dramatic, and to explore their full range into falsetto. The dance-like nature of the piece, the mechanistic and then evangelical attitude of the followers

¹⁰⁹ Toch, *Geographical Fugue, for speaking chorus*.

¹¹⁰ Finnissy, *String Quartet (1984) Full Score*.

¹¹¹ Ligeti, *Nonsense Madrigals*.

and the grotesque, overblown reading of the psalms is meant to evoke a lusty, impassioned nightmarish scene.

8. *Tune 7*

9. *Epilogue*

The epilogue re-uses the choral material from the prelude. This time the narrator reads a different section of 'On the virtue of the psalms', including the verse that starts 'it is a glasse, a mirror bright'. I was also interested in extending my study of vocal improvisatory material, exploring the use of cell-based improvisation previously used in *Poem in Silence*, *Spitfire Irene* and more importantly *Go Down* for S[S]AB, a short choral piece I had written at the start of my PhD for performance in York Minster (not included in this PhD)¹¹².

The simple function of the improvisatory section (movement 9. Epilogue pages 70-71) is to modulate from the previous G major chord of Tune 7 into E minor, preparing the listener for the opening of the prelude material. It also provided a good opportunity to round off the previous events and introduce more ideas relating to static harmony and vocal techniques. The section allows for anyone who can do them (and there were a few in the choir) to produce overtones and subtones. The improvisatory cells provide a static harmonic context with slow harmonic movement (C/D, G/D, B7/Em respectively) and a method of moving from one context to the other. Singers take the material in their own time. There is also a return of the use of slowly opening vowels/rising harmonics to open the section, as in movement 6. Psalm 23.

¹¹² Caine, *Go Down*, 2007. See Appendix.

Appendix: Go Down

glottal
= emphasis
= conduct

denial = by the teeth
top = the tip of the tongue
palatal = the top of the roof of the mouth
uvular = the very back of the mouth
bottom = tongue towards the roof of the mouth
top = tongue towards the roof of the mouth
bottom = tongue towards the jaw

Go Down

* Sing through in order until repeat, then repeat cells ad lib from any part.
* Each cell in between the repeats to be taken in each singer's individual time.
* Cells outside of the repeats to be sung together and conducted.
* boxed material indicates variants of the cell material to be used ad lib.

ad lib.

Edward Caine

SOPRANO

ALTO

BASS

Annotations for Soprano:
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

Annotations for Alto:
 - mi
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

Annotations for Bass:
 - loo
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

Edward Caine

SOPRANO

ALTO

BASS

Annotations for Soprano:
 - "C"
 - p
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

Annotations for Alto:
 - mi
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

Annotations for Bass:
 - loo
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - ec
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vresh
 - f
 - oh
 - f
 - ch
 - f
 - "H"mm
 - brazen, percussive
 - a.c.l.o.u.
 - palatal, denial, top, bottom
 - mf
 - "ss"aa
 - f
 - vro
 - f
 - oh
 - f
 - ch
 - f

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